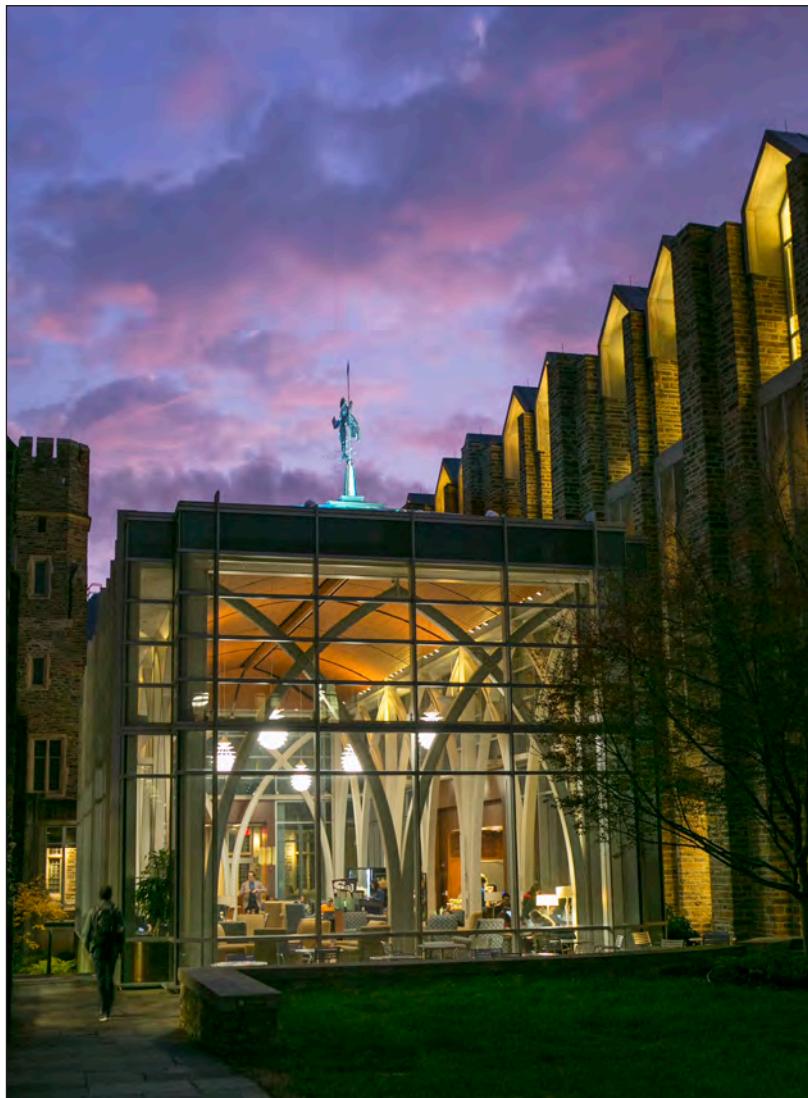


Bulletin of
Duke University



Undergraduate Instruction
2020-2021

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Duke University

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2020-2021

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The information in this bulletin applies to the academic year 2020-2021 and is accurate and current, to the greatest extent possible, as of September 2020. 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 is committed to encouraging and sustaining a learning and work community that is free from prohibited discrimination and harassment. The institution prohibits discrimination on the basis of age, color, disability, gender, gender identity, gender expression, genetic information, national origin, race, religion, sex, sexual orientation, or veteran status, in the administration of its educational policies, admission policies, financial aid, employment, or any other institution program or activity. It admits qualified students to all the rights, privileges, programs, and activities generally accorded or made available to students.

Sexual harassment and sexual misconduct are forms of sex discrimination and prohibited by the institution. Duke has designated the Vice President for Institutional Equity and Chief Diversity Officer as the individual responsible for the coordination and administration of its nondiscrimination and harassment policies. The Office for Institutional Equity is located in Smith Warehouse, 114 S. Buchanan Blvd., Bay 8, Durham, NC 27708, and can be contacted at (919) 684-8222.

Questions or comments about harassment or discrimination can be directed to one of the following administrators in the Office for Institutional Equity:

Discrimination in employment or educational programs and activities	Cynthia Clinton, AVP Harassment and Discrimination Prevention and Compliance Office for Institutional Equity 114 S. Buchanan Blvd., Bay 8 Durham, NC 27708 (919) 668-6214
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Sex discrimination in educational programs and activities	Jayne Grandes, AVP for Title IX Compliance Office for Institutional Equity 114 S. Buchanan Blvd., Bay 8 Durham, NC 27708 (919) 660-5766
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Additional information, including the complete text of Duke's Policy on Prohibited Discrimination, Harassment, and Related Misconduct and appropriate complaint procedures, may be found by visiting the Office for Institutional Equity's website at <https://oie.duke.edu/>. For further information, visit <https://www2.ed.gov/about/offices/list/ocr/index.html>, or call (800) 421-3481.

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

Information that the university is required to make available under the federal Clery Act is available by visiting the Records Division, Duke University Police Department, 502 Oregon Street, Durham, NC 27708, or by calling (919) 684-4602. See <https://police.duke.edu/news-stats/clery> for more details.

The Family Educational Rights & Privacy Act (FERPA), 20 U.S.C § 1232g; 34 CFR Part 99, is a federal law that guides the release of students' education records, of which disciplinary records are a part. For additional information about FERPA, see <https://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html>.

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

In Spring 2020, COVID-19 significantly impacted university/institute operations, requiring unprecedented changes to student enrollment and grading. Due to the impacts of COVID-19, the satisfactory/unsatisfactory grading option was offered to all enrolled students.

This publication is available in alternative format on request. Please call (919) 684-2813.

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, 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.

— Adopted by the Board of Trustees on February 23, 2001

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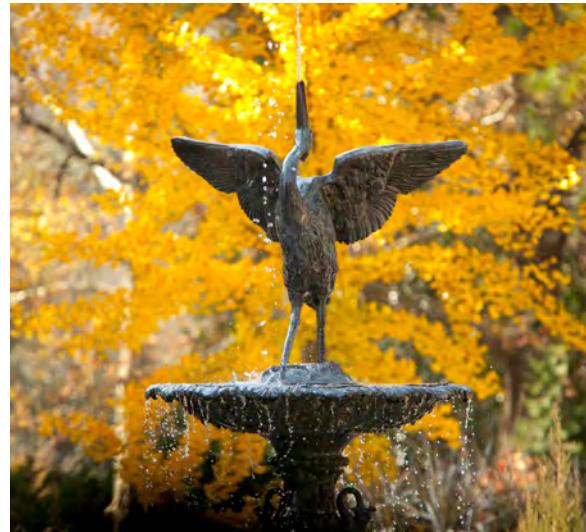
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Bill Snead

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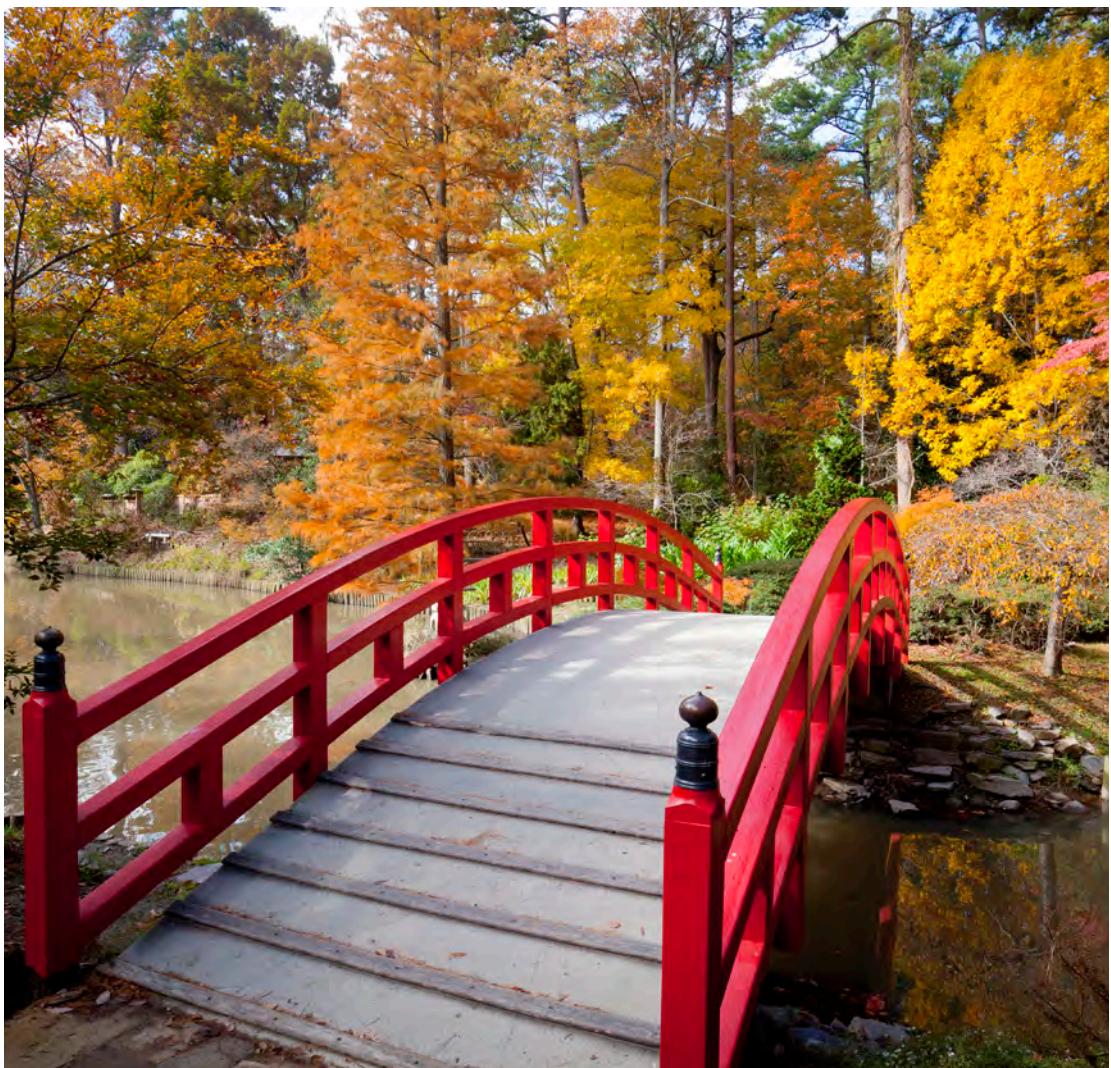
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 - Korean
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 - Sanskrit
 - Tibetan
 - Turkish
 - Urdu
 - Bioethics and Science Policy
 - Biology
 - Chemistry
 - Child Policy Research
 - Civic Engagement and Social Change
 - Classical Studies
 - Greek
 - Latin
 - Computational Media, Arts & Cultures
 - Computer Science
 - Cultural Anthropology
 - Dance
 - Documentary Studies

- Duke Center for Interdisciplinary Decision Sciences
- Duke Institute for Brain Sciences
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- East Asian Studies
- Economics
- Education
- Energy and the Environment
- English
- Environmental Sciences and Policy Program
- Ethics
- Evolutionary Anthropology
- Gender, Sexuality, and Feminist Studies
- German Studies
- Global Development Engineering
- Global Health
- History
- House Courses
- Human Development
- Human Rights
- Information Science + Studies
- Innovation and Entrepreneurship
- International Comparative Studies
- Islamic Studies
- Jewish Studies
- Latin American & Caribbean Studies
- Latino/a Studies in the Global South
- Linguistics
- Global Cultural Studies in Literature Program
- Marine Science and Conservation Leadership
- University Program in Marine Sciences
- Markets and Management Studies
- Mathematics
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- Military Science—Army ROTC



Bill Sneed

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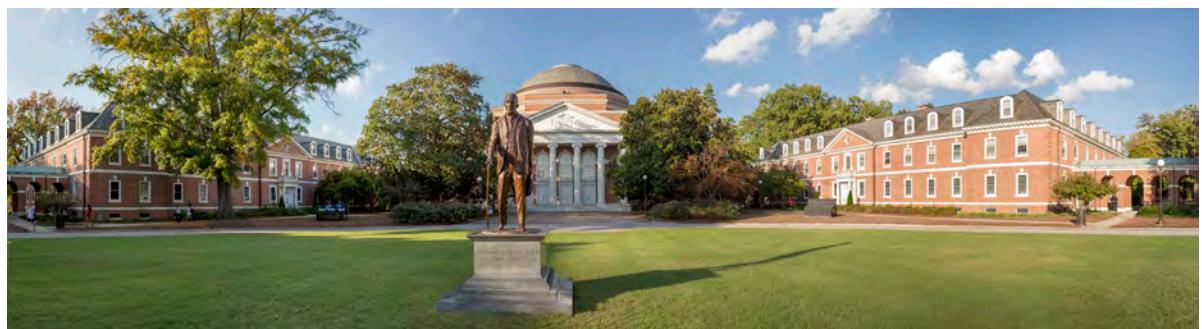
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Chris Hildreth

2020-2021 Academic Calendar

Summer 2020

February

- 17 **M** Registration begins for all summer sessions

May

- 13 **W** Term 1 classes begin. The Monday class meeting schedule is in effect on this day. (Therefore, all summer classes meet this day.) Regular class meeting schedule begins on Thursday, May 14
Drop/Add continues
- 14 **Th** Regular class meeting schedule begins
- 15 **F** Drop/Add for Term 1 ends
- 25 **M** Memorial Day holiday. No classes are held

June

- 10 **W** Last day to withdraw with W from Term 1 classes (undergraduates only)
- 22 **M** Term 1 classes end
- 23 **T** Reading period
- 24 **W** Term 1 final examinations begin
- 25 **Th** Term 1 final examinations end
- 29 **M** Term 2 classes begin

July

- 1 **W** Drop/Add for Term 2 ends
- 4 **Sa** Independence Day holiday
- 27 **M** Last day to withdraw with W from Term 2 classes (undergraduates only)

August

- 6 **Th** Term 2 classes end
- 7 **F** Reading period (until 7:00 PM)
7:00 PM. Term 2 final examinations begin
- 9 **Su** 10:00 PM. Term 2 final examinations end

Fall 2020

July

- 27 **M** Bookbagging begins for Fall 2020

August

- 3 **M** Registration begins for Fall 2020
- 10 **M** New graduate student orientation begins
- 12 **W** Registration ends for Fall 2020
- 13 **Th** New undergraduate student orientation begins
Drop/Add begins for Fall 2020
- 17 **M** 8:30 AM. Fall semester classes begin
Drop/Add continues
- 28 **F** Drop/Add ends

September

- 7 **M** Labor Day. Classes in session
- 26-27 **Sa-Su** Founders' Weekend

October

- 2 **F** Last day for reporting midsemester grades
- 19 **M** Bookbagging begins for Spring 2021
- 28 **W** Registration begins for Spring 2021
- 30 **F** Last day to withdraw with W from Fall 2020 classes (undergraduates only)

November

- 9 **M** Registration ends for Spring 2021
- 10 **T** Drop/Add begins for Spring 2021
- 16 **M** Graduate and undergraduate classes end
- 17-19 **T-Th** Graduate and undergraduate reading period
- 20 **F** 9:00 AM. Final examinations begin
- 24 **T** 10:00 PM. Final examinations end
Thanksgiving Break; end of Fall 2020 term

2020-2021 Academic Calendar

Spring 2021

January

- 18 **M** Martin Luther King, Jr. Day holiday. No classes are held
20 **W** 8:30 AM. Spring semester begins
Drop/Add continues

February

- 2 **T** Drop/Add ends
15 **M** Registration begins for Summer 2021

March

- 5 **F** Last day for reporting midsemester grades
22 **M** Bookbagging begins for Fall 2021
24 **W** Last day to withdraw with W from Spring 2021 classes (undergraduates only)
31 **W** Registration begins for Fall 2021; Summer 2021 registration continues

April

- 8 **Th** Registration ends for Fall 2021; Summer 2021 registration continues
9 **F** Drop/Add begins for Fall 2021
21 **W** Graduate and undergraduate classes end
22-25 **Th-Su** Graduate and undergraduate reading period
26 **M** 9:00 AM. Final examinations begin

May

- 1 **Sa** 10:00 PM. Final examinations end
7 **F** Commencement begins
9 **Su** Graduation exercises; conferring of degrees

Summer 2021

February

- 15 **M** Registration begins for all summer sessions

May

- 12 **W** Term 1 classes begin. The Monday class meeting schedule is in effect on this day. (Therefore, all summer classes meet this day.) Regular class meeting schedule begins on Thursday, May 13
Drop/Add continues
13 **Th** Regular class meeting schedule begins
14 **F** Drop/Add for Term 1 ends
31 **M** Memorial Day holiday. No classes are held

June

- 9 **W** Last day to withdraw with W from Term 1 classes (undergraduates only)
21 **M** Term 1 classes end
22 **T** Reading period
23 **W** Term 1 final examinations begin
24 **Th** Term 1 final examinations end
28 **M** Term 2 classes begin
30 **W** Drop/Add for Term 2 ends

July

- 4 **Su** Independence Day holiday
26 **M** Last day to withdraw with W from Term 2 classes (undergraduates only)

August

- 5 **Th** Term 2 classes end
6 **F** Reading period (until 7:00 PM)
7:00 PM. Term 2 final examinations begin
8 **Su** 10:00 PM. Term 2 final examinations end

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Bill Snead

University Administration

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Gary G. Bennett, PhD, Vice Provost for Undergraduate Education

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Megan Mendenhall

General Information



Jared Lazarus

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 products and developed electricity production in the Carolinas, had long been interested in Trinity College. Trinity traced its roots to 1838 in nearby Randolph County when local Methodist and Quaker communities opened Union Institute. That school, whose name changed to Trinity College, moved to Durham in 1892, where Benjamin Newton Duke served as a primary benefactor and link with the Duke family until his death in 1929. Women entered Trinity College as regular students in 1892, and Washington Duke's gift to the school's endowment in 1896 required that it would treat women "on an equal footing with men" by creating an on-campus residence for them. In December 1924, the provisions of indenture by Benjamin's brother, James B. Duke, created the family philanthropic foundation, The Duke Endowment, which provided for the expansion of Trinity College into Duke University. Duke maintains a historic affiliation with the United Methodist Church.

As a result of the Duke gift, Trinity underwent both physical and academic expansion. The original Durham campus became known as East Campus when it was rebuilt in stately Georgian architecture. The Philadelphia architectural firm of Horace Trumbauer and Julian Abele, the firm's chief designer in the 1920s, played a central role in the creation of East and West Campuses. West Campus, Gothic in style and dominated by the soaring 210-foot tower of Duke Chapel, opened in 1930. East Campus served as home of the Woman's College of Duke University until 1972, when the men's and women's undergraduate colleges merged. In 1995, East Campus became the home for all first-year students. In 2016, the main quad on West was named after Abele, the African American architect whose contributions were not widely known on campus until the mid-1980s.

Engineering courses were first taught intermittently starting in 1882. Engineering became a permanent department in 1910, an undergraduate College of Engineering in 1939, and a School of Engineering in 1966 after the addition of graduate courses. The school was renamed the Edmund T. Pratt Jr. School of Engineering in 1999. Academic expansion of the university throughout its history has included the establishment of other graduate and professional schools, as well. The first divinity degree was awarded in 1927, the first PhD in 1928, and the first MD in 1932. The School of Law, founded in 1904, was reorganized in 1930. The following year, the undergraduate School of Nursing was established, transforming in 1985 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. The business school was established in 1969 and renamed The Fuqua School of Business in 1980. In 2009, the Sanford School of Public Policy became Duke University's tenth school. All undergraduates now enroll in either the Trinity College of Arts & Sciences or the Pratt School of Engineering.

Today, Duke is a global leader. It consists of a community of learners from around the nation and world, including over 6,500 undergraduates (10 percent of whom are international) and 9,000 graduate and professional students (more than 25 percent of whom are international). Students come from diverse racial and socioeconomic backgrounds. In 1963, the first five black undergraduates enrolled at Duke. Today, about 10 percent of the undergraduates are African American. Also, about 50 percent of the undergraduate students receive some form of financial aid, which includes need-based aid, athletic aid, and merit aid.

About half of Duke undergraduates study or serve abroad, many in Duke-run programs. The Duke-NUS Medical School in Singapore was established in 2005 as a strategic collaboration between Duke University and NUS. In 2014, Duke partnered with Wuhan University in China to open Duke Kunshan University, with the goal of creating a world-class liberal arts and research university. In 2018, Duke Kunshan fully launched its

four-year undergraduate degree program. The inaugural class of 2022 consists of students from twenty-seven countries, most of whom come from China and the United States.

For more historical information, visit <https://library.duke.edu/rubenstein/uarchives>.

The Mission of Duke University

James B. Duke's founding indenture of Duke University directed it to provide real leadership in the educational world and carefully select students of character, determination and application. The university seeks 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 civic leaders. Its purpose is to engage the mind, elevate the spirit, and encourage the best effort of all who are associated with the university as well as to contribute in diverse ways to the local community, the state, the nation, and the world. For the complete mission statement, see <https://trustees.duke.edu/governing-documents/mission-statement>.

Resources of the University

The Faculty

Duke faculty are chosen from among the most competitive selection processes in the country, having demonstrated excellence in their fields of research. Duke currently has two Nobel Laureates among its faculty. Many others hold appointments in the National Academy of Sciences. Their books and publications are numerous and influential.

Duke professors are also excellent teachers. There is a 6 to 1 ratio of students to faculty. Professors are committed to giving students the individual attention that pushes them to excel, while nurturing their ideas. Undergraduates, even in their first year, interact with senior faculty on a regular basis in efforts such as the Focus Program, a series of first-year interdisciplinary seminars focused on a theme. In addition, many serve as advisors to students, including those who choose to design their own program of study, and as mentors to undergraduates who pursue hands-on research.

The Library System

All Duke libraries, including those at Duke Divinity School, The Fuqua School of Business, Duke 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 William R. Perkins and Bostock libraries and the Rubenstein Rare Book & Manuscript Library. The Duke libraries website, <https://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 service desks throughout the libraries, and may also be reached by phone, email, chat reference, and IM, accessible from the library website. 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.

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 DukeCard, 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 toward first-year students. Undergraduates also have access to Lilly's more than twenty streaming video collections and 30,000 DVDs, including feature films and documentaries as well as experimental and animated productions. In addition, students can check out Devil DVDs, a collection of current, popular movies and TV series. The Devil DVDs program is cosponsored by Lilly Library 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 that students can check out. The Music Library also features a large collection of streaming music that students can listen to for free.

On West Campus, 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 as the United States, and one of this country's largest collections of Canadiana. The print collections are complemented by tens of thousands of e-journals, databases, and statistical tools. The first floor of Perkins is 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. The Edge: The Rupert Commons for Research, Technology, and Collaboration extends Duke University Libraries' mission by providing a collaborative space for interdisciplinary, data driven, digitally reliant or team-based research. Located on the renovated first floor of Bostock Library, The Edge brings together resources and expertise to help Duke researchers innovate, in a space that invites discovery, experimentation, and collaboration. 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. Digital versions of selected materials from the Rubenstein Library are available at the library's website: <https://repository.duke.edu/dc>. 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 libraries sponsor several annual research and writing awards for undergraduate students: the Aptman Prizes (for excellence in research and use of the libraries' general collections); the Middlesworth Awards (for excellence in the use of primary sources and rare materials held by the Rubenstein Library); the Holsti Prize (for excellence in research on political science and public policy); and the Rosati Creative Writing Award (for outstanding creative writing). The Student Book Collectors Contest is offered in alternating years. The most popular library 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

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 faculty, staff, students, and housestaff from Duke Hospital, School of Medicine, School of Nursing, allied health programs, and graduate programs in the basic medical sciences. The library also serves the Duke University Health System.

The library has thousands of health sciences journal titles available electronically, though some of the older years may not be accessible online. Several electronic book collections are also available online. Bound print journal collections and most print books published before 1995 are stored in the Duke Library Service Center located off Briggs Avenue. More current print books are kept within the library facility. Scanned copies of articles from stored journals may be requested for free by Duke Health personnel through [Document Delivery/Interlibrary Loan Services](#). The Frank Engel Memorial Collection consists of a small group of books on health and nonmedical subjects for general reading, and we also have a few newspapers and popular magazines.

Library services include reference; in-depth consultations; expert database searching, including systematic reviews; customized and individual group training; online tutorials; bibliometrics and research impact analysis; circulation; and document delivery services. Workstations for searching databases, the online catalog, and other resources are available, along with a variety of study spaces and rooms for online booking. A computer classroom for hands-on training is located on Level 1. 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 in the Seeley G. Mudd Building, above the Searle Center and connected to the Trent Semans Center for Health Education. Detailed information on services and resources may be found on the website at <https://mclibrary.duke.edu>. Additional information about Archives can be found at <https://archives.mc.duke.edu>.

The J. Michael Goodson Law Library

The J. Michael Goodson Law Library provides access to rich collections for legal research and scholarship for the Duke 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 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 resources to support research and scholarship. 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 as on topics of comparative and international law.

Reflecting Duke's emphasis on interdisciplinary approaches to scholarship and learning, the library's collections provide access to a broad range of resources on law's intersections with other disciplines. Comparative and international perspectives enhance nearly every area of law, and so 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, including Duke University Community hours, visit the Law Library website at <https://law.duke.edu/lib>. 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 technology services and support for the university community. OIT's searchable website, <https://oit.duke.edu>, offers access to free software, Duke-supported applications, news and training, technical support, and many other resources to help students, faculty, and staff make the most of information technology at Duke.

Computing and Networking

All campus buildings, including residence halls, as well as the outdoor space near Bryan Center plaza, are equipped with secure high-speed wireless Internet. Residence halls are also wired for access to Duke's network. To connect, visit <https://oit.duke.edu/wireless>. Members of the Duke community are assigned their own email accounts, which they may access from their own computers, the web or from any mobile device using their NetID and password.

Printing, Software, and Labs

The ePrint system enables students to print from computers and mobile devices (using the Pharos print app) to printers distributed throughout campus. Up-to-the-minute status information for all printers is available at the ePrint status page. For additional information, visit <https://oit.duke.edu/category/printers-and-labs>. Dozens of software packages are available for free or at a discount through <https://software.duke.edu>. There are also several physical computer labs across campus and a growing array of virtual computer resources as well. Students can also visit specialty labs such as the Multimedia Project Studio and the three Co-Lab Studios (located at the Technology Engagement Center (TEC), the Rubenstein Arts Center, and East Campus), which house 3D printing and other fabrication tools.

The OIT Service Desk

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

Throughout the year, Service Desk staff are available to assist students with Duke-supported software, hardware, and equipment loaner services in person at the Service Desk located in Perkins Library and via chat, phone, email, and web form at <https://oit.duke.edu/help>. Services are available twenty-four hours per day, five days per week (3 p.m. Sunday-5 p.m. Friday).

Technology Training

Undergraduate and graduate students can take advantage of free in-person or online training on programming, app development, web design, IT security, Adobe Creative Cloud, and more. Online training is accessed through the LinkedIn Learning online training library. The Roots training series offers in-class workshops via the Innovation Co-Lab (<https://colab.duke.edu/>). For additional information on available opportunities and to sign up for a monthly newsletter, visit <https://oit.duke.edu/training>.

Telephones

Wired phone service is not offered in the residence halls. Duke has enhanced cell phone coverage across campus for all major cell service providers. Wireless 911 calls are also routed to local emergency call centers.

Storage and Backup Services

Duke offers services for securely storing, backing up, and recovering your personal files. Students receive 50 GB of secure cloud storage through Duke Box at <https://box.duke.edu>. Box and most Duke services are protected by Duke's Multi-Factor Authentication (MFA) two-step verification. Enroll and set up the Duo app at <https://oit.duke.edu/mfa>.

Research Laboratories

Duke researchers on campus and in the medical center perform more than \$1 billion a year in research, most of it in clinical medicine and discovery science. Their work consistently places Duke among the top ten research universities in the nation. More than half of Duke undergraduates complete faculty-mentored research projects, working with professors from every department across campus. Students can pursue collaborative or individual research in programs and facilities across campus, including but not limited to the medical center; the Levine Science Research Center; the Fitzpatrick Center for Engineering, Medical and Applied Sciences; the French Family Science Center; the Humanities Labs at the Franklin Humanities Institute; the Media Arts + Science Complex; the Duke Collaboratory for Classics Computing; and the Social Sciences Research Institute, as well as the teaching and research laboratories throughout Trinity College of Arts & Sciences, the Pratt School of Engineering, the Nicholas School of the Environment, and the Sanford School of Public Policy. Undergraduates also have access to the Duke University Marine Laboratory in Beaufort, NC; Duke Forest, adjacent to the campus; and the Duke Lemur Center.

Duke as a Residential University

Duke enjoys a long tradition as a residential university and has sought to provide attractive on-campus housing options for undergraduates. 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 provides a supportive environment substantially anchored in its residential program.

Educational, cultural, recreational, social, and outdoor programming is planned and presented throughout the year for living groups through the cooperative work of Student Affairs, Trinity College of Arts & Sciences, the Pratt School of Engineering, resident students, and other sources. There are a number of faculty members who live in residence halls as Faculty-in-Residence. Seminar rooms are also located in several houses. These programs enhance the quality of intellectual and social life for the residents on campus, facilitate student-faculty interaction outside of the formal classroom setting, and 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 the Trinity College of Arts & 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, both 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 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.

One of Duke's core values is applying knowledge in the service of society. With the schools of the arts and 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.

Trinity College of Arts & 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 Duke's faculty. Faculty mentors guide 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 671 faculty members teach in thirty-eight 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.

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 and uphold these principles in all academic and nonacademic 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.



Megan Mendenhall

Degree Programs & Academic Credit



Jared Lazarus

Degrees and Academic Credit

Duke University offers in Trinity College of Arts & Sciences the degrees of bachelor of arts and bachelor of science, and in 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 course credits, which ordinarily consist of three to four hours of instruction each week of the fall or spring semester or the equivalent total number of course credits in a summer term. Double (2.0) course credits, half (.5) course credits, and quarter (.25) course credits are also recognized.

Trinity College of Arts & Sciences

Programs I and II provide a variety of approaches to obtaining a liberal arts education. Both programs lead to the bachelor of arts (AB) or bachelor of science (BS) degree, and both involve completing 34.0 course credits to satisfy the requirements for the degree.

Program I

This 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 Program I curriculum has two components: general education requirements and the major requirements. Students must complete the requirements of the curriculum listed below—and explained more fully on the following pages—to satisfy the requirements for the degree. **No degree requirements (including prerequisites), except the requirement for 34.0 course credits and continuation requirements, may be met by a course passed under the Satisfactory/Unsatisfactory grading system unless special permission is given by the director of undergraduate studies of the respective department or program.**

General Education Requirements

The general education requirements include two interrelated features: Areas of Knowledge and Modes of Inquiry, which are described in more detail in the following sections. Since a course may have several intellectual goals and intended learning outcomes, it may simultaneously satisfy more than one general education requirement, as well as requirements of a major, minor, or certificate program.

Required Courses

Areas of Knowledge. 2.0 course credits must be completed 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, statistical science, or computer science
- Social Sciences (SS)

Modes of Inquiry. Credits must be obtained in courses designated as offering exposures to each of the following inquiries, as indicated below:

- Cross-Cultural Inquiry (CCI): 2.0 course credits.
- Ethical Inquiry (EI): 2.0 course credits.
- Science, Technology, and Society (STS): 2.0 course credits.
- Foreign Language (FL): 1.0 to 3.0 course credits in the same language, determined by level of proficiency. The details of the FL requirement are explained more fully below.
- Writing (W): 3.0 course credits, 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): 2.0 course credits.

Advanced Placement credits, international placement credits, and prematriculation credits for college courses taken elsewhere before matriculation in the first-year class at Duke cannot satisfy Areas of Knowledge or Modes of Inquiry requirements.

Independent Study courses do not carry Areas of Knowledge or Modes of Inquiry designations, except for a research independent study course, which may carry the Research designation. A maximum of one research independent study (coded R) may also count toward the requirement of writing-intensive courses (W) in the disciplines.

Transfer courses and interinstitutional courses may be considered for approval to satisfy Areas of Knowledge requirements.

Small Group Learning Experiences

During the first year: one full-course seminar (i.e., a 1.0-credit course, not partial credit courses).

After the first year: a total of 2.0 course credits designated as seminars, tutorials, independent studies, and/or thesis courses. (The total may include partial credit courses.)

34.0 Course Credits

There are specific requirements concerning course credits in Trinity College of Arts & Sciences. Thirty-four (34.0) course credits are required for graduation, at least twenty-four of which must be Duke-originated courses. Duke-originated courses are defined as courses taught by Duke or Duke-affiliated faculty, offered through Duke University, and subject to the approval processes of Duke's schools. Duke-originated courses include some Duke Kunshan University courses and the Duke-originated courses offered in Duke-In study abroad/away programs. The 34.0 course credits required for graduation are subject to limitations described elsewhere in this bulletin.

The Major

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

The Minor

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

Elective Courses

Advanced placement credits, international placement credits, and prematriculation credit for college courses taken elsewhere before entering the first-year class may function only as elective courses and do not satisfy general education requirements aside from counting toward the 34.0-course-credit requirement (with limitations). Elective courses taken after a student matriculates 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. 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 2.0 course credits in each area.

- **Arts, Literatures, and Performance (ALP).** Through courses in arts, literatures, and performance, students learn about the creative products of the human intellect.
- **Civilizations (CZ).** Courses about civilizations ask students to engage in analysis and evaluation of ideas and events that shape civilizations past and present.
- **Natural Sciences (NS).** Through courses in natural sciences students learn about the interpretation or application of scientific theories pertaining to or models of the natural world.
- **Quantitative Studies (QS).** Courses in quantitative studies, including computer science, mathematics, and statistical science, help develop skills of inference and analysis.
- **Social Sciences (SS).** Through courses in the social sciences students learn about patterns of human behavior and about the origins and functions of the social structures in which we operate.

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 engage in a critical analysis of world issues pertaining to cross-cultural, ethical, and science and technology matters throughout their lives and careers. Students must take 2.0 course credits 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, and/or 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 engage in 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 should 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 societal 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 brought profound changes to 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 has accelerated dramatically; science and technology 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 must 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 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. Students should have an awareness of how language frames and structures understanding and effective communication. To satisfy the foreign language competency requirement students must complete one of the following:
 - For students who enter their language study at Duke at the intermediate level or above, and intend to complete the requirement in the same 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 take three full

courses, students who place into the second semester of the intermediate level take two full courses, and students who place into the 300 level 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 & Information” on page 38](#).
- For students who begin the study of a foreign language at Duke at the elementary level (first or second semester) course and intend to complete the requirement in that language: The successful completion of three full sequential courses in the same language that carry the FL designation is required.

Students are encouraged to register for an FL designated course no later than the first semester of their sophomore year.

- **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 3.0 course credits’ worth of 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, participate in multiple rounds of drafting and feedback, 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 that allows them to be active participants in the acquisition, critical evaluation, and application of knowledge. 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 2.0 course credits’ worth of research exposures; one Research Independent Study (coded R) may be submitted for approval for the Writing in the disciplines (W) designation.

Small Group Learning Experiences. By supplementing the classroom and lecture methods of instruction, small group learning experience courses assure students have opportunities to engage in discussion, develop skills, refine judgment, and defend ideas when challenged. A seminar (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 (indicated by the suffix 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 one-on-one with an instructor for guidance and discussion. See the section [“Independent Study” on page 47](#).

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 requirement in Trinity, 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 discussion sections or preceptorials.

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.

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

Course Credits. Thirty-four (34.0) course credits are required for graduation, at least 24 of which must be Duke-originated courses. Duke-originated courses are defined as courses taught by Duke or Duke-affiliated faculty, offered through Duke University, and subject to the approval processes of Duke's schools. Duke-originated courses include some Duke Kunshan University courses and the Duke-originated courses offered in Duke-In study abroad/away programs. Of the 34.0 course credits required for graduation, a maximum of 2.0 course credits passed with a D grade (D, D+, D-) can be used toward the 34.0 course credits requirement. (Courses for which a D grade is earned do, however, satisfy all other requirements.) The 34.0 course credits may include (1) no more than 1.0 course credit in physical education activity courses (i.e., two half-credit activity courses, including military science physical activity courses); (2) no more than 4.0 course credits in dance/American Dance Festival technique/performance courses (i.e., eight half-credit courses); (3) no more than 2.0 course credits in house courses (i.e., four half-credit courses); (4) no more than 4.0 course credits in military science; (5) no more than 4.0 course credits electively taken on a Satisfactory/Unsatisfactory grading basis (not including courses offered only on that basis); (6) no more than four interinstitutional courses; and (7) no more than 6.0 course credits in graduate and professional school courses 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 of Arts & Sciences department or program. (See policies in the section "[Independent Study](#) on page 47.) For limitations on transfer credit and Advanced Placement credit, see the section "[Entrance Credit and Placement](#)" on page 39, the section "[Transfer of Work Taken Elsewhere](#)" on page 42, 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 by an academic dean. Students are not permitted to complete more than ten undergraduate semesters at Duke.

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 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. The total number of courses that a department/program may require at any level in the major and related departments may not exceed 17.0 course credits for the bachelor of arts degree and 19.0 course credits 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. Although no more than two D grades can count toward the 34.0-course-credit requirement, courses in which D grades are earned satisfy major, minor, and certificate requirements. 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; however, 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. A maximum of two majors may be recorded on a student's record. See the chapter "[Academic Procedures & Information](#)" on page 38 for the majors within each degree and for procedures on declaring a major.

Interdepartmental Major. A student may pursue an interdepartmental major in two Trinity College departments or programs that offer a major. The student works with an advisor in each department to adopt an existing interdepartmental major or to design a new one. The major must be approved by the directors of

undergraduate studies in both departments who 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 dean for the curriculum must also give final approval for the proposal.

The directors of undergraduate studies in two Trinity College departments or programs that offer a major may also propose an interdepartmental major (IDM). The proposed IDM will define a course of study covering core features of each discipline, such as theory, methodology, and research techniques.

Current active departmental IDMs and their dates of inception are as follows:

- Ancient Religion & Society — Classical Studies and Religious Studies (Fall 2018)
- Data Science — Computer Science and Statistical Science (Fall 2018)
- Data Science — Computer Science and Mathematics (Fall 2020)
- Global Gender Studies — Gender, Sexuality, and Feminist Studies and International Comparative Studies (Fall 2020)
- Linguistics and Computer Science — Computer Science and Linguistics (Fall 2019)

Additional information about IDMs can be found at <https://trinity.duke.edu/undergraduate/academic-policies/majors-minors-certificates-interdepartmental-major>.

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 & Academic Programs](#)” on page 106. Students may not major and minor in the same department/program with the exception of four departments in which multiple majors or concentrations are 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 have a required introductory course as well as a required culminating capstone course. There are two versions of certificate programs: the traditional certificate, consisting primarily of academic coursework (minimum six courses), and the experiential certificate, consisting of a combination of coursework (minimum four courses) and immersive co-curricular experiences. Eligible undergraduates electing to satisfy the requirements of a traditional 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; for experiential certificates, no more than one course may be used to satisfy the requirements of any other major, minor, or 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.

More complete descriptions of these certificate programs appear in the chapter “[Courses & Academic Programs](#)” on page 106.

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 US national security. Full information is available on the Program II website at <https://program2.duke.edu/>.

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 and offer a coherent plan for learning rather than a sampler of interesting courses. It should incorporate the depth and breadth of study expected of a liberal education in Trinity College. This is achieved in Program II through carefully selected interdisciplinary coursework focused on the student's theme. 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 BS 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: 34.0 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 "["Academic Recognition and Honors" on page 57.](#)

Combination Programs of Trinity College and Duke Professional Schools

A student interested in attending the Nicholas School of the Environment or the Duke University School of Law may, upon meeting certain requirements, combine the senior year in Trinity College of Arts & Sciences with the first year in the professional school. To qualify the student must (1) successfully complete 26.0 course credits 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 begin 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 Claire Siburt (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 programs or offices for guidance (i.e., Prelaw Advising Office at <https://advising.duke.edu/prelaw>, Prebusiness Advising at <https://advising.duke.edu/prebusiness>, Pregraduate Advising at <https://advising.duke.edu/pregraduate>, and Office of Health Professions Advising at <https://prehealth.duke.edu/>). 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 website 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 & 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 website. As undergraduates, they should become involved in research which may involve laboratory work, advanced seminars, or independent study. Graduate schools look favorably upon evidence that a student has conducted mentored research such as an honors thesis, leading to Graduation with Distinction. 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 websites. 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 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 Business Schools. Students seeking information about graduate business schools should consult the Graduate Business Advisor in Trinity College. In preparing for graduate business school, students should gain a good liberal arts background, by choosing courses that will help them develop communication skills and an understanding of human nature. Students should sharpen their analytical and quantitative skills. Most often this is done through courses in calculus, statistics, microeconomics, accounting, and computer science. Calculus, however, is the course of choice. 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 Graduate Business School Advisor in 011 Allen Building.

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 taking those courses required by the professional schools of their choice. Health professions schools place a priority on well-rounded achievement. For most professional schools, you will need a baccalaureate degree from a four-year college and a solid background in science courses. You should meet the requirements for your major with demonstrated excellence and rigor.

In the past, medical schools and most dental and veterinary schools have had a relatively simple set of required courses, which included: two semesters each of inorganic chemistry, organic chemistry, biology and physics (each with corresponding labs), and English. A few schools also required or recommended biochemistry, math and/or statistics, or additional biology courses. You will still see these requirements on many websites and in publications. However, MCAT 2015, which was first administered in April 2015, requires students to have, in addition to the above courses, a background in biochemistry, statistics, psychology, and sociology. Additionally, many medical schools are transitioning to "competency-based admissions," which means that applicants will be expected to demonstrate competency rather than just completing a list of required courses. The intent is to allow applicants more flexibility and diversity in choosing courses and preparing for medicine. This is a period of change. Not all medical schools have transitioned to competency-based admissions and will still expect applicants to have the traditional semesters of chemistry, biology, and physics as a foundation. And even medical schools that are diverging from a "list" of required courses will still expect applicants to have taken coursework in biology, chemistry, and physics. Since Duke students generally apply to more than 20 medical schools, you will need to meet the course prerequisites for all the schools to which you plan to apply. For a complete listing of these and any additional course requirements set by each school, you should consult the Medical School Admissions

Requirements, published by the Association of American Medical Colleges, or the Official Guide to Dental Schools, published by the American Dental Education Association. Students should discuss their programs of study with their major advisors, academic deans, and with an advisor for the health professions from the Office of Health Professions Advising.

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 coursework 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. An advisor in the Office of Health Professions Advising is available to meet with students interested in allied health professions.

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. In selecting courses, students should keep in mind that what they are seeking to accomplish in their undergraduate education is twofold. First, they need to learn to think analytically and synthetically—that is, to be able to bring together large amounts of material. Second, they need to learn how to communicate both orally and, especially, in written form.

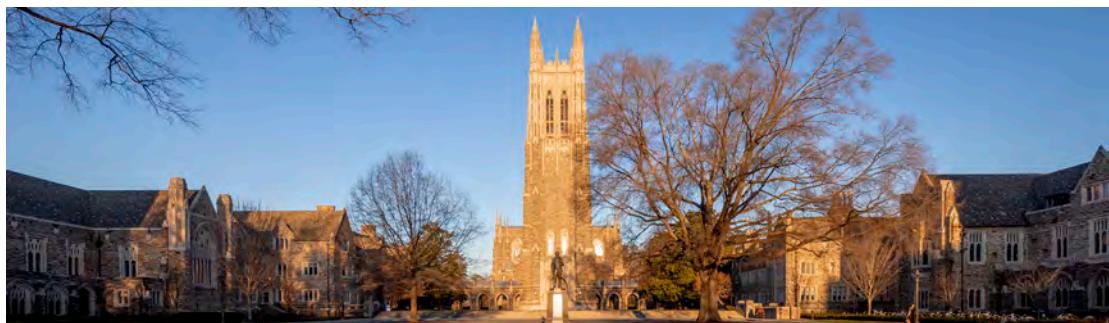
For a fuller discussion of undergraduate preparation for the study of law, students should refer to the Duke Prelaw Handbook or the Prelaw Handbook published by the Association of American Law Schools and the Law School Admission Council. For more information visit the Prelaw Advising Office, 04 Allen 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 engage with faculty members and other administrative staff about possibilities for further study. Theological schools often affiliate with a particular denomination and specialize in areas of study and practice. If students have a denominational (or other tradition) affiliation, they may wish to confer with denominational 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 with strong writing skills who have majored in 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. 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, education, environmental studies, and social work to complement their studies and training.

More detailed information about theological study may be obtained from the Duke Divinity Office of Admissions by calling (919) 660-3436, sending an email to admissions@div.duke.edu, or visiting <https://divinity.duke.edu/>.



Bill Snead

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. Five programs are accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org/>. These programs are biomedical engineering, civil engineering, environmental engineering, electrical and computer engineering, and mechanical engineering. These accredited programs, as well as minors in energy engineering and electrical & computer engineering, 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 successfully complete a minimum of 34.0 course credits. These 34.0 course credits (c.c.) must include the following:

General Requirements¹

Writing	1.0 c.c	This requirement is met by completing Writing 101.
Mathematics	5.0 c.c	This requirement is typically met by completing Mathematics 111L, 112L, 212, 216, and 353. ²
Natural Science	3.0 c.c.	This requirement is met by completing Chemistry 101DL, Physics 151L and 152L. ³
Mathematics or Natural Science	1.0 c.c.	The department administering the major field of study will specify this requirement.
Humanities and Social Sciences	5.0 c.c.	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
Digital Computation	1.0 c.c.	Students are expected to have acquired digital-computer programming capability before their sophomore year. The programming capability may be satisfied by passing Engineering 103L.
Engineering and Applied Sciences	4.0 c.c.	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. The department administering the major field of study will specify this requirement.

¹ Free electives are included in the 14.0 course credits listed under departmental requirements. Depending on the major, no more than 1.0 course credit in physical education activity and 1.0 course 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. A maximum of 2.0 course credits of junior or senior level air science, military science, or naval science coursework may be counted in satisfying the minimum requirements of 34.0 course credits for a BSE degree. These courses must be included in the 14.0 course credits listed under departmental requirements. All other courses completed in air, military, or naval science are taken in addition to the minimum program.

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

³ Students entering with AP, IPC, or PMC credits for both Physics 25 and 26 are required to take a Physics course after matriculation that is at or above the level of Physics 153L, or waive credit for Physics 26 and take Physics 152L, or waive both Physics prematriculation credits and take Physics 151L and Physics 152L.

⁴ A maximum of 2.0 Advanced Placement course credits may be used to meet humanities and social sciences requirements for the bachelor of science in engineering degree. Courses must be chosen from humanities and social science departments. Science and engineering courses with SS, CZ, FL, or ALP codes will not count toward this requirement unless cross-listed with humanities or social science courses. 200-level AP credits will not count toward satisfying depth in a humanities or social sciences subject area.

Departmental Requirements

Departmental Specifications	14.0 c.c.	The department administering the major field of study will specify this requirement. In general, it will consist of both required courses and electives to be planned in consultation with the departmental advisor. Including the 4.0 credits in engineering and applied sciences listed under general requirements, a minimum of 13.0 credits in engineering work are required. Individual departmental requirements can be found in the section " Pratt School of Engineering " on page 815 .
Total Minimum Requirement	34.0 c.c.	

Residence Requirement

At least 17.0 course credits 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.

Grade Requirement for Graduation

Of the 34.0 course credits which fulfill the specified categories in the bachelor of science in engineering degree requirements, thirty-two (32.0) or their equivalent in number must be passed with grades of S, C, or better.

The Pratt First-Year Curriculum

The first year of study in the Pratt School of Engineering is largely common to all engineering students, with seven of the eight first-year courses being required by all 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; and
- the opportunity to explore intellectual opportunities in Trinity College, through satisfaction of the university writing requirement.

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 general layout for the curriculum is as follows (assuming no AP credit and Writing permission for the second semester):

First Semester	Courses	Second Semester	Courses
Mathematics 111L	1.0	Mathematics 112L	1.0
Chemistry 101DL	1.0	Physics 151L	1.0
Engineering 103L	1.0	Writing 101	1.0
Engineering 101L ⁵	1.0	Technical Course	1.0
Total	4.0-4.5	Total	4.0-4.5

In the event that prematriculation 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 first-year Focus Programs or initiation of a Trinity second major, minor, or certificate program).

5

EGR 101L is the first-year Engineering Design & Communication course that is required for all majors.

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

Intended Major	Suggested Technical Course
Biomedical Engineering	Biology 201L
Civil Engineering	Civil and Environmental Engineering 132L
Electrical and Computer Engineering	Electrical and Computer Engineering 110L
Environmental Engineering	Civil and Environmental Engineering 132L
Mechanical Engineering	Engineering 121L
Undecided	Select from all above

After the first year, recommended curricula become more department specific; please refer to the courses and departmental requirements included in the section "[Pratt School of Engineering](#)" on page 815.

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, by completing a Declaration of Major form (online) in which the second major is declared. It is highly recommended that the student meet with the director of undergraduate studies in the second major to review requirements for that major. 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.

Minors

Two engineering minors are offered in the Pratt School of Engineering. The energy engineering minor is only open to students with an engineering major. The electrical and computer engineering minor is open to engineering and non-engineering majors. More information can be found in the section "[Pratt School of Engineering](#)" on page 815.

A minimum of five technical courses are required for a minor. Courses that are used to fulfill the student's primary major are excluded from the additional courses counted for the minor; this exclusion also applies to courses with content substantially equivalent to courses in the student's primary major. As an exception, at most one upper-level elective course cross-listed with the student's primary major may be counted toward the minor.

If the minor area of study does not otherwise exist as a primary major, then the five technical courses counted for the minor are excluded from courses used to fulfill the student's major; this exclusion also applies to courses with content substantially equivalent to courses in the student's major. As an exception, at most one upper-level elective course cross-listed with the student's primary major may count toward the minor if topically relevant. At least three of the minor courses must be upper-level courses.

For all minors, introductory-level courses intended as an early educational experience may not be used to fulfill the minor requirement, unless such courses contain substantial technical content that is a prerequisite for later courses, and that material is not otherwise covered in the student's primary major. No more than one semester of independent study, supervised by an advisor in the unit offering the minor, may be used for the minimum five-course minor requirement.

IDEAS (Interdisciplinary Engineering & Applied Science) Program

Non-ABET-accredited majors that are interdisciplinary in scope and include engineering and applied science are available. These majors are proposed by the student, approved by a faculty committee, and result in a bachelor of science in engineering degree. Programs with a broad foundation in the engineering sciences also may be developed under this program by those who intend to enter non-engineering professions. Although not individually accredited, these programs satisfy the national general engineering accreditation criteria.

Any student, in consultation with their 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 Pratt School of Engineering and the Engineering Faculty Council for approval; it may be submitted as early as the second semester of the first 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 Programs in Engineering

Two certificate programs are offered only to students enrolled in the Pratt School of Engineering. These certificates are the aerospace engineering certificate and the architectural engineering certificate. The aerospace engineering certificate is intended to educate students in the engineering principles related to the conceptualization, design, analysis, and performance of aerospace vehicles and systems. The objective of the architectural engineering certificate is to provide students with an understanding of the design elements of buildings and construction processes. More information can be found in the section ["Pratt School of Engineering" on page 815](#).

Bachelor of Science in Engineering/Master of Science 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 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.

Bachelor of Science/Master of Engineering Management

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 management degrees. This program offers engineering students exposure to both business and law as well as advanced engineering and 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).

Pratt-Specific Academic Policies

Please note that some of the academic policies described in the next chapter will differ for Pratt students relative to their counterparts enrolled in the Trinity College of Arts & Sciences. In particular, the following policies vary slightly between undergraduate schools:

- Forfeiture of Precollege Credit, [page 39](#)
- Work Taken After Matriculation at Duke, [page 42](#)
- Repetition of Courses, [page 47](#)
- Declaration of Major, [page 49](#)
- Annual Continuation Requirements, [page 53](#)



Jared Lazarus

Academic Procedures & Information



Megan Mendenhall

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 of Arts & Sciences on the basis of precollege examination and/or credits earned of the following three types: Advanced Placement (AP), international placement credit (IPC), and prematriculation college credit. Trinity College will record on students' permanent Duke records courses of these three types completed prior to their matriculation at Duke. The three types of precollege work are regarded as equivalent and may be used for placement into higher-level coursework 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 toward the degree requirement of 34.0 course credits for any combination of AP, IPC, or prematriculation 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 electives, 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 coursework 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 prematriculation 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. These courses, with limitations, may be used to satisfy general education requirements toward the BSE degree. The criteria for evaluating such work are the same as in Trinity College (see the section ["Work Taken during High School" on page 42](#)). Enrollment in a course for which AP or IPC credit has been given will cause the AP credit to be forfeited.

Forfeiture of Precollege Credit Awarded

Students who successfully complete a course at Duke for which they received precollege credit may not use that or any higher precollege credit in that subject to satisfy degree requirements, but the precollege work will remain on the Duke transcript. A Trinity College student who enrolls in a course for which precollege credit was awarded and who subsequently fails or withdraws from the course after the Drop/Add deadline will be allowed to apply the precollege credit toward graduation requirements according to the policy governing use of such credits (see above). A Pratt School of Engineering student enrolled in a course for which precollege credit was awarded and who subsequently fails or withdraws from the course after the Drop/Add period will not be allowed to use the precollege credit nor any higher credit in that subject to satisfy degree requirements.

College Board Advanced Placement Program (AP) Examinations

A score of four or five 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 & visual studies, Asian and Middle Eastern studies, biology, chemistry, classical studies, computer science, economics, English, environmental science, Germanic languages and literature, history, mathematics, music, physics, political science, psychology, romance studies, and statistical science. Departmental policies

regarding Advanced Placement may vary. 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 must 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.

Advanced Placement in Physics

Neither credit nor Advanced Placement is given for a score below five on the Advanced Placement (AP) Physics-B exam. Trinity College students with a score of five 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 four or five on the AP Physics-C Mechanics exam will receive credit for Physics 25; students with a score of four or five on the AP Physics-C Electricity and Magnetism exam will receive credit for Physics 26. 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 <https://phy.duke.edu/undergraduate/prospective-students/transfer-credit/college-board-advanced-placement-ap>.

Advanced Placement courses completed with a score of four or five 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. AP credit is usually not accepted to satisfy introductory physics course requirements for Physics and Biophysics majors. 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 at Duke. If awarded AP, IPC, or PMC credit for Physics 25 and 26, the student must take one of the following physics courses here at Duke: Physics 152L, 153L, 264, 361, or 362. Students have the option of taking Physics 152L which will result in forfeiture of Physics 26L AP. This AP will remain on the transcript. 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 prematriculation credits (see above). In Trinity College, 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 prematriculation credits may be used toward the 34.0 course credits required for graduation. Additional IPC, AP and prematriculation credits may be used to accelerate. In the Pratt School of Engineering, these courses may be used to satisfy general education requirements toward the BSE degree.

Prematriculation Credit

First-year Duke students may submit for evaluation college courses taken at another US regionally accredited college or university after commencement of the student's junior year of high school. (For details concerning transferring this work, see the section ["Work Taken during High School" on page 42](#).) In Trinity College, prematriculation credits awarded for such work may be used as electives and may not be used to satisfy the general education requirements—the Areas of Knowledge or the Modes of Inquiry. Any combination of two prematriculation, IPC, or AP credits may be used toward the 34.0 course credits required for graduation (credits do not have to be designated by the student). Additional IPC, AP, and prematriculation credits may be used to accelerate if early graduation is intended and if there has been no gap in the student's studies at Duke. In the Pratt School of Engineering, these courses may be used to satisfy general education requirements toward the BSE degree. No prematriculation credit will be awarded for college coursework 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.

Subject	College Board Achievement Score	Placement
French^{1,2}	240-410	French 101 ³ or 111
	420-480	French 102
	490-580	French 212 or 203
	590-630	French 204
	640-plus	French 300-level course
German^{1,4}	200-410	German 101
	420-480	German 102
	490-580	German 203
	590-620	German 204
	630-650	German 305S
	660-plus	German 306S and beyond
Spanish^{1,5}	below 200	Spanish 101 ³ or 111
	200-370	Spanish 101 ³
	380-450	Spanish 102
	460-580	Spanish 212 or 203
	590-650	Spanish 204
	660-plus	Spanish 300-level course
Latin^{1,6}	200-520	Latin 101
	530-630	Latin 203
	640-690	Latin 204
	700-plus	Latin 300-level course
Mathematics⁷	550-700	Mathematics 105L
	710-800	Mathematics 111L

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- 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 <https://romancestudies.duke.edu/undergraduate/languages/french>.
- 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 <https://german.duke.edu/undergraduate/language/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 <https://classicalstudies.duke.edu/undergraduate/placement-latin-greek>.
- ⁷ In the absence of an achievement test score, course placement is determined by the SAT score as follows: 700 or below—Mathematics 105L; 710-800—Mathematics 111L. If scores are from before March 2016, 670 or below corresponds to Mathematics 105L, and 680-800 to Mathematics 111L.

Newly admitted students who wish to continue the study of French, German, Spanish, or Latin begun in secondary school should take a College Board Achievement Test or College Board Advanced Placement (AP) Examination in that language by June of their senior year in secondary school. Students who do not take these tests or submit test scores should refer to the placement guidelines on the website of the relevant department, or consult with the relevant language program director. In Spanish, French, and German, a score of four or five on the AP literature exam, or a score of five on the AP language exam qualifies students to enroll in a 300-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 website 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, 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 coursework 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 prematriculation 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 precalculus 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 prematriculation credits that can transfer and how they may be used at Duke.)

Work Taken after Matriculation at Duke

After matriculation as a full-time degree-seeking student at Duke, a student in Trinity College may receive transfer credit for no more than two courses taken at another accredited four-year institution, whether in the summer, while withdrawn from Trinity, 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 four credits for a semester or 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 transfer courses. No credit will be accepted for coursework 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 are not accepted for transfer credit. The course credit 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 at other institutions 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 as a part of a study abroad program, 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 "[Agreements with Other Universities](#)" on page [72](#)) 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, and credit for not more than 2.0 course credits 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 coursework taken in study abroad must apply for the FL code using the Transfer Course FL Mode of Inquiry Request Form available at <https://trinity.duke.edu/undergraduate/academic-policies/transfer-credit>.

Transfer Credit for Students Transferring to Duke

Students transferring from a degree program in another accredited institution may be granted credit for up to 17.0 course credits. Courses accepted for transfer in this circumstance may be given, upon evaluation, Areas 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.

Academic Deans

Academic deans play many roles in undergraduate education. Primarily, they (1) monitor academic progress of all students, (2) interpret academic policies, (3) guide and advise students for success, and (4) support students of concern. Students have the same academic dean for the duration of their academic career at Duke. Students consult with their academic dean whenever needed: for discussion of long-term goals, issues concerning graduation requirements, special course enrollments or withdrawals, personal or medical problems that affect academic work, and general oversight of progress to the degree.

Academic deans also celebrate success by recognizing students who make the Dean's list and connecting them with other opportunities like the Undergraduate Research Support Office, Grand Challenge Scholars Program, and the Dean's Summer Research Fellowship program. They also help students navigate graduate and professional school opportunities.

Advising

At Duke, a community of mentors surround each student. Throughout one's undergraduate experience, in addition to their academic dean, a student will interact with academic and faculty advisors, career counselors, financial aid counselors, and many others as they explore the innovative course of study because it is important for students to have continuity and direction throughout their years of intellectual growth, achievement, and success.

Students meet with their assigned advisor twice during orientation, prior to the first day of classes. This individual is called a **college advisor**—and not an academic advisor—because their role goes beyond helping a student choose classes and understand requirements to include helping the student think about their overall educational and personal goals, as well as possible majors and careers, and alerting them to resources and interesting co-curricular opportunities, among other things. Subsequently, students are required to confer with their college advisor at least once per semester before registration but are encouraged to meet more regularly to discuss academic goals, plans for achieving them, and any considerations pertaining to academic progress. In addition to their assigned college advisor, students can consult with their academic dean, peer advisors, directors of academic engagement, and faculty. Students in Trinity College complete the major declaration process in consultation with their college advisor, typically during the fourth semester of enrollment. Upon declaring a major, the student is assigned a faculty advisor in the major. Even after receiving an advisor in their major, many students elect to maintain contact with their original advisor over their four years. In the Pratt School of Engineering, the advisor's approval is also necessary for registration and all course changes. Good advising can be informal and often 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. Students in the Pratt School of Engineering may declare their major as early as the end of their first year.

Registration

Students are expected to register at specified times for each successive term. Prior to registration each student receives instructions via email. Students prepare a course program via DukeHub and discuss it at a scheduled time with their advisor. The advisor must approve the schedule and mark the student eligible to enroll for the term prior to registration.

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 website at <https://registrar.duke.edu/>. See the chapter “[Special Study Centers, Programs, & Opportunities](#)” on page [62](#) for information regarding the reciprocal agreement with neighboring universities.

Duke Identification Card and Term Enrollment

Official enrollment is required for admission to any class. Undergraduate students are issued an identification card (DukeCard), which they should carry at all times. DukeCard provides access to library privileges and many university facilities—including housing, recreation, dining, laundry, and vending—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. To protect funds, lost or stolen cards should be suspended by clicking on the Manage Accounts link on the DukeCard website: <https://dukecard.duke.edu/>. A replacement fee will be charged for lost or stolen cards. DukeCards may also be added to Apple or Android devices for access similar to the physical card. For more information, including details for incoming first years, visit the DukeCard website at <https://dukecard.duke.edu/> and click Get Your DukeCard.

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, North Carolina State University, The University of North Carolina at Charlotte, and The University of North Carolina at Greensboro. Students participating in one of Duke's domestic exchange programs may not concurrently enroll in another university under the interinstitutional agreement.

Course Changes after Classes Begin in the Fall and Spring Terms

During the Drop/Add period, changes may be made in course schedules through DukeHub. 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. After the Drop/Add period, students permitted to withdraw receive a designation of W on their academic record. Coursework discontinued without the dean's permission will result in a grade of F.

When students note errors in their course schedules, they should immediately consult with their academic deans 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 DukeHub. 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. Coursework discontinued without the approval of the dean will result in a grade of F. (See also the section "[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.](#)" on page 99.)

Accommodations

The Duke University Student Disability Access Office assists students with disabilities who are enrolled

in Trinity College of Arts & Sciences and 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.

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 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 Amendments Act may wish to contact Duke Student Health Service at (919) 684-3367 for further information. Additional information and requests for accommodations may be found on the SDAO website: <https://access.duke.edu/>. For academic assistance available to all Duke undergraduate students, please refer to the section [“Academic Resource Center” on page 67](#).

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 4.0 course credits. In their first semester, students are limited to a maximum of 4.5 course credits, 4.0 of which must be in full-credit courses. After their first semester, students can enroll in a maximum of 5.5 course 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 course credits. 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 course 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. Seniors may request an underload, including part-time status, for the last semester (see the section [“Full-Time and Part-Time Degree Status” on page 56](#)). Students should take note that 2.0 course credits beyond the standard four-course expectation per semester are needed to meet the 34.0-course-credit requirement for graduation. Students on academic probation may register for no more than 4.0 course credits, and the academic dean may also limit the course load for a student who has previously received an academic warning. During the same period, students in the Pratt School of Engineering may register for up to 5.0 course credits, and up to 5.5 or 6.0 course credits with the approval of their academic dean. In no case will students be allowed to register for more than 6.0 course credits. Students must be enrolled in at least 3.0 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 any session of the summer term is two courses, one of which may be a laboratory course. Students in Pratt School of Engineering may enroll in two laboratory courses. With permission of their academic dean, a student may enroll in an additional 0.25 or 0.5 credit course provided that it is a physical education activity or technique/performance activity course.

Eligibility for Courses

The rules established by The Graduate School provide that sophomores who have declared a major, juniors, and seniors may enroll in a 500- to 600-level (graduate-level, open to advanced undergraduates) course. Undeclared sophomores wishing to enroll in a 500- to 600-level course must secure permission of the instructor of the course and of their academic dean. Undergraduates are normally not allowed to enroll in 700-900-level courses. Under exceptional circumstances, however, permission to do so may be granted to a junior or senior, 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. DukeHub 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 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 & Academic Programs” on page 106](#)). Students may direct additional questions about course

sequencing to their academic dean or to the director of undergraduate studies of the department in question.

Students may not register for two courses officially listed as meeting at the same time or overlapping times. 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 34.0 course credits required for graduation. Course repeat request forms are available online at <https://trinity.duke.edu/undergraduate/academic-policies/repeat-course>.

An engineering student who has earned a grade of D-, D, 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.

Course Audit

Students who audit a course are not required to submit daily work or take 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. 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. Undergraduates who have been dismissed, suspended, or placed on leave of absence may not audit or enroll in a course for credit at Duke.

Courses may be audited by faculty members, staff, alumni, employees and their spouses, as well as spouses of currently enrolled students, members of the Osher Lifelong Learning Institute at Duke, and other members of the Triangle community. Undergraduates who are currently separated from Duke for any reason, may not audit or enroll in courses through the Office of Continuing Studies. 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 94](#) for the appropriate fee schedule. Additional information about auditing by community members can be found at <https://learnmore.duke.edu/academics/auditing>.

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 approval of the instructor involved as well as the director of undergraduate studies in the relevant department or program; student-faculty meetings at least once every two weeks during fall or spring semester and once each week during summer semester; completion of a final product to be completed during the semester for which a student is registered for the course; and evaluation by the instructor of the work, including the final product, associated with the independent study. The independent study form is available at <https://trinity.duke.edu/undergraduate/academic-policies/independent-study>.

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 aside from the 34.0-course-credit 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 Drop/Add period of the semester they are enrolled in the course. The request form is available at <https://trinity.duke.edu/undergraduate/academic-policies/research-independent-study-w-code>.

Students in the Pratt School of Engineering should consult their Academic Dean and departmental office for information about completing an Independent Study.

Academic Internships

In Trinity College, internship courses carry zero credits. In order to receive credit related to an internship, students must enroll in an independent study or companion course in which the student distills from the internship a certifiable academic experience that qualifies for course credit. Academic courses related to internships must be offered under the auspices of an academic unit in Trinity College. Further information about procedural requirements may be obtained from the academic deans.

The Pratt School of Engineering does not give course credit for internships.

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 & Sciences

All students entering Trinity College enter without a major and are assigned a college advisor and an academic dean; most students will have the same academic dean throughout their time at Duke. Before declaring a major in Trinity College, students work with their college advisor, and potentially others who have advised them to develop a long-range academic plan. This plan lays out the courses they anticipate taking in their remaining semesters and is reviewed by their advisor to confirm that it will meet established college requirements for graduation. Although students may declare a major as soon as they complete their first 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 may 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 DukeHub.

Students who have declared a major and wish to change, add, or delete a major, minor, or certificate may do so through the Office of the University Registrar. A form is available online at <https://registrar.duke.edu/student-records-resources/student-forms>.

There is one important exception. Seniors who have completed the Intention to Graduate Form, which is distributed via email during the fall of the senior year, can change a major, minor, or certificate at <https://intention.trinity.duke.edu>. Seniors who have not received or completed the Intention to Graduate Form can change a major, minor, or certificate by emailing trinity_graduation@duke.edu from a duke.edu email address.

Only one undergraduate degree may be earned; however, a notation of a second major will appear on the transcript. A student may not declare more than two majors. Majors offered within each degree are listed below.

Interdepartmental Major. 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. A student who is interested in an interdepartmental major should consult with 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 dean for interdepartmental majors; 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. For more information, visit <https://trinity.duke.edu/undergraduate/academic-policies/majors-minors-certificates-interdepartmental-major>.

Program II. Program II provides an alternative, self-designed degree program for undergraduates in Trinity College. This can be an excellent option for students who feel that a self-designed program will best enable them to pursue their intellectual interests. Students interested in Program II should speak with their academic advisor and with the academic dean who oversees Program II. For more information, visit <https://program2.duke.edu>.

Bachelor of Arts. African and African American studies; art history; art history/visual arts (combined); Asian and Middle Eastern studies; biology; biophysics; Brazilian and global Portuguese studies; chemistry; classical civilization; classical languages; computer science; cultural anthropology; dance; earth and ocean sciences; economics; English; environmental sciences and policy; evolutionary anthropology; French studies; gender, sexuality, and feminist studies; German; global cultural studies; global health (second major only); history; international comparative studies; Italian studies; linguistics; mathematics; medieval and Renaissance studies; music; neuroscience; philosophy; physics; political science; psychology; public policy studies; religious studies; romance studies; Russian; Slavic and Eurasian studies; sociology; Spanish; statistical science; theater studies; visual arts; and visual and media 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.

Declaration of Major in the Pratt School of Engineering

A Pratt student is urged to declare a major before registration for the first semester of the sophomore year, and 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 an online form available at <https://forms.pratt.duke.edu/declaration-of-major>.

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 students to their academic dean when students accumulate excessive numbers of absences.

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 <https://trinity.duke.edu/undergraduate/academic-policies/class-attendance-and-missed-work> for students in Trinity College, or for students in the Pratt School of Engineering at <https://pratt.duke.edu/undergrad/students/policies/3486>.

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 Coursework

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 <https://trinity.duke.edu/undergraduate/academic-policies/courses-incomplete-course-work>; Pratt students must see their Academic Dean for a form.) 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 except when an earlier deadline has been established by the instructor or the academic dean. An earlier deadline will be established when there is a question of the student's ability to meet continuation requirements, or the professor decides an earlier deadline date is appropriate. 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 a reversion grade that has been predetermined by the faculty and reported to the Registrar's Office. 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 or X cancels eligibility for Dean's List and Dean's List with Distinction. Finally, students who receive an I or X during a semester in which they experience a voluntary or involuntary separation from Duke may, at the discretion of their academic dean, be required to complete the outstanding work prior to returning to school.

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 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 makeup 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 DukeHub 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 DukeHub.

Passing Grades

Passing grades are A, exceptional; B, superior; C, satisfactory; S, satisfactory (see Satisfactory/Unsatisfactory system 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, no more than two courses passed with D grades may be counted among those required for year-to-year continuation or among the 34.0 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 [“Course Load and Eligibility for Courses” on page 46](#).

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:

A+	4.0	C+	2.3
A	4.0	C	2.0
A-	3.7	C-	1.7
B+	3.3	D+	1.3
B	3.0	D	1.0
B-	2.7	D-	1.0
		F	0

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 DukeHub.

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 courses taken on this basis may be counted toward the 34.0 course credits 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 34.0 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 of 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 regular class meetings (not including the course final). 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, via accommodation by the Student Disabilities Access Office (SDAO), register for 3.0 course credits per semester may take a maximum of one S/U course per semester.

Grades When Absent from Final Examination

See the section "[Final Examinations and Excused Absences](#)" on page 50.

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 not presumed to be satisfactory performance in that course. Furthermore, an incomplete (I grade) or X grade during the academic year cancels eligibility for semester honors in the term the I or X grade was issued; i.e., Dean's List and Dean's List with Distinction. See the section "[Incomplete Coursework](#)" on page 50.

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 section "[Course Changes after Classes Begin in the Fall and Spring Terms](#)" on page 45.) WA 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 at Duke University. Students who fail to meet the minimum requirements to continue will be dismissed from the university for at least two semesters. (A summer session may be counted as a semester.) Those desiring to return after the dismissal period may apply for readmission through the Office of Student Returns. Please visit <https://trinity.duke.edu/OSR> for more information. If after readmission the student fails again to meet minimum continuation 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 2.0 course credits; (2) after the first semester at Duke, a student must pass at least 3.0 course credits; (3) a student enrolled in an 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 business day 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 & 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:

Trinity College of Arts & Sciences

To be eligible to continue to the	A student must have passed
2nd semester at Duke	2.0 course credits at Duke
3rd semester at Duke	6.0 course credits at Duke
4th semester at Duke	10.0 course credits at Duke
5th semester at Duke	14.0 course credits at Duke
6th semester at Duke	19.0 course credits at Duke
7th semester at Duke	22.0 course credits at Duke, plus two additional course credits ⁸
8th semester at Duke	26.0 course credits at Duke, plus two additional course credits ⁸

Pratt School of Engineering

To begin enrollment in the	A student must have passed
2nd semester at Duke	2.0 course credits at Duke
3rd semester at Duke	6.0 course credits at Duke
4th semester at Duke	10.0 course credits at Duke
5th semester at Duke	13.0 course credits at Duke
6th semester at Duke	17.0 course credits at Duke

⁸ The additional courses may be earned through placement and/or transferred courses.

⁹ The Pratt School of Engineering will count up to four post-matriculation transfer course credits (in addition to study abroad) for students entering the 7th or 8th semester of Annual Continuation Requirements.

7th semester at Duke	22.0 course credits at Duke ⁹
8th semester at Duke	26.0 course credits at Duke

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. AP credits are not counted when determining annual continuation, however, they are counted toward graduation requirements. No more than two courses completed with D grades, 1.0 total course credit of PE; 1.0 course credit of activity courses (no house courses); 2.0 course credits of military science (junior/senior year only); and 6.0 course credits of professional or graduate school courses 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](#)" on page 52 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 4.0 or more course credits, the following grades will result in academic probation for the succeeding semester: during the first semester of the first year, grades including DD, DF, or FF; during any subsequent semester, grades including DDD, DF or FF (as long as the student has passed 3.0 other course credits); and during two consecutive semesters, grades including DDDD, DDDF, or DDFF. For a student enrolled in an authorized underload (i.e., fewer than 4.0 course credits), the following academic performance will result in academic probation: during the first semester of the first 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 DDFF. 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 [“Fall and Spring Refunds” on page 99](#).) 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 & Academic Credit,” “Financial Information,” “Campus Life & 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. Students who received an I or X grade during a semester in which they experienced a voluntary or involuntary separation from Duke, may, at the discretion of their academic dean, be advised to complete the outstanding work prior to returning to school.

Students who are placed on probation after returning to Duke may not be eligible to participate in particular university programs such as, but not limited to, study abroad and DukeEngage.

Applications for readmission are made to the appropriate school or college through the Office of Student Returns (OSR). Each application is reviewed by the appropriate academic officer(s) and health provider(s). A return decision is made on the basis of the applicant’s previous record at Duke, evidence of increasing maturity and discipline, and general readiness to return and wellness assessment. Students who are readmitted must meet residential requirements. All returning students 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, visit the Office of Student Returns website at <https://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. In extreme cases such as family death or recent diagnosis of terminal illness an administrative leave of absence will be granted.

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.

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 Housing, Dining & Residential Life 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 & Sciences or the Pratt School of Engineering should visit the Office of Student Returns website at <https://trinity.duke.edu/OSR>.

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 the transfer process found at <https://advising.duke.edu/students/engineering/trinity-to-pratt> for Trinity students, and at <https://pratt.duke.edu/undergrad/students/policies/3537> for Pratt Students. 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 as early as completion of the first semester. A student transferring to Trinity College of Arts & Sciences from 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 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 term and one spring term, 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 4.0 course credits back to Duke. For both Trinity and Pratt students, any transfer credits will count toward the maximum allowable transfer credits from another institution as stipulated under the policy ["Work Taken after Matriculation at Duke" on page 42](#). 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 4.0 course credits) 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 46](#)). 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. Students must register their intention to be part-time prior to the first day of class of the semester in which the part-time status is requested. Part-time students may register for no less than 1.0 and no more than 2.5 course credits. Part-time students may be denied university housing. 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 & Activities" on page 82](#).

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 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 coursework toward 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 nondegree-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 ["Agreements with Other Universities" on page 72](#)) 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 & 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 4.0 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 4.0 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 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. In Trinity College 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 in 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.

In the Pratt School of Engineering, students in biomedical engineering, civil and environmental engineering, electrical and computer engineering, and mechanical engineering must have a 3.5 grade point average and complete a significant independent study project during their senior year. The results of the research project must be summarized in a formal written report and defended in an oral presentation before a committee of faculty

members. Departmental requirements for an oral presentation and written report may vary.

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 25 percent of each graduating class will receive Latin Honors.

Other Honors

Trinity College of Arts & 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 past 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 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 good moral character. Reviews of the academic record of all prospective candidates are conducted in the junior and senior years as well as up to one year after graduation. 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. Those who have earned their undergraduate degree at Duke will be considered for deferred election in the first spring after they have received their degree; deferred election also considers those who have graduated magna cum laude and who have been awarded Graduation with Distinction in their first or second major. Additional information is available on the Office of University Scholars and Fellows website at <https://undergrad.duke.edu/office-university-scholars-fellows>. 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 a 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 and Computer Engineering. All other inquiries may be directed to the Secretary of Phi Beta Kappa, care of The Office of University Scholars and Fellows at phi-beta-kappa@duke.edu.

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, NC 27708.

Nationally Competitive Scholarships

Students interested in various prestigious nationally competitive scholarships and fellowships (for example, the Boren, Fulbright, Goldwater, Luce, Marshall, Rhodes, Truman, and Winston Churchill) should visit <https://scholarship.ousf.duke.edu/nationally-competitive-scholarships>. 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 University Scholars and Fellows by emailing ousf@duke.edu.

Notification of Intention to Graduate

The Diploma Form submitted by students in Trinity College of Arts & Sciences and 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. Duke confers only one undergraduate degree to a student, that which is confirmed by the department of the first major. 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 email 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. Students who complete requirements by the end of the summer term or by the end of the fall term receive diplomas dated September 1 and December 30, respectively. Students who are within 5.0 course credits of graduation at the end of the spring term may request to participate in the annual commencement exercises.

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) 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(s), addresses, Duke unique ID, email addresses, telephone listing(s), place of birth, photograph(s), major field(s) of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, enrollment status (full-/part-time), 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 seek resolution of a problem, are 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 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 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 student may make a formal complaint to the director of undergraduate studies in the department or program concerned. The formal complaint must be submitted to the director of undergraduate studies prior to the first day of classes for the semester immediately following the recording of the grade.

The director of undergraduate studies will present the case to the chair of the department or program director, and the two of them will review the case with the instructor involved. If the chair or the director of undergraduate studies agrees with the instructor that there are no legitimate grounds on which to change the grade, the grade stands as recorded. If the director of undergraduate studies and chair believe there are grounds to consider a change and the instructor is unwilling to change the grade, the director of undergraduate studies will notify the student that he or she may request a review of the case by writing to the dean of arts and sciences or the dean of Pratt School of Engineering, depending on which college or school offered the course in question. A written request must be submitted before the end of the Drop/Add period of the semester following that in which the instructor recorded the grade.

The dean will review the case and decide whether there are grounds to convene an ad hoc Committee for Review of Grade. If the dean decides there are no grounds, then the grade is not changed.

If the dean decides that there are grounds to proceed, the dean will charge and convene an ad hoc Committee for Review of Grade. The committee shall consist of the dean and two regular rank faculty members from the same division but not the same department (or from different departments in Pratt School of Engineering). The two

faculty members of the committee are to be nominated by the appropriate faculty council, either the Executive Committee of the Arts and Sciences Council or the Engineering Faculty Council. This committee will then evaluate and review the case, and the dean may initiate a grade change if that is the recommendation of the committee.

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 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.

The instructor and the student are then expected to 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 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.

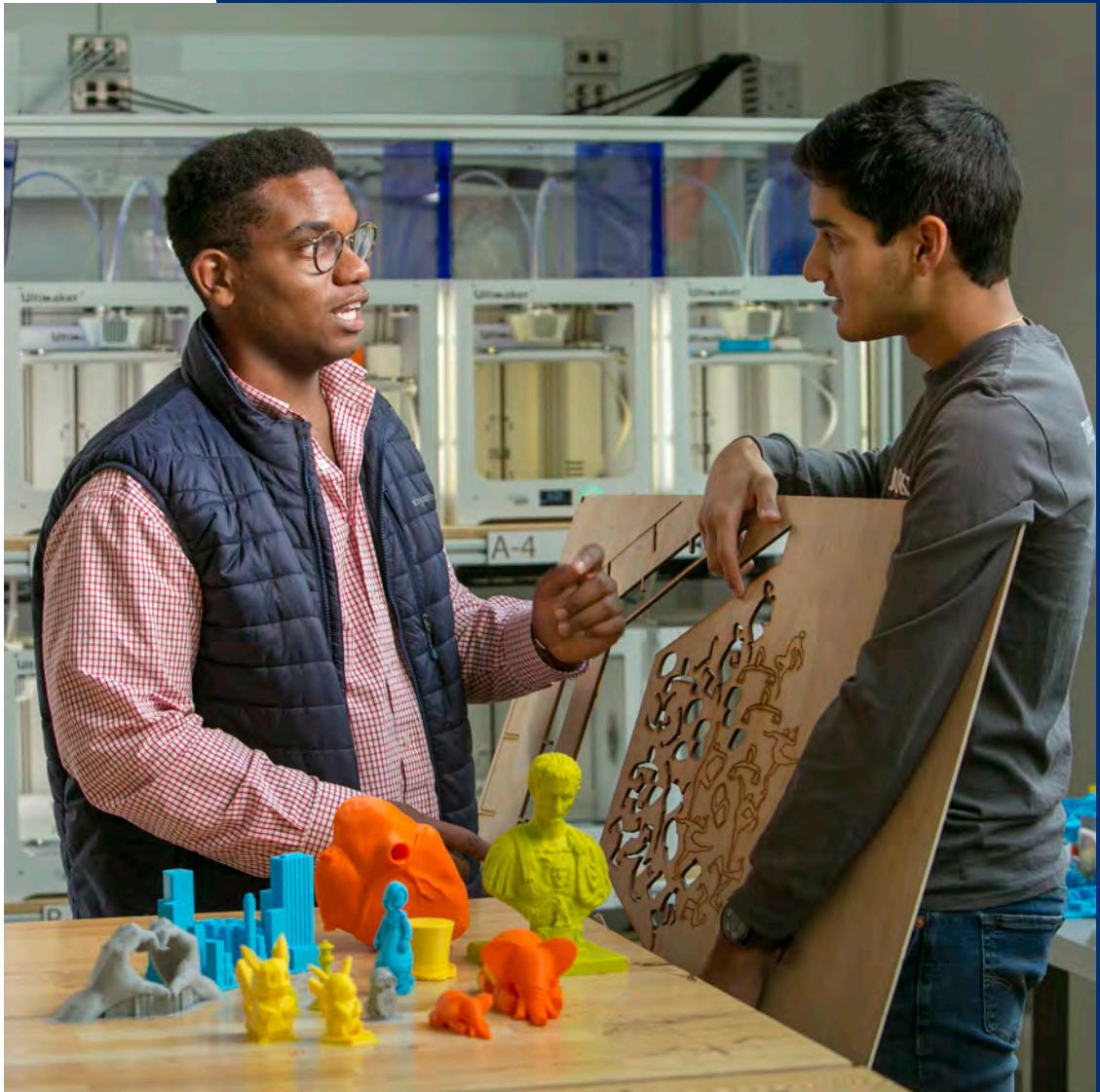
Compliance with Academic Regulations

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 Duke Community Standard in Practice: A Guide for Undergraduates*. Students who ignore official rules and requirements will at the least have their registration delayed or removed from the university.



Julie Schoonmaker

Special Study Centers, Programs, & Opportunities



Jared Lazarus

Campus Centers and Institutes

International and Area Studies Programs

Duke University Center for International and Global Studies (DUCIGS)

Located in the John Hope Franklin Center for Interdisciplinary and International Studies, the Duke University Center for International and Global Studies (DUCIGS) supports the globalization efforts of the university. DUCIGS is home to various international area studies centers, councils and initiatives including the Africa Initiative (AI), the Asian Pacific Studies Institute (APSI), the Duke Brazil Initiative (DBI), the Center for Latin American and Caribbean Studies (CLACS), the Concilium on Southern Africa (COSA), the Center for Slavic, Eurasian, and East European Studies (CSEEES), the Slavic and Eurasian Languages Resource Center (SEELRC), the Duke India Initiative (DII), the Duke Islamic Studies Center (DISC), the Duke University Middle East Studies Center (DUMESC), the Global Asia Initiative (GAI), and the Observatory on Europe.

The mission of DUCIGS is to:

- Support, engage, and connect researchers, students, departments, and schools to work on international issues;
- Promote interdisciplinary research and education to understand and engage with challenging global issues; and
- Support and coordinate the activities of the area studies centers, councils, and initiatives.

Historically, DUCIGS was instrumental in developing new international area studies centers at Duke. In recent years, it has concentrated on creating long-term initiatives with strong interdisciplinary and interregional emphases. DUCIGS sponsors a wide range of global thematic activities, including seminars, workshops, research programs, conferences, film series, art exhibitions, readings, and performances, many of which are open to undergraduates. It is an established goal of DUCIGS to ensure that 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. DUCIGS organizes the annual Lecture in Comparative World History (also known as the John F. Richards Lecture), and the biennial Anthony Joseph Drexel Biddle, Jr. Lecture on International Studies. It also regularly hosts a Diplomat in Residence from the US Department of State who advises students seeking careers in the foreign service.

Four region-specific initiatives, the Africa Initiative (AI), the Duke India Initiative (DII), the Global Asia Initiative (GAI), and the Observatory on Europe are also housed within DUCIGS. The Africa Initiative (AI) is a faculty-led initiative that brings scholars together—from across Duke University and Duke University Health System—who have a shared interest, whether through their research or programmatic activities, in the countries and cultures of the African continent. The goals of the initiative are to:

- Build connections between schools, programs, institutes and departments;
- Continue to foster new collaborations across disciplines;
- Transport existing knowledge gained, whether in Durham or the African continent, to other Duke locations around the globe; and
- Explore and pursue new funding opportunities and sponsored research.

The AI encourages discussion about African politics, economics, society, and culture and fosters interdisciplinary academic and research collaborations related to Africa on campus. Duke faculty and students are also actively engaged in service-learning opportunities, courses, and research projects on the African continent.

The DII builds and fosters collaborations at Duke and with partners across India. The initiative supports research and educational activities related to India, from distance learning classes to India-related seminars and working groups. In doing so, the DII aims to:

- Develop deep and sustaining ties with Indian partners;

- Foster multidisciplinary research collaborations on India at Duke; and
- Encourage dialogue about India among research communities on campus and abroad.

The DII is also a partner of Duke University India, an initiative based in Bangalore to coordinate Duke research, learning and engagement activities in India and Southeast Asia.

The GAI at Duke has its origins in the efforts by groups across the world to articulate a new paradigm that looks at Asian nations, cultures, and civilizations in terms of their connections, interactions, and interdependencies in both historical and geographical space. The motive for such an exploration derives from contemporary research that exposes the entangled relations between countries in East, Southeast, South, and West Asia not only in contemporary affairs, but also in the distant past. The GAI supports research on inter-Asian topics that are collaborative and interdisciplinary, involving research in more than one country. The GAI joined the Social Science Research Council's (SSRC) Inter-Asian Connections program as a coordinating partner and a hub for nodal research activities in March 2016. The SSRC project has been active together with its coordinating partners at the National University of Singapore, Hong Kong University, Yale University, Gottingen University, and several other sponsoring partners across the world since 2008.

The Observatory on Europe is a DUCIGS initiative dedicated to supporting interdisciplinary research, study, and discussion about Europe at Duke. The Observatory acts as a catalyst for scholarship on Europe for faculty and students by organizing and supporting workshops, conferences, panels, publications, and exhibitions on contemporary as well as historically grounded research on issues related to single European nations, the European Union, and connections with other regions of the world. Themes of interest include the aftermath of Brexit, rise of populism and the polarization of the political spectrum, refugee crisis, challenges at the border of Europe, and the economic and geopolitical interactions with the United States, China, Africa, and the Middle East. Additionally, the Duke University Center for International and Global Studies offers a graduate certificate in Interdisciplinary European Studies. The graduate certificate is open to all advanced degree students who meet the necessary requirements.

In recognition of its commitment to international studies, DUCIGS is a recipient of numerous grants from federal agencies and private foundations. The center has an annual competition for undergraduate summer research grants and supports research activity by providing both pre-award and post-award services. DUCIGS supports instruction in less commonly taught languages, in addition to offering support to students studying these languages. Since the early 2000s, DUCIGS has administered the Fulbright Visiting Scholars Program, which brings to campus scholars from over 100 countries around the world to conduct post-doctoral research at US institutions. This program is sponsored by the US Department of State and administered nationally through the Council for International Exchange of Scholars (CIES), a branch of the Institute for International Education (IIE). DUCIGS also manages the Fulbright-Hays Doctoral Dissertation Research Abroad (DDRA) Fellowship. This fellowship, through an annual national competition, provides grants from the US Department of Education to fund individual doctoral students to conduct research in other countries in modern foreign languages and area studies for periods of six to twelve months. Projects are intended to deepen research knowledge on, and help the United States develop capability in, areas of the world not generally included in US curricula. Duke students have regularly received grants for research in various disciplines among diverse locations around the world. For more information, please contact (919) 668-1663, or visit their website at <https://igs.duke.edu/>. DUCIGS is located in the John Hope Franklin Center, 2204 Erwin Road, Office 125.

Asian/Pacific Studies Institute (APSI)

The Asian/Pacific Studies Institute (APSI) supports and encourages the study of Asian societies and the Pacific region, with emphasis on China, Japan, and Korea. Courses cover a range of academic disciplines including Chinese, Japanese, and Korean language and literature, arts, cultural anthropology, history, law, political science, religion, and sociology. APSI also provides support for visiting speakers and conferences, library resources, and research clusters. Scholarships and fellowships are available annually to support language study and research abroad for both undergraduate and graduate students. Study abroad opportunities are available in China (Duke credit) and Japan (transfer credit). Undergraduate majors are available through the International Comparative Studies program (East Asian concentration) or the Department of Asian & Middle Eastern Studies. APSI offers a Master of Arts in East Asian studies, a joint MA/JD program, as well as a graduate certificate in East Asian Studies. For more information, please contact (919) 684-2604 or visit their website at <https://asianpacific.duke.edu/>. APSI is located in the John Hope Franklin Center, 2204 Erwin Road, Office 140.

Center for Latin American and Caribbean Studies (CLACS)

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 & Academic Programs](#)." Faculty associated with the center offer a wide range of courses in the humanities, social sciences, environmental sciences, Portuguese, Spanish, French, Haitian Kreyol, and K'iche' Maya. The center also sponsors visiting professors from Latin America, speaker series, conferences, summer research 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 at 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. The Duke Brazil Initiative (DBI) fosters research and language training opportunities for students interested in multidisciplinary studies focused on Brazil and the Amazon Basin. The DBI sponsors research grants, an annual Global Brazil Conference, exchanges with Brazilian students, faculty and artists, and team-based projects through the Global Brazil Humanities Lab. For more information, please contact (919) 681 3981, email las@duke.edu, or visit their website at <https://latinamericancaribbean.duke.edu/>. CLACS is located in the John Hope Franklin Center, 2204 Erwin Road, Office 134.

Center for Slavic, Eurasian, and East European Studies (CSEEES)

The center is devoted to promoting coursework, comparative research, teacher training, and graduate student and undergraduate student training in the social sciences and humanities associated with Russia, the former Soviet Union, Eastern and Central Europe, and Eurasia. Faculty associated with CSEEES offer over 350 courses each year in a broad range of disciplines, including history, economics, cultural anthropology, political science, literature, linguistics, and languages. CSEEES works closely with The University of North Carolina at Chapel Hill within a joint Title VI center. CSEEES supports programs and courses in six BA degrees, five minors, two MA certificates, two MA degrees and several PhD programs. Center language initiatives include active support of Polish, Romanian, Russian, Turkish, and Uzbek languages. For more information, please contact (919) 660-2421 or visit their website at <https://slaviccenters.duke.edu>. CSEEES is located in the 311 Languages Building.

Slavic and Eurasian Languages Resource Center (SEELRC)

The Slavic and Eurasian Languages Resource Center (formerly Slavic and East European) combines the resources of Duke University with outstanding research teams drawn from universities and government agencies across the US SEELRC to focus on the languages of thirty-four countries with a combined population approaching two billion people. Most of these languages fall into the category of less commonly taught languages (LCTLs). The cardinal purpose of SEELRC is to improve the national capacity to meet strategic US needs in teaching and learning the LCTLs of Eurasia (including but not restricted to Eastern and Central Europe, and the former Soviet Union). SEELRC provides teacher training in proficiency testing and certification and technologies, conducts research with direct outcomes with a focus on the advanced level in the languages of the region, and develops authentic language instructional materials in multi-platform technological formats and diagnostics. For more information, please contact (919) 660-2421 or visit their website at <https://slaviccenters.duke.edu>. SEELRC is located in the Languages Building Room 311.

Concilium on Southern Africa (COSA)

The Concilium on Southern Africa is an interdisciplinary network of faculty committed to widening and deepening relationships between Duke University and the countries and peoples of Southern Africa and offering ongoing opportunities on the Duke campus for faculty and students to engage with Southern African concerns. To this end, COSA encourages a wide range of scholarly engagement with Southern Africa, initiating or coordinating discussion groups, faculty and student exchanges, and visits to Duke by Southern African scholars, artists, and social commentators; provides a forum to share research, reports on student visits, and educational experiences; explores issues relating to Southern Africa through reading groups and lectures; organizes conferences and seminars to expand knowledge of, and deepen relationships with, Southern Africa; and welcomes faculty members and other professionals in the Triangle interested in engagement with Southern Africa. For more information, please contact (919) 668-1663 or visit their website at <https://igs.duke.edu/units/concilium-southern-africa>. COSA is located in the John Hope Franklin Center, 2204 Erwin Road, Office 122.

Duke Islamic Studies Center (DISC)

The Duke Islamic Studies Center is a vibrant, diverse community of scholars and students engaged in interdisciplinary teaching, interactive learning, and cutting-edge research about Islam and Muslims. DISC educates today's students to become tomorrow's leaders by equipping them with knowledge about the breadth and diversity of Islamic cultures, cross-cultural experiences, and language skills. DISC is one of the leading institutions in North America for the study of Islam and Muslims. Its comparative, cross-cultural approach to Islamic studies fosters fresh interpretations of Islam and encourages creative solutions to the economic, political, and social challenges involving Muslims. DISC is committed to working with partners at home and abroad to provide undergraduate and graduate students, professionals, and policy makers with the knowledge about Muslims and Islamic cultures, beliefs, and practices that will enable them to operate effectively in a multicultural world. DISC offers an undergraduate certificate in Islamic Studies and sponsors and cosponsors events during the school year open to Duke and the greater community with the hopes of educating and dialoguing with people interested in the study of Islam. For further information, please contact (919) 668-1955 or visit their website at <https://islamicstudies.duke.edu/>. DISC is located in the John Hope Franklin Center, 2204 Erwin Road, Office 108.

Duke Middle East Studies Center (DUMESC)

The Duke University Middle East Studies Center is a hub for research, education, and outreach that serves as a forum at the local, national and international levels. DUMESC prepare tomorrow's leaders by equipping them with knowledge about Middle Eastern languages, cultures, and societies. The center is distinguished by its trans-regional approach to the Middle East. DUMESC approaches the Middle East as a unit extending from the Mediterranean to the Indian Ocean. The center's approach emphasizes interdisciplinarity, comparativity, and connectivity. DUMESC is part of the Duke-UNC Consortium for Middle East Studies. The Consortium combines the strengths of the center with those of the Carolina Center for the Study of the Middle East and Muslim Civilizations. The Consortium for Middle East Studies has recently been awarded a Title VI Middle East Studies grant, establishing the Consortium as a National Resource Center for Middle East Studies. For more information, please contact (919) 668-1653 or visit their website at <https://middleeaststudies.duke.edu>. DUMESC is located in the John Hope Franklin Center, 2204 Erwin Road, Office 110.

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, new media, 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 the center's galleries, an international documentary film festival, nationally recognized training for community youth and adults, and fieldwork projects in the United States 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 post-graduate fellows for ten months with nonprofit organizations), Documentary Arts Institutes, and the Full Frame Documentary Film Festival Student Fellows program.

For more information, visit <https://documentarystudies.duke.edu/> or contact the Undergraduate Education Director, Christopher Sims (csims@duke.edu) Center for Documentary Studies, 1317 West Pettigrew Street, Durham, NC 27705; (919) 660-3689.

Dewitt Wallace Center for Media and Democracy

The DeWitt Wallace Center for Media & Democracy (DWC) is Duke University's hub for the study of journalism. DWC studies the interaction between news media and policy, supports watchdog and accountability reporting in the United States and around the world, and teaches about the media's role in democracy. The center is part of the Sanford School of Public Policy, and shares in the Sanford School's mission of teaching, research, and policy engagement, with the goal of putting knowledge in service to society. The center offers over twenty undergraduate courses designed to give students a thorough understanding of the principles and the practice of journalism. Together with support from Trinity College of Arts & Sciences, the center hosts the Policy Journalism and Media Studies Certificate, an undergraduate certificate program for students aspiring to become future journalists, or private and public sector leaders who will interact with the media. In addition, the center hosts the Duke Reporters' Lab and administers the undergraduate Melcher Family Award for Excellence in Journalism. For further information about the center or the certificate, visit <https://dewitt.sanford.duke.edu/> or email shelley.stonecipher@duke.edu. See also the sections on the certificate program and on public policy studies in the section "[Public Policy Studies](#)" on page 675.

DukeEngage

DukeEngage provides fully-funded opportunities that enable students and faculty to collaborate with communities across the globe to address critical societal needs through an immersive summer of civic engagement. Each year, four hundred Duke undergraduates work with community-based organizations on a variety of local issues while developing an understanding of their role in affecting social change in the world.

For more information, visit <https://dukeengage.duke.edu/>.

The Duke Office of Civic Engagement

The Duke Office of Civic Engagement incubates, coordinates, and amplifies the various ways that students, faculty, and staff work to make a difference in the civic life of our communities. Serving as the hub for civic engagement activities across campus, the Office supports Duke's collaborations with communities on pressing social challenges. The office prides itself on being nimble and responsive to grassroots efforts related to civic engagement as they emerge among faculty, students, staff, and alumni. The Duke Office of Civic Engagement facilitates collegial conversations through a variety of forums, makes connections and encourages collaborations by providing seed funding and meeting space, and coordinates and co-hosts campus visits from thought leaders in civic engagement.

For more information, visit <https://civic.duke.edu/>.

Academic Resource Center

Being a Duke student can be inspiring, rewarding, demanding—and sometimes stressful. There are challenging classes and many exciting opportunities in and out of the classroom. The Academic Resource Center (ARC) offers resources to maximize students' capabilities so they can get the most out of their experience at Duke. ARC services are free to all Duke undergraduate students, in any year, studying in any discipline.

Learning Consultations give students an opportunity to meet one-on-one with an ARC learning consultant to enhance their academic skills and learn strategies tailored to how they learn and the courses they are taking. Consultations can address many of the challenges students may face, including time management; procrastination and motivation; how to balance study, work, and co-curricular activities; effective note-taking; exam preparation; and more.

Peer Tutoring offers free group tutorials and drop-in tutoring for select courses. Group tutorials provide one-hour, weekly sessions for groups of two to five students with an assigned tutor. Drop-in tutoring sessions occur weekly during scheduled times at specific locations.

STEM Advancement through Group Engagement (SAGE) learning communities provide opportunities for students to enhance their course experience, build community, and develop scholarship and leadership skills in certain STEM courses. Students work in small groups facilitated by upper-level undergraduate students.

Currently, SAGE learning communities support introductory chemistry, biology, and mathematics courses. See the ARC website for current courses.

LD/ADHD Support for students with learning and attention challenges provides course specific and tailored learning strategies through learning consultations, ADHD coaching, and tutoring. If a student suspects they might have a learning disability or ADHD, the ARC offers resources and can conduct an initial screen to determine the best next steps.

For more information, call the ARC at (919) 684-5917, visit <https://arc.duke.edu/>, or email ARC@duke.edu.

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 nondegree students, for those with baccalaureates who now seek a sequence of undergraduate credit courses for career development or to prepare for graduate or professional school; and (3) as students completing the last year of work toward 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. A junior or senior who is enrolled at another accredited US college or university and desires to study an academic discipline unique to Duke University may apply through the Office of Continuing Studies for admission as a nondegree, full-time visiting student for one or two semesters. Applications may be obtained from the Office of Continuing Studies (the Bishop's House on East Campus or (919) 684-5375) 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 1 of the summer session, and June 1 for Term 2 of the summer session.

Certificate Programs. Professional certificate programs offered include human resource management, management accounting, digital media and marketing, big data and data science, technical communications, business communications, business ethics, paralegal studies, financial planning, event development, Six Sigma Green Belt, entrepreneurship, supply side management, sustainable management, online learning, finance essentials, legal nurse consulting, and others.

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 more than 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, film and lecture series, and volunteer opportunities.

Duke Youth Programs. For more than thirty-five 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, forensic science, game design, drones, math, cryptography, neurosciences, creative writing, SAT preparation, video production, and a college admissions boot camp.

For more information, write or call the Office of Continuing Studies and Summer Session, Duke University, Box 90700, Durham, NC 27708-0700; (919) 684-6259; or visit <https://learnmore.duke.edu/>.

Specialized Programs

Bass Connections

Bass Connections brings together faculty, graduate students, and undergraduate students to tackle complex societal challenges in interdisciplinary research teams. Named in honor of founding donors Anne T. and Robert M. Bass P'97, the program exemplifies Duke's commitment to interdisciplinary research and teaching as a vital part of the university's mission.

Through project teams, courses, and summer programs, students and faculty engage in interdisciplinary, collaborative research focused on societal challenges, often in partnership with external organizations. Many participants choose to take their research further through grants and other opportunities within Duke and beyond.

Project Teams

Interdisciplinary research teams tackle complex societal challenges over two semesters (some teams add a summer component). Students can receive course credit during the academic year and funding during the summer. For more information, visit <https://bassconnections.duke.edu/project-teams>.

One-Semester Courses

Numerous courses highlight interdisciplinary thinking, collaborative assignments, and interaction with community partners. For more information, visit <https://bassconnections.duke.edu/courses>.

Summer Programs

Students spend six to ten weeks immersed in mentored research through a range of summer programs, including Data+, Story+, Global Health Student Research Training, and the Summer Neuroscience Program. Summer funding is available. For more information, visit <https://bassconnections.duke.edu/summer-programs>.

Benefits of Participating

Bass Connections creates opportunities for students to discover and develop an individualized pathway—explore examples of student pathways at <https://bassconnections.duke.edu/student-resources/student-stories>.

Commonly reported benefits of participating in Bass Connections include:

- Building research skills in a small group setting
- Developing a deep understanding of an issue of interest
- Engaging with communities and organizations outside of Duke
- Exploring career paths and gaining valuable experience for résumés
- Applying coursework to a complex societal challenge
- Enhancing honors thesis research
- Co-authoring publications

Learn more at <https://bassconnections.duke.edu/>, or contact the program at bassconnections@duke.edu.

Duke Immerse

Duke Immerse offers 4.0-course-credit, semester-long academic experiences in which a small cohort of undergraduates enrolls in a set of four interrelated seminars focused around a significant global challenge. Examples of current Duke Immerse themes include oceans and health, urban governance, human rights, migration, and food studies. Duke Immerse programs are research intensive and often include travel, fieldwork, and experiential learning. All course credits and codes apply toward a student's graduation requirements. Each Duke Immerse offering is marked by high faculty-student interaction, and many Duke Immerse students leverage their research for a senior thesis. Senior data indicate that the Duke Immerse experience offers students a strong sense of academic belonging and that Duke Immerse students are much more likely to have a deeply meaningful connection with a faculty mentor.

Different themes are offered in the spring and fall each year. Successful Duke Immerse themes are offered more than once, and Duke faculty develop new themes annually. For a look at one new Duke Immerse program, watch this video: <https://www.youtube.com/watch?v=AjxPUXcXTTU>.

Student Schedules

The Duke Immerse Program requires participants to enroll in the set of four seminars. The seminars fulfill general curriculum, major, minor, and certificate requirements. Courses are often cross-listed in more than one department. For more information about courses in the Duke Immerse Program, visit <https://undergrad.duke.edu/programs/dukeimmerse/courses>.

The Focus Program

The Focus Program creates a vibrant intellectual community involving faculty and first-year students embedded in a living-learning context during the fall semester. Students are postured for success from the very beginning in courses that focus on the scientific method, problem solving, and primary research. The Focus

Program allows incoming first-year students to enroll in two of their four courses prior to starting at Duke. This early enrollment makes entry into Duke much less stressful for incoming students by providing access to faculty, their own cohort, and former Focus students from their cluster.

The Focus Program is an example of transformational education, where the boundaries of the classroom are fundamentally redefined. Many seniors note that the Focus Program is one of the most influential experiences of their college career.

The Focus Program draws its offerings from courses taught by more than 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.

Student Schedules

The Focus Program enrolls first-year students in two seminar courses from the three or four courses offered within the assigned cluster and a half-credit discussion course. Focus students are enrolled in their Focus courses in early summer before enrollment is open to first-year students. The two remaining elective courses are chosen by the student according to their academic interests when normal enrollment is open. Focus students do not have to take Writing 101 in the fall semester. All Focus courses fulfill general curriculum requirements including first-year seminar requirements and Areas of Knowledge and Modes of Inquiry, as well as possibly fulfilling requirements for majors, minors, and certificates.

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 email 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 at <https://focus.duke.edu/refocus>.

Current Focus Program information may be found on the program website at <https://focus.duke.edu/>. Questions and comments may be directed to the Focus Program Office, 204C East Duke, (919) 684-9370, fax: (919) 613-9193, email: focus@duke.edu.

Service-Learning

Service-learning courses build a strong academic foundation by incorporating collaborations with local community partners and translating theory into real-world experience. By exploring the rich diversity of our local and global communities, service-learning courses provide students with opportunities to engage effectively with communities on issues such as the environment, socioeconomic inequities, public policy, health, immigration, education, and more.

Service-learning courses require a commitment to engage in a service project outside of class hours determined by the needs of the community partner. Service-learning courses support students in developing a wide range of skills, from cross-cultural awareness and critical thinking to problem-solving and leadership skills, helping students to discover the specific ways they want to be agents of change in the world. To learn more about service-learning courses, go to <https://servicelearning.duke.edu/>.

Questions and comments may be directed to the Duke Service-Learning Office, 213 West Duke Building, (919) 668-4134, email: kimberly.garner@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 & Academic Programs” on page 106](#).

The Air Force Reserve Officer Training Corps (AFROTC)

The Air Force Reserve Officer Training Corps (AFROTC) functions as the Department of Aerospace Studies at Duke University. AFROTC offers students the opportunity to earn a presidential officer's commission as a second lieutenant in the United States Air Force upon completion of the program and graduation. AFROTC selects, educates, trains, and commissions college men and women through a three-year to four-year curriculum. The program consists of both the General Military Course (GMC), a course sequence normally taken during the first year and sophomore year, and the Professional Officer Course (POC) taken during the junior and senior years.

The GMC is open to first-year students and sophomores who meet AFROTC selective military qualifications. Students who complete the GMC program may compete for selective entry into the POC. Becoming a POC requires successful completion of a four-week field-training encampment, generally offered the summer between the sophomore and junior years. Also, during summer breaks, students are given the opportunity to volunteer for Air Force sponsored advanced training programs 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 tax-free stipend even if not on scholarship. Upon program completion and graduation students are commissioned and assigned to active duty with the United States Air Force for a period of at least four years.

For further information, please direct inquiries to the Department of Aerospace Studies at Room 263 Trent Hall Building, phone: (919) 660-1869, email: det585@duke.edu, or visit their website at <https://afrotc.duke.edu/>.

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.

The three- or four-year program consists of the Basic Course (first year and sophomore year) and the Advanced Course (junior and senior years). Students who enroll at the start of their sophomore year have the option to compress the Basic Course into one year. Direct entry into the Advanced Course (a two-year program) is possible by attending four weeks of training at Fort Knox, Kentucky, during the summer before the student's junior year. Students may also be allowed direct entry into the Advanced Course if they have completed Basic Training through the Active Army, Army Reserve, or Army National Guard. Students wishing to register for the two-year program should confer with the Department of Military Science before March of their sophomore year in order to sign up for summer training and maintain eligibility to compete for a two-year scholarship. There is currently one mandatory summer training requirement: Advanced Camp at Fort Knox, which takes place over a five-week period between the junior and senior years. All uniforms, equipment, and texts are provided.

Detailed information on Army ROTC is available from the Department of Military Science, 06 West Duke Building, East Campus, Box 90752, (919) 660-3091, or arotc@duke.edu. Information can also be found on the departmental website at <https://arotc.duke.edu>.

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 a ship or a shore facility 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. 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 before the spring semester of their junior year. 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 <https://nrotc.duke.edu/>.

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, North Carolina Central University, 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 term. 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 website (<https://registrar.duke.edu/>), in the Registration 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 Areas 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, DC, and Spelman College in Atlanta, Georgia. Duke 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. Transfer credits earned under this exchange program do not count against the maximum allowable domestic or study abroad transfer credits.

Duke/Howard Exchange

Students must have completed two semesters of coursework 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 coursework 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 o11 Allen.

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 fifteen-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 1 and 2). Fall and Spring courses include Beaufort Signature Courses, which offer students opportunities for extended travel with Duke faculty to places such as Gulf of California, Panama, Puerto Rico, Singapore, and US Virgin Islands. 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, NC 28516; (252) 504-7502; ml_enrollment@nicholas.duke.edu or visit <https://nicholas.duke.edu/marinelab>.



Megan Morris

Undergraduate Research Support Office

Duke University encourages connections between the 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 and by providing financial support for research engagements in many disciplines. The office provides research assistantships and grants through the academic year, research grants and fellowships for the summer, and travel grants for presentations at professional conferences. The URS Office also organizes symposia of undergraduate research and it administers summer research programs. For detailed information, visit <https://undergradueresearch.duke.edu/>.

Study Abroad/Away

Global Education Office for Undergraduates

During the academic year or summer, a Duke student may earn Duke or study abroad/away transfer credit, depending on the program type, for approved work completed (1) on a Duke-administered program; (2) at an approved foreign university; or (3) on an approved program abroad that is sponsored by another US college or university. No credit will be awarded for college coursework completed on a study abroad program undertaken prior to matriculation at Duke.

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

- A scholastic grade point average of at least 2.7 for semester or academic year study abroad/away—a student lacking this average may request a GPA waiver from their academic dean if there are unusual circumstances;
- Pre-departure approval of the program and courses by the Global Education Committee and the Global Education Office for Undergraduates (GEO);
- Confirmation of eligibility to study off campus from the Office of Student Conduct and the student's academic dean;
- Approval by the appropriate directors of undergraduate studies for the courses to be taken abroad/away.

Please note that a student on academic or disciplinary probation or one who does not meet academic continuation requirements will not be permitted to study abroad/away, regardless of the student's acceptance to a program.

Generally, there are two types of study abroad/away programs available to Duke undergraduates: Duke-administered and Duke-approved programs. Duke-administered programs have varying degrees of academic and logistical oversight from Duke; offer a mixture of Duke credits and study abroad/away transfer credits, depending on the program; and charge Duke tuition, a program fee, and a housing fee (when applicable). Duke-approved programs are administered by other US institutions or foreign universities; offer study abroad transfer credits that do not compute in the Duke GPA, but are eligible for credit toward certain curricular requirements at Duke; and charge tuition and fees entirely apart from Duke. For Duke-approved programs, Duke charges a per semester Study Abroad Fee (see the section "[Fees for Study Abroad](#)" on page [97](#) for details about fees charged for Duke-approved study abroad programs).

Students on Duke-administered and Duke-approved programs are expected to enroll in the equivalent of 4.0 Duke course credits each semester. No underloads and no overloads are permitted. To receive the maximum amount of transfer credit at Duke—generally 4.0 course credits for a full semester, 8.0 course credits for a full academic year, 2.0 course credits for a summer—students on Duke-approved programs are expected to take a full, normal course load, as defined by the GEO and the Duke University Registrar. Students should confirm the required course load for each program with GEO advisors.

Study abroad/away transfer credit will be awarded for work satisfactorily completed in Duke-administered and Duke-approved programs abroad in accordance with GEO policies and procedures found at <https://globaled.duke.edu/about/forms-policies>. Study abroad/away transfer credit courses may, upon evaluation, carry Areas of Knowledge codes. The foreign language (FL) mode of inquiry is only available to transfer courses through a separate approval process upon return.

Students should consult the section on “[Academic Recognition and Honors](#)” on page 57 or their academic dean to determine the eligibility of study abroad courses for honors such as the Dean’s List. Seniors planning to spend their final semester studying off campus may face postponed graduation because study abroad/away semester dates may differ from Duke’s, and transcripts may be delayed.

Duke-Administered Semester Study Abroad/Away Programs

Duke currently administers a number of its own study abroad/away programs. In these programs, Duke faculty and/or academic departments are involved in the academic design and implementation of the programs, and the courses receive Duke credit, as courses on campus do, unless otherwise noted. Information on these programs is available from GEO at <https://globaled.duke.edu/>.

Duke in Berlin, Germany

Students can study with Duke in Berlin during the full academic year, fall, or spring semesters. In the fall semester, students take specially arranged courses in German language, the humanities, and the social sciences for Duke credit. In the longer, hybrid spring semester, students take up to five courses, two of which may be taken for transfer credit from Free University and/or the Technical University of Berlin. Fall, spring, and academic year programs at Free University are open to German language learners at all levels, including beginners. Engineering students who enroll for the spring term are required to have one semester of German to be eligible for the spring program. Students live with families for the semester or the year. This program is organized in collaboration with the Duke Department of Germanic Languages & Literature and GEO. Program information can be found at https://globaled.duke.edu/programs/berlin_semester.

Duke in DC: Policy, Leadership, and Innovation

Based in the nation’s capital city, the Duke in DC program provides students with the unique and exciting opportunity to live, work, and study in our nation’s capital. Students will have real-world policy experiences through a combination of coursework, independent research, small group work, a practicum, interaction with Duke alumni working in the DC 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. This program is organized in collaboration with the Sanford School for Public Policy Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/DC>.

Duke in France/EDUCO, Paris

In cooperation with Cornell, Emory, and Tulane universities, Duke in France/EDUCO offers a hybrid semester or academic year program in Paris. 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 204 level or equivalent. Students live in French households and student dorms. Students earn Duke credit for program-administered courses and transfer credit for courses taken at the French universities. This program is organized in collaboration with the Duke Department of Romance Studies and GEO. Program information can be found at https://globaled.duke.edu/programs/france_educo.

Duke in Glasgow, Scotland

This fall semester hybrid program is based at the University of Glasgow which was founded in 1451 and is the fourth-oldest university in the English-speaking world. University of Glasgow 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 transfer credit electives from the general university curriculum. Students live in University of Glasgow-affiliated housing. This program is organized in collaboration with the Sanford School of Public Policy and GEO and is open to students in any major. Program information can be found at <https://globaled.duke.edu/programs/glasgow>.

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 focuses on the major US culture industries, bringing to the classroom distinguished speakers from fields such as film, television, music, visual and performing arts, journalism, gaming, and marketing. There is also a curriculum focus on issues relating to LA’s status as a global city and the United States’ second largest metropolis.

This program offers a practicum course with an internship component. Students also take a course of their choosing at USC's College of Letters, Arts, and Sciences or School of Cinematic Arts for transfer credit at Duke. 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. This program is organized in collaboration with the Center for Documentary Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/LA>.

Duke in Madrid, Spain Intermediate

Duke University offers a semester program in Madrid in partnership with the Universidad Carlos III de Madrid. Aimed at 200-level Spanish students, 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, engineering, and political science, among others. Students can elect to take courses in English at the host university; otherwise, the language of instruction is Spanish. Students live with host families arranged by the program. This program is organized in collaboration with the Duke Department of Romance Studies and GEO. Program information can be found at https://globaled.duke.edu/programs/madrid_intermediate.

Duke in Madrid, Spain

Duke University offers a semester or academic year program in Madrid in partnership with the Universidad Carlos III de Madrid. Aimed at 300-level Spanish students, 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, engineering, and political science, among others. STEM-focused courses may be taken in English; otherwise, the language of instruction is Spanish. Students live with host families arranged by the program. Academic year students have the option of independent housing in the spring semester. This program is organized in collaboration with the Duke Department of Romance Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/madrid>.

Duke in New York

The Duke in New York program is a year-round academic experience offered exclusively to Duke students. The program consists of three separate tracks, each of which has a distinct theme and requires a separate application. Duke students can elect to enroll in just one track, or multiple. Currently, Duke in New York includes the following tracks:

- Arts & Media (Fall)
- Financial Markets & Institutions (Spring)
- Arts & Media Summer Internships in the City (Summer)

Duke in New York Fall Arts & Media is a four-credit fall semester program introducing students to the professional world of theater, music, film, dance, writing, museums, galleries, publishing, television, advertising, and other media within businesses and not-for-profits. Students experience living and working in New York through a practicum course, which includes an internship. Students also take two signature Duke courses and either a Duke elective or an elective course at New York University. Though this program students gain a deeper knowledge of New York's vibrant history, institutions, and cultural life, as well as the beginnings of a professional knowledge of the city's art and business communities, furthered by interaction with Duke alumni and industry leaders. This program is organized in collaboration with the English Department, the Theater Studies Department, the Visual & Media Studies Department, and GEO. Program information can be found at https://globaled.duke.edu/programs/new_york_arts_media.

Duke in New York: Financial Markets and Institutions introduces students to the financial services industry. Students 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. It incorporates four courses for one Duke credit each, 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. This program is organized in collaboration with

Department of Economics and GEO. Program information can be found at https://globaled.duke.edu/programs/new_york_financial.

Duke in New York Arts & Media Summer Internships in the City. More information about this program can be found in the summer section below.

Duke in St. Petersburg, Russia

Duke in St. Petersburg is a fall or spring semester program offered to students who have studied Russian for two years at the college level. Students are enrolled in the St. Petersburg 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. This program is organized in collaboration with the Department of Slavic & Eurasian Studies and GEO. Program information can be found at https://globaled.duke.edu/programs/st_petersburg.

Duke in Venice, Italy

This program is based at Venice International University (VIU), located on the island of San Servolo. VIU is an association of universities and organizations from around the world. 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. All other courses are taught in English. Students live in dormitories on the island of San Servolo or in the city of Venice in apartments. Program information can be found at https://globaled.duke.edu/programs/venice_semester.

Intercollegiate Center for Classical Studies in Rome

As the administering institution of the Intercollegiate Center for Classical Studies (ICCS) in Rome, Duke University sends classics majors and other students with strong classical interests for admission to a semester's study away at ICCS, usually in their 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. This program is organized in collaboration with the Duke Department of Classical Studies and GEO. Program information can be found at https://globaled.duke.edu/programs/rome_ICCS.

Duke-Administered Summer Study Abroad/Away Programs

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.

Duke in Aix-en-Provence, France

In this intensive, intermediate, six-week, two-course French language program, students earn the equivalent of French 203 and French 204. Based in Aix-en-Provence in southern France, this immersion program provides students unique and stimulating opportunities to develop their knowledge of French language, culture, and literature. Students live in homestays to aid in developing their language proficiency, and various excursions are planned to familiarize students with the rich and varied culture of the region. This program is organized in collaboration with the Department of Romance Studies, and GEO. Program information can be found at https://globaled.duke.edu/programs/aix_en_provence.

Duke in Alicante, Spain

The Duke in Alicante program is a six-week summer language program geared for beginning to low-intermediate students. Course tracks offered are Spanish 140A Intensive Elementary Spanish, which combines coursework currently offered at Duke in Spanish 101 and 102, or Spanish 240A Intensive Intermediate Spanish, which covers material included in Spanish 203 and 204. Both courses tracks are valued at 2.0 course credits each. 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. Students live in homestays. This program is organized in collaboration with the Department of Romance Studies. Program information can be found at <https://globaled.duke.edu/programs/alicante>.

Duke in the Arab World, Morocco

This six-week, two-course program provides students with the opportunity to not only explore the socio-political development and intricacies of the Arabia region while studying Arabic but also gain real life experiences

through interaction, observation, homestays, and excursions throughout Morocco. All students will enroll in two courses: the signature course on religion, security, and citizenship, and the Arabic language instruction course, each offering one Duke credit. This program is organized in collaboration with the Department of Asian & Middle Eastern Studies (AMES). Program information can be found at https://globaled.duke.edu/programs/arab_world.

Duke in Australia

This four-week, one-course program focuses on Australian biogeography and culture. The program includes visits to the Northern Territory, Darwin, the Blue Mountains and Sydney in New South Wales, as well as the Great Barrier Reef and tropical rain forest in northern Queensland. Students will study the distribution of plants and animals in space and time as determined by the interaction of geology, climate evolutionary history, and culture. Special emphasis will be placed on the unique terrestrial and marine flora and fauna of the Australian continent and the impact of humans on the distribution of these plants and animals. Students stay in hostels, hotels, and campgrounds. This program is organized in collaboration with the Department of Biology and GEO. Program information can be found at <https://globaled.duke.edu/programs/australia>.

Duke in Berlin, Germany

This six-week, two-course program features faculty from Duke. In addition to German language courses ranging from elementary to advanced levels, this program offers content courses in English, which have a substantial focus in German politics, history, and culture. 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. Students live in shared apartments. This program is organized in collaboration with the Department of German Studies and GEO. Program information can be found at https://globaled.duke.edu/programs/berlin_summer.

Duke in Bologna, Italy

This six-week, two-course program offers students the opportunity to immerse themselves in Bologna, Italy, and the surrounding area while also improving their Italian language skills. In cooperation with the University of Bologna, Duke faculty on this program teach a language intensive course as well as a course which focuses on Italian culture and literature. Students are housed in apartments in central Bologna, a student-friendly city. The program itinerary includes excursions to other Italian cities, such as Florence, Verona, and Ravenna. This program is organized in collaboration with the Department of Romance Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/bologna>.

Duke in Brazil, Rio de Janeiro

This four-week, one-course summer program provides intensive Portuguese language instruction while exposing students to the reality of social and environmental issues in Rio de Janeiro. Students interact with non-governmental organizations (NGOs) that engage on issues of civics, citizen's rights, culture, and sustainable development. Students live with host families and make several excursions of cultural significance. This program is organized in collaboration with the Department of Romance Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/brazil>.

Duke in Chicago: Finance

The Duke in Chicago: Finance program is a four-week, one-course summer program for Duke students with career interests in finance and business. In addition to in-class lectures, discussion, and projects, the core learning opportunities include guest lectures, mainly by Duke alumni working in finance and business in the Chicago area, and visits to financial firms and historical and cultural sites. This program is organized in collaboration with the Duke Financial Economics Center, the Duke University Economics Department and GEO. Program information can be found at https://globaled.duke.edu/programs/chicago_finance.

Duke in Chile, Valparaiso

This six-week, two-course program is based in the cities of Valparaiso and Viña del Mar, Chile. Students will complete the equivalent of Spanish 204 and Spanish 303 with an eye towards the development of linguistic skills in Spanish and cultural awareness related to entrepreneurial themes in Chile. Moreover, as part of the program, students will be engaged in practicum experiences with local start-up companies and social entrepreneurship in the region. Accommodations are with local host families. This program is organized in collaboration with the Department of Romance Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/chile>.

Duke in Costa Rica, Heredia

Duke in Costa Rica is a four-week, one-course program where students develop advanced Spanish language skills and gain an understanding of community health issues in Costa Rica through visits to local clinics, hospitals, midwives, indigenous communities, and senior care facilities. The program is appropriate for 300-level Spanish learners. Students live with host families. This program is organized in collaboration with the Department of Romance Studies and GEO. Program information can be found at https://globaled.duke.edu/programs/costa_rica.

Duke in Geneva, Switzerland

This six-week, two-course program in Geneva focuses on globalization issues in business and international management. Geneva is home to a hundred multinational businesses, the European base of the United Nations (UN) and of all the non-governmental organizations (NGOs) which deal with it. This makes Geneva a relevant location in which to study both the character and practice of international business and its impact on global issues of human rights, ecological protection, disarmament, and economic development. Students are housed in residence halls at the Cité Universitaire of the University of Geneva. Courses are taught in English. A field trip to Berlin is included in this program. This program is organized in collaboration with the Duke Markets & Management Studies Program, the Duke Philosophy Department, and GEO. Program information can be found at <https://globaled.duke.edu/programs/geneva>.

Duke in 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 a chartered yacht during the final week of the program. This program is organized in collaboration with the Duke Philosophy Department and GEO. Program information can be found at <https://globaled.duke.edu/programs/greece>.

Duke in London-Drama, England

This six-week, two-course 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," taught by Duke faculty, and "Theater in London: Performance," taught jointly by Duke faculty and distinguished British theater practitioners. The students attend more than fifteen and twenty theater productions in London and Stratford-upon-Avon. Accommodations are in a residence hall. This program is organized in collaboration with the Duke Department of Theater Studies, the Duke English Department, and GEO. Program information can be found at https://globaled.duke.edu/programs/london_drama.

Duke in London-Finance, England

This six-week program based in London offers immersion in both academic and practical finance, with two courses taught by Duke faculty, as well as by visiting speakers from the financial markets. Students will also visit financial firms in the city. London is an ideal setting in which to study these topics given the city's role as a center for financial transactions throughout Europe, as well as its links to the United States, Asia, and emerging markets. Students live in residence halls. This program is organized in collaboration with the Duke Department of Economics and GEO. Program information can be found at https://globaled.duke.edu/programs/london_finance.

Duke in New York: Summer Internships in the City

The Summer Internships in the City is a two-credit program spanning both summer terms. During Summer Term 1, students take a seminar called "Arts in New York: A Thematic Approach" that introduces them to neighborhoods, cultural institutions, businesses, and the demographics of New York, through a series of carefully calibrated assignments allowing them to complete a final project that draws upon their classes, training, creativity, and professional interests. During Summer Term 2, students complete their practicum course. The 1.0-credit practicum course introduces students to theater, dance, museums, and music in an academic context with an internship. This program is organized in collaboration with the English Department, the Theater Studies Department, the Visual & Media Studies Department, and GEO. Program information can be found at https://globaled.duke.edu/programs/new_york_summer.

Duke in Oxford, England

This six-week, two-credit, one-course program at New College, University of Oxford, utilizes the Oxford tutorial system of education supplemented by lectures given by noted Oxford scholars. Areas of study include Victorian literature, British history, politics and government, classical and contemporary political philosophy, and science, ethics, and society. Students live in residence halls. Program information can be found at <https://globaled.duke.edu/programs/oxford>.

Duke in Paris, France

Duke in Paris is a six-week, two-course program that provides the opportunity to take Duke courses in Paris. The language of instruction is French. Applicants must have completed French 204 or the equivalent. Duke in Paris makes use of the cultural offerings in Paris to enhance the coursework and provide students with access to art, theater, and music exhibits and performances. Students live in homestays. This program is organized in collaboration with the Department of Romance Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/paris>.

Duke in Rome, Italy

This four-week, one-course 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 organized in collaboration with the Department of Classical Studies; the Department of Art, Art History and Visual Studies; the Department of History; and GEO. Program information can be found at <https://globaled.duke.edu/programs/rome>.

Duke in Russia, St. Petersburg

This six-week 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 university housing and in hotels during excursions. This program is organized in collaboration with the Department of Slavic & Eurasian Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/russia>.

Duke in Spain, Madrid

This six-week, two-course 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, Mallorca, and Cordoba. Both courses are conducted in Spanish, and students live with Spanish host-families. Applicants must have completed Spanish 204 or the equivalent. This program is organized in collaboration with the Department of Romance Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/spain>.

Duke in Sri Lanka, Galle

This four-week, one-course global health program based in Galle brings together students and instructors from North America, Asia, and Europe to engage on problems and solutions related to health and health disparities in a global context. The program combines theoretical studies in the classroom with academic excursions to learn from local public health experts, practitioners, community members and leaders. Through guided multidisciplinary and multicultural interactions, this course provides an opportunity to learn about global health from close interaction with concrete, real-life global health issues in a low-resource setting. This program is organized in collaboration with the Duke Global Health Institute and GEO. Program information can be found at <https://globaled.duke.edu/programs/sri-lanka>.

Duke in Venice, Italy

This four-week, one-course program 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 are example excursions. Students live in a dormitory of the Venice International University on San Servolo Island. Program information can be found at https://globaled.duke.edu/programs/venice_summer.

Duke Middle East in Europe, Berlin, Germany, and Istanbul, Turkey

This six-week, two-course program deals with key concepts and premises that link and divide Europe and the Middle East. Within an interdisciplinary and interregional framework that includes policy, gender studies, history, migration, and film and literature, the program looks at the legacies of the Middle East in Europe and focuses on historical and current issues that address the history of Muslims in Europe, particularly German Turks and Syrian refugees. The program includes meetings with relevant NGOs, community-based research, and outreach institutions in Berlin. Students are housed in apartments. This program is organized in collaboration with the Duke Department of Asian and Middle Eastern Studies and GEO. Program information can be found at <https://globaled.duke.edu/programs/middle-east-in-europe>.

Duke Pratt in Costa Rica, San José

Duke Pratt in Costa Rica is a six-week, two-course program based in San José focusing on fundamental concepts in Engineering. The program allows students to continue and advance their engineering education while providing an immersive experience with Costa Rican culture and the Spanish language. Students enroll in one of two core Engineering courses in addition to a language and culture course with an immersive homestay. Excursions include the city of San José for cultural and lab activities and visits to volcanoes like Poas and Irazu to record seismic activity. This program is organized in collaboration with the Pratt School of Engineering and GEO. Program information can be found at https://globaled.duke.edu/programs/costa_rica_pratt.

Duke Study in China, Beijing

This eight-week, two-course program, based at the University of International Business and Economics, provides students with the opportunity to learn the equivalent of one year of Chinese. Participants must have at least one year of Chinese language to be eligible for the program. Students are housed in dormitories. Duke Study in China also offers an optional ten-week Business Chinese Track for eligible fourth-year Chinese students and advanced third-year students. Students will participate in the five-week on-the-job practicum in tandem with a Business Chinese course. This program is organized in collaboration with the Duke Asian | Pacific Studies Institute and GEO. Program information can be found at <https://globaled.duke.edu/programs/china>.

Ronald & Carrie Ludwig Duke in Silicon Valley Program

The Ronald & Carrie Ludwig Duke in Silicon Valley Program is an intensive four-week summer program in which students learn about the process of creating and developing a successful new venture. Through a combination of classroom instruction, mentorship, and observation of the venture creation process in action, students will develop many of the skills necessary for a successful launch. Students will tour research facilities and company headquarters throughout the Bay Area and interact with the founders and leaders of some of the country's most innovative companies. Students earn one course credit. This program is organized in collaboration with Duke University's Innovation & Entrepreneurship Initiative and GEO. Program information can be found at https://globaled.duke.edu/programs/silicon_valley.

Special Summer Programs

Music in the Gardens

Music in the Gardens is administered jointly by the Summer Session Office, Duke Performances, and the Sarah P. Duke Gardens. The series of evening concerts features North Carolina-based independent rock, jazz, blues, and world music. These concerts 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, NC 27708-0072, or call (919) 684-6402.

Campus Life & Activities



Nat LeDonne

Student Affairs

The Division of Student Affairs is critically engaged in all aspects of undergraduate and graduate students' lives and collaborates with students, faculty, staff, alumni, parents, and many others to deliver 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.

Overseen by the Vice Provost/Vice President for Campus Life, the division comprises the following education and direct service departments:

- **Campus Life:** Center for Sexual and Gender Diversity; Center for Multicultural Affairs; 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:** Counseling & Psychological Services; DukeReach; DuWell; Office of Student Veterans; Parent and Family Programs; Student Conduct; and Student Health
- **Dining Services**
- **Housing & Residence Life:** Housing Assignments; New Student Programs; and Residence Life
- **Office of the Vice President**
- **Resource Administration**

Campus Life

Campus Life (<https://studentaffairs.duke.edu/campuslife>) provides education, advocacy, and support for Duke students through advising, leadership development, and experiential education. Campus Life consists of departments that work with the 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 cocurricular 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 Sexual and Gender Diversity (CSGD) strives to achieve an inclusive campus climate for students, staff, faculty, and alumni with marginalized sexual orientations, gender identities, and gender expressions through education, advocacy, support, mentoring, academic engagement, and providing space. Through its services, the center encourages critical thinking about the intellectual, cultural, and political ramifications of sexual and gender diversity at Duke and beyond. Visit the Center for Sexual and Gender Diversity website at <https://studentaffairs.duke.edu/csgd>.

The Center for Multicultural Affairs (CMA) promotes community engagement, multicultural education, leadership development, and social justice education among the student population as well as the broader community. CMA's programs and services aim to empower students and their organizations to create a vibrant and inclusive community. The center offers a welcoming environment for individuals to explore self- and social awareness, to learn how to navigate a complex cultural environment from each unique perspective, to better understand themselves and the world around them. The center provides cultural education and support that promotes cultural accommodation that comes from a sense of belonging. The CMA's peer-driven approach encourages students to ask questions, find what they need, interact with others of both similar and different backgrounds, to better understanding cultural change and discover common experiences. Through these

interactions, students will create connections that will benefit each of them during their time at Duke and beyond. Visit the Center for Multicultural Affairs website at <https://studentaffairs.duke.edu/cma>.

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. Its motto is “Connect, learn, and grow.” Visit the International House website at <https://studentaffairs.duke.edu/ihouse>.

Jewish Life at Duke consists 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 website at <https://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 they encounter. Visit the Mary Lou Williams Center website at <https://studentaffairs.duke.edu/mlw>.

The Center for 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 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 website at <https://studentaffairs.duke.edu/muslimlife>.

The University Center Activities and Events supports student programming, leadership exploration, and facility operations for student life, and hundreds of registered student groups on campus. UCAE provides services, support, and opportunities for students to engage in cocurricular 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. UCAE includes Fraternity & Sorority Life (<https://studentaffairs.duke.edu/greek>), Leadership Development and Social Action (<https://studentaffairs.duke.edu/ucae/about-us/teams/leadership-development-and-social-action>), and Student Involvement (<https://studentaffairs.duke.edu/ucae/student-involvement>). Visit the University Center Activities and Events website at <https://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 website at <https://studentaffairs.duke.edu/wc>.

Career Center

The Career Center (<https://studentaffairs.duke.edu/career>), working in partnership with faculty and colleagues, provides career advising to all Duke undergraduates, graduate students, and alumni. Recognizing the unique talents and needs of each individual, the Career Center encourages students to make the most of their Duke experience by accessing relevant campus resources, developing career interests and values, and establishing and maintaining important human relationships with their peers as well as Duke faculty, staff, and alumni. The Career Center works to build and maintain relationships with alumni and employers who can provide internships and learning opportunities, entry-level positions, and opportunities for experienced professionals.

Dean of Students Office

The Dean of Students Office (<https://studentaffairs.duke.edu/dos>), working through an array of programs and services, promotes the wellness and flourishing of every Duke student. The office provides resources dedicated to student health and wellness through departments such as Counseling and Psychological Services (CAPS), Student Health Center, and the Duke Student Wellness Center. Further, the office encourages student

growth, exploration, and achievement by supporting and advising select student organizations, and by mentoring individuals to help them become thoughtful, visionary leaders of integrity. Additionally, the Dean of Students Office promotes the Duke Community Standard through many outlets, notably in the Office of Student Conduct and with the Undergraduate Conduct Board. The staff responds to student crises and provide information to and referrals for students, faculty and staff on a variety of student-related issues. The Dean of Students Office advocates for the overall well-being of students and is comprised of several distinct units:

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 provides outreach education programs to student groups, particularly programs supportive of at-risk populations, and consultation with faculty concerning students or other matters relating to mental health in the university community. CAPS professionals include psychologists, clinical social workers, and psychiatrists experienced in working with college-age adults. CAPS adheres to professional standards of ethics, privacy, and confidentiality. Visit the Counseling and Psychological Services website at <https://studentaffairs.duke.edu/caps>.

DukeReach provides comprehensive outreach services to identify and support students who are experiencing significant difficulties related to mental health, physical health, and/or psycho-social adjustment. Case managers coordinate student services and provide connections with campus departments as well as agencies and health care providers in the Durham community. DukeReach is also a comprehensive outreach program to identify and manage students at risk. Visit the DukeReach website at <https://studentaffairs.duke.edu/dukereach>.

DuWell 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. DuWell helps students focus on their individual wellness by looking at the integration of many areas of their life, including financial, social, spiritual, intellectual, mind-body, and environmental. Each of these dimensions of wellness is essential in maintaining harmony and balance in our lives. DuWell provides individual services, offers group outreach, and acts as a consultant, and also serves as a hub of information on wellness. Through its programs and services, DuWell promotes the well-being of the Duke Community. Visit the DuWell website at <https://studentaffairs.duke.edu/duwell>.

The Office of Student Conduct promotes personal responsibility and encourages honesty, integrity, and respect among Duke students. The Office of Student Conduct is responsible for holding undergraduate students accountable for academic and nonacademic violations of university policy as promoted by Duke's honor code and outlined in the Duke Community Standard. The disciplinary process is designed to investigate and resolve alleged violations of university policies and be an educational tool by which individuals or groups recognize their mistakes and learn from them. The Office of Student Conduct is committed to an environment free of harassment and sexual violence. Visit the Office of Student Conduct website at <https://studentaffairs.duke.edu/conduct>.

The Office for Institutional Equity is responsible for administering the Policy on Prohibited Discrimination, Harassment, and Related Misconduct and its implementing procedures. The Vice President for Institutional Equity is Duke's designated Coordinator for Section 504 of the Rehabilitation Act of 1973 and the Age Discrimination Act of 1975. The Assistant Vice President of Title IX Compliance is Duke's designated Coordinator for Title IX of the Education Amendments of 1972. These officers may be contacted at the Office for Institutional Equity, Smith Warehouse, 114 S. Buchanan Blvd., Bay 8, Durham, North Carolina 27708, (919) 684-8222, oie-help@duke.edu, or <https://oie.duke.edu/>.

The Office of Parent and Family Programs serves as the primary point of contact for all undergraduate Duke parents and families. The Office of Parent and Family Programs wants parents to stay connected, both to their child and to other Duke families; remain informed about what is going on within the Duke community; and engage with Duke. The office is available to answer questions, offer assistance, and provide suggestions to support the success of Duke students. Visit the Office of Parent and Family Programs at <https://studentaffairs.duke.edu/parents>.

The Office of Student Veterans supports the campus life of veterans by utilizing many resources from throughout the Duke and Durham community. Visit the Office of Student Veterans website at <https://studentaffairs.duke.edu/veterans>.

Student Health is the primary source for health care services for all Duke students, including general medical care, basic nutrition counseling, laboratory services, travel/immunization clinics, allergy/immunotherapy clinic, physical therapy, radiology, and more. Medical services are provided by board-certified faculty physicians and by physician assistants, nurse practitioners, and resident physicians under faculty supervision. Student Health provides comprehensive, high-quality health care and patient education in an environment that is compassionate, nonjudgmental, and respectful of diversity. Student Health is located in the Duke Student Wellness Center on West Campus at 305 Towerview Road. Most services at the Student Health Center 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. Visit <https://studentaffairs.duke.edu/studenthealth> or call (919) 681-9355 for more information.

Dining Services

Dining Services manages more than thirty on-campus venues, 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. Dining Services' goal is to provide healthy and enjoyable food and eating venues for students of all dietary needs and independent of their residential assignment. Visit <https://studentaffairs.duke.edu/dining> for more information.

Housing and Residence Life (HRL)

Housing, Dining and Residence Life (<https://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. HRL, student residents and others in the Duke community develop and maintain environments that support classroom learning and encourage students to seek learning opportunities in the world around them. HRL promotes 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 as they continue to negotiate developmental issues related to identity, autonomy, and responsibility. HRL programs are rooted in the concepts of mutual respect and civility, and recognize and celebrate the dignity and self-worth of all members.

HRL 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.

Resource Administration

Resource Administration (<https://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, staff recruitment, professional development programs, employee relations, organizational development, and management of administrative facilities.

Dining Facilities

On West Campus, the **Richard H. Brodhead Center for Campus Life** is the center of the dining experience for breakfast, lunch, dinner, and snacks, offering thirteen unique restaurant experiences with hundreds of meal possibilities in one convenient location in the heart of campus. **The Devil's Krafthouse** offers an ideal menu of appetizers and entrees; **Il Forno** offers a selection of artisan, wood-fired pizzas and the option to create your own delicious pasta dishes made with fresh house-made pasta; upscale Southern cuisine celebrating a rich tradition of home-style cooking with the best fried chicken and biscuits, ever, is available at **The Skillet**; Farm-to-fork sustainability meets wholesome and healthy using only the best local ingredients from local farms at **The Farmstead**; **Sprout** is the vegetarian- and vegan-inspired location in the Brodhead Center; **Tandoor** offers authentic Indian flavors; **Ginger + Soy** offers different cuisines from East and Southeast Asia, including dumplings, buns, and made-to-order stir-fry; **Café** is a bakery and coffee hotspot featuring instant ice cream, house-made gelato, and pastry-chef delicacies; **Gyotaku** is the place to have sushi on campus; enjoy fine dining at **The Commons Steakhouse**; **Au Bon Pain** offers fresh-baked bread, salads, and sandwiches; **JB's Roasts & Chops** offers classic American cuisine over a wood-fired grill; **Sazón Latin American Table** offers true, authentic Latin American cuisine, including made-to-order arepas, tortillas, and bowls created with only the freshest ingredients; and **The Chef's Kitchen** serves as a pop-up restaurant, serving a variety of different cuisine types that might "pop up" on any given week!

Along the Bryan Center Plaza is **Panda Express**, offering traditional Chinese favorites. In the Bryan Center, also on West Campus, **The Loop Pizza Grill** features both thin-crust and Chicago-style pizza, gourmet salads, fresh grilled fish, burgers, sandwiches, wraps, soups, and desserts. **Beyu Blue Coffee** and **McDonald's** can also be found in the Bryan Center.

Another West Campus operation includes **Sanford Deli** in the Sanford School of Public Policy, offering fresh salads, gourmet soups, and specialty pastries. **Red Mango Café** in the Wilson Recreation Center offers refreshing drinks and other items that complement a healthy lifestyle. **Saladelia @ The Perk** (Perkins Library) is a traditional coffee bar offering coffees, sandwiches, and pastries. **Bella Union**, in West Edens Link, serves coffee, assorted hot and cold beverages, pastries, and ice cream. **Café De Novo**, located in the Law School, offers breakfast and lunch featuring made-to-order sandwiches, salads and daily specials. **Divinity Café**, an environment-friendly eatery, is located in the Duke Divinity School and serves breakfast and lunch. **Twinnie's** is located in the engineering complex and offers breakfast pastries, made-to-order sandwiches and fresh entrée salads. **Dolce Vita**, located in the French Science Center offers a full-service coffee bar and **Café Edens**, located in McClendon Tower, offers twenty-four hours of a variety of great food.

Thrive Kitchen at Devil's Bistro is located on Central Campus and offers fresh fast-casual, healthy-concept options for every palate. Also on Central Campus, the **Freeman Center for Jewish Life** offers a Kosher dinner Monday through Friday, and the **Nasher Museum Café** features a variety of organic and locally-grown dishes. Also on Central Campus is **Café 300**, offering sandwiches, salads, coffee and baked goods. **Terrace Café** in the Duke Gardens features delicious baked goods as well as salads, wraps, and assorted beverages. The **Beyu Blue Coffee** cart is available in the Rubenstein Arts Center lobby, offering the same coffee, tea, and espresso drinks and snacks and pastries as Beyu Blue on West Campus.

On East Campus, **Marketplace** carries an array of choices including pasta, pizza, deli, rotisserie, and grill stations, and a soup and salad bar. **Trinity Café** has a diverse selection of quality coffees, pastries, bakery items, and snacks. Near East Campus is the **Café at Smith Warehouse**, offering fresh sandwiches, salads, and desserts.

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 sodas and snacks from vending machines. In addition, food points may be used for our Merchants-on-Points and food trucks. Please visit the Duke Dining website at <https://studentaffairs.duke.edu/dining> for more information.

Services for Students with Disabilities

Duke University charges the Student Disability Access Office (SDAO) with the responsibility of exploring possible coverage and reasonable accommodations for qualified students who are disabled in compliance with Section 504 of the Federal Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act of 2008 (ADAAA). SDAO's goal is to provide and coordinate accommodations, support services, and programs that enable students with disabilities to have equal access to all Duke University programs and activities. Services and accommodations are provided to students with a variety of disabilities including Attention Deficit Hyperactivity Disorders, blindness/low vision, deafness/hard of hearing, learning disabilities, mobility and chronic health conditions, psychological disorders (including Autism Spectrum disorders) and other medical conditions.

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. An individual with a disability is a person who has a physical or mental impairment that substantially limits one or more major life activities, has a record of such impairment(s), or is regarded as having such impairment(s). Major life activities include functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. Under the ADAAA, a qualified individual with a disability is an individual with a disability who meets the essential eligibility requirements for receipt of services or participation in programs or activities. Whether a particular condition constitutes a disability within the meaning of the ADAAA requires a case-by-case determination. Students who wish to be considered for reasonable accommodations must self-identify to the SDAO by submitting a "Request for Accommodations" as well as submit complete and current documentation to the SDAO. Additional information may be found on the SDAO website: <https://access.duke.edu/>. Students with medical conditions not covered under the provisions of the ADA and the ADA Amendments 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 ADAAA, Trinity College and Pratt School of Engineering will accommodate students who have a documented disability, and who are registered and receive accommodations through the SDAO. Additional information and requests for accommodations may also be found on the SDAO website: <https://access.duke.edu/>. For other academic assistance available to all Duke undergraduate students, see the section “[Academic Resource Center](#)” on page 67.

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 University is home to 600+ recognized 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. Duke Student Government (DSG) is the official governing body of undergraduate students at Duke. DSG acts as the principal liaison between students and the Duke administration and oversees the funding and approval of student organizations on campus. DSG represents the student voice at Duke, lobbying for policies and programs that better the undergraduate experience.

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 website at <https://www.dukestudentgovernment.org>. Information for all student organizations is housed in the DukeGroups database at <https://dukegroups.com/>.

The scope of the more than 600 student organizations is suggested by a partial listing of their names: Alpha Phi Omega service fraternity, Black Student Alliance, Duke Cheerleading, International Association, Duke Club Ice Hockey, Outing Club, Club Sailing, Duke Student Broadcasting, and the Freemont Rural Health Clinic. There are 39 nationally affiliated Greek chapters on Duke's campus. About 34 percent of undergraduates are Greek-affiliated; approximately 40 percent of women belong to sororities and 30 percent of men are fraternity members.

Many opportunities are provided on campus in the areas of music and drama. duARTS is the umbrella advocacy and programming board for nearly eighty recognized undergraduate arts organizations; for more information and a full listing of arts groups, visit their website at <https://www.duarts.org>. 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 nondrama majors to perform established and experimental drama; Hoof 'n' Horn presents musical comedy.

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

Media

The Chronicle, the campus newspaper, publishes four issues weekly and is a separate not-for-profit organization. A literary magazine (*the Archive*), a science magazine (*Vertices*), an arts and lifestyle magazine (*FORM*), and other publications are published on a regular basis by students. In addition, a comprehensive yearbook, the *Chanticleer*, has been produced annually since 1912. 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 Pratt School of Engineering, appears annually and contains articles on technical and semitechnical topics as well as other matters of interest to the school. 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 is Duke's student-run video production team. Duke also has a student film production company, Freewater Productions, and Small Town Records is Duke's student-run record label. The DukeCreate workshop program offers all Duke students the chance to learn visual

art and media production skills through free weekly workshops held at the Arts Annex, The Ruby, and throughout the Campus Center. For more information on DukeCreate, visit <https://arts.duke.edu/dukecreate/>.

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). As of July 1, 2017, the ACC consists of Boston College, Clemson University, Duke University, Florida State University, Georgia Institute of Technology, University of Louisville, University of Miami, University of North Carolina at Chapel Hill, University of Notre Dame, North Carolina State University, University of Pittsburgh, Syracuse University, University of Virginia, Virginia Polytechnic Institute and State University, and Wake Forest University.

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, softball, soccer, swimming, tennis, volleyball, rowing, indoor and outdoor track, and cross country. First-year students may participate on all varsity teams.

The director of athletics provides departmental leadership and coordinates 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.

University Regulations and the Disciplinary Process

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 conduct 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 & Sciences and in 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. 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



Jared Lazarus

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 Undergraduate Instruction*, candidates are urged to consult the Duke Admissions website at <https://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 Pratt School of Engineering are strongly advised to take four years of mathematics and four years of science, including physics. Calculus is a prerequisite for admission to Pratt School of Engineering. All candidates for first-year standing must complete either the ACT or the SAT. The optional essay sections are recommended but not required. For students who choose to submit the SAT, two SAT Subject Tests are strongly recommended. Applicants to the Pratt School of Engineering who take the SAT should submit one Subject Test in mathematics (level 1 or 2). The other is left to the applicant’s discretion. Students applying for admission in 2020 or later may not submit SAT scores taken before March 2018. 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 if they wish to receive proper placement in that subject. Students should refer to the Duke Admissions website at <https://admissions.duke.edu/> and follow the appropriate undergraduate admissions links for the most recent information on SAT Subject Test requirements for incoming students. Students must submit official SAT or ACT scores by the application deadline: November 1 for Early Decision; January 2 for Regular Decision. Duke will also accept Subject Test scores as well as new scores from the SAT or ACT taken in November for Early Decision and January for Regular Decision.

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. Duke students who are on leave or who have been involuntarily withdrawn from the university are not eligible to enroll in courses during summer session or fall and spring terms.

Continuing Studies

Admission as a continuing studies 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 visiting college students desiring a course of study particular to Duke. 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. Duke students who are on leave or who have been involuntarily withdrawn from the university are not eligible to enroll as nondegree 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 Duke's campus.

Application Procedures

Degree Status

Information regarding applying for admission may be obtained online at the Duke Admissions website at <https://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 Coalition Application. The Common Application (<https://www.commonapp.org/>) and the Coalition Application (<http://www.coalitionforcollegeaccess.org/>) are available online.

A personal interview is not required for admission, but it provides an opportunity to learn more about an applicant's strengths and goals. All interviews are conducted by alumni volunteers. Students who submit their Common Application by the Early Decision deadline (November 1) or the Regular Decision priority interview deadline (December 20) will be contacted by alumni on a first-come, first-served basis. 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 the year in which they intend to enroll. Decisions are provided from the university in late March, and accepted candidates are expected to reserve a place in the class by May 1.

Early Decision

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.

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 once they learn of their admission to Duke. Students applying to Duke under Early Decision may not apply to any school whose conditions of application conflict with those outlined in Duke's Early Decision agreement. However, Early Decision applicants are still able to apply to other schools whose conditions of application do not conflict with Duke's, provided they enroll at Duke if admitted. 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 or the ACT examination should be taken no later than October of the senior year, though Duke will consider November test scores if they are available. Early Decision applicants who do not submit standardized test scores will have their applications canceled. Applicants are notified of their status—admit, defer, or deny—by mid-December. Admitted students are expected to respond by January 6. 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.

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 the number will vary from year to year. Prospective transfer students should refer to the Duke Admissions website at <https://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 students entering the Trinity College of Arts & Sciences must meet the college's curriculum requirements in addition to the requirements of their selected major. For most transfer students, this will require up to six 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 "[Transfer Credit for Students Transferring to Duke](#)" on page 43.

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

General information, registration forms, and schedules of courses may be obtained from the office's website (<https://summersession.duke.edu/>) or by calling (919) 684-6259. An application fee is required.

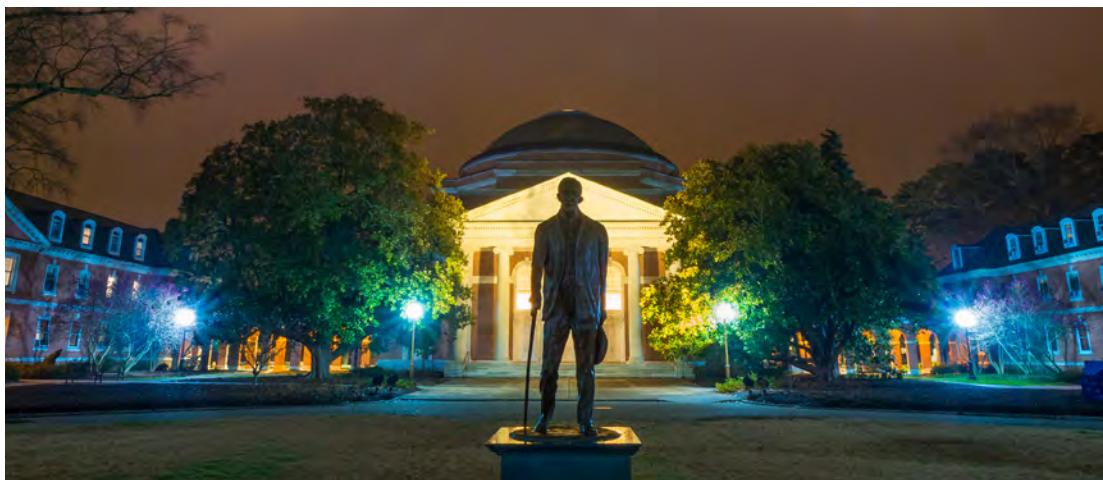
Continuing Education

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 Term 1, and by June 1 for Summer Session Term 2.

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 coursework through continuing education is available from the Office of Continuing Studies, Box 90700, Duke University, Durham, NC 27708-0700, or by calling (919) 684-5375.

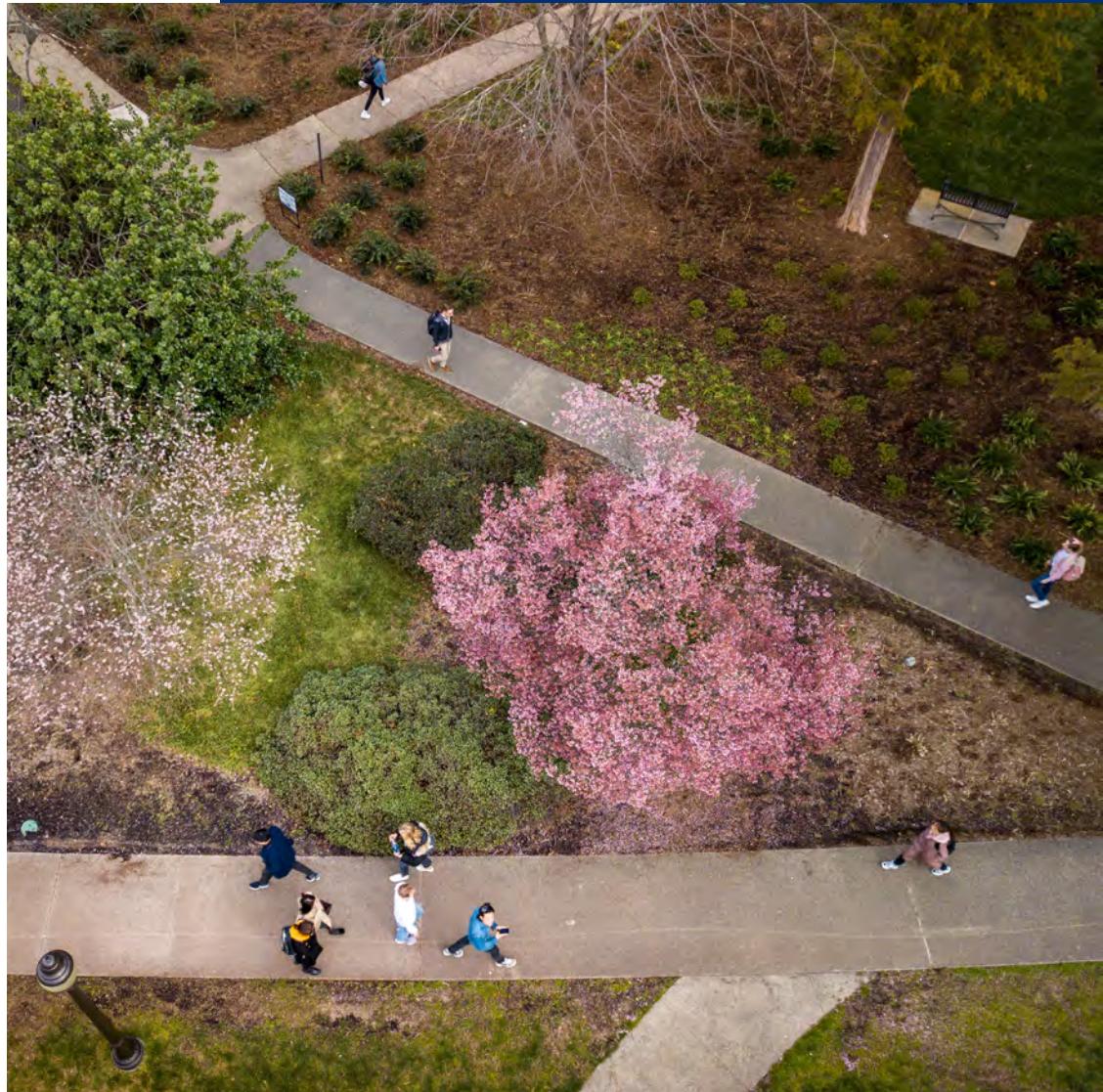
Readmission of Former Students

All undergraduate students (including those of The Pratt School of Engineering) applying to return to Duke from a leave of absence, withdrawal, dismissal, or suspension must apply directly to the Office of Student Returns located in Trinity College Office of the Academic Deans. Students on leave of absence or who have been dismissed are not eligible to enroll in classes through the Office of Continuing Studies. For additional information, visit the Office of Student Returns website at <https://trinity.duke.edu/osr>. Also see the section "[Changes in Status](#)" on page 55.



Bill Snead

Financial Information



Bill Snead

Tuition and Fees¹

When deciding to make the investment in a college education, 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 requires 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 available at Duke may be obtained from the Karsh Office of Undergraduate Financial Support website at <https://financialaid.duke.edu/>.

Estimated Expenses

Expense	Academic Year, 2020-2021 (two semesters)	Two Summer Terms, 2020 (one semester equivalent)
Tuition		
Trinity College	\$55,880	\$7,500-\$12,500
Engineering	\$55,880	\$7,500-\$12,500
Residential Fee		
Durham Campus	\$9,164	n/a
Single Room	n/a	n/a
Double Room	n/a	n/a
Triple Room	n/a	
Apartment Shared Bedroom	n/a	
Food²		
100% board plan	\$8,035	
75% board plan	\$6,874	
Books and Supplies	\$1,434	\$720
Student Health Fee		
In North Carolina	\$858	\$294
Outside NC, in the US	\$200	n/a
Outside the US	n/a	n/a
Student Activity		
Residential	\$209	n/a
Remote	\$42	n/a
Student Services Fee		
Residential	\$523	n/a
Remote	\$105	n/a
Recreation Fee		
Residential	\$162.50	n/a
Remote	n/a	n/a
Residential Program Fee	\$52.50	n/a

¹ The figures in this section are projections and are subject to change.

² Projections include a meal plan service fee and NC tax surcharge. There are no meal plans for Summer Session. Students can add points or select a debit account that is either small, medium, or large.

The figures in this table 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 above.

It should be realized that additional expenses may 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 \$78,242. The budget estimate for the summer (two terms, one semester equivalent) is \$13,915. 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 the first bill from Duke, students (including transfer students) are required to pay a one-time nonrefundable registration fee of \$180, which includes transcript processing.

Late Registration

Continuing students who fail to register during the registration period must pay a late registration fee of \$50, posted to their bursar account.

Part-Time Students

In the regular academic year, students who, with permission, register for no more than two courses in a semester will be classified as part-time students. Part-time students will be charged tuition at the rate of \$6,983; half course, \$3,492; quarter course, \$1,746. Registration for more than two courses requires payment of full tuition. Students in nondegree programs who are being considered for admission to degree programs, as designated by the Office of Continuing Studies, 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 \$535 for each course audited. With the consent of the appropriate instructor and the director of continuing studies, graduates of Duke, Duke employees, members of the Osher Lifelong Learning Institute (OLLI), and qualified members of the local community may audit undergraduate courses for the above payment per course.

Fall and Spring Student Bills

The Bursar's Office prepares students' bills for tuition and fees. Tuition and fees are due before the start of each term. Please consult the Bursar's Office website for a complete billing schedule (<https://finance.duke.edu/bursar>). Students applying for financial aid should complete that process by the assigned due date.

Bills are available electronically on DukeHub, and students will receive a bill via email. Students may view bills and up-to-date student account history on DukeHub. Email bills will also be sent to anyone the student has designated as a guest with access to view online bills.

Payment

Students are encouraged to pay by e-check, a fast and convenient method for paying their bill. To pay by e-check, visit DukeHub or <https://finance.duke.edu/bursar> and click the DukePay icon. Payment also may be mailed to the address listed on the bill.

Payment Plan

Duke partners with Nelnet to provide a payment plan for current term charges. Students will receive payment plan details and enrollment information about Nelnet in late May.

Additional reference information regarding student accounts is available at <https://finance.duke.edu/bursar>. Students may also contact the Bursar's Office for questions regarding their student account. Email bursar@duke.edu, call (919) 684-3531, or fax (919) 684-3091.

Restrictions on Past Due Accounts

As noted above, tuition and fees are due before the start of each term. If a student's account becomes past due, a late payment penalty charge (not to exceed 1.25 percent of the past due balance from the prior bill) will be assessed on subsequent bills. If the account remains unpaid, a student will not be allowed to register for future semesters and may be administratively withdrawn from Duke. As long as the account is past due, a student will not have access to academic transcripts, have academic credits certified, or receive a diploma at graduation. If the

account remains outstanding after a student's 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 \$4,580 per semester, payable to Duke University, to maintain a student's enrollment at Duke. Students receiving financial aid will receive aid based on revised costs from administering institution.

Fees for Courses

Additional fees are charged for certain physical education activity, field trips, and applied music courses. For specific charges, consult the Bursar's Office. For students receiving financial aid, all fees are paid in full.

Music Fee

A fee of \$183 will be charged for Music 101. A fee of \$366 will be charged for Music 103 to 108. A fee of \$732 will be charged for Music 203 to 208. Fees for these courses for students receiving need-based aid are paid in full.

Tuition and Fees for Summer Session

Tuition for undergraduates is \$1,250 for each half-course, \$625 for each quarter-course, and \$2,500 for a non-science lab course. A course with a lab is charged at the rate of \$3,200.

Tuition for graduate master's students taking an undergraduate course will be charged at the graduate master's summer tuition rate. A graduate PhD student taking an undergraduate course that will apply toward their graduate degree will be charged at the graduate PhD summer rate. If the course will not be considered a part of the student's graduate degree program, undergraduate rates apply as described above.

Health Fee and Student Services Fee

All Duke students and all full-time non-Duke students are required to pay a health fee of \$147 per term.

Music Fee

A fee of \$183 will be charged for Music 101. A fee of \$366 will be charged for Music 103 to 108. A fee of \$732 will be charged for Music 203 to 208. Students receiving need-based aid for summer will have the fee covered in full.

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 or 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 \$302 per course. Professional school course audit policies may differ.

Payment of Tuition and Fees

The Bursar's Office will prepare bills in April, May, and June for current Duke students enrolled for Summer Session. April and May bills are due on the twelfth of the following month. June bills are due on the first business day of August. Please consult the Bursar's Office website for a complete billing schedule (<https://finance.duke.edu/bursar>). Students will receive bills via their Duke email account and also may view their bills on DukeHub. Email bills will also be sent to anyone the student has designated as a guest with access to view online bills.

Problems meeting these deadlines should be discussed with the Bursar's Office 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 and Duke graduates. Payment for term charges will be due on the designated due dates.

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's Office, by the end of the Drop/Add period. Those withdrawn for these reasons will be billed the health fee, student services 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 Bursar's Office prior to the midpoint of the particular term 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 DukeHub, Duke's online student records system. Transcripts requested via DukeHub will normally be processed the next business day. (See the Office of the University Registrar's website at <https://registrar.duke.edu> for access to DukeHub.) Former students who do not have access to DukeHub may request transcripts by completing the transcript request form on the University Registrar's website at <https://registrar.duke.edu>. Transcripts may 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 coursework must be submitted by August 1 for the fall semester, December 1 for the spring semester, April 15 for Term 1 of the summer session, or June 1 for Term 2 of the 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 either a Tuition Grant from Trinity College of Arts & Sciences or an Employee Tuition Benefit through Duke Human Resources to enroll in regular university classes, or both, to assist with the cost of tuition or audit fees. The details of these two plans can be found at <https://learnmore.duke.edu/academics/> and <https://hr.duke.edu/benefits/educational/employee-tuition-assistance>. Staff members of continuing studies and summer session are available to advise Duke employees on educational matters by calling (919) 684-5375.

Living Expenses³

Housing for Fall and Spring

In residence halls for undergraduate students, the housing fee is \$9,164 for Duke-provided housing on the Durham campus for the academic year.

Detailed information concerning the student's obligations under the housing license and the consequences of failure to comply are published in *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, email housing@studentaffairs.duke.edu, call (919) 684-4304, or visit <https://www.studentaffairs.duke.edu/hdrl>.

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.

³ The figures contained in this section are projections and are subject to change prior to the beginning of the fall term.

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

- **Dining Plan:** Fourteen prepaid all-you-can-eat-meals per week (five breakfasts, seven dinners, and two brunches) at The Marketplace at East Union.
- **Food Points:** Declining balance points to be used at any dining location on campus, convenience stores, snacks from vending machines, and late-night meal delivery from approved local off-campus vendors and food trucks.

The cost of the dining plan for the First-Year Plan (Plan I) is \$3,021 per semester, plus a \$25 dining fee per semester and 7.5 percent NC tax surcharge. The First-Year Plan also includes 800 food points at a cost of \$824 plus a 7.5 percent NC tax surcharge. Participation in the First-Year Plan is required of all first-year students who reside on East Campus. The cost of dining plan (Plan G) for first-year students who reside on West Campus is \$3,174 per semester, plus a \$25 dining fee per semester and 7.5 percent NC tax surcharge.

Upper-class students who live in the residence halls are required to participate in one of five dining plan debit accounts that allow access to all dining locations. The five plan levels (Plan A-Plan E) range from \$2,391 to \$3,714 per semester, plus a \$25 dining fee and 7.5 percent NC tax surcharge per semester. Upper-class students who live in Swift Avenue apartments are also required to participate in the dining plan but may choose to do so at the lower minimum requirement of Plan J (\$1,691 plus a \$25 dining fee and 7.5 percent NC tax surcharge per semester).

Nonresident students are not required to participate in the dining plan; however, Plan F, at a cost of \$783 and a \$25 dining fee and 7.5 percent NC tax surcharge per semester, is offered as an option.

An optional summer dining plan is provided in three plan levels ranging from \$413 to \$1,331 per summer term (plus a \$19.50 dining fee and 7.5 percent NC tax surcharge).

Students may also purchase a Flexible Spending Account (FLEX) that can be used to purchase any goods or services from Duke Dining, Duke Stores, and other campus operations. FLEX is optional and may be opened with as little as \$10. Additional funds may be deposited to either the FLEX or dining plan debit account at any time.

Information regarding these accounts is sent to matriculating students. For more information about campus retail and food facilities, see the chapter [“Campus Life & Activities” on page 82](#).

Fall and Spring Refunds

In the case of withdrawal from the university, tuition will be reduced according to the following schedule:

Withdrawal	Refund
Before classes begin	Full amount
During first or second week	80%
During third, fourth, or fifth week	60%
During sixth week	20%
After sixth week	None

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 Refunds⁴

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 “[Course Changes for the Summer Terms” on page 45](#).) 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:

- 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.
- 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 and services fee will not be refunded. (There is no charge for Drop/Adds that result in no change in course load in the same term.)

Full tuition and fees are refunded if the student officially drops a course(s) or withdraws from the term before the first day.

Student Financial Support

Duke University is strongly committed to its program of financial support and, for the four years of undergraduate enrollment, will meet 100 percent of the demonstrated need of each eligible admitted US citizen or eligible noncitizen. The university’s financial support 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 financial support, and students needing assistance are strongly encouraged to apply for funding at the same time as for admission. Students awarded support funding will be notified at the same time they are offered admission, assuming all required documentation has been received.

It is the intention of the Karsh Office of Undergraduate Financial Support 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.

Financial Support for Entering First-Year Students

Candidates should initiate their application for financial support 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 Board’s 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, both parents must submit the PROFILE and one parent must submit the FAFSA. Students may be asked to submit copies of their and their parents’ federal income tax returns (all schedules and W2s must be included). Early Decision and 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.

International students interested in obtaining need-based financial aid must apply for financial support 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 Karsh Office of

⁴ This policy does not apply to study abroad program students.

Undergraduate Financial Support. For further information about financial assistance for international students, visit their website at <https://financialaid.duke.edu/undergraduate-applicants/apply-aid>.

Renewal of Financial Support after the First Year

Each year, domestic students must file an application for renewal of need-based financial aid. All students must complete a new Free Application for Federal Student Aid (FAFSA), and students may also be asked to complete a new PROFILE form and submit a copy of all pages, including schedules and attachments, of the parents' and student's federal income tax return. Students will be notified electronically of the documents necessary to receive their financial aid renewal. The deadline for the receipt of all application materials by the Karsh Office of Undergraduate Financial Support is January 2. 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 requirements outlined in Duke's policy for Satisfactory Academic Progress for Financial Aid. Students not qualifying for financial aid due to their inability to meet these requirements may appeal directly to the Karsh Office of Undergraduate Financial Support. 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 Support

Financial support is available for a total of two summer sessions but only for Duke programs. No financial support is available for non-Duke summer programs. 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 support, budgets, and eligibility at <https://financialaid.duke.edu/current-undergraduates/summer-school>.

Types of Financial Support

Gift scholarships or grants, long-term loans, and employment are integral parts of the financial support program, and some portion of the financial support 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 package at Duke provides that the first \$2,200 to \$7,200 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 first-year students 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 University 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 first-year students who complete the first year of studies with a 3.0 average or higher. Scholars are allowed one underload, and must be enrolled in four full academic credits every other semester. Upper-class 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. Please visit <https://www.ousf.duke.edu/>.

Alumni Endowed Scholarship. 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, 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 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 participate in a six-week summer study program at Oxford University in England, paid for by the scholarship. At least one of the four years of the scholarship could be used abroad on an approved program. AB Duke scholars are eligible to apply for enrichment funding.

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. These scholarships, valued at full tuition, room, board, and mandatory fees are awarded annually. Additionally the students participate in a domestic and independent summer of service.

Karsh International Scholarships 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 United States or abroad, including in the home country.

Reginaldo Howard Scholarships are awarded annually to students of African heritage who demonstrate academic excellence and outstanding leadership potential. These scholarships are equal to full tuition, room, board, and mandatory fees. Scholarships are available for the eight semesters of undergraduate study. These scholars are also eligible to apply for enrichment funding.

Robertson Scholars. Half of the Robertson scholars matriculate at The University of North Carolina at 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 The University of North Carolina at Chapel Hill. Robertson scholars will receive full tuition, room, board, and mandatory fees at The University of North Carolina at 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 and South 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. Trinity Scholars are also eligible to apply for enrichment funding.

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 first-year 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 & Sciences on the basis of scholarship, character, leadership, and need.

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

J. A. Jones Memorial 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 Pratt School of Engineering and financial need.

Robert H. Pinnix Scholarships are awarded annually to two upper-class students enrolled in the Pratt School of Engineering. The award is based upon demonstrated ability, excellence in engineering, and financial need.

Richard Miles Thompson Scholarships are awarded annually to two upper-class 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 first 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. Generally awarded without regard to academic major (some are awarded for specific majors such as critical languages, math, science, or engineering), these grants pay either full tuition and fees or room and board up to \$10,000 per year. Scholarship recipients also receive a book allowance of \$900 in addition to a tax-free monthly stipend of between \$300-\$500 per month during the school year. Nonscholarship contracted cadets also receive the \$300-\$500 stipend. Following graduation, cadets are required to serve as Commissioned Officers in the Active Army, Army Reserve, or Army National Guard. The service component (Active Guard or Reserve) is determined by the cadet's scholarly, physical, and leadership achievements while at Duke; the cadet's service preferences; and the needs of the Army. High school seniors interested in competing for an Army ROTC scholarship must begin their online applications before January 10th of their senior year. Current Duke students should inquire before March 1 of their sophomore year. Additional information concerning Army ROTC scholarships is available from the Department Enrollment Officer at (919) 660-3091 or arotc@duke.edu. The department website (<https://arotc.duke.edu/>) is also a ready resource for interested students and their families.

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 at (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 & 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, 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 & 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 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. Shearer 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.

Scholarships for Residents of the Carolinas

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 first-year students 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 Azouri Mack Scholarship. The endowment, established in 1996, provides scholarship support for undergraduate students in Trinity College of Arts & Sciences and Pratt 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 percent) 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.

The John Fahey Scholarship Fund. These scholarships are awarded annually to an outstanding student or students who graduate from the North Carolina School of Science and Mathematics.

Loans

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

The Federal Direct Loan is available to students who may borrow up to \$5,500 as first-year students, \$6,500 as sophomores, and \$7,500 as juniors and seniors. Students who demonstrate need by filing the Free Application for Federal Student Aid (FAFSA) may qualify for a Direct Subsidized Loan. The interest rate in 2020-2021 for the Subsidized Direct Loan is 2.75 percent, and interest does not accrue while the student is enrolled at least half-time in an accredited degree program. Students not demonstrating need, or those having borrowed the full subsidized amount already, may borrow through the Unsubsidized Loan program. The interest rate for the loan in 2020-2021 is 2.75 percent, 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.

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 in 2020-2021 is 5.30 percent, and repayment of this loan begins within sixty days after the first 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 five-month interest-free payment plan each semester through Nelnet. An application fee will apply. More information can be obtained from the Bursar's Office or by visiting <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 <https://dukelist.duke.edu>. All earnings are paid directly to the student for hours worked.

Duke University also expects that students receiving financial aid will contribute to the cost of their education. First-year students should have a minimum contribution of \$2,600 toward college expenses. In subsequent years, minimum student contributions will be \$2,900 for rising sophomores, and \$3,000 for rising juniors and seniors.

Duke University also offers subsidized employment opportunities to many students not qualifying for need-based financial aid (Duke Work Study). 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 <https://financialaid.duke.edu/work-study>.

Courses & Academic Programs



Jared Lazarus

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 2020-2021 are included in this chapter with full descriptions. For courses that will be offered in 2020-2021, also consult the online Course Catalog, available at <https://registrar.duke.edu/courses-classrooms/courses>.

Introductory-level courses are numbered 100 to 199; mid- to advanced-level courses are numbered 200 and above; courses numbered from 400 to 499 are primarily for seniors; courses numbered from 500 to 699 are graduate-level courses open to advanced undergraduate students. (See the section [“Course Load and Eligibility for Courses” on page 46](#).) 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.

C-L: denotes a course that is cross-listed or a program under which a course is also listed.

The following symbols are included as suffixes to course numbers:

A	Courses that are taught away from Duke's Durham campus, e.g., study abroad or domestic away programs.
D	Course has a discussion section (for a larger class).
FS	Course is part of the Focus Program.
L	Course includes laboratory experience.
P	Preceptorial (small class)
S	Seminar (small class)
T	Tutorial (small class)

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)

Trinity College of Arts & Sciences

Professor Ashby, *Dean of Trinity College of Arts & Sciences*; Dean Blackshear, *Dean of Academic Affairs of Trinity College*; Senior Associate Deans Perz, Thomas, and Wilson; Associate Dean Blackmon; Assistant Deans Kaivan, Murphey, Murphy, Ng, Roy, Russell, Siburt, Summers, Wood Crowley, and Zhang

Aerospace Studies—Air Force ROTC

Professor Lieutenant Colonel Theriault, USAF, *Detachment Commander and Department Chair*; Assistant Professor Major Wood, USAF, *Operations Officer and Director of Undergraduate Studies*

Eligibility Requirements

All first-year students 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 successfully completed 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 US 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.

Courses in Aerospace Studies—Air Force ROTC (AEROSCI)

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.

101. Heritage and Values of the United States Air Force. A survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, missions, and organization of the Air Force. Leadership Laboratory mandatory for AFROTC cadets. Instructor consent required. Instructor: Staff. Half course.

102. Heritage and Values of the United States Air Force. Continuation of Aerospace Studies 101. A survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, missions, and organization of the Air Force. Leadership Laboratory mandatory for AFROTC cadets. Instructor consent required. Instructor: Staff. Half course.

Second Year

201. Team and Leadership Fundamentals. STS Course focuses on laying the foundation for teams and leadership. Topics include skills that will allow cadets to improve their leadership on a personal level and within a team. The courses will prepare cadets for their field training experience where they will be able to put the concepts learned into practice. The purpose is to instill a leadership mindset and to motivate sophomore students to transition from AFROTC cadet to AFROTC officer candidate. Leadership Laboratory mandatory for AFROTC cadets. Instructor consent required. Instructor: Staff. Half course.

202. Team and Leadership Fundamentals. STS Continuation of Aerospace Studies 201. Course focuses on laying the foundation for teams and leadership. Topics include skills that will allow cadets to improve their leadership on a personal level and within a team. The courses will prepare cadets for their field training experience where they will be able to put the concepts learned into practice. The purpose is to instill a leadership mindset and to motivate sophomore students to transition from AFROTC cadet to AFROTC officer candidate. Leadership Laboratory mandatory for AFROTC cadets. Instructor consent required. Instructor: Staff. Half course.

Professional Officer Courses

All students selected to continue in aerospace studies must pursue the following courses.

Third Year

301S. Leading People and Effective Communication. EI Course teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills and communication. Cadets have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors. Leadership Laboratory required for AFROTC cadets. Instructor consent required. Instructor: Staff. One course.

302S. Leading People and Effective Communication. EI Continuation of Aerospace Studies 301S. Course teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills and communication. Cadets have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors. Leadership Laboratory required for AFROTC cadets. Instructor consent required. Instructor: Staff. One course.

Fourth Year

401S. National Security Affairs/Preparation for Active Duty. EI Course is designed for college seniors and gives them the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. The final semester provides information that will prepare the cadets for Active Duty. Leadership Laboratory mandatory for AFROTC cadets. Instructor consent required. Instructor: Staff. One course.

402S. National Security Affairs/Preparation for Active Duty. EI Continuation of Aerospace Studies 401S. Course is designed for college seniors and gives them the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. The final semester provides information that will prepare the cadets for Active Duty. Leadership Laboratory mandatory for AFROTC cadets. Instructor consent required. Instructor: Staff. One course.

African & African American Studies

Professor Neal, *Chair*; Professor of the Practice Smith, *Associate Chair*; Associate Professor Royal, *Director of Undergraduate Studies*; Professors Baker, Bonilla-Silva, Burton, Crichlow, Darity, DeFrantz, Dubois, French, Matory, Neal, Piot, and Powell; Associate Professors Cobb, Haynie, Jaji, Lentz-Smith, Lubiano, Makhulu, Royal, and Winters; Assistant Professors Aidoo and Daly; Professor of the Practice Smith; Associate Professor of the Practice Shapiro

A major and a minor are available in this program.

The Department of African & 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 Global Education Office.

African & 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-listings, for example, to learn more about African & African American Studies 140, see Music 140). In addition, Arabic language courses are taught in the Asian & Middle Eastern Studies Program, and other relevant language courses are taught by the Department of Romance Studies.

Courses in African & African American Studies (AAAS)

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

102. Introduction to 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. C-L: Literature 102

103. Introduction to African Studies (DS3 or DS4). ALP, CCI, CZ A range of disciplinary perspectives on key topics in contemporary African Studies: nationalism and pan-Africanism, imperialism and colonialism, genocide and famine, development and democratization, art and music, age and gender. Instructor: Staff. One course. C-L: Cultural Anthropology 105, History 129, Political Science 108, International Comparative Studies 110

104. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 201; also C-L: International Comparative Studies 106, Literature 243, Spanish 160

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 201S; also C-L: Literature 243S, Spanish 160S, International Comparative Studies 106S

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

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, International Comparative Studies 183S, Human Rights Program-Franklin Humanities Institute 183S, Public Policy 175S, Human Rights

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

139. History of Rock: Rhythm & Blues and Rock & Roll to Indie Rock and Hip-Hop. ALP, CZ One course. C-L: see Music 143; also C-L: History 108

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

146. Motown and American Soul Music. ALP, CCI, CZ One course. C-L: see Music 146

163S. Gateway Seminar: Gandhi, King, Mandela. CCI, CZ, EI, R, SS One course. C-L: see History 163S; also C-L: Asian & Middle Eastern Studies 177S, International Comparative Studies 163S

171. Business Anthropology: Anthropologists in the Workplace. CCI, SS One course. C-L: see Cultural Anthropology 171; also C-L: International Comparative Studies 171, Innovation and Entrepreneurship 171, Sociology 171

182S. Gateway Seminar: American Slavery and Freedom: The Rise and Destruction of Slavery in the US. ALP, CCI, CZ, R, W One course. C-L: see History 182S

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

190A. Duke-Administered Study Abroad: Special Topics in African & African American Studies. Topics differ by section. 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 & African American Studies 190. Instructor: Staff. One course.

196FS. Patient and Research Participant Activism and Advocacy. SS, STS, W One course. C-L: see Science & Society 196FS; also C-L: Global Health 196FS, Psychology 196FS, Public Policy 196FS, Sociology 196FS, Cultural Anthropology 196FS, Science & Society

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, Human Rights Program-Franklin Humanities Institute 327, Latin American Studies, Human Rights

210. Modern Africa. CCI, CZ, SS One course. C-L: see History 204; also C-L: International Comparative Studies 268

211. Anthropology of Money. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 350; also C-L:

Economics 309, Public Policy 306, International Comparative Studies 328

213. Global Brazil. CCI, CZ, SS One course. C-L: see History 328; also C-L: Latin American Studies 328, Human Rights Program-Franklin Humanities Institute 328, Human Rights

214. South Africa: Past and Present. CCI, CZ, EI, SS This course will explore the history of modern South Africa, from the beginning of the mineral revolution in the 1860s to the post-apartheid present. We will cover such topics as mining-centered industrialization, the transformation of the countryside, the emergence of Afrikaner and African nationalism, segregationist ideology, the construction of apartheid, the liberation movements, the establishment and promises of multi-party democracy, the AIDS epidemic, as well as re-emergence of social movements in the contemporary period. We will further consider the place of South Africa as a regional, continental, and indeed world power. Instructor: Shapiro. One course. C-L: History 208, Political Science 221, Public Policy 214, International Comparative Studies, Human Rights

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

216S. Gender and Slavery in the Americas. CCI, CZ, EI, W One course. C-L: see History 213S; also C-L: Gender, Sexuality, and Feminist Studies 211S

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: Medieval and Renaissance Studies 255, Latin American Studies, International Comparative Studies

219. War, Slavery, and Revolution in the Caribbean, 1700-1800. CCI, CZ One course. C-L: see History 319; also C-L: International Comparative Studies 263, Human Rights Program-Franklin Humanities Institute 219, Latin American Studies, Human Rights

220SL. West African Rootholds in Dance. ALP, CCI, CZ One course. C-L: see Dance 335SL; also C-L: Religion 240SL

221SL. Capoeira: Practice and Culture. ALP, CCI, SS, W One course. C-L: see Dance 235SL; also C-L: Cultural Anthropology 221SL, Romance Studies 235SL

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

224. African Diaspora Literature: Twentieth- and Twenty-First-Century Black Writers. ALP, CCI, CZ, EI, W One course. C-L: see English 276

225S. Documenting Black Experiences. ALP, CCI, CZ One course. C-L: see Documentary Studies 350S; also C-L: Visual and Media Studies 213S, Cultural Anthropology 262S, Public Policy 387S, International Comparative Studies 368S, Human Rights Program-Franklin Humanities Institute 350S, Human Rights

226. Crime and the City from Dickens to The Wire. ALP, CCI, EI, SS One course. C-L: see History 313

226D. Crime and the City from Dickens to The Wire. ALP, CCI, EI, SS One course. C-L: see History 313D; also C-L: International Comparative Studies 313D

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

228S. Fictions That Mark the Moment. ALP, CCI, CZ, EI, R Course is an engagement with novels from spectacular moments of history, an imagination of the future, a response to narrative conventions of realism and thinking with and against the grain of social understandings. Look at examples of historical, speculative, postcolonial, experimental, science, magical realist fictions and theoretical work. Will consider the means by which narratives produce or rely on ethical beliefs and arguments within the specifics of their world-making as well as the ethical problems presented by relations of power within the particular histories of the texts' various moments. Instructor: Lubiano. One course. C-L: Literature 382S, English 379S

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

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

231S. Documenting Black Power: Writing the History of the African American Freedom Struggle. ALP, CCI, CZ One course. C-L: see Documentary Studies 320S; also C-L: History 356S, Human Rights Program-Franklin Humanities Institute 320S, Human Rights

232. Race, Power, and Identity: From Ali to Kaepernick. CCI, EI, R, SS One course. C-L: see Education 220; also C-L: Sociology 202, Human Rights Program-Franklin Humanities Institute 221, Human Rights

233S. Writing American Politics. CZ, EI, R, SS, W One course. C-L: see Documentary Studies 276S; also C-L: History 360S, Gender, Sexuality, and Feminist Studies 226S

234S. Comparative Urban Politics and Policymaking. CCI, EI, SS One course. C-L: see Political Science 235S; also C-L: Public Policy 285S, International Comparative Studies 213S, Human Rights Program-Franklin Humanities Institute 235S

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, Human Rights Program-Franklin Humanities Institute 246S, Human Rights

237S. Advanced Research Seminar in Urban Politics and Policymaking. CCI, R, SS, W One course. C-L: see Political Science 236S; also C-L: Human Rights Program-Franklin Humanities Institute 236S, Human Rights

238S. Activism & Christianity in Modern America. CCI, CZ, EI, W One course. C-L: see Religion 238S; also C-L: Study of Ethics 238S, Political Science 244S

239. Racial Attitudes, Racial Prejudice, and Racial Politics. CCI, EI, SS One course. C-L: see Political Science 238

240. The Modern Caribbean after Emancipation. CCI, CZ One course. C-L: see History 321; also C-L: Romance Studies 321, Cultural Anthropology 322, International Comparative Studies 319

242S. Race, Gender, and Sexuality. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist 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: Human Rights Program-Franklin Humanities Institute 348, Human Rights, Ethics Elective

245S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South. CCI, EI, R, SS One course. C-L: see Documentary Studies 362S; also C-L: Gender, Sexuality, and Feminist Studies 306S, Human Rights Program-Franklin Humanities Institute 362S, Human Rights

246. Sociology of Racism in America. CCI, EI, R, SS One course. C-L: see Sociology 215; also C-L: Latino/a Studies in the Global South 316, Human Rights Program-Franklin Humanities Institute 215, Marxism and Society, Human Rights

247S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: International Comparative Studies 320S, Latin American Studies 320S, Information Science + Studies 323S, Visual and Media Studies 323S, Human Rights Program-Franklin Humanities Institute 323S, Asian & Middle Eastern Studies 318S, Human Rights

248. Hip Hop and Religion. ALP, CCI, CZ, EI One course. C-L: see Religion 248; also C-L: English 299, Gender, Sexuality, and Feminist Studies 299

249. Martin Luther King and the Prophetic Tradition. CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 317; also C-L: Religion 234, Public Policy 253, Human Rights Program-Franklin Humanities Institute 249, Human Rights

251. The Anthropology of Race. CCI, EI, SS One course. C-L: see Cultural Anthropology 208; also C-L: International Comparative Studies 239, Human Rights Program-Franklin Humanities Institute 208, Human Rights

252S. Giants of Jazz: A Journey into the Lives and Music of the Masters of Jazz Music. ALP, CCI One course. C-L: see Music 244S

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

Political Science 205; also C-L: Human Rights Program-Franklin Humanities Institute 205, Human Rights

261D. Race, Genomics, and Society. EI, NS, SS, STS The field of genetics has been at the forefront of discourse concerning the concept of “race” in humans. This course explores human origins, human variation, human identity, and human health through a broad range of enduring and emerging themes and challenging questions related to race and genetics (and now, genomics) on a global scale. Students will acquire knowledge and skills required for integrative analyses of the relevant scientific, ethical, legal, societal, cultural, and psychosocial issues. Open to students at all levels from any discipline in the arts, humanities, and sciences (natural, social, formal, and applied). Instructor: Royal. One course. C-L: Science & Society 258D, Global Health 258D, Cultural Anthropology 261D, Biology 261D, Visual and Media Studies 274D

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

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

264. Latin American Wars of Independence. CCI, CZ, SS One course. C-L: see History 264; also C-L: International Comparative Studies 232, Political Science 257, Latin American Studies

269. Black Gods and Kings: Priests and Practices of the Afro-Atlantic Religions. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 269; also C-L: Religion 270

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

271. Humanitarianism in Africa. CCI, CZ, EI One course. C-L: see History 207; also C-L: Human Rights Program-Franklin Humanities Institute 207, Islamic Studies, Human Rights

274S. Islam in the Americas. CCI, CZ, SS, W One course. C-L: see Religion 384S; also C-L: History 351S, Asian & Middle Eastern Studies 230S, Human Rights Program-Franklin Humanities Institute 374S, Islamic Studies, Human Rights

276. Religion and Race. CCI, CZ, SS One course. C-L: see Religion 276; also C-L: International Comparative Studies 294

283SL. Death, Burial, and Justice in the Americas. EI, SS One course. C-L: see International Comparative Studies 283SL; also C-L: Cultural Anthropology 285SL, Latin American Studies 283SL, Human Rights Program-Franklin Humanities Institute 283SL, Latin American Studies, Human Rights

285S. Nigeria: A Modern History. CCI, CZ Nigeria is Africa’s largest country by population, its largest economy, and one of the most diverse nation-states in the contemporary world. It is also a place of considerable poverty, wealth disparity, and political discord. How did Nigeria become this country of superlatives, good and bad? This course examines Nigeria’s history over the last two centuries—a period encompassing the Atlantic trade in enslaved Africans, British colonial rule, the era of decolonization, and the recent histories of military rule and democracy. Along the way, we will consider Nigeria’s place in the broader history of modern Africa. Instructor: Daly. One course. C-L: History 217S, International Comparative Studies 242S

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. One course. C-L: see English 390-3

290-4. Special Topics in African American Literary Genres. One course. C-L: see English 390-4

290A. Duke-Administered Study Abroad: Advanced Special Topics in African & African American Studies. Topics differ by section. Instructor: Staff. One course.

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

295S. Black Muslims: Race, Religion, & Culture. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 295S; also C-L: Religion 295S, International Comparative Studies 222S, Gender, Sexuality, and Feminist Studies 296S, Human Rights Program-Franklin Humanities Institute 295S, Human Rights

304S. Black Politics. SS One course. C-L: see Political Science 305S

306. Africa and Arabia: Cultures, Communities, and Connections. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 304; also C-L: International Comparative Studies 306

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 207, International Comparative Studies 308, Marxism and Society

310. African American Women and History. CCI, CZ One course. C-L: see History 349; also C-L: Gender, Sexuality, and Feminist Studies 237, Human Rights Program-Franklin Humanities Institute 310, Human Rights

310S. Conflict Analysis in Africa (Case Studies). CCI, CZ, SS Utilizes four case studies to outline components of conflict analysis in Africa. Examines regional crisis nexus between Darfur, Chad and Central African Republic. Looks at issues of postcoloniality, autochthony, migration, citizenship, land tenure, and inequality. On a theoretical level, identifies potentially crosscutting, deeper layers of contemporary crises in Africa with the objective of establishing a series of templates, a ‘protocol’, for comparative conflict analysis and conflict management in Africa. Instructor: Smith. One course. C-L: Cultural Anthropology 310S, Public Policy 218S, Human Rights Program-Franklin Humanities Institute 218S, Human Rights

312. War and Public Health in Africa. CCI, CZ, EI, SS An inquiry into the nature of contemporary war in sub-Saharan Africa and its human cost. Uses public health as a parameter to assess the impact of organized collective violence on people’s lives. Link between war and public health established and measured with respect to civilian deaths, gender based violence, physical and psychological trauma, mental disorders, malnutrition and famine, and the spread of epidemic diseases, *inter alia* HIV/AIDS. Special attention is paid to rape as “a weapon of war”, to the trafficking of human beings in war zones, the child soldier phenomenon, and to death counts as a vector of humanitarian or political advocacy. Instructor: Smith. One course. C-L: Public Policy 333, Cultural Anthropology 312, Global Health 312, Human Rights Program-Franklin Humanities Institute 312, Human Rights

314. Representing Slavery. ALP, CCI, EI, SS Examines representations of the Atlantic slave trade in scholarship, literature, film, popular culture, and local site visits. We will examine portrayals of people who were enslaved, people who enslaved, as well as the nature of capture, the Middle Passage, and plantation life. We will also explore contemporary commemorations of the slave trade within museums, and the political mobilization of this history within the reparations movement. Through an examination of these materials, we will ask “why represent slavery?” and “what is at stake when representing slavery?” Instructor: Cobb. One course. C-L: Visual and Media Studies 254

315. Africa, Youth and Democracy. CCI, R, SS Africa is an island of youth—a Peter Pan’s Neverland—on an overall graying planet. This course explores the continent’s “youthfulness,” in particular south of the Sahara where four out of ten inhabitants are under age 15—twice as many as in the United States. In a part of the world where the “principle of seniority” traditionally coupled aging with the hoarding of knowledge, authority, wealth and power, what does the abundance of young people mean for Africa’s present and future, for its economy and popular culture, the transmission of norms and values, new digital lifestyles, war and peace? Special attention will be given to hypotheses linking youth and democratization. Instructor: Smith. One course. C-L: Cultural Anthropology 315

316S. Apartheid South Africa and the Struggles for Democracy. CCI, CZ, EI, R, SS Explores key themes in post World War II South African history, paying attention to the plethora of anti-apartheid struggles, while giving voice to some pro-apartheid proponents. Discusses how apartheid affected people’s daily lives, the ideological and programmatic opposition to apartheid, and internecine struggles between and within anti-apartheid organizations and movements. Concludes with contemporary reflections on life during apartheid. Instructor: Shapiro. One course. C-L: History 386S, Public Policy 327S, Political Science 337S, Human Rights Program-Franklin Humanities Institute 316S, Human Rights

317S. Africa before Colonialism. CCI, CZ, R, SS, W This undergraduate seminar considers the history of Africa south of the Sahara from the beginning of the Holocene era to 1800, focusing on processes of community formation and political and social change. Using a variety of sources and methods, it traces major debates and themes in the “deep” African past across a number of regions and time periods. These themes include state formation, the dynamic reproduction of social structures through migration, the political meanings of health and healing, the development of ideas about gender, the relationship between Islam and Christianity and other cosmologies, and Africa’s interaction with the wider world. Instructor: Daly. One course. C-L: International Comparative Studies 221S, History 341S

318SA. New York Scenes. ALP, R One course. C-L: see English 315SA; also C-L: Theater Studies 218SA, Gender, Sexuality, and Feminist Studies 315SA, Art History 318SA, Jewish Studies 315SA

319. East Africa and the World. CCI, CZ, R, W An interconnected history of East Africa and the many places linked to the region by trade, migration, and politics. Using archival, oral, and artistic source materials, considers how East Africans’ lives have been shaped by mobility, from the dhow trade of the Indian Ocean, to the commercial hustle of contemporary Guangzhou and Dubai. Analyzes how ideas about race, class, gender, and sex changed over time in this complex setting. Instructor: Daly. One course. C-L: History 206, International Comparative Studies 316

320. Black Dance. ALP, CCI, R, W Exploration of composition and performance structures commonly described as black dance. Working with cultural criticism contemporary with emergent modes of black dance, assesses political motivations and aesthetic strategies of artists and writers working explicitly in this idiom. Considers possibility of black dance performed by people of First World, European, and Asian descent. Examines concert dance, social dance, religious dance. Instructor: DeFrantz. One course. C-L: Dance 336

321. Visualizing the Caribbean. ALP, CCI, R, SS Art (paintings, installations, performance art) and film on the Caribbean offer vantage points for analyzing alternative ways through which the region has been thought, imagined and produced. They are periodized semiotic productions that feed into and are marked by perspectives that are at once global, national, and even personal. Considering the constitutive contexts of these productions and performances, we will attempt to glean the diverse perspectives, and the way these have influenced sociocultural policy and offer alternative interpretations of diasporic lifeways of Caribbean people. Instructor: Crichlow. One course. C-L: Cultural Anthropology 368, International Comparative Studies 318, Latin American Studies 321

322S. James Baldwin and Toni Morrison. ALP, CCI, CZ, EI One course. C-L: see Religion 399S; also C-L: English 380S, Gender, Sexuality, and Feminist Studies 402S

325S. Introduction to Hip-Hop Production. ALP, EI, STS Introduction to Hip-Hop Production examines the history, background, functionality, and techniques of hip-hop production. This class will examine the art of sampling, borrowing, context, and practices in hip-hop production, while studying the history of beat machines and digital audio workstations. Instructor: Douthit. One course. C-L: Music 337S

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

331. Black Popular Culture. ALP, 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 and staff. One course. C-L: Visual and Media Studies 230

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

333S. The Wire. CCI, EI, SS Examines all 60 episodes of the HBO series “The Wire.” 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 brings 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. Students should have background in interpretive social science and social theory. Instructor consent required. Instructor: Makhulu. One course. C-L:

Cultural Anthropology 333S

335. The History of Hip-Hop. ALP, CCI What began as a localized activity designed to provide a safe haven for Black and Latino youth in New York City, has become a global brand that has had a documented impact on the cultural, political and economic realities of youth throughout the globe. This course will examine the organic social and cultural foundations of hip-hop, as well as the key aesthetic innovators/innovations, and the debates that have arisen over hip-hop's increased influence. Instructor: Neal. One course. C-L: Cultural Anthropology 335, Music 335, Visual and Media Studies 337, English 381

336. The Black Performance Tradition: Michael Jackson and Prince. ALP, CCI Examines the Black Performance context that produced Jackson's singular creative genius within the realms of music, movement and politics, including the influence of Black vernacular practices like signifying and sampling, the network of Black social spaces known as the Chitlin' Circuit, the impact of Black migration patterns to urban spaces in the Midwest, and Black performance traditions including Blackface minstrelsy. Instructor: Neal. One course. C-L: Music 336, Visual and Media Studies 353

337. Hollywood and Africa: Case Studies in Filmic Representation. ALP, CCI, W This course on Hollywood films about Africa—from classics such as “African Queen” (East Africa), “Tarzan” (Equatorial Africa) and “Out of Africa” (Kenya) to recent productions such as “Blood Diamond” (Sierra Leone), “The Last King of Scotland” (Uganda), “Lord of War” (arms trade), “The Constant Gardner” (Kenya) and “Black Hawk Down” (Somalia)—will tack back and forth between filmic representation and case study, using the latter to critique the former. As contrastive material, the class will also draw on non-Hollywood films about Africa, for example “Hotel Rwanda” (Rwanda) or “Lumumba” (DRC). Instructor: Smith. One course. C-L: Cultural Anthropology 336, International Comparative Studies 337

338. Popular Representations of Black Masculinity. ALP, CCI The course will examine the production and circulation of representations of “Black Masculinity” in post-19th century American culture, within popular realms of expression including film, visual culture, music videos, advertising, popular music, television, drama and stage, literature, and dance/performance. The course will also explore the ways stereotypical images of Black masculinity have impacted public policy perceptions of African Americans and the ways that Black cultural producers have used Black masculinity as sites to stage alternative perceptions of Black humanity. Instructor: Neal. One course. C-L: Visual and Media Studies 340, English 380

339S. Women and Film: Directors of the Diaspora. ALP, CCI Black women filmmakers have been actively involved in filmmaking since the early 20th century, and occupy notable positions in the 21st century media environment. Artists such as Ava Duvernay and Julie Dash demand critical attention to black women film and video artists. Films made by Black women are constructed in a variety of forms, such as animation, documentary, experimental, and narrative. These works bring a unique perspective to the screen. This course will give students an opportunity to view films, examine the specifics of film/video production in general, compare the various works produced by women direc, and acquire the skills necessary for film/video cultural criticism. Instructor: Cobb. One course. C-L: Visual and Media Studies 370S, Gender, Sexuality, and Feminist Studies 339S

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 US. Open to undergraduates at both NCCU and Duke. Instructor: Staff. One course. C-L: Cultural Anthropology 332S, History 339S, Human Rights Program-Franklin Humanities Institute 336S, Human Rights

343. Displacements: Migration and Human Trafficking. ALP, CCI, EI, R, SS Examination of the meaning of migration in the global world through cross-disciplinary texts and visual media. Situates the phenomenon of human trafficking within the context of these general movements focusing on the risks involved when people endanger their lives to find a better and more strategic position in the world. Explores how these experiences should be interpreted, and how processes and the politics of race, space and place are a condition and/or outcome of these movements. Investigates and considers ways to resolve some of the problems associated with such movements. Instructor: Crichlow. One course. C-L: Latin American Studies 343, Cultural Anthropology 342, Sociology 343, Human Rights Program-Franklin Humanities Institute 339, Human Rights

345. African Americans, Mass Incarceration and Citizenship. ALP, CCI, CZ, EI, R Explores in depth the presence of African Americans within the phenomenon of U.S. mass incarceration and its implications for

notions of citizenship. Surveys the history of prison build-up resulting from legislation and policy over the past forty years including the governmental discussions of drug policy and welfare reform that disproportionately affected African Americans. Course will explore definitions of citizenship and the means by which African American citizens were and are both included in and excluded from participation in the movement toward mass incarceration as part of their changing position in the U.S. polity. Instructor: Lubiano. One course. C-L: Literature 343, Human Rights Program-Franklin Humanities Institute 345, Human Rights

346S. Racial Justice in the 20th Century US and South Africa. CCI, CZ, R, SS, W This course uses a comparative framework to assess race in two societies founded on premises of racial inequality: South Africa and the United States. We will also explore some of the social, cultural and political exchanges that have taken place between African Americans and Black South Africans over the course of the twentieth century, considering the implications of transnational historical experience. Topics covered include segregation, race relations in the countryside, twentieth century struggles for civil rights/liberation, the American anti-apartheid movement and reparations. Instructor consent required. Instructor: Shapiro. One course. C-L: International Comparative Studies 351S, History 396S, Political Science 336S, Public Policy 326S, Human Rights Program-Franklin Humanities Institute 349S, Human Rights

347S. White People: In Anthropological Perspective. CCI, CZ, R, SS Against the cross-cultural backdrop of other systems of hereditary privilege and of the political and economic changes that threaten them, we will examine the history, the ideologies, and the psychology of white supremacy in the United States. It will be our task to understand both the insiders' point of view and its social context, which includes the mid-20th-century civil rights reforms, affirmative action, neoliberalism, and the progressive erosion of white monopolies on honor, voting rights, due process, a living wage, and upward mobility in US society. Instructor: Matory. One course. C-L: Cultural Anthropology 305S, History 385S, Human Rights Program-Franklin Humanities Institute 305S, Human Rights

348. African Art: From Royal Court to Contemporary Marketplace. ALP, CCI, CZ One course. C-L: see Art History 345; also C-L: International Comparative Studies 223

350S. Law and Literature: Race Matters. 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: Staff. One course. C-L: English 350S

352. Pigging Out: The Cultural Politics of Food. CCI, EI, SS Examines cultural influences of food while linking class, geography, and 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

380. France and Africa: The Politics and Culture of (Post-)Coloniality. CCI, CZ Examination of the Franco-African relationship over time, from the four "communes" in Senegal to the present, through a political but also broader cultural lens. France's colonial doctrine and practices, African resistance and collaboration, "la francophonie" and the postcolonial "Françafrique" are analyzed as well as collective imaginaries on either side and how they shaped each other in literature, film, the social sciences or everyday life. The course is taught in English but a preceptorial class in French is offered in addition so that students can meet the requirement for their major or minor in French. Newcomers to Africa are welcome. Instructor: Smith. One course. C-L: Romance Studies 380, History 372, International Comparative Studies 364

380P. France and Africa: The Politics and Culture of (Post-)Coloniality Preceptorial. A preceptorial, in French, requiring concurrent enrollment in African & African American Studies 380 or Romance Studies 380. Course counts toward the language requirement for the French major or minor if student enrolls in the preceptorial. Students need to have the proficiency to partake in discussions in French in the preceptorial, as well as to complete their readings and their final paper in African & African American Studies 380 or Romance Studies 380 in French. Further information available from instructor. Instructor: Smith. C-L: Romance Studies

380P

385S. Race, Gender and Culture of the African Diaspora. CCI, CZ, SS Course reveals the diversity of black life in the Americas, Europe, and the Middle East through film and classical and contemporary ethnographies by the likes of W. E. B. DuBois, Zora Neale Hurston, Fernando Ortiz, and others. Examines diverse analytical tropes that illuminate how cultures and communities reproduce themselves amid exploitation and stigma. Instructor: Matory. One course. C-L: Cultural Anthropology 385S

386S. Women and Visual Media Studies. ALP, CCI One course. C-L: see Visual and Media Studies 389S; also C-L: Gender, Sexuality, and Feminist Studies 338S

387. Moral Panics, Spectacle, and Everyday Life: Social Anxieties and Minorities. ALP, CCI, CZ, EI Moral panic refers to the way a social order becomes hyper aware of activities of groups, objects, or circumstances posing a menace to accepted values. Course explores how everyday life is managed, intensified, and altered by moral panics' spectacle. Sexual deviance, drugs, popular culture, disease, witch hunts, gender fears, etc., are not only creations of pre-existing fears, they make various kinds of sense in specific moments. They are how people recognize themselves and new challenges to that self. From those challenges they try to police others; they are public consensus-building events and the means by which we identity our fears and desires. Instructor: Lubiano. One course. C-L: Gender, Sexuality, and Feminist Studies 387, Literature 387

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

390S. Special Topics. Seminar version of African & African American Studies 390. Topics vary from semester to semester. 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.

397S. African Cities, Development, and Climate Change. CCI, EI, SS The displacement of sizeable urban populations as a consequence of climate change renders African cities sites of two contending conditions: the one is a prevailing sense of crisis; the other, in the form of a response, is to attend to the prevailing conditions of crisis. African cities are poised to mobilize not only extant forms of cultural ingenuity, but technological ingenuity too. Students will explore African city life from megalopolises like Cairo to threatened UNESCO world heritage sites like Saint-Louis, Senegal. The course reimagines terms such as "development," "employment," "infrastructure," "sustainability," and "citizenship." Instructor: Makhulu. One course. C-L: Cultural Anthropology 361S

406S. South African Life Histories. CCI, CZ, R, W Explores the last century of South African history through the lens of biography and autobiography. Protagonists range from little known South Africans like the sharecropper Kas Maine, an African prophetess, and the self-styled godfather of Soweto to political artists and writers. Topics also include some of the country's most famous citizens like Nelson Mandela, Steve Biko and Helen Suzman. Readings are a mix of scholarly and non-scholarly writings. Some of the issues we will discuss include the ways in which segregation and apartheid affected people's daily lives, ideological and programmatic opposition to white supremacy, and the AIDS epidemic. Instructor: Shapiro. One course. C-L: History 450S, Political Science 406S, Human Rights Program-Franklin Humanities Institute 406S, Public Policy 406S, Cultural Anthropology 406S

407S. Capstone Seminar - Globalization: Asia and Asian America. CCI, CZ, R, SS, STS One course. C-L: see History 454S; also C-L: International Comparative Studies 412S, Gender, Sexuality, and Feminist Studies 412S, Asian & Middle Eastern Studies 437S

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

409. Surviving Globalization: The Global South and the Development Imagination. CCI, EI,

SS Global Change entails a multiplicity of environmental, social, economic, political and cultural factors that create challenges for development. The Global South, a vital area of the world, has been entangled in this vortex of global change as both catalyst and conductor of an emergent globalizing modernity. The progress of globalization seems beset by multiple stressors, ranging from financial crises and global recession, to climate change, state and non-state conflicts, free ranging terrorist aggression, and global health scares. What are the odds then of surviving globalization? What role do our imaginations of development play in either creating crises or effectively responding to them? Instructor: Crichlow. One course. C-L: Cultural Anthropology 409, International Comparative Studies 409, Sociology 409, Latin American Studies 409

409S. Capstone Seminar: The Age of Jim Crow: Racial Segregation from Plessy (1896) to Brown (1954). CZ, EI, R, W One course. C-L: see History 481S

410S. Black Frame: African American Documentary Film. ALP, CCI, CZ, R This course examines black documentary film by drawing on The Full Frame Archive Film Collection. The Full Frame Documentary Film Festival is the largest film festival in the United States entirely devoted to documentary film. Students enrolled in this class will read canonic texts on the black documentary film, study camera techniques, explore the history of the Full Frame Festival, critique the role of race in social justice filmmaking and interact with documentary filmmakers. Instructor: Cobb. One course. C-L: Documentary Studies 440S, Visual and Media Studies 410S

419S. Meaning, Mattering, and Black Being-in-the-World: Towards a Critical Theory of Race and Value. CCI, CZ, W One course. C-L: see International Comparative Studies 419S; also C-L: Cultural Anthropology 418S

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

450S. The Global Caribbean. CCI, EI, R, SS The course introduces students to the Caribbean as a transnational space that reflects the global dynamics associated with flows of bodies via migration, labor, and goods all of which have undergirded the birth and evolution of the (primarily) Atlantic world economy. The Global Caribbean will have a historical sociological bent that frames the region as the first modern colonial space which has served as a template for other projects of colonial and postcolonial development elsewhere in the world. Emphasis will be on the way that freedoms and unfreedoms operate in the Caribbean and elsewhere. Discussions of how knowledge has conditioned the representation of the region will be entertained. Instructor: Crichlow. One course. C-L: Cultural Anthropology 450S, International Comparative Studies 418S, Sociology 450S, Latin American Studies 450S

451S. Capstone Seminar: African Americans and the World. CCI, CZ, R, SS, W One course. C-L: see History 484S

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, International Comparative Studies

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

490S. Special Topics. Topics vary from semester to semester. One course.

491. Independent Study. See African & African American Studies 391. Consent of both instructor and director of undergraduate studies required. Instructor: Staff. One course.

493. Research Independent Study. R See African & African American Studies 393. Consent of both instructor and director of undergraduate studies required. Instructor: Staff. One course.

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

496. Distinction Program Sequence. R Continuation of African & 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 & African American Studies and to others with consent of instructor. Instructors: Staff. One course.

503S. Moments in Black (Radical) Theory: From Ferguson to Rhodes Must Fall to Silent Sam. CCI, EI, SS The time for black (radical) theory is now! This course introduces students to a series of thinkers connected by a set of moments and locations that demand black radical theorizing. Conjoining black radical traditions in the United States and South Africa, students are asked to think about contemporary political deadlocks in campus struggles, in the extension of those politics to the streets, in the Movement for Black Lives, #FeesMustFall, #RhodesMustFall, and varied organizing around the removal of monuments to colonialism, imperialism, slavery, and the Confederacy. Instructor: Makhulu and Winters. One course. C-L: Religion 503S, Cultural Anthropology 503S, Political Science 589S, International Comparative Studies 504S

510S. Global Africa. CCI, EI, SS One course. C-L: see Cultural Anthropology 561S; also C-L: History 561S, Political Science 527S, International Comparative Studies 510S

512S. The Fetish: The Role of Things in Spiritual, Economic, and Sexual Life. CCI, CZ, EI, SS This course explores the social relationships produced by debates over the value and agency of material things ranging from the cross and the Eucharist to black leather, fur, dildos and even the more mundane commodities through which capitalism and socialism have defined their rivalry. Thus we will examine the highly charged role of things in religion, economics, and spiritualized erotic relationships, as well as the centrality of the fetish concept in the mutual transformation of modern Africa and the West. Instructor: Matory. One course. C-L: Cultural Anthropology 511S, Religion 511S

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: Gender, Sexuality, and Feminist 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, Visual and Media Studies 611S

531S. Black Camera: Still and Moving Images. ALP, CCI One course. C-L: see Art History 650S; also C-L: Documentary Studies

539. Black Camera: Still and Moving Images. ALP, EI One course. C-L: see Art History 539; also C-L: Documentary Studies

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 562S

544S. Race and American Politics. CCI, SS One course. C-L: see Political Science 525S; also C-L: Public Policy 526S

545S. Race, Racism, and Democracy. CCI, SS, W One course. C-L: see Cultural Anthropology 535S

548S. Poverty, Inequality, and Health. EI, R, SS One course. C-L: see Public Policy 644S

549S. Schooling and Social Stratification. CCI, SS One course. C-L: see Public Policy 542S; also C-L: Education 542S, Child Policy Research

551S. Race and Ethnicity. CCI, EI, SS One course. C-L: see Public Policy 529S; also C-L: International Comparative 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, Islamic Studies, International Comparative Studies

580S. Race Theory: Biological Classification and Moral Implications. CZ, EI One course. C-L: see Philosophy 539S

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. One course. C-L: see Art History 590S-5

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

610S. Africa, Cuba, Brazil: Great Powers of the Black Atlantic. CCI, CZ, SS Explores shared cultural history of three great populations separated by oceans but linked by slave trade. Course will offer lively, mutually transformative dialogue in religion, music, and political ideas. This case study in the Africanization of the Americas and the Americanization of Africa challenges a range of conventional assumptions about transnationalism, race, class, gender, and their artistic expression. Instructor: Matory. One course. C-L: Cultural Anthropology 610S, History 610S, Romance Studies 522S

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

621S. Black Performance Theory. ALP, CCI, R Exploration of methods and research approaches relevant to the construction of black performance theory. Performance Studies methodologies undergird ways of seeing and modes of analysis relevant to considerations of black art, including dance, sound and music, drama, visual art, and aesthetics of popular culture. Instructor consent required. Instructor: DeFrantz. One course. C-L: Dance 645S, Visual and Media Studies 621S

622S. Black Sonic Culture—Analog to Digital. The course will examine the production, reproduction and distribution Black (African Diasporic) “Sound”—inclusive of, but not exclusive of various musical cultures—in the creation of Black Sonic Culture(s) that were in conversation with and counter to Black Literary Culture, Black Visual Culture and Black Performance traditions. The course, in particular, will examine the impact on the transition from analog sound to digital sound. Instructor: Neal. One course. C-L: English 691S, Literature 691S, Music 691S

640S. African Cities. CCI, SS If the predominant mode of development in African cities is informal and unplanned giving rise to new modes of life, livelihood, and leisure beyond the organizing infrastructures of formal architecture and design in reality, the new African urbanism seems to give rise to two distinct conditions of life—the one crisis and the other ingenuity. This course is concerned to think through the paradox of rapid urban growth across the continent—from Lagos and Cairo to Johannesburg and Cape Town—and the fact that such rapid urban growth is taking place without the conventional facilities, infrastructures and technologies. Instructor: Makhulu. One course. C-L: Cultural Anthropology 562S

641S. Citizen and Subject in a Neoliberal Age. CCI, EI, SS Explores studies of citizenship, quests to belong to a place, and institutional mechanisms people deem sacred, and others, profane and dispensable. Focuses on the ways African, Caribbean and Pacific peoples have adapted identitarian constructions to develop narratives of home. Case studies using ethnographic, historical, sociological and visual methods are used to investigate how particular claims are pursued in clamoring for citizenship in various communities. Instructor: Crichlow. One course. C-L: Sociology 645S, Cultural Anthropology 641S

642S. Global Inequality Research Seminar. ALP, CCI, R, SS One course. C-L: see Public Policy 645S; also C-L: Economics 541S, Sociology 642S, Political Science 642S, Human Rights Program-Franklin Humanities Institute 642S, Human Rights

643S. Black Women, Black Freedom. ALP, CCI, CZ, EI Examination of struggles for freedom, from nineteenth century through twenty-first, particularly through the lives of black women. Drawing on women’s history, literature, art, performance and critical theory, students interrogate meaning of various freedoms, including civic and sexual. Objective is to discern a working definition for “black freedom” by centering women

in struggles for black liberation. Instructor: Cobb. One course. C-L: Art History 643S

645S. African Modernities. CCI, SS Encounters between African societies and global forces, including colonialism, capitalism, development initiatives. Instructor: Staff. One course. C-L: Cultural Anthropology 560S, International Comparative Studies

646. Surviving Globalization: The Global South and the Development Imagination. CCI, EI, SS Global Change entails a multiplicity of environmental, social, economic, political and cultural factors that create challenges for development. The Global South, a vital area of the world, has been entangled in this vortex of global change as both catalyst and conductor of an emergent globalizing modernity. The progress of globalization seems beset by multiple stressors, ranging from financial crises and global recession, to climate change, state and non-state conflicts, free ranging terrorist aggression, and global health scares. What are the odds then of surviving globalization? What role do our imaginations of development play in either creating crises or effectively responding to them? This course is the same as African & African American Studies 409 but with additional graduate level work. Instructor: Crichlow. One course. C-L: International Comparative Studies 647, Sociology 647

660. Health in the African Diaspora. CCI, EI, SS, STS Exposes and explores the individual and joint contributions of biological and non-biological factors to health and wellbeing in peoples from various regions and countries of the African Diaspora. The course draws on a variety of disciplines, modes of inquiry, and health problems in comparative analyses of genetic, historical, political, and sociocultural dimensions of the African Diaspora. Course content is not limited to the transatlantic African Diaspora; it spans multiple African Diaspora streams. Instructor: Royal. One course. C-L: Cultural Anthropology 660, Global Health 672

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

690S. Special Topics. Seminar version of African & African American Studies 690. Instructor: Staff. One course. C-L: Science & Society 590S-1

699S. Gateway/Proseminar. The proseminar is the required gateway course in the AAAS Certificate Program. It is designed to introduce students to the broad interdisciplinary scope of advanced scholarship in black diasporic studies globally. Students will learn interdisciplinary and cross disciplinary research methods, including awareness of archival, bibliographic, and qualitative/quantitative methods. The history of the field and its unique influence on the production of humanistic and social scientific knowledge are also significant concerns in the course. Instructor: Staff. One course.

The Major

The major requires ten courses, eight of which must be at the 200 level or above. Students may choose one of the two following options.

A. The Americas Focus

Major Requirements:

- African & African American Studies 102 and 103
- Three courses focusing on the Americas, one course in each of the following Areas of Knowledge:
 - Arts, Literatures, and Performance (ALP)
 - Civilizations (CZ)
 - Social Sciences (SS)
- African & African American Studies 499S (Senior Seminar)
- Four additional African & African American Studies courses

B. Africa Focus

Major Requirements:

- African & African American Studies 102 and 103
- Three courses focusing on Africa, one course in each of the following Areas of Knowledge:
 - Arts, Literatures, and Performance (ALP)
 - Civilizations (CZ)
 - Social Sciences (SS)
- African & African American Studies 499S (Senior Seminar)
- Four additional African & African American Studies courses

The Minor

The minor requires five courses, two of which must be African & African American Studies 102 and 103.

Minor Requirements:

- African & African American Studies 102 and 103
- Three additional courses at 200 level or above, in or cross-listed with African & African American Studies. Both program foci (Africa and the Americas) must be represented across the three-course selection. These courses must each fulfill one of the following Areas of Knowledge:
 - Arts, Literatures, and Performance (ALP)
 - Civilizations (CZ)
 - Social Sciences (SS)

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 its 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 209](#).

Anthropology

See the departments of Evolutionary Anthropology (on [page 387](#)) and Cultural Anthropology (on [page 261](#)).

Arabic

For courses in Arabic, see Asian & Middle Eastern Studies on [page 175](#).

Art, Art History & Visual Studies

Professor Dillon, *Chair*; Assistant Professor of the Practice Olson, *Director of Undergraduate Studies*; Professors Dillon, Forte, Hansen, Jaskot, McWilliam, Morgan, Powell, Seaman, Stiles, Van Miegroet, Weisenfeld, and Wharton; Research Professors Lasch and Szabo; Professors of the Practice McIver and Rankin; Associate Professors Abe, Cobb, Gabara, and Galletti; Associate Professors of the Practice Gibson and Kaul; Assistant Professor Caviglia; Assistant Professors of the Practice Olson, Salvatella de Prada, and Wendell; Adjunct Professors McHugh and Price

A major and/or a minor is available in art history, visual arts, art history/visual arts, visual and media studies, cinematic arts, and photography through this department.

Art History

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 on careful observation, the ordering of diverse sorts of information, expository writing, and scholarly research makes it a good general preparation for any profession.

Courses in Art History (ARTHIST)

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. Topics vary each semester offered. Instructor: Staff. One course.

101D. Introduction to the History of Art. ALP, CCI, CZ The history of western architecture, sculpture, and painting in a cultural context from prehistory to the Renaissance (c. 1400). Instructor: Staff. One course.

102D. Introduction to World Art History from 1200 to the Present. ALP, CCI, CZ An expansive investigation of the history of art, from the Renaissance to the present, including non-Western visual traditions, art historical methods and theories placed in dynamic interdisciplinary dialogues across the humanities, social sciences, and sciences, and involving wide perspectives, intersecting ideas, and the capacity to observe works of art in museums, galleries, and installations throughout the world. Instructor: Stiles and Huffman. One course.

103D. Introduction to the History of Architecture. ALP, CZ The survey provides a panorama of architectural production from Antiquity to the present with a global perspective. The objective is to insure knowledge of architectural production, related historiography, contemporary debate, and scholarship. The reading materials are organized chronologically to facilitate the students' approach to the field of architectural history. A thematic approach will inform the lectures, where notions of practice, techniques, spread of knowledge and models among others, are considered in relation to specific case studies. Instructor: Galletti or Jaskot. One course.

104. Exploring Art and Architecture - Foundations and Histories. ALP Provides knowledge for developing skills in visual analysis and historical interpretation of art from antiquity to present; examines major theoretical frameworks, key movements and concepts; explores how we look at and talk about works of art, investigating a variety of approaches to their study, including artists and their material practices; biography, patrons and the public; built environment and cultural institutions; how the social and political roles of art change through time. Taught in Nasher Museum. Classroom discussions complemented by visits to Nasher galleries and direct practice of visual analysis, critical theory, and role of changing histories in comprehension of art. Instructor: Staff. One course.

107. Roman Art and Archaeology. ALP, CZ Roman artistic legacy shaped Western art in profound ways. Artistic innovations: realistic portraiture, trompe l'oeil wall painting; architectural innovations: amphitheater, circus, multi-seat latrine, steam-heated bath. Explore Roman art and architecture throughout Mediterranean from late Republic to early fourth century AD. Emphasis on social and cultural contexts. Study major technical and aesthetic innovations, and impact of Roman emperors as art patrons. Class lectures and readings arranged both chronologically and thematically, with case studies of archaeology of Pompeii, Athens, Aphrodisias in Turkey. Instructor: Dillon. One course. C-L: Classical Studies 107

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. Topics differ by section. Instructor: Staff. One course.

190FS. Topics in Art History. 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. Subjects, areas, or themes that embrace a range of disciplines or art-historical areas. Instructor: Staff. One course.

196. Etruscans: Myth, Archaeology and Civilization. CCI, CZ One course. C-L: see Classical Studies 241

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.

202. Imagining Europe: Arts, Culture, Politics. ALP, CCI, CZ One course. C-L: see French 429; also C-L: Literature 274, Visual and Media Studies 202

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 One course. C-L: see Classical Studies 344

207. Classical Greek Archaeology, Archaic to Classical. 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

213S. Feminist Art from the 1970s to the Present. ALP, CCI, W One course. C-L: see Gender, Sexuality, and Feminist Studies 213S; also C-L: Human Rights Program-Franklin Humanities Institute 213S

215S. Representations of 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 243S, Visual and Media Studies 209S

220. Museum Theory and Practice. ALP, R Introduction to museum theory and the operation, with a particular focus on art museums. How theory and practice is negotiated in real world settings. Issues involve collecting practices, exhibition practices, and interpretive techniques, as well as legal and ethical issues. Taught at the Nasher Museum. Instructor: McHugh. One course. C-L: Markets and Management Studies

221S. The Museum Object: Art and Artifact on Display. ALP Technical study focusing on the material properties of artifacts and the technologies of art-making. Collection, exhibition, care, storage, handling, preservation, and conservation of objects in context with anthropological theory and legal and ethical considerations. Instructor: McHugh. One course.

222S. History and Theory of Curatorial Practice. ALP An inquiry into the rise of the curatorial discipline by tracing its history and theoretical underpinnings. Primary emphasis on contemporary art and examination of various approaches to curatorial practice including curating in a global context, the rise of the biennial, performance art and non-traditional venues, as well as curatorial critique. Readings will be drawn from a range of popular and academic sources. Instructor: Price. One course.

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: Staff. One course. C-L: Medieval and Renaissance Studies 215

227. Medieval Castles of Europe. CZ, STS This course will examine the transition of Western Europe into a fortified landscape from the mid-11th century until the advent of large-scale artillery in the mid-15th century. In addition to tracking technological and stylistic changes over time, this course will identify the discrete elements of fortification that were combined into a variety of castle plans. Natural resources and physical topography will emerge as central factors in the choice of site and design for medieval castles. As a way of investigating these topics, students will digitally reconstruct a historical or imagined castle in 3D graphics at a specific place and time covered in the course. Instructor: Triplett. One course. C-L: Medieval and Renaissance Studies 226

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

231D. History of Art Markets. R, SS, STS Analytical survey and discussion 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 the interface of Economics, Art History, Law and Visual Studies. Instructor: Van Miegroet. One course. C-L: Economics 344D, Visual and Media Studies 242D

232. 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

234. 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: Visual and Media Studies 250

238. Science Fiction Film. ALP, CCI, EI, STS One course. C-L: see English 386

244D. From Caricature to Comic Strip. ALP, CCI 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; cartooning and the assault on power; violence against cartoonists and issues of freedom of speech; growth of specialized juvenile graphic magazines and the development of the strip cartoon. Instructor: McWilliam. One course. C-L: Visual and Media Studies 244D

245S. Women in Visual Arts. ALP, CZ Through lectures, discussion and individual projects, this course considers the roles women have played in the art world—alone and in relation to men—as makers, subjects, patrons, and critics. It also explores issues of gender, masculinity and femininity. Students will also have the opportunity to work on selected objects at the Nasher as well as the Ackland Museum. Instructor: Caviglia. One course. C-L: Visual Arts 245S, Gender, Sexuality, and Feminist Studies 245S

246. Roman Archaeology: Origins to Empire. ALP, CCI, CZ One course. C-L: see Classical Studies 246

251. Art and Christianity: A History of Christian Visual Culture. ALP One course. C-L: see Religion 250

254. Renaissance Architecture: A European Perspective. ALP, CZ Surveys panorama of European architectural theory and production in fifteenth and sixteenth centuries within a broad geographical area including Italy, France, Spain, Germany, Poland, the Low Countries, and England. Course objectives are to insure knowledge of Renaissance architectural production, related historiography, and contemporary debate and scholarship as well as develop students' analytical and research skills. Reading materials organized chronologically to facilitate students' approach to the field of architectural history, while a thematic, case-study based approach will prevail in class. Instructor: Galletti. One course. C-L: Medieval and Renaissance Studies 244

255. Art in Renaissance Italy. ALP, CCI, CZ The course provides a panorama of Italian Renaissance art including theory, painting, print, sculpture, and architecture. The objectives are to ensure knowledge of Renaissance artistic production and related historiography and to develop students' analytical and research skills. Materials are organized thematically around notions of artistic training and workshop practice, techniques, centers of production, art markets, antiquarianism and collections, patronage, gender, artistic rivalry, dissemination of knowledge, relationship with the spectator, social structures, sacred and secular spaces and objects, among others, which will be considered in relation to specific case studies. 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

255FS. Art in Renaissance Italy. ALP, CCI, CZ The course provides a panorama of Italian Renaissance art including theory, painting, print, sculpture, and architecture. The objectives are to ensure knowledge of Renaissance artistic production and related historiography, and to develop students' analytical and research skills. Materials are organized thematically around notions of artistic training and workshop practice, techniques, centers of production, art markets, antiquarianism and collections, patronage, gender, artistic rivalry, dissemination of knowledge, relationship with the spectator, social structures, sacred and secular spaces and objects, among others, which will be considered in relation to specific case studies. Open only to students in the Focus Program. Department consent required. Instructor: Galletti. One course. C-L: Medieval and Renaissance Studies 225FS, Italian 386FS

256. Italian Baroque Art. ALP, CCI, CZ This course will trace the development of the Italian baroque in architecture, sculpture and painting. It will consider a variety of themes relevant to Baroque artistic production, including religious influences on the art of the period, namely the Reformation and the Catholic Counter Reformation; economic influences; central versus peripheral locations; issues of gender and sexuality; patronage; architectural site and meaning; urban planning and transformation; the artist, his workshop and rivalries; decoding the myths of artistic genius; and seventeenth-century primary sources. Instructor: Lanzoni. One course. C-L: Italian 256, Romance Studies 256, Medieval and Renaissance Studies 246

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 economic 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: Italian 261, Medieval and Renaissance Studies 233

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 242A, Visual and Media Studies 262A, International Comparative Studies

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 243A, Visual and Media Studies 263A, International Comparative Studies

265. Drawing Foundations in Early Modern Europe. ALP Through classroom lectures, museum visits, and studio practice, this course studies the place of drawing since its early modern theorization in the visual arts and in the artistic practice. Drawings can be records of visual observation, or of a speculative thought process; ways of working out ideas, and of presenting plans; they also achieve the status of independent art objects. Students will gain familiarity with drawing as an artistic medium related to major questions about art and society, while also learning fundamental and practical drawing skills that will give deeper insights into theory. Instructor: Caviglia, Fick. One course. C-L: Visual and Media Studies 256, Medieval and Renaissance Studies 240

268. Art & Architecture in Early Modern France. ALP, CCI, CZ A survey of French art and architecture in the early modern period, including castles, churches, prints & drawings, paintings, sculpture, and the decorative art objects considered in their social, economic, and political context; focus on 1422-1643; three thematic sections, organized chronologically: art and architecture relating to ceremonies and festivals, domestic and urban life, and worship to draw out relevant themes in the creation and use of works of art; programmed visits to Duke's Rubenstein Rare Books Room and Nasher Museum of Art to view some of these objects. Instructor: Galletti. One course. C-L: French 268, Medieval and Renaissance Studies 245

278. European Art 1760-1850. ALP, CCI, CZ The roots of modernity in European art: classicism, romanticism, and early realism. Impact of the enlightenment and French Revolution on European visual culture. Emergence of new publics for art and beginnings of a modern art market. Role of tradition: the impact of antiquity, northern legends and the middle ages. Religiosity and personal mythologies. Changing conceptions of nature, the body and artistic creativity. Artists include Blake, Fuseli, Turner, the Pre-Raphaelites, David, Ingres, Delacroix, Runge, Friedrich, the Nazarenes, Goya. Instructor: McWilliam. One course. C-L: Romance Studies 278, International Comparative Studies

279. European Art 1850-1900. ALP, CCI, CZ The second half of the nineteenth century in Europe with particular emphasis on realism, impressionism, postimpressionism, and symbolism in France, England, and America. Instructor: Antliff, McWilliam. One course. C-L: Romance Studies 279, International Comparative Studies

280. European Art 1900-1945. ALP, CCI, CZ Major artistic movements and theoretical aims of early modernism: fauvism, cubism, expressionism, futurism, constructivism, suprematism, dada, surrealism, deStijl, Bauhaus, and Neue Sachlichkeit in France, Italy, Germany, America. Instructor: Stiles. One course. C-L: Italian 384, Gender, Sexuality, and Feminist Studies 281

281S. Modernism and the Arts. ALP, CCI, CZ One course. C-L: see English 282S; also C-L: German 282S, Romance Studies 282S, Literature 282S

283. African American Art. ALP, CCI, CZ, R Emphasis on works derived from an Afro-United States cultural perspective. Major figures include Henry Ossawa Tanner, Aaron Douglas, Jacob Lawrence, Charles White, Elizabeth Catlett, Romare Bearden, Lois Mailou Jones, and others. Instructor: Powell. One course. C-L: African & African American Studies 227

284. The Political History of Modern Architecture: From Revolution through Neoliberalism. ALP, CCI, CZ Given the needs for labor, materials, and legal permissions, architects in the modern period by definition intersect with interests of power. This course explores the role of political institutions and ideologies in the history of modern architecture. While the course focuses on European and North American examples, we will also include key case studies of non-Euroamerican architecture and politics. The course provides a foundational knowledge of the history of modern architecture as well as how political institutions and ideologies have influenced that development. Instructor: Jaskot. One course. C-L: History 263, Political Science 263, Public Policy 287

285D. Modern Architecture. ALP, CCI, CZ The history of European and American architecture from

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

286. Contemporary Architecture. ALP, CCI, CZ 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 Imaginiers among the architects and designers considered. Political, ideological, aesthetic, and technical aspects of building investigated through primary texts. Instructor: Wharton. One course.

286D. Contemporary Architecture. ALP, CCI, CZ 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 Imaginiers among the architects and designers considered. Political, ideological, aesthetic, and technical aspects of building investigated through primary texts. Instructor: Wharton. One course.

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: Staff. One course. C-L: Gender, Sexuality, & Feminist Studies

290. Special Topics in Art History. Topics vary by semester. Instructor: Staff. One course.

290-1. Topics in Medieval Art and Architecture. 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. Topics vary from year to year. Consent of instructor required. (Taught in Italy.) Instructor: Staff. One course.

290S. Special Topics in Art History. Topics vary by semester. 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: Asian & Middle Eastern Studies 150, Visual and Media Studies 294, 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

298. History of Impressionism. ALP, CCI, CZ The evolution of the impressionist movement and postimpressionist reactions of the 1880s. Particular attention to the work of Manet, Degas, Monet, Renoir, and Pissarro. Instructor: Staff. One course. C-L: International Comparative 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: Staff. One course. C-L: Visual and Media Studies 303, Documentary Studies 303, International Comparative Studies 352

304. Cubism and Culture. ALP, CCI, CZ 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. One course.

305L. Virtual Museums: Theories and Methods of Twenty-First-Century Museums. ALP, R, STS The future of museums will be one of immateriality and interaction. Course focuses on how the “Internet of Things,” augmented reality technologies, new data analyses of artifacts will transform missions, roles, and goals of museums and collections. Core of course will be digital lab sessions focused on virtual reconstruction of lost heritage—e.g., museums and sites destroyed and damaged by ISIS and other conflicts in Iraq and the Middle East (Hatra, Nineveh, Nimrud, Baghdad). Instructor: Forte. One course. C-L: Visual Arts 305L, Visual and Media Studies 332L, Information Science + Studies 305L, Classical Studies 240L

306. Why Buildings Stand Up: A History of Construction Techniques from Antiquity to Modernity. CZ, STS The course provides a panorama of construction techniques from antiquity through modernity, spanning a broad geographical area, including Europe, the Mediterranean Basin, and Asia. The objective of the course is to ensure knowledge of different construction materials, techniques, and processes as well as to develop students’ analytical and research skills. Course materials will be organized thematically in sections dealing with building materials, such as wood, stone, bricks, concrete, steel, and reinforced concrete, as well as with structural choices, such as skeletal versus massive, hanging versus supporting, which will be discussed in relation to specific case studies. Instructor: Galletti. One course.

310. Museum Practicum I. ALP 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 staff students engage in practicum to gain first-hand knowledge of museum operations. Museum Practicum requires weekly meeting plus five hours per week working in assigned department, additional readings and assignments. Production of exhibition reviews, sample exhibition writing, blog posts, and final presentations. Instructor: McHugh. One course.

311. Museum Practicum II. ALP Additional depth or breadth of experience in museum work in the context of art-historical, ethical, philosophical, and economic issues related to the presentation of art in museums. Under the direction of museum staff, students engage in practicum to gain first-hand knowledge of museum operations. Museum Practicum II requires eight hours per week working in assigned department, additional readings and assignments. Students produce documents related to a museum department. Prerequisite: Art History 310. Instructor: McHugh. One course.

312A. Internship in New York. One course. C-L: see English 313A; also C-L: Theater Studies 214A, Visual and Media Studies 296A

312A-1. Internship in New York. C-L: see English 313A-1; also C-L: Theater Studies 214A-1, Visual and Media Studies 296A-1

313A. The Business of Art and Media. One course. C-L: see English 310A; also C-L: Visual and Media Studies 301A

315. Mapping History with Geographic Information Systems. CZ, STS One course. C-L: see Information Science + Studies 315; also C-L: Visual and Media Studies 304

317. The Body in Art in Early Modern Europe: Power and Limits of Corporeal Representations. ALP, CCI, CZ This course studies the artistic representations of the human body in many guises: aesthetic, political, social, cultural, and erotic. It analyses the different strategies artists deployed to develop rhetorics

of the body both physical and emotional. It considers different media (including painting, sculpture, drawings, prints, architecture, and gardens) and major theoretical frameworks (including feminist theory, phenomenology, social theory and somaesthetics). This course considers the body dynamically through composition, as object of investigation, as locus of meaning and through social understanding. Lectures and discussions are complimented by corporeal performances and improvisations. Instructor: Caviglia. One course. C-L: Romance Studies 317, Dance 317, Theater Studies 245, Medieval and Renaissance Studies 217

318SA. New York Scenes. ALP, R One course. C-L: see English 315SA; also C-L: Theater Studies 218SA, Gender, Sexuality, and Feminist Studies 315SA, African & African American Studies 318SA, Jewish Studies 315SA

334. Roman Spectacle. ALP, CCI, CZ, EI Gladiatorial 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: Visual and Media Studies 334, Classical Studies 354

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, Visual and Media Studies 336

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.

340S. Classical Sculpture. ALP, CZ, W Statues were the “other population” of Greece and Rome. Portraits of athletes, generals, kings, emperors lined streets and filled markets. Why? What do statues do for people setting them up, for people viewing them? Seminar explores place of statues in Greek and Roman society, and relationship between context, style, and meaning. Course approaches material thematically and contextually. Particular attention paid to changing physical, cultural, historical, political contexts in which statues were set up and in which they continued to operate for centuries. Instructor consent required. Instructor: Dillon. One course. C-L: Classical Studies 346S

341A. Art, Cultural Identity, Social Change: Political History of Cont Spanish Art: Goya to Global Society. ALP, CCI, CZ, FL One course. C-L: see Spanish 341A

342A. Dante and the Art of Hell. ALP, CZ, R One course. C-L: see Italian 342A; also C-L: Literature 342A, Medieval and Renaissance Studies 342A

343SA. Conservation and Management of the Material Heritage. CCI, CZ One course. C-L: see Classical Studies 343SA

344. Performance Art History and Theory. ALP, CCI, CZ, EI Performance Art History and 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: Visual and Media Studies 344, Information Science + Studies 275, Literature 222, Theater Studies 235, Gender, Sexuality, and Feminist Studies 276

345. African Art: From Royal Court to Contemporary Marketplace. ALP, CCI, CZ Explores

traditional, modern, and contemporary African art from the ever-shifting perspectives of prestige, power, and identity. The conceptual framework guiding this survey is both a broad introduction to the major artists and artworks of Africa across millennia, as well as probing specific questions about the changing definitions of African art, individual versus state identities in African art, and the impact of religion, colonization, and trade/commerce on African art. Instructor: Powell. One course. C-L: African & African American Studies 348, International Comparative Studies 223

347. Roman Coinage: The Materiality of an Ancient Economy. ALP, CCI, CZ One course. C-L: see Classical Studies 357

350. Representing the Artist in Film and Popular Culture. ALP Cultural constructions of the artist and the art world, using fictional and documentary film as starting point; the artist in literature; popular conceptions of artistic biography, mentality, and lifestyle—genius, gender, sexuality, madness, bohemianism; relationship between images of the artist in popular culture and methods within academic art history; the artist in cinema from Michelangelo to Warhol. No prerequisites. Instructor: McWilliam. One course. C-L: Visual and Media Studies 343

354SL. Digital Art History I: New Representational Technologies. Research and study in material culture and 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 presentation and interpretation of visual material through a series of interpretive and reconstructive technologies, including development of web pages, timelines, Photoshop, Illustrator, Trimble SketchUp, Google Maps, GIS. Uses test cases (archaeological site or urban/architectural site) to develop techniques of interpretation and representation. Instructor consent required. Instructor: Staff. One course. C-L: Visual and Media Studies 365SL

360D. What Is Beauty?. ALP, CCI, CZ, EI One course. C-L: see German 360D; also C-L: Literature 362D, English 362D

378. Chinese Buddhist Art. ALP, CCI, CZ, R Chinese sculpture, painting, and architecture in relation to Buddhist texts, practice, and ritual from the fourth through the ninth century C.E. Introduction to precedents in Indian and Central Asian Buddhist art. Emphasis on the relationship between Buddhist and non-Buddhist imagery. Instructor: Abe. One course. C-L: Visual and Media Studies 378

381D. Global Art Since 1945. ALP, CCI, CZ, EI Major avant-garde movements of the post-World War II era, with a concentration on the unprecedented changes in the mediums of art, its forms, impact on society and politics, and ethical role in shaping culture through painting and sculpture, conceptual and performance art, installation and new media, video, photography, and film. Instructor: Stiles. One course. C-L: Gender, Sexuality, and Feminist Studies 277D, International Comparative Studies 219D, Visual and Media Studies 382D, Ethics Elective

381S. Global Art Since 1945. ALP, CCI, CZ, EI Major avant-garde movements of the post-World War II era, with a concentration on the unprecedented changes in the mediums of art, its forms, impact on society and politics, and ethical role in shaping culture through painting and sculpture, conceptual and performance art, installation and new media, video, photography, and film. Instructor: Stiles. One course. C-L: Gender, Sexuality, and Feminist Studies 277S, International Comparative Studies 219S

383. The Black Atlantic. ALP, CCI, CZ The African diaspora—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 & African American Studies 329, International Comparative Studies 226

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. Topics vary by semester. Instructor: Staff. One course.

390-1. Topics in Renaissance Art. 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. 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.

390SL. Special Topics in Art History and Digital Visualization. Subjects, areas, or themes that embrace a range of disciplines of art-historical areas and the visualization of this information or material culture through digital technologies. Instructor consent required. Instructor: Staff. One course.

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. 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.

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 students in the senior year. 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. Open only to qualified students in the senior year. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

395S. Art History Methodology and Theory. ALP, CZ Undergraduate course discussing various theoretical approaches that have shaped disciplinary perspectives and practices in art history. Introduction to particular types of methodologies (e.g. 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 art history; selected contemporary debates. All seats in all sections reserved for Art History majors and second majors. Instructor: Staff. One course.

432S. From the Art of the Pleasure Quarters to Tokyo Pop. ALP, CCI, CZ, EI, R Starting in the bordellos of 17th-century Edo (now modern-day Tokyo) and spanning up through the kitsch of contemporary Japanese pop culture, this course examines the vibrant and often bawdy forms of Japanese print and visual culture. Introduction to Japanese printmaking practices and a forum for discussing critical issues related to sexuality, censorship, spectacle, satire, tourism, the supernatural, and the Asian experience of modernity. Investigates the spectacular worlds of the kabuki theater, sumo wrestling, and the “pleasure quarters” (the red-light district designated for licensed prostitution). Instructor: Weisenfeld. One course. C-L: Visual and Media Studies 432S

433S. Photography in the Americas: War, Tourism, Art, and Protest. ALP, CCI, CZ, FL One course. C-L: see Spanish 433S; also C-L: International Comparative Studies 459S, Visual and Media Studies 433S, Latin American Studies

453S. World of Gaming: Art, Theory, Technology, and Business of a Multi-Billion Dollar Global Industry. CCI, CZ, EI, SS, STS One course. C-L: see Asian & Middle Eastern Studies 455S; also C-L: Visual and Media Studies 455S, Literature 455S

454SL. Digital Art History II: New Representational Technologies Advanced. Team-based research and study in material culture and visual arts expressed by using new visual technologies to record, interrogate, and communicate complex sets of visual and physical data from urban and/or archaeological sites. More advanced techniques for presentation and interpretation of visual material through a series of interpretive and reconstructive technologies. Use test cases (archaeological site or urban/architectural site) to further develop techniques of interpretation and representation. Public facing presentation of data and results of research is aim

of final team-based project. Prerequisite: Art History 354SL/Visual and Media Studies 365SL. Instructor: Staff. One course. C-L: Visual and Media Studies 454SL

455S. Curatorial Practicum: Exhibition Development and Design. ALP The conceptualization and execution of museum exhibitions. Exploring theory and practicalities of exhibition conception, strategies, and approaches. Development of full exhibition proposals including checklists, exhibition text, exhibition design, fundraising, audience engagement, and programming. Visits to regional museums and galleries. Prerequisites: ARTHIST 310 and one of the following: ARTHIST 220, ARTHIST 221S or ARTHIST 222S. Instructor: Staff. One course.

460S. World War I and the History of Art & Architecture: Germany and Beyond. ALP, CCI, CZ Grounds the student in a thorough history of World War I and its impact on the arts in Germany, from the outbreak of war in 1914 through the 1918 Revolution and up to the 10th anniversary of war (1924). Compares this history with select examples from France, the Soviet Union, Italy, and elsewhere. Instructor: Jaskot. One course. C-L: German 460S, History 452S

489S. Capstone in Art History. ALP, CZ, EI, R Advanced seminar for Majors in Art History focusing on issues of history, presentation and display of art works. Working in and around the permanent collection at the Nasher Museum, projects involve researching specific works within the collection, devising new labeling and displays, conceiving small thematic exhibitions. Course challenges students to apply theoretical and historical knowledge accumulated in the Major in the practical environment of the museum. Instructor consent required. Prerequisite: Art History 101D, 102D or 104. Instructor: Staff. One course.

490-1. Topics in Nineteenth-Century European Art. 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). 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. 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. 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: Staff. 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.

495S. Honors Thesis Workshop. ALP, R, W Research and writing skills for students completing an honors thesis; bibliography, library and on-line research; use of archives; picture research and other research skills relating to the history of art; organization of material and preparation for writing; drafting, editing, and production of a finished text; use of scholarly conventions of referencing, footnoting etc. Compulsory for seniors preparing a graduation with distinction dissertation in art history. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 495S, Visual and Media Studies 495S

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: Hellenistic to Roman. ALP, CCI, CZ Seminar explores art of Greek East from 300 B.C.E to 300 C.E.; emphasis on understanding and analyzing production, style, materials, functions. Sculpture made for Hellenistic kings and cities, and changes in sculptural production with Roman conquest and imperial rule. Main categories of evidence: funerary monuments, portrait statues, heroic groups in baroque style, Dionysiac-themed decorative sculpture. Issues of stylistic categories, periodization, meaning and interpretation, theoretical perspectives expressed in ancient literary texts, and current scholarly debates and trends in study of Hellenistic and Roman art in a Greek context form an integral part of the seminar. Instructor: Dillon. One course. C-L: Classical Studies 542S

503S. Ancient Spain and Portugal: The Roman Provinces of the Iberian Peninsula. ALP, CCI, CZ One course. C-L: see Classical Studies 546S

504SL. Building Duke: An Architectural History of Duke Campus from 1924 to Today. ALP, R Research seminar and laboratory on the architectural history of Duke Campus based on original archival materials (photos, blueprints, contracts, letters, and financial records) preserved in Duke Library collections. Explores the variety of interpretative lenses in the field of architecture history, including, but not limited to, issues of style, patronage, labor, class, gender, and race. Analyzes notions of cultural identity as construed by Duke founders and administrators, and as imprinted on Duke Campus by its architects and landscape designers. Original research projects based on primary materials and digital visualizations of changes in the physical fabric of Duke Campus through time. Instructor: Galletti. One course. C-L: Historical and Cultural Visualization 504SL

505S. Visual Studies from the Global South. ALP, CCI, CZ, R This seminar shifts the geography of critical theory, introducing interdisciplinary approaches to visual culture and art formulated outside the northern academies of Europe and the United States. Diverse readings introduce how the visual is constituted in sites that have endured colonialism and globalization. Specific topics include: word and image; space, place, and site; media and new technologies; indigenous and Afro-diasporic philosophies; and the raced and gendered body. Instructor: Gabara. One course. C-L: Visual and Media Studies 505S, Romance Studies 505S

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 History 507A. Instructor: Van Miegroet. One course. C-L: Medieval and Renaissance Studies 504A, Visual and Media Studies 506A, International Comparative Studies

507A. History of Netherlandish Art and Visual Culture in a European Context. ALP, CCI, CZ, R Second half of Art History 506A-507A; required for credit for 506A. (Taught in the Netherlands.) Not open to students who have taken Art History 262A-263A. Instructor: Van Miegroet. One course. C-L: Medieval and Renaissance Studies 505A, Visual and Media Studies 507A, International Comparative Studies

508S. Art and Markets. ALP, CCI, R, SS Cross-disciplinary art history-visual culture-economics seminar. Analytical and applied historical exploration of cultural production and local art markets, and their emergence throughout Europe, Asia, and the Americas. Criteria for valuation of imagery or what makes art as a commodity desirable or fashionable. Visual taste formation, consumer behavior, and the role of art dealers as cross-cultural negotiants. Consent of instructor required. Instructor: Van Miegroet. One course. C-L: Visual and Media Studies 567S, Economics 321S, Markets and Management Studies

509S. Mimesis in Theory, Embodied Practice, and Literary Arts. ALP, CCI, CZ, FL One course. C-L: see French 507S; also C-L: English 581S, Literature 507S

515S. Representing Architecture: Means and Methods. ALP, R Projects- and skills-based studio course. Exploration of the historical and contemporary techniques and technologies used to visualize, communicate and

document, built/historic, proposed or hypothesized architecture and its construction. Focus on its application for art, architectural history and the humanities, as well as architectural design training. Topics covered include hand sketching, ortho/perspective representation, 2d CAD, 3d modeling and potential explorations of 3d immersion/VR or 3d printing/model-making. Presented in a series of short, topic-based studio exercises culminating in a final project, which may relate to the student's research interests. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 515S, Historical and Cultural Visualization 515S

520S. Roman Provincial Archaeology: The West. ALP, CCI, CZ, R One course. C-L: see Classical Studies 547S

522S. Curatorial Practices in a Global Context. ALP History and critical theories of all experimental art from conceptual, performance, and installation to video and multimedia, collectives, and ecological and bioart considered in a global context including international exhibitions, biennials, and new curatorial practices. Instructor: Stiles. One course. C-L: Visual and Media Studies 522S

535S. Camera Asia. ALP, CCI, CZ, EI, R Examines how the art and technology of photography have changed how we study and understand the historical past, with a focus on China, India, and Japan. Analyzes arrival of the camera as a historical event, along with photographers and studios. Evaluates ways in which the new technology was embraced, and considers how the camera reconfigured attitudes towards the body and gender relations, nation building, war, catastrophes and death. Instructor: Weisenfeld and Ramaswamy. One course. C-L: Visual and Media Studies 535S, History 530S, International Comparative Studies 531S

536S. Technology and New Media: Academic Practice. SS, STS One course. C-L: see Information Science + Studies 540S; also C-L: Visual and Media Studies 562S

537S. Computational Media, Arts & Cultures Proseminar. ALP, R, SS, STS One course. C-L: see Computational Media, Arts & Cultures 650S; also C-L: Information Science + Studies 650S, Literature 621S, Visual and Media Studies 561S, Policy Journalism and Media Studies

539. Black Camera: Still and Moving Images. ALP, EI This course interrogates still and moving images by and about people of African descent. Students enrolled in this course will consider film, photography, and media art. Together, we will examine documentary film, daguerreotype and archival photography, black cinema, and the cultural politics that render production, reception and circulation particular for black subjects. Instructor: Cobb. One course. C-L: Visual and Media Studies 545, African & African American Studies 539, Documentary 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: McWilliam or staff. One course.

542S. Information Archeology: Studies in the Nature of Information and Artifact in the Digital Environment. SS, STS One course. C-L: see Information Science + Studies 680S; also C-L: Visual and Media Studies 569S

543S. Methodology of Art History. ALP, CZ, R, W Various theoretical perspectives that have shaped 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.

544S. Soviet Art after Stalin 1956-1991. ALP, CCI, CZ One course. C-L: see Russian 561S

545S. The Archaeology of Death: Ritual and Social Structure in the Ancient World. ALP, CCI, CZ, R One course. C-L: see Classical Studies 543S

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. One course.

547L. Introduction to Digital Archaeology. CZ, R, STS One course. C-L: see Classical Studies 544L; also

C-L: Information Science + Studies 544L

548S. Japanese Design in a Global World. ALP, CZ, STS Japanese design encompasses everything from sushi to Hello Kitty—from Shiseido to Nintendo. This course examines the diverse and vibrant spheres of contemporary Japanese design culture across the globe. It is both an introduction to design practices and a forum for the critical evaluation of theoretical issues related to the larger field of design. Exploring the diverse fields of fashion, graphic design & packaging, industrial design, corporate branding, culinary culture, robotics, electronics, gaming, animation, and toys, the class will be introduced to the global impact of Japanese design on daily life around the world and the dynamic transnational culture in which it participates. Instructor: Weisenfeld. One course. C-L: Visual and Media Studies 548S

549S. Roman Coinage: The Materiality of the Roman Economy. CCI, CZ, R One course. C-L: see Classical Studies 540S

551SL. Advanced Digital Art History: 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: Dillon, Olson, or Szabo. One course. C-L: Visual and Media Studies 551SL, Information Science + Studies 551SL

552. Creative Industries and the Urban Environment. SS This Bass Connections course examines the relationship between urban development and cultural production in specific contemporary and historical contexts, past and present. Cultural industries generally include printing, publishing and multimedia art, audiovisual, phonographic and cinematographic productions, as well as art creation, marketing and design and local art markets in the urban environment. The aim is to analyze the impact of creative industries on the economic development of a city and what one can learn from historical and present-day examples through the analysis of data. Analytical methods, theories and practices will be interwoven throughout the course. Instructor consent required. Instructor: Van Mieghem. One course. C-L: Visual and Media Studies 542, Information Science + Studies 552

553S. Principles of Roman Archaeology. CCI, CZ, R One course. C-L: see Classical Studies 551S

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 & African American Studies 520S

555S. Art and the Holocaust: Architecture, Art, and Cultural Politics during the Nazi Period. ALP, CCI, CZ, EI This course will analyze the history of the genocide of the European Jews, and its connection to antisemitic art and cultural policy during the Nazi period. With a sound understanding of the development of oppressive policies against the Jews, and looking at a variety of media (painting, architecture, film, photography, design), the course will explore the complicated relationship between developing racist policies and the world war as they impacted and were in turn influenced by artists. Examines not only artists involved in the Nazi state, but also those who resisted in exile or were its victims. Instructor: Jaskot. One course. C-L: German 565S, Jewish Studies 555S, History 531S, Visual and Media Studies 525S

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. C-L: Visual and Media Studies 557S

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.

560SL. Roman Topography: Urban Life and Cityscapes in Ancient Rome. CCI, CZ, R, SS One course. C-L: see Classical Studies 556SL; also C-L: Visual and Media Studies 570SL

561. Etruscan Cities. CCI, CZ One course. C-L: see Classical Studies 560

580S. Historical and Cultural Visualization Proseminar 1. ALP, STS Interactivity and online content management through databases, collaborative blogs, and other systems. Data visualization based on textual, image, and quantitative sources. Basic techniques for virtual reality, simulations, augmented reality, and game-based historical and cultural visualization project development. Mini-projects based on existing and new research data from the Smith Media Labs and other sources. Best practices for digital research project planning and collaboration. Theoretical topics include: critical digital heritage, virtuality and culture, information aesthetics, hypermedia information design. Instructor consent required. Instructor: Olson or Szabo. One course. C-L: Historical and Cultural Visualization 580S, Visual and Media Studies 580S, Information Science + Studies 580S, Computational Media, Arts & Cultures 580S

581S. Historical and Cultural Visualization Proseminar 2. ALP, STS 2D and 3D imaging, modeling; raster and vector graphics sources, laser scanners, photogrammetric software, basic database structures. Digital mapping and GIS. Presentation strategies and best practices for the web (standards-compliant HTML/CSS/Javascript), multimedia (audio/video/animation), scholarly annotation, intellectual property. Theoretical, ethical issues in field of new media and digital humanities. Epistemological issues re: mediation and visualization, ethics of intellectual property, politics of geospatial visualization, digital materiality, affordances of new media narrativity. Instructor consent required. Instructor: Olson or Szabo. One course. C-L: Historical and Cultural Visualization 581S, Visual and Media Studies 581S, Information Science + Studies 581S, Computational Media, Arts & Cultures 581S

590S. Special Topics. Subjects, areas, or themes that embrace a range of disciplines or art-historical areas. Instructor: Staff. One course.

590S-1. Special Topics in Greek Art. Problems and issues in a specific period or genre of Greek material culture. Instructor consent required. Instructor: Dillon. One course. C-L: Classical Studies 590S

590S-11. Special Topics in Greek Archaeology. One course. C-L: see Classical Studies 590S-1

590S-3. Topics in Romanesque and Gothic Art and Architecture. Analysis of an individual topic. Subject varies from year to year. Consent of instructor required. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 590S-1

590S-4. Topics in Italian Renaissance Art. 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-5. Topics in African Art. Specific problems of iconography, style, connoisseurship, or a particular art tradition in African art. Subject varies from year to year. Consent of instructor required. Instructor: Powell. One course. C-L: African & African American Studies 590S-5

590S-6. Topics in Chinese Art. Problems and issues in a specific period or genre of Chinese art. Specific focus varies from year to year. Instructor: Abe. One course.

590S-7. Topics in Japanese Art. Problems and issues in a specific period or genre of Japanese art. Specific focus varies from year to year. Consent of instructor required. Instructor: Weisenfeld. One course.

590S-8. Topics in Modern Art. 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: Stiles. One course.

590S-9. Topics in Art since 1945. 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

590SL. Special Topics in Roman Archaeology. One course. C-L: see Classical Studies 590SL

620S. Models: Premodern to Posthuman. ALP, CZ, R Architectural models may be either powerful small-scale prototypes for buildings or weak copies of powerful archetypes. Consideration of variety of architectural models from urban projects to dollhouses allows historical and theoretical exploration of models' agency. Instructor consent required. Instructor: Wharton. One course. C-L: Visual and Media Studies 620S

630S. Phenomenology and Media. ALP, CCI, CZ, R, STS One course. C-L: see Literature 630S; also C-L: Information Science + Studies 630S, Visual and Media Studies 630S

632S. Whitehead, Bergson, James. ALP, CCI, CZ, EI One course. C-L: see Literature 632S; also C-L: Information Science + Studies 632S, Visual and Media Studies 632S

643S. Black Women, Black Freedom. ALP, CCI, CZ, EI One course. C-L: see African & African American Studies 643S

650S. Black Camera: Still and Moving Images. ALP, CCI This course interrogates still and moving images by and about people of African descent. Graduate students enrolled in this course will consider film, photography, and media art. Together, we will examine documentary film, daguerreotype and archival photography, black cinema, and the cultural politics that render production, reception and circulation particular for black subjects. Instructor: Cobb. One course. C-L: Visual and Media Studies 650S, African & African American Studies 531S, Documentary Studies

691. 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 by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

Historical and Cultural Visualization

Courses in Historical and Cultural Visualization (HCVIS)

504SL. Building Duke: An Architectural History of Duke Campus from 1924 to Today. ALP, R Research seminar and laboratory on the architectural history of Duke Campus based on original archival materials (photos, blueprints, contracts, letters, and financial records) preserved in Duke Library collections. Explores the variety of interpretative lenses in the field of architecture history, including, but not limited to, issues of style, patronage, labor, class, gender, and race. Analyzes notions of cultural identity as construed by Duke founders and administrators, and as imprinted on Duke Campus by its architects and landscape designers. Original research projects based on primary materials and digital visualizations of changes in the physical fabric of Duke Campus through time. Instructor: Galletti. One course. C-L: Art History 504SL

515S. Representing Architecture: Means and Methods. ALP, R Projects- and skills-based studio course. Exploration of the historical and contemporary techniques and technologies used to visualize, communicate and document, built/historic, proposed or hypothesized architecture and its construction. Focus on its application for art, architectural history and the humanities, as well as architectural design training. Topics covered include hand sketching, ortho/perspective representation, 2d CAD, 3d modeling and potential explorations of 3d immersion/VR or 3d printing/model-making. Presented in a series of short, topic-based studio exercises culminating in a final project, which may relate to the student's research interests. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 515S, Art History 515S

580S. Historical and Cultural Visualization Proseminar 1. ALP, STS Interactivity and online content management through databases, collaborative blogs, and other systems. Data visualization based on textual, image, and quantitative sources. Basic techniques for virtual reality, simulations, augmented reality, and game-based historical and cultural visualization project development. Mini-projects based on existing and new research data from the Smith Media Labs and other sources. Best practices for digital research project planning and collaboration. Theoretical topics include: critical digital heritage, virtuality and culture, information aesthetics, hypermedia information design. Instructor consent required. Instructor: Olson or Szabo. One course. C-L: Visual and Media Studies 580S, Information Science + Studies 580S, Art History 580S, Computational Media, Arts & Cultures 580S

581S. Historical and Cultural Visualization Proseminar 2. ALP, STS 2D and 3D imaging, modeling; raster and vector graphics sources, laser scanners, photogrammetric software, basic database structures.

Digital mapping and GIS. Presentation strategies and best practices for the web (standards-compliant HTML/CSS/Javascript), multimedia (audio/video/animation), scholarly annotation, intellectual property. Theoretical, ethical issues in field of new media and digital humanities. Epistemological issues re: mediation and visualization, ethics of intellectual property, politics of geospatial visualization, digital materiality, affordances of new media narrativity. Instructor consent required. Instructor: Olson or Szabo. One course. C-L: Visual and Media Studies 581S, Information Science + Studies 581S, Art History 581S, Computational Media, Arts & Cultures 581S

613S. Computational Media Studio in Advanced Digital Practice. ALP, STS Advanced digital practicum in interactive computational media as vehicle for creative and critical expression. Opportunity to synthesize previous course work in multimedia practice, web/graphic/motion design, 3D modeling/gaming, computer programming. In-depth exploration of computational media production as artistic practice through exercises, projects, and critiques. Acquisition and refinement of expertise in procedural and object-oriented programming, two- and three-dimensional graphics, data visualization, physical computing, AR/VR, and other emergent computational platforms. Sustained engagement with computational ethics. Instructor: Olson, Szabo, Wendell. One course. C-L: Visual and Media Studies 613S, Information Science + Studies 613S, Computational Media, Arts & Cultures 613S

Visual Arts

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.

Courses in Visual Arts (ARTSVIS)

21. General Art, Studio. Credit for advanced placement on the basis of the College Board examination in Studio Art. Does not count toward the major in visual arts. One course.

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

101. 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. Instructor consent required. Instructor: Staff. One course. C-L: Visual and Media Studies 101

107L. Design Fundamentals. ALP This course introduces the theory and practice of the fundamentals of design. Students explore critical thinking, visual literacy, elements and principles of design, color, composition, typography and other design topics to lay a basic foundation in the visual arts. Through lectures, readings and exercises students gain knowledge of visual concepts and vocabulary, explore formal elements and principles of design, analyze iconic design to understand what makes it great, and experience different physical and digital media. Hands-on assignments will inspire students, and challenge them to explore the practice of design and art, and to work towards successful solutions through experimentation. Instructor: Salvatella de Prada. One course.

115S. Introduction to Black and White Photography. ALP One course. C-L: see Documentary Studies 115S; also C-L: Visual and Media Studies 115S

119S. Introduction to Digital Photography. ALP An emphasis on digital photography, using the camera as a distinctive way of seeing and knowing. Class assignments accompanied by historical and theoretical readings, lectures, class discussions, and field trips. Final projects include thematic photographic series and an individual documentary essay. Prerequisites: camera and consent of instructor. Instructor: Rankin. One course. C-L: Documentary Studies 119S

120. Compositional Painting. ALP Studio practice in painting with individual and group criticism and discussion of important historical or contemporary ideas. Prerequisite: Visual Arts 199. Instructor: McIver. One course.

130. Experimental Drawing: Image and Bit Play. ALP Approaches the creation of digital image-making in collective play. Includes individual and group brainstorming using different digital and traditional analogue processes (drawing, painting, and collage) to study how the ludic (play) enables creative thinking and

experimentation in digital image manipulation. Database of images presented from multiple genres. Students work on outside assignment critiqued at end of class. Instructor: Seaman. One course. C-L: Visual and Media Studies 131

135. Experimental Sculpture and Installation Art. ALP This course explores ideas surrounding the creation of experimental sculpture. Employs non-traditional methods: “readymades,” non-traditional materials, conceptual processes, digital interaction and fabrication techniques (rapid prototyping), mixed media including video, and projection technologies. Content of work driven by individual student interests—sustainability, the anthropocene, feminism, social and political commentary, and/or more formal, abstract sculptural relations. Instructor consent required. Instructor: Seaman. One course. C-L: Information Science + Studies 135, Dance 135, Visual and Media Studies 135

140. Create, Innovate, Act: Creativity, Innovation, and Social Action. ALP Introductory course for first and second year undergraduates. This course bridges sciences, arts, and humanities, with focus on experiential knowledge and engagement with the everyday. Combines methods from broad range of areas based on creative inquiry and innovation. Students chose particular areas, or combination thereof, discussing their own research, inventions, artworks, compositions, performances, new media, or activist interventions. Specific skills developed at specialized maker spaces, labs, and studios. With exception of guest presentations, lectures delivered in video format to maximize class time production. Guest speakers include artists, activists, innovators, entrepreneurs, curators, and scholars. Instructor: Lasch. One course. C-L: Visual and Media Studies 140, Innovation and Entrepreneurship 140

160A. Duke-Administered Study Abroad: Special Projects in Visual Arts. ALP Projects differ by section. Instructor: Staff. One course.

171SA. Capturing the City: Documentary Photography in Berlin. ALP, CCI One course. C-L: see Documentary Studies 171SA; also C-L: German 222SA, Visual and Media Studies 171SA

190FS. Topics in Visual Arts. Subjects, areas, or themes that embrace art and visual culture. Open only to students in the Focus program. Instructor: Staff. One course.

198. Experimental Interface Design. ALP, STS Class explores issues surrounding embodied approaches to interface design. Articulates methodology for generating new forms of human/computer interface; includes workshops, discussions, student presentations, critiques and group brainstorming sessions. Content related to biomimetics; 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. Database potentials discussed and explored in service of developing new approaches to interface. Instructor consent required. Instructor: Seaman/Staff. One course. C-L: Visual and Media Studies 198, Information Science + Studies 198

199. Drawing. ALP Drawing as integrative tool where ideas and processes are 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. Instructor: Staff. One course.

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 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: Staff. One course.

204S. Medicine and the Vision of Documentary Photography. ALP One course. C-L: see Documentary Studies 206S; also C-L: Public Policy 377S, Visual and Media Studies 204S

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: Salvatella de Prada. One course. C-L: Visual and Media Studies 206, Documentary Studies, Information Science + Studies

208S. The Silent Film: An Introduction. ALP, STS The first thirty-five years of cinema as an emerging art form and mode of communication. Aesthetic, technical, and cultural aspects of the medium will be considered in historical context, from nineteenth-century experiments to nascent narrative conventions and the first disruptive avant-garde movements. Focus is on close reading of relevant films. Instructor: Staff. One course. C-L: Visual and Media Studies 208S, Documentary Studies 208S

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. Recommended prerequisite: Visual and Media Studies 206 or 396. Instructor: Salvatella de Prada. One course. C-L: Visual and Media Studies 351, Information Science + Studies 209

210. Sculpture. ALP Sculptural principles, processes, and issues introduced through lectures, readings, studio assignments, individual projects, and field trips. Consent of instructor required. Instructor: Staff. One course.

211. Intermediate Sculpture. ALP Studio practice in sculpture at the intermediate level. Group and individual discussion and critique. Prerequisite: Visual Arts 210 and consent of instructor. Instructor: Staff. One course.

212FS. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI One course. C-L: see Documentary Studies 209FS; also C-L: Visual and Media Studies 212FS, Education 209FS

212S. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI One course. C-L: see Documentary Studies 209S; also C-L: Visual and Media Studies 212S, Education 209S, Information Science + Studies

216S. Documentary Photography and the Southern Culture Landscape. ALP, CCI One course. C-L: see Documentary Studies 215S; also C-L: Visual and Media Studies 215S

220. Intermediate Painting. ALP Learn to paint with oil paint, using a primary palette and mixing secondary colors. Work from observation and learn how to see color. Paint still lives, self-portraits, interior spaces and exterior spaces. Course may be repeated for credit. Prerequisite: Visual Arts 120. This requirement can be waived by the instructor. Consent of instructor is required. Instructor: McIver. One course.

222S. The Photographic Portfolio. ALP Students actively seek specific photographic territory to explore and build a body of work. The resulting images are extensively work-shopped for sequencing. Particular emphasis on the making of high quality prints. Semester culminates in the production of finished portfolios in three formats: a printed form, a digital form, and an exhibition or installation form. Each student's evolving body of work to be informed by relevant precedents from the history of photography. These are brought into discussions of the work as the semester progresses, with an emphasis on examining bodies of photographic work that communicate something larger than a single idea. Instructor consent required. Instructor: Staff. One course. C-L: Documentary Studies 222S

223. Graphic Design in Multimedia: Theory and Practice. ALP Design history and theory. Lectures and projects focused on direct interaction with digitized elements of historically significant designs. Design elements and principles. Comparison of the language and tools of old and new media. Analysis of visual materials, discovering conceptual and stylistic connections, including Illustrator and Photoshop. Consent of instructor required. Instructor: Staff. One course. C-L: Visual and Media Studies 396, Information Science + Studies 396

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. Consent of instructor required. Instructor: Staff. One course. C-L: Visual and Media Studies 221

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 their

expressive potentials. Students develop a significant body of prints using these techniques. Instructor consent required. Instructor: Staff. One course.

229S. Experimental Filmmaking. ALP The history of avant-garde in film and video combined with production exercises. Instructor: Staff. One course. C-L: Visual and Media Studies 229S

232S. Small Town USA: Local Collaborations. ALP, CCI, R One course. C-L: see Documentary Studies 230S; also C-L: Public Policy 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

237. Book Art: Typography as Image. ALP Investigates use of text as vehicle for communication and visual form within book format. Typography, interaction of writing and page design, history of typography, writing and printed page, use of written form as work of art, book design, binding and how text as visual element interacts with and becomes the image. Prerequisite: Visual Arts 201 preferred. Instructor consent required. Instructor: Staff. One course. C-L: Visual and Media Studies 243

238. Digital Printmaking: Exploring Photo Silkscreen and Photoshop. ALP Explore different facets of photo-silkscreen process through development of digital imagery using a variety of digital approaches. Application of paralleling layering approaches found in image development and printing methods with image development in Adobe Photoshop and Illustrator, combining handmade and photo-silkscreen stencil-making methods. Different digital image making methods and silkscreen printing techniques in addition to serial image development. Prerequisite: Visual Arts 224 preferred. Instructor consent required. Instructor: Staff. One course.

240S. Color Photography: Fieldwork and Digital Color. ALP One course. C-L: see Documentary Studies 236S; also C-L: Visual and Media Studies 227S

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 media. 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: Staff. One course. C-L: Visual and Media Studies 397L, Information Science + Studies 294L, Policy Journalism and Media Studies

245S. Women in Visual Arts. ALP, CZ Through lectures, discussion and individual projects, this course considers the roles women have played in the art world—alone and in relation to men—as makers, subjects, patrons, and critics. It also explores issues of gender, masculinity and femininity. Students will also have the opportunity to work on selected objects at the Nasher as well as the Ackland Museum. Instructor: Caviglia. One course. C-L: Art History 245S, Gender, Sexuality, and Feminist Studies 245S

248S. Cinematography. ALP In-depth investigation of cinematographic techniques and principles for motion picture production. Exercises in both film and high definition digital video. Emphasis on advanced lighting techniques, lensing, camera mobility, set operations and close analysis of master works of cinematography. Instructor: Staff. One course. 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: Staff. One course. C-L: Visual and Media Studies 350S, Documentary Studies 250S

254S. Photography in Context. ALP, R One course. C-L: see Documentary Studies 245S; also C-L: Visual and Media Studies 252S, International Comparative Studies 245S

264S. Puppetry. ALP One course. C-L: see Theater Studies 264S

281S. Graphic Design in Motion. Motion Design is the creation of animated graphics using graphic design, typography, advertising, photography, animation, sound and filmmaking. Emphasis will be on design, conceptualization and ability to communicate ideas and work collaboratively. Learn language and principles of graphic design by developing a method for solving design problems, communicating ideas effectively, and creating professional motion design such as title credits, logo animation, and newsreel that can be integrated into film, life performance or web. Photoshop, Illustrator, After Effects, video editing and 3D software will be used. Instructor consent required. Instructor: Salvatella de Prada. One course. C-L: Visual and Media Studies 281S

290. Topics in Visual Arts. Subject varies from year to year. Consent of instructor required. Instructor: Staff. One course.

290S. Special Topics in Visual Arts. Subject varies from year to year. Instructor: Staff. One course.

291. Individual Project in the Visual Arts. 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. Instructor consent required. Instructor: Staff. One course.

295S. Arts Entrepreneurship. One course. C-L: see Music 295S; also C-L: Innovation and Entrepreneurship 295S, Dance 201S, Visual and Media Studies 295S, Theater Studies 312S, Documentary Studies 295S

303S. Writing the Short Film. ALP, W In-depth study of the short format movie. Development of short film concept and script, including pre-production, storyboarding, and look books. Instructor: Hawkins. One course. C-L: Visual and Media Studies 338S

305L. Virtual Museums: Theories and Methods of Twenty-First-Century Museums. ALP, R, STS The future of museums will be one of immateriality and interaction. Course focuses on how the “Internet of Things,” augmented reality technologies, new data analyses of artifacts will transform missions, roles, and goals of museums and collections. Core of course will be digital lab sessions focused on virtual reconstruction of lost heritage—e.g., museums and sites destroyed and damaged by ISIS and other conflicts in Iraq and the Middle East (Hatra, Nineveh, Nimrud, Baghdad). Instructor: Forte. One course. C-L: Art History 305L, Visual and Media Studies 332L, Information Science + Studies 305L, Classical Studies 240L

312S. Documentary Video Production Workshop. ALP One course. C-L: see Documentary Studies 312S; also C-L: Visual and Media Studies 313S

316S. Activating the Archive: Archival Research as Documentary Practice. ALP, EI, R One course. C-L: see Documentary Studies 316S; also C-L: Visual and Media Studies 314S

317S. Movement in Question: Introduction to Critical Dance Studies. ALP, CCI, CZ, R, W One course. C-L: see Dance 318S; also C-L: Theater Studies 320S

318S. Photo Workshop. ALP One course. C-L: see Documentary Studies 318S; also C-L: Visual and Media Studies 333S

320. Advanced Painting. ALP In advanced painting you will learn how to develop conceptual ideas by using the elements of art (line, color, harmony, repetition, value, texture, composition, and rhythm) to visually communicate. We will focus on developing meaningful paintings that conceptually address issues or ideas that are important to you. Prerequisite: Visual Arts 220. Instructor: McIver. One course.

322S. Motion Graphics for Film and Video. ALP, STS An exploration of techniques and theoretical approaches to motion graphics, animation and post-production effects in film and video. Readings and screenings will lead to student-produced exercises through exposure to applications in the Adobe Creative Cloud and digital editing software. Instructor: Staff. One course. C-L: Visual and Media Studies 322S, Documentary Studies 323S

325S. Visiting Filmmaker Master Courses: Special Topics. ALP One course. C-L: Visual and Media Studies 379S, Documentary Studies 285S

326S. 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: Staff. One course. C-L: Visual and Media Studies 271S, Information Science + Studies

328. 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: Staff. One course. C-L: Visual and Media Studies 222, Information Science + Studies 211

336S. Unraveling Paradise: Examining the Mythical Ideal Through Art and Documentary of the Caribbean. ALP, CCI, CZ One course. C-L: see Documentary Studies 336S; also C-L: Visual and Media Studies 367S, Latin American Studies 336S

337S. Articles of Truth: Creating Culture through Multimedia. ALP, CCI One course. C-L: see Documentary Studies 337S; also C-L: Visual and Media Studies 372S

340S. 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, Visual and Media Studies 340S

350S. Sound for Film and Video. ALP Theory and practice of sound recording techniques and strategies for film and video. Focus on sound/image relationship, sound design and sound acquisition. Screenings and readings will reinforce practice exercises. Instructor: Staff. One course. C-L: Documentary Studies 353S, Visual and Media Studies 339S

352S. Documentary Publishing from Gutenberg to the Web: The Vanishing Point Course. ALP, CCI, R, SS, STS One course. C-L: see Documentary Studies 352S; also C-L: Policy Journalism and Media Studies 352S, Visual and Media Studies 352S

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, storytelling, and editing. Instructor: Staff. One course. C-L: Documentary Studies 357S, Visual and Media Studies 362S

357S. Multimedia Documentary: Editing, Production, and Publication. ALP One course. C-L: see Documentary Studies 360S; also C-L: Visual and Media Studies 348S, Innovation and Entrepreneurship 242S

360A. Duke-Administered Study Abroad: Advanced Special Projects in Visual Arts. ALP, CCI Projects differ by section. Instructor: Staff. One course.

361S. Photographic Memory: Photo Albums, Photobooks, & Zines. ALP One course. C-L: see Documentary Studies 361S; also C-L: Visual and Media Studies 361S

364S. Web Design and Narrative: Artists, Documentarians, Art Historians, and Entrepreneurs. ALP, R One course. C-L: see Documentary Studies 354S; also C-L: Information Science + Studies 354S, Visual and Media Studies 364S

366S. Human Rights and Documentary: Aesthetics, Ethics, History. ALP, CZ One course. C-L: see Documentary Studies 366S; also C-L: Public Policy 388S, History 398S, Visual and Media Studies 368S, Human Rights Program-Franklin Humanities Institute 366S, Human Rights

368S. The View Camera: Black and White Large Format Photography. ALP One course. C-L: see Documentary Studies 368S; also C-L: Visual and Media Studies 373S

371S. The Choreographic Mind: Order, Disorder, Organization, Relations. ALP, CCI, CZ, R One course. C-L: see Dance 370S

375S. Recycled Cinema. ALP Found footage filmmaking, cinematic appropriation, the use of archival materials in documentaries, and current day internet mashups. Covering early cinema, experimental and documentary cinema, television, and the internet. Key emphasis on practice based assignments with a concurrent focus on the historical impact of the field from seminal moments to the contemporary moment through films and readings on the subject. Prerequisite: 100-level or above Visual Arts course, or permission of instructor. Instructor: Kaul. One course. C-L: Visual and Media Studies 375S, Documentary Studies 375S, Literature 373S

381S. Graphic Design in Motion. ALP Motion design is the creation of animated graphics using graphic design, typography, advertising, photography, animation, sound and filmmaking. Emphasis will be on design, conceptualization and ability to communicate ideas and work collaboratively. Learn language and principles of graphic design by developing a method for solving design problems, communicating ideas effectively, and creating professional motion design such as title credits, logo animation, and newsreel that can be integrated into film, life performance or web. Photoshop, Illustrator, After Effects, and video editing software will be used. Prerequisite: one of the following: Visual Arts 102, 206, 223, or 326S, or Arts of the Moving Image 350S or 357S. Instructor: Salvatella de Prada. One course. C-L: Visual and Media Studies 381S

390S. Special Topics in Visual Arts. Subject varies from year to year. One course. Instructor: Staff. One course.

391. Independent Project in the Visual Arts. 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. Instructor consent required. Instructor: Staff. One course.

426. Advanced Printmaking: The Printed Installation. ALP Students will explore how print media engage with physical space. Using multiples made from different print processes, students will create objects and installations made from their prints. Projects will evolve from constructing dimensional prints to collaborating to build a room installation with prints. Experimentation by printing on different surfaces is highly encouraged. Recommended prerequisite: prior printmaking coursework. Instructor: Fick. One course.

435. Experimental Sculpture and Installation Art. ALP This course explores ideas surrounding the creation of experimental sculpture. employs non-traditional methods: "readymades," non-traditional materials, conceptual processes, digital interaction and fabrication techniques (rapid prototyping), mixed media including video, and projection technologies. Content of work driven by individual student interests, sustainability, the anthropocene, feminism, social and political commentary, and/or more formal, abstract sculptural relations. Instructor consent required. Instructor: Seaman. One course. C-L: Information Science + Studies 436, Dance 435, Visual and Media Studies 434

450S. Narrative Projects. ALP Development and production of short narrative film projects. Project-based course taking short film concepts through script development, pre-production, production and post-production. Prior video production experience recommended. Instructor: Haverkamp. One course. C-L: Visual and Media Studies 450S

451S. Filming Art. ALP Practice-based production course examining the filmic realization and visualization of the artistic process. Screenings of bio-pics, documentaries and experimental films focusing on artists and various art forms complement readings and hands on production exercises that will prepare students to undertake their own short video portrait of an artist or work of art. Instructor: Gibson. One course. C-L: Visual and Media Studies 451S, Documentary Studies 451S

490S. Special Topics in the Visual Arts. 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.

495S. Honors Thesis Workshop. ALP, R, W Research and writing skills for students completing an honors thesis; bibliography, library and on-line research; use of archives; picture research and other research skills relating to the history of art; organization of material and preparation for writing; drafting, editing, and production of a finished text; use of scholarly conventions of referencing, footnoting etc. Compulsory for seniors preparing a graduation with distinction dissertation in art history. Instructor consent required. Instructor: Staff. One course. C-L: Art History 495S, Visual and Media Studies 495S

496S. Visual Arts Practice and Cinematic Arts Concentration Senior Capstone. ALP Senior capstone seminar in advanced research in Visual Arts practice and theory, Cinematic Arts practice and theory. Capstone requires the completion of major research project or body of work, participation in regular critiques,

and presentation of work at a capstone exhibition. Visual Arts students work in any given media or combination thereof. Cinematic Arts Concentration students focus on the research and/or production of works in film, video, animation, or any time-based media. Course is structured around joint critiques and guest presentations, fostering an interdisciplinary environment representative of contemporary art contexts and professional practice. Instructor: Gibson, Kaul, Lasch, Salvatella, Wendell. One course. C-L: Visual and Media Studies 496S

497S. Advanced Visual Practice. ALP Majors in the fall of their senior year work on independent projects in a group situation. Students meet weekly with professor teaching course to discuss progress and monthly with full Visual Arts and Visual and Media Studies faculty for critiques. This course serves as anchor course for students participating in Graduation with Distinction in Visual Arts and those Graduation with Distinction students in Visual and Media Studies with a practice-based component to their project. Initial development of projects during the fall semester, brought to completion in the Capstone course in spring. Instructor consent required. Instructor: Staff. One course. C-L: Visual and Media Studies 497S

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. (Neosentience) Body as Electrochemical 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 + Studies 666S

515S. Representing Architecture: Means and Methods. ALP, R Projects- and skills-based studio course. Exploration of the historical and contemporary techniques and technologies used to visualize, communicate and document, built/historic, proposed or hypothesized architecture and its construction. Focus on its application for art, architectural history and the humanities, as well as architectural design training. Topics covered include hand sketching, ortho/perspective representation, 2d CAD, 3d modeling and potential explorations of 3d immersion/VR or 3d printing/model-making. Presented in a series of short, topic-based studio exercises culminating in a final project, which may relate to the student's research interests. Instructor consent required. Instructor: Staff. One course. C-L: Art History 515S, Historical and Cultural Visualization 515S

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. Instructor: Lasch. One course. C-L: Visual and Media Studies 554S, Sociology 636S

556S. Poverty and the Visual. ALP, CCI, CZ Relationship between art, visual culture, and poverty from 1950s to present across cultures. Readings across broad range of texts in humanities and social sciences. Research, visual analyses, and student productions based on a broader understanding of poverty as a philosophical, economic, social, and cultural concept. Three-part definition of poverty includes: special focus on cultural contributions of grassroots social movements and impoverished sectors of global society, poverty as an intentional set of aesthetic or cultural constraints, and poverty as a critical term to understand historical and contemporary limitations of visuality. Instructor consent required. Instructor: Lasch. One course. C-L: Visual and Media Studies 570S, Sociology 556S

564S. Physical Computing. QS, STS Seminar in physical computing, creative coding, and the emerging artistic possibilities of the Internet of Things. Emphasis on the medial physicality of computation, and exploration of interfaces to the computational that depart from the keyboard, mouse, and screen. Discussion of the social implications of "smart" objects. Hands-on development of individual and group projects using Arduino, an extension of C/C++, internet-enabled microprocessors, and an array of analog and digital sensors and actuators. Topics also include networking, communication protocols, circuit design, and physical

prototyping. Instructor: Olson. One course. C-L: Information Science + Studies 555S, Visual and Media Studies 564S, Computational Media, Arts & Cultures 564S

571S. Art as Work: Valuing Labor in the Arts. ALP, CCI, CZ, EI, R One course. C-L: see Dance 561S; also C-L: Literature 525S, Visual and Media Studies 571S

575S. Generative Media Authorship - Music, Text & Image. ALP Covers Generative Media in all its forms. Lectures, workshops, discussions, one semester-length project, shorter individual exercises and readings. Interdisciplinary Graduate Seminar with advanced undergraduates and MFA students with permission of instructor. Instructor: Seaman and Supko. One course. C-L: Visual and Media Studies 575S, Information Science + Studies 575S, Music 575S, Computational Media, Arts & Cultures 575S

590S. Special Topics in the Visual Arts. Subjects, areas, or themes that embrace a range of disciplines or visual art areas. Instructor: Staff. One course.

599. Bookmaking: The Hand Printed Book. ALP, R Using printmaking and photography as a vehicle for the development of imagery, students will focus on the creation of a hand printed artist book throughout the semester. Information driving the imagery and/or text will be researched and displayed in bound, editioned copies of their book at the end of the semester. Prior bookmaking and printmaking coursework/experience is required, in addition to knowledge of Adobe Photoshop and Illustrator. Instructor consent required. Instructor: Staff. One course.

605. Intermediate Drawing. This course 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. Instructor: Staff. One course.

630. Projections in Time: The Still and Moving Image. ALP, R Project-based studio course exploring time through film, 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 film, 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. Prerequisite: Two 200-level or above photography or film production classes. Instructor consent required. Instructor: Staff. One course. C-L: Documentary Studies 630, Visual and Media Studies 629

640S. Expanded Cinema: Cinema Outside the Movie Theater. ALP This project-based course will explore moving image installation practices beyond the movie theater including alternative public spaces, devices, museums, white cubes and back boxes. The course will simultaneously examine relevant artworks in the context of their diverse histories and attendant theories, from early cinema devices, through works termed as Expanded Cinema around the 1970s, to current new media manifestations. Students will focus on developing moving image installation projects of their own, to be realized at various campus locations. Open to seniors and graduate students. Prerequisite: Two 200-level or above photography or film production classes. Instructor: Kaul. One course. C-L: Visual and Media Studies 640S, Documentary Studies 640S, Literature 545S

641SL. Narrative Practice in Global Art Cinema. ALP, CCI Advanced in-depth examination of alternative narrative and doc-fiction practices emerging from national cinemas around the world. Intended for advanced undergraduate and graduate students with prior production experience. Screenings and readings related to significant national cinema movements and practitioners will inform production exercises, writing assignments and a final moving image project. Instructor: Gibson. One course. C-L: Visual and Media Studies 641SL

655S. The Photographic Portfolio. ALP Students identify photographic territory to explore and build a body of work. Images are extensively work-shopped for sequencing. Particular emphasis on the making of high quality prints. Semester culminates in the production of finished portfolios in three formats: print, digital, and exhibition or installation. Student's body of work to be informed by relevant precedents from history of photography, with an emphasis on identifying bodies of photographic work that communicate something larger than a single idea. Instructor consent required; this is the same course as Visual Arts 455, with additional graduate level work required. Instructor: Staff. One course.

690S. Special Topics in the Visual Arts. Subject varies from year to year. Instructor: Staff. One course.

693. Individual Research Independent Study. **R** Advanced research in Visual Arts practice. Consent of instructor required. Instructor: Staff. One course.

694. Individual Research Independent Study in the Visual Arts. **R** Advanced research in Visual Arts Practice. Instructor consent required. Instructor: Staff. One course.

Visual and Media Studies

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 enable 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.

A major in visual and media studies with a concentration in cinematic arts is newly available, as well as a minor in cinematic arts.

Courses in Visual and Media Studies (VMS)

89S. First-Year Seminar. Topics vary. Open only to first-year students. Instructor: Staff. One course.

101. 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. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 101

103. Traditions in Documentary Studies. **ALP, CCI** One course. C-L: see Documentary Studies 101; also C-L: International Comparative Studies 111

106S. The Documentary Experience: A Video Approach. **ALP, R, SS** One course. C-L: see Documentary Studies 105S; also C-L: Cultural Anthropology 106S, History 125S, Political Science 105S, Public Policy 170S, Policy Journalism and Media Studies

115S. Introduction to Black and White Photography. **ALP** One course. C-L: see Documentary Studies 115S; also C-L: Visual Arts 115S

125L. Foundations of Game Design. One course. C-L: see Information Science + Studies 125L

130. Anthropology and Film. **SS** One course. C-L: see Cultural Anthropology 130; also C-L: International Comparative Studies 104, Documentary Studies

131. Experimental Drawing: Image and Bit Play. **ALP** Approaches the creation of digital image-making in collective play. Includes individual and group brainstorming using different digital and traditional analogue processes (drawing, painting, and collage) to study how the ludic (play) enables creative thinking and experimentation in digital image manipulation. Database of images presented from multiple genres. Students work on outside assignment critiqued at end of class. Instructor: Seaman. One course. C-L: Visual Arts 130

135. Experimental Sculpture and Installation Art. **ALP** This course explores ideas surrounding the creation of experimental sculpture. Employs non-traditional methods: “readymades,” non-traditional materials, conceptual processes, digital interaction and fabrication techniques (rapid prototyping), mixed media including video, and projection technologies. Content of work driven by individual student interests—sustainability, the anthropocene, feminism, social and political commentary, and/or more formal, abstract sculptural relations. Instructor consent required. Instructor: Seaman. One course. C-L: Visual Arts 135, Information Science + Studies 135, Dance 135

140. Create, Innovate, Act: Creativity, Innovation, and Social Action. **ALP** Introductory course for first and second year undergraduates. This course bridges sciences, arts, and humanities, with focus on

experiential knowledge and engagement with the everyday. Combines methods from broad range of areas based on creative inquiry and innovation. Students chose particular areas, or combination thereof, discussing their own research, inventions, artworks, compositions, performances, new media, or activist interventions. Specific skills developed at specialized maker spaces, labs, and studios. With exception of guest presentations, lectures delivered in video format to maximize class time production. Guest speakers include artists, activists, innovators, entrepreneurs, curators, and scholars. Instructor: Lasch. One course. C-L: Visual Arts 140, Innovation and Entrepreneurship 140

141S. Audiovisual Cultures in East Asia: Film, Music, and Other Media. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 141S

170. Advertising and Society: Global Perspective (DS4). CCI, SS One course. C-L: see Cultural Anthropology 170; also C-L: Sociology 160, Linguistics 170, International Comparative Studies 169, Markets and Management Studies, Policy Journalism and Media Studies, Gender, Sexuality, & Feminist Studies

170D. Advertising and Society: Global Perspective (DS4). CCI, SS One course. C-L: see Cultural Anthropology 170D; also C-L: Sociology 160D, Linguistics 170D

171SA. Capturing the City: Documentary Photography in Berlin. ALP, CCI One course. C-L: see Documentary Studies 171SA; also C-L: German 222SA, Visual Arts 171SA

190A. Duke Administered Study Abroad: Special Topics in Visual Studies. Topics differ by section. Instructor: Staff. One course.

190S. Special Topics in Visual and Media Studies. Subjects, areas, or themes that embrace a range of disciplines that relate to visual and media studies. Instructor: Staff. One course.

198. Experimental Interface Design. ALP, STS Class explores issues surrounding embodied approaches to interface design. Articulates methodology for generating new forms of human/computer interface; includes workshops, discussions, student presentations, critiques and group brainstorming sessions. Content related to biomimetics; 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. Database potentials discussed and explored in service of developing new approaches to interface. Instructor consent required. Instructor: Seaman/Staff. One course. C-L: Visual Arts 198, Information Science + Studies 198

199. LGBTQ/Queer Cinema and Cultural Production. ALP, SS This class investigates LGBTQ identities, communities and relationships pre, post, and during the Stonewall era through cinema, television, and new media. We will also explore constructions of sexuality, gender, class, race, and nationalism within the context of LGBTQ transnational film cultures and scholarship. Instructor: Staff. One course. C-L: Literature 199, Gender, Sexuality, and Feminist Studies 199

202. Imagining Europe: Arts, Culture, Politics. ALP, CCI, CZ One course. C-L: see French 429; also C-L: Literature 274, Art History 202

202D. 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.

204S. Medicine and the Vision of Documentary Photography. ALP One course. C-L: see Documentary Studies 206S; also C-L: Public Policy 377S, Visual Arts 204S

205S. Introduction to Performance Studies. ALP, CCI, W One course. C-L: see Theater Studies 202S; also C-L: Literature 202S, Cultural Anthropology 219S, English 202S

206. Digital Imaging. ALP Photoshop and Illustrator used to introduce single and serial images for print and web output. Consent of instructor required. Instructor: Salvatella de Prada. One course. C-L: Visual Arts 206, Information Science + Studies, Documentary Studies

207S. Children's Self Expression: Literacy Through Photography. ALP, EI, SS One course. C-L: see

Documentary Studies 224S; also C-L: Education 244S

208S. The Silent Film: An Introduction. ALP, STS The first thirty-five years of cinema as an emerging art form and mode of communication. Aesthetic, technical, and cultural aspects of the medium will be considered in historical context, from nineteenth-century experiments to nascent narrative conventions and the first disruptive avant-garde movements. Focus is on close reading of relevant films. Instructor: Staff. One course. C-L: Visual Arts 208S, Documentary Studies 208S

209S. Representations of 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 215S, Classical Studies 243S

210S. Global Digital Media: Critical and Comparative Approaches to Information Technologies. ALP, CCI, R, SS, STS One course. C-L: see Information Science + Studies 212S

211S. Children and the Experience of Illness. ALP, SS One course. C-L: see Documentary Studies 202S; also C-L: Public Policy 395S, Child Policy Research

212FS. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI One course. C-L: see Documentary Studies 209FS; also C-L: Visual Arts 212FS, Education 209FS

212S. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI One course. C-L: see Documentary Studies 209S; also C-L: Visual Arts 212S, Education 209S, Information Science + Studies

213S. Documenting Black Experiences. ALP, CCI, CZ One course. C-L: see Documentary Studies 350S; also C-L: African & African American Studies 225S, Cultural Anthropology 262S, Public Policy 387S, International Comparative Studies 368S, Human Rights Program-Franklin Humanities Institute 350S, Human Rights

214. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240; also C-L: Information Science + Studies 242, Literature 249, International Comparative Studies 265, Political Science 248

214S. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240S; also C-L: Literature 249S, Political Science 248S, International Comparative Studies 265S, Cultural Anthropology 440S, Information Science + Studies 242S, Information Science + Studies

215S. Documentary Photography and the Southern Culture Landscape. ALP, CCI One course. C-L: see Documentary Studies 215S; also C-L: Visual Arts 216S

216. Anime: Origins, Forms, Mutations. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 161

217S. Sound, Music, and the Moving Image. ALP, CCI, CZ, W One course. C-L: see Music 129S; also C-L: International Comparative Studies

218S. Sociology through Photography. ALP, SS One course. C-L: see Documentary Studies 227S; also C-L: Sociology 352S

220S. Ready for Prime Time: Writing the Dramatic TV Episode. ALP, W One course. C-L: see Theater Studies 285S; also C-L: English 224S

221. 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. Consent of instructor required. Instructor: Staff. One course. C-L: Visual Arts 224

221SA. The Economics of Art (The Chicago Scene). ALP, CCI One course. C-L: see Theater Studies 217SA; also C-L: Dance 279SA, Music 217SA, Innovation and Entrepreneurship 217SA, Markets and Management Studies

222. 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: Staff. One course. C-L: Visual Arts 328, Information Science + Studies 211

223. Melodrama East and West. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 211; also C-L: Gender, Sexuality, and Feminist Studies 279

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 389S, Policy Journalism and Media Studies

225SL. Revolution on Screen: Filming Conflict in the Middle East. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 281SL; also C-L: International Comparative Studies 338SL

226S. Space-Body-Image. ALP, CCI One course. C-L: see Gender, Sexuality, and Feminist Studies 229S; also C-L: Literature 229S

227S. Color Photography: Fieldwork and Digital Color. ALP One course. C-L: see Documentary Studies 236S; also C-L: Visual Arts 240S

229S. 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

230. Black Popular Culture. ALP, CCI, CZ One course. C-L: see African & African American Studies 331

231. Indian Cinema. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 151; also C-L: Literature 211

232. Japanese Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 161; also C-L: Literature 213

233. Religion in American Life. CZ, EI One course. C-L: see Religion 237; also C-L: Ethics Elective

234. World of Korean Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 171; also C-L: Literature 212, Cultural Anthropology 255

235. Master Filmmakers of Chinese Cinemas. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 129; also C-L: Literature 214

236. 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. C-L: Asian & Middle Eastern Studies 262

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

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

239. Graphic Asia: Visual Storytelling and Global Asian/American Networks. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 436; also C-L: International Comparative Studies 264

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

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

242D. History of Art Markets. R, SS, STS Analytical survey and discussion 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 the interface of Economics, Art History, Law and Visual Studies. Instructor: Van Miegroet. One course. C-L: Art History 231D, Economics 344D

243. Book Art: Typography as Image. ALP Investigates use of text as vehicle for communication and visual form within book format. Typography, interaction of writing and page design, history of typography, writing and printed page, use of written form as work of art, book design, binding and how text as visual element interacts with and becomes the image. Prerequisite: Visual Arts 201 preferred. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 237

244D. From Caricature to Comic Strip. ALP, CCI 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; cartooning and the assault on power; violence against cartoonists and issues of freedom of speech; growth of specialized juvenile graphic magazines and the development of the strip cartoon. Instructor: McWilliam. One course. C-L: Art History 244D

246A. The Creative Brain: Literature, Arts & Cognition. ALP, NS, STS One course. C-L: see French 342A; also C-L: Neuroscience 242A

247. Global Culture. CCI, SS One course. C-L: see Cultural Anthropology 210; also C-L: Markets and Management Studies

248. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 143; also C-L: Literature 217, Jewish Studies 241, Gender, Sexuality, and Feminist Studies 214, Islamic Studies

249. Building Global Audiences. STS One course. C-L: see Innovation and Entrepreneurship 250; also C-L: Information Science + Studies 250

250. 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: Art History 234

251S. Indigenous Journeys in South Asian Film and Literature. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 252S; also C-L: Literature 250S

252S. Photography in Context. ALP, R One course. C-L: see Documentary Studies 245S; also C-L: Visual Arts 254S, International Comparative Studies 245S

253. Russian Revolutionary Cinema. CCI, CZ One course. C-L: see History 281; also C-L: Russian 381, Marxism and Society

254. Representing Slavery. ALP, CCI, EI, SS One course. C-L: see African & African American Studies 314

256. Drawing Foundations in Early Modern Europe. ALP Through classroom lectures, museum visits, and studio practice, this course studies the place of drawing since its early modern theorization in the visual arts and in the artistic practice. Drawings can be records of visual observation, or of a speculative thought process; ways of working out ideas, and of presenting plans; they also achieve the status of independent art objects. Students will gain familiarity with drawing as an artistic medium related to major questions about art and society, while also learning fundamental and practical drawing skills that will give deeper insights into theory. Instructor: Caviglia, Fick. One course. C-L: Art History 265, Medieval and Renaissance Studies 240

257L. Web Project Design and Development. QS One course. C-L: see Information Science + Studies 241L

258. Spies Like Us: Screening Cold War Espionage. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 270; also C-L: Literature 225, International Comparative Studies 262

259A. The Arts in New York: A Thematic Approach. ALP, R, W One course. C-L: see English 312A; also C-L: Theater Studies 213A, Public Policy 312A

260S. Cinematography. ALP In-depth investigation of cinematographic techniques and principles for motion picture production. Exercises in both film and high definition digital video. Emphasis on advanced lighting techniques, lensing, camera mobility, set operations and close analysis of master works of cinematography. Instructor: Staff. One course. C-L: Documentary Studies 281S, Visual Arts 248S

261S. 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. Instructor: Staff. One course. C-L: Theater Studies 370S, Information Science + 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: Art History 262A, Medieval and Renaissance Studies 242A, International Comparative Studies

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: Art History 263A, Medieval and Renaissance Studies 243A, International Comparative Studies

264. 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. Instructor: Staff. One course. C-L: Documentary Studies 270, Political Science 276, Public Policy 374, Arts & Sciences IDEAS themes and University Course 206

265. History of Documentary Film. ALP, CCI Introduction to the history, theory, and styles of nonfiction film and video. Transformation in technologies and their influence on form, from actuality films to contemporary digital documentaries. Documentary's marginal status and surprising commercial appeal; the mixing of fiction and nonfiction strategies in cultural construction. Use of documentary as a tool for exploring individual identity, filmmaker/subject relationships, and fomenting political change. Instructor: Staff. One course. C-L: Documentary Studies 107

265A. History of Documentary Film. ALP, CCI Introduction to the history, theory, and styles of nonfiction film and video. Transformation in technologies and their influence on form, from actuality films to contemporary digital documentaries. Documentary's marginal status and surprising commercial appeal; the mixing of fiction and nonfiction strategies in cultural construction. Use of documentary as a tool for exploring individual identity, filmmaker/subject relationships, and fomenting political change. Instructor: Staff. One course. C-L: Documentary Studies 107A

266. Media History: Old and New. ALP, SS, STS, W 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, disjunctions, 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: Szabo. One course. C-L: Information Science + Studies 268

267. 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: Staff. One course. C-L: Literature 220

268S. American Film Comedy. ALP A historical survey of American film comedy from silent cinema to

contemporary television and film. Instructor: Staff. One course.

270S. Constructing Immersive Virtual Worlds. STS One course. C-L: see Information Science + Studies
270S

271S. 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: Staff. One course. C-L: Visual Arts 326S, Information Science + Studies

273. The Middle East Through Film. ALP, CCI, CZ, EI Film as access into the region through a series of direct as well as poetic connections woven across films viewed, filmmakers featured, lectures, discussions, and texts read. By means of the integration of course components and students' weekly responses, an understanding of the region is developed by way of inquiry into and rigorous engagement with cultural production. From feature length films to shorts, the breadth of the work we will engage with includes documentaries, dramas, and less traditional forms. A substantial midterm paper, and a final project to be in the form of one of three potential possibilities subject to approval of proposal: a paper, a talk, a short film. Instructor: Kipervaser. One course. C-L: Asian & Middle Eastern Studies 218, Political Science 273, Documentary Studies 274

274D. Race, Genomics, and Society. EI, NS, SS, STS One course. C-L: see African & African American Studies 261D; also C-L: Science & Society 258D, Global Health 258D, Cultural Anthropology 261D, Biology 261D

275S. Screening the Holocaust: Jews, WWII, and World Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 341S; also C-L: Jewish Studies 266S, Literature 263S, Documentary Studies

278A. Decentering Spanish Otherness: Visual Culture and Coloniality in Contemporary Spain. ALP, CCI, CZ, FL One course. C-L: see Spanish 343A

279AS. Studies in the United States Culture Industries. ALP, R, W A survey of the major professions in the arts, media, and entertainment industries, featuring prominent speakers from fields such as studio and independent film and television, screenwriting, directing, producing, financing, acting, artist representation, journalism, marketing, animation, and music. Students apply theory and analysis to projects currently in production, observing live tapings, rehearsals, and screenings. Real-world case studies to examine how and why stories chosen for production shape and are shaped by societal values and discourse, domestic and global economies, and the greater world of the arts and media. Only offered on Duke in LA program. Instructor: Price. One course. C-L: Documentary Studies 282AS, Public Policy 293AS

280. German Film. ALP, CZ One course. C-L: see German 264

281S. Graphic Design in Motion. Motion Design is the creation of animated graphics using graphic design, typography, advertising, photography, animation, sound and filmmaking. Emphasis will be on design, conceptualization and ability to communicate ideas and work collaboratively. Learn language and principles of graphic design by developing a method for solving design problems, communicating ideas effectively, and creating professional motion design such as title credits, logo animation, and newsreel that can be integrated into film, life performance or web. Photoshop, Illustrator, After Effects, video editing and 3D software will be used. Instructor consent required. Instructor: Salvatella de Prada. One course. C-L: Visual Arts 281S

282. Film Noir. ALP, CCI, EI The cinema of the “dark side” of human nature and human relationships: crime, intrigue, treachery, betrayal, multiple forms of psycho- and psycho-sexual pathology. Possible films: M, Stranger on the Third Floor, Double Indemnity, Elevator to the Gallows, Asphalt Jungle, Sunset Boulevard, Touch of Evil, The Maltese Falcon, Night of the Hunter, The Third Man, Rififi, L.A. Confidential, Blue Velvet, Soylent Green, Crash. Instructor: Staff. One course. C-L: German 270, Literature 223

282S. Film Noir. ALP, CCI, EI The cinema of the “dark side” of human nature and human relationships: crime, intrigue, treachery, betrayal, multiple forms of psycho- and psycho-sexual pathology. Possible films: M, Stranger on the Third Floor, Double Indemnity, Elevator to the Gallows, Asphalt Jungle, Sunset Boulevard, Touch of Evil, The Maltese Falcon, Night of the Hunter, The Third Man, Rififi, L.A. Confidential, Blue Velvet, Soylent Green, Crash. Instructor: Staff. One course. C-L: German 270S, Literature 223S

283. Existentialist Cinema. ALP, CCI, CZ, EI, STS One course. C-L: see German 386; also C-L: Theater Studies 372, Literature 218

284S. 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: Literature 216S, International Comparative Studies 288S

285. Ritual, Performance, and Religion. ALP, CCI, CZ One course. C-L: see Religion 284; also C-L: Cultural Anthropology 284, Dance 284, International Comparative Studies 266

287. German History Through Film. ALP, CZ, EI One course. C-L: see German 286; also C-L: History 255, Literature 286

288A. Fundamentals of Web-Based Multimedia Communications. ALP, R One course. C-L: see Information Science + Studies 240A

288L. Fundamentals of Web-Based Multimedia Communications. ALP, R One course. C-L: see Information Science + Studies 240L

288S. Fundamentals of Web-Based Multimedia Communications. R One course. C-L: see Information Science + Studies 240S

289. Introduction to Film Studies. ALP Basic film theory and history of motion picture technology. Introduction to experimental, documentary, and narrative forms of Third World, European, and United States cinemas. Basic film theory and history of motion picture technology. Introduction to experimental, documentary, and narrative forms of Third World, European, and United States cinemas. Economics and aesthetics. Instructor: Hadjioannou. One course. C-L: Theater Studies 278, English 181, Literature 110, Documentary Studies 264, Policy Journalism and Media Studies

290. Special Topics in Visual Studies. 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. Subjects, areas, or themes that embrace a range of disciplines that relate to visual studies. Instructor: Staff. One course.

290SA. Special Topics in Visual and Media Studies. Subjects, areas, or themes that embrace a range of disciplines that relate to visual studies. 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, 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, by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

294. 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: Art History 295, Asian & Middle Eastern Studies 150, International Comparative Studies

295S. Arts Entrepreneurship. One course. C-L: see Music 295S; also C-L: Innovation and Entrepreneurship 295S, Dance 201S, Theater Studies 312S, Documentary Studies 295S, Visual Arts 295S

296A. Internship in New York. One course. C-L: see English 313A; also C-L: Theater Studies 214A, Art History 312A

296A-1. Internship in New York. C-L: see English 313A-1; also C-L: Theater Studies 214A-1, Art History 312A-1

297S. Revealing Histories: Polish Cinema. ALP, CCI, CZ, EI One course. C-L: see Polish 298S; also C-L: Literature 298S

298S. Film Theory. ALP, STS One course. C-L: see Literature 316S; also C-L: Gender, Sexuality, & Feminist Studies

299. Aesthetics: The Philosophy of Art. ALP, CZ One course. C-L: see Philosophy 202

301A. The Business of Art and Media. One course. C-L: see English 310A; also C-L: Art History 313A

302. Philosophy of Mind. CZ, R One course. C-L: see Philosophy 212; also C-L: Linguistics 208, Information Science + 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: Staff. One course. C-L: Art History 303, Documentary Studies 303, International Comparative Studies 352

304. Mapping History with Geographic Information Systems. CZ, STS One course. C-L: see Information Science + Studies 315; also C-L: Art History 315

305S. Video Journalism. ALP, SS One course. C-L: see Policy Journalism and Media Studies 365S; also C-L: Public Policy 365S, Documentary Studies 367S, Information Science + Studies, Policy Journalism and Media Studies

308. Italian Cinema. ALP, CCI One course. C-L: see Italian 380; also C-L: Literature 215, Theater Studies 276

309S. Environmental Issues & the Documentary Arts. ALP One course. C-L: see Environment 315S; also C-L: Documentary Studies 315S

310. World War II and French Film. CCI, CZ, EI, FL One course. C-L: see French 413; also C-L: History 295

311S. Comics and Culture: Images of Modern France in the Making. ALP, CCI, FL One course. C-L: see French 414S

312. Yesterday's Classics/Today's Movies. ALP, CCI, FL One course. C-L: see French 415

313S. Documentary Video Production Workshop. ALP One course. C-L: see Documentary Studies 312S; also C-L: Visual Arts 312S

314S. Activating the Archive: Archival Research as Documentary Practice. ALP, EI, R One course. C-L: see Documentary Studies 316S; also C-L: Visual Arts 316S

315SA. stARTup Project. ALP, R One course. C-L: see Theater Studies 316SA; also C-L: Dance 307SA, Music 316SA, Innovation and Entrepreneurship 316SA, Markets and Management Studies

316S. Understanding Mediation. ALP, CCI, CZ One course. C-L: see Literature 325S; also C-L: English 480S, Theater Studies 249S, Gender, Sexuality, and Feminist Studies 325S, Documentary Studies 358S

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, 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

322S. Motion Graphics for Film and Video. ALP, STS An exploration of techniques and theoretical approaches to motion graphics, animation and post-production effects in film and video. Readings and screenings will lead to student-produced exercises through exposure to applications in the Adobe Creative Cloud and digital editing software. Instructor: Staff. One course. C-L: Visual Arts 322S, Documentary Studies 323S

323S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature

320S; also C-L: African & African American Studies 247S, International Comparative Studies 320S, Latin American Studies 320S, Information Science + Studies 323S, Human Rights Program-Franklin Humanities Institute 323S, Asian & Middle Eastern Studies 318S, Human Rights

324. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302; also C-L: Gender, Sexuality, and Feminist Studies 320, Asian & Middle Eastern Studies 402, Information Science + Studies 302

325L. Optics and Photonics. NS One course. C-L: see Physics 320L; also C-L: Electrical and Computer Engineering 340L

326. Introduction to Programming and User Interface Design in Unity 3D. STS One course. C-L: see Information Science + Studies 320

326S. Introduction to Programming and User Interface Design in Unity 3D. STS One course. C-L: see Information Science + Studies 320S

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 dialog with scientific visualization, cognitive neuroscience, and quantitative approaches to image processing. Course required for VMS majors. Instructor consent required. Instructor: Olson, Stiles, Weisenfeld. One course.

328S. Media Theory. STS One course. C-L: see Literature 317S; also C-L: Information Science + Studies 214S

329S. Non-Profit Cultural Institutions. EI, SS One course. C-L: see Theater Studies 310S; also C-L: Economics 247S, Innovation and Entrepreneurship 310S, Public Policy 318S, Dance 208S

330. Gender and Popular Culture. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 362

331S. Gender and Popular Culture. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 362S

332L. Virtual Museums: Theories and Methods of Twenty-First-Century Museums. ALP, R, STS The future of museums will be one of immateriality and interaction. Course focuses on how the “Internet of Things,” augmented reality technologies, new data analyses of artifacts will transform missions, roles, and goals of museums and collections. Core of course will be digital lab sessions focused on virtual reconstruction of lost heritage—e.g., museums and sites destroyed and damaged by ISIS and other conflicts in Iraq and the Middle East (Hatra, Nineveh, Nimrud, Baghdad). Instructor: Forte. One course. C-L: Art History 305L, Visual Arts 305L, Information Science + Studies 305L, Classical Studies 240L

332S. American Independent Cinema. ALP, CCI One course. C-L: see Literature 318S; also C-L: English 389S, Theater Studies 373S, Documentary Studies 322S

333S. Photo Workshop. ALP One course. C-L: see Documentary Studies 318S; also C-L: Visual Arts 318S

334. Roman Spectacle. ALP, CCI, CZ, EI Gladiatorial 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, Art History 334

335S. Acting For the Camera. ALP One course. C-L: see Theater Studies 275S

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: Art History 336, Religion 260

337. The History of Hip-Hop. ALP, CCI One course. C-L: see African & African American Studies 335; also C-L: Cultural Anthropology 335, Music 335, English 381

338S. Writing the Short Film. ALP, W In-depth study of the short format movie. Development of short film concept and script, including pre-production, storyboarding, and look books. Instructor: Hawkins. One course. C-L: Visual Arts 303S

339S. Sound for Film and Video. ALP Theory and practice of sound recording techniques and strategies for film and video. Focus on sound/image relationship, sound design and sound acquisition. Screenings and readings will reinforce practice exercises. Instructor: Staff. One course. C-L: Documentary Studies 353S, Visual Arts 350S

340. Popular Representations of Black Masculinity. ALP, CCI One course. C-L: see African & African American Studies 338; also C-L: English 380

340S. 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, Visual Arts 340S

341S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, CZ, EI, SS One course. C-L: see Documentary Studies 332S; also C-L: Cultural Anthropology 236S, Latino/a Studies in the Global South 332S, Human Rights Program-Franklin Humanities Institute 332S, Latino/a Studies in the Global South, Human Rights

342S. Islamic Media. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 329S; also C-L: Religion 379S, International Comparative Studies 331S

343. Representing the Artist in Film and Popular Culture. ALP Cultural constructions of the artist and the art world, using fictional and documentary film as starting point; the artist in literature; popular conceptions of artistic biography, mentality, and lifestyle—genius, gender, sexuality, madness, bohemianism; relationship between images of the artist in popular culture and methods within academic art history; the artist in cinema from Michelangelo to Warhol. No prerequisites. Instructor: McWilliam. One course. C-L: Art History 350

344. Performance Art History and Theory. ALP, CCI, CZ, EI Performance Art History and 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 + Studies 275, Literature 222, Theater Studies 235, Gender, Sexuality, and Feminist Studies 276, Art History 344

345S. Dance for the Camera. ALP, R, STS One course. C-L: see Dance 306S; also C-L: Documentary Studies 242S

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 + Studies 279S

347. Idealistic Nature: The Literature, Philosophy, and Cognition of Ecology. ALP, CZ, EI One course. C-L: see Information Science + Studies 307; also C-L: Medieval and Renaissance Studies 347, English 355

348S. Multimedia Documentary: Editing, Production, and Publication. ALP One course. C-L: see Documentary Studies 360S; also C-L: Visual Arts 357S, Innovation and Entrepreneurship 242S

349S. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302S; also C-L: Gender, Sexuality, and Feminist Studies 320S, Asian & Middle Eastern Studies 402S, Information Science + Studies 302S

350S. 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: Staff. One course. C-L: Visual Arts 249S, Documentary Studies 250S

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. Recommended prerequisite: Visual and Media Studies 206 or 396. Instructor: Salvatella de Prada. One course. C-L: Visual Arts 209, Information Science + Studies 209

352S. Documentary Publishing from Gutenberg to the Web: The Vanishing Point Course. ALP, CCI, R, SS, STS One course. C-L: see Documentary Studies 352S; also C-L: Policy Journalism and Media Studies 352S, Visual Arts 352S

353. The Black Performance Tradition: Michael Jackson and Prince. ALP, CCI One course. C-L: see African & African American Studies 336; also C-L: Music 336

354S. Poetic Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 311S; also C-L: International Comparative Studies 311S

355. American Dreams, American Movies. ALP One course. C-L: see English 288; also C-L: Theater Studies 272

355S. Computer Game Design and Development. ALP One course. C-L: see Information Science + Studies 355S

356S. 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: Documentary Studies 288S

357S. Digital Storytelling and Interactive Narrative. ALP, STS, W One course. C-L: see Information Science + Studies 351S; also C-L: Literature 352S

357SA. Digital Storytelling. ALP, STS, W One course. C-L: see Information Science + Studies 351SA; also C-L: Literature 352SA

358S. Digital Durham. ALP, R, STS, W One course. C-L: see Information Science + Studies 356S; also C-L: Education 356S, History 382S

359A. Introduction to Global Los Angeles: An Interdisciplinary Survey (Service-Learning). ALP, CCI, EI This course explores the complexities of global Los Angeles by focusing on issues that especially impact its marginalized communities. For the service-learning component, students volunteer at least 20 hours during the semester at nonprofit organizations engaged in the pursuit of social justice. This experience provides an opportunity to observe, participate in and reflect on the day-to-day implementation of social action, policy and organizing initiatives. As part of the volunteer commitment and in lieu of a final paper, students produce a documentary media project that communicates goals identified by and in collaboration with the community partner. Instructor: Dowdley. One course. C-L: Literature 230A, Documentary Studies 359A, Innovation and Entrepreneurship 359A, Documentary Studies

360S. Writing the Movie. Introduction to the Theory and Practice of Writing for the Screen. ALP, W Theory and practice of the process of writing for the screen. Exploration of visual storytelling; analysis of screenplays and movies; developing original stories into screenplay format. Projects: writing and presenting treatments, outlines and scenes. Instructor: Hawkins. One course. C-L: English 225S

361S. Photographic Memory: Photo Albums, Photobooks, & Zines. ALP One course. C-L: see Documentary Studies 361S; also C-L: Visual Arts 361S

362S. 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, storytelling, and editing. Instructor: Staff. One course. C-L: Documentary Studies 357S, Visual Arts 356S

363S. Time, Space and Film. ALP, R, STS Exploration of temporal transformation, spatial articulation and subjectivity in the moving image. From special effects and avant-garde experiments to the long take and the fluid master. Readings and screenings inform hands-on practical exercises. Instructor: Gibson. One course.

364S. Web Design and Narrative: Artists, Documentarians, Art Historians, and Entrepreneurs. ALP, R One course. C-L: see Documentary Studies 354S; also C-L: Information Science + Studies 354S, Visual Arts 364S

365S. The Documentary Turn: Southern Culture. ALP, CZ, EI, W One course. C-L: see Documentary Studies 365S

365SL. Digital Art History I: New Representational Technologies. Research and study in material culture and 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 presentation and interpretation of visual material through a series of interpretive and reconstructive technologies, including development of web pages, timelines, Photoshop, Illustrator, Trimble SketchUp, Google Maps, GIS. Uses test cases (archaeological site or urban/architectural site) to develop techniques of interpretation and representation. Instructor consent required. Instructor: Staff. One course. C-L: Art History 354SL

366L. Theories and Practices of Data Visualization. R, STS Combination of lectures, labs, and workshops on the theories and practices of data visualization, focused on creative applications of advanced tools and software, including introduction to data scraping, data cleaning, and elementary coding. Students will use innovative strategies to develop new databases with imperfect information, combining qualitative and quantitative data on the interface of the humanities and the social sciences. Individual and collaborative research projects will combine qualitative and quantitative analysis with weekly feedback and assessment. Instructor: Leunissen. One course. C-L: Information Science + Studies 366L

367S. Unraveling Paradise: Examining the Mythical Ideal Through Art and Documentary of the Caribbean. ALP, CCI, CZ One course. C-L: see Documentary Studies 336S; also C-L: Visual Arts 336S, Latin American Studies 336S

368S. Human Rights and Documentary: Aesthetics, Ethics, History. ALP, CZ One course. C-L: see Documentary Studies 366S; also C-L: Public Policy 388S, History 398S, Visual Arts 366S, Human Rights Program-Franklin Humanities Institute 366S, Human Rights

370S. Women and Film: Directors of the Diaspora. ALP, CCI One course. C-L: see African & African American Studies 339S; also C-L: Gender, Sexuality, and Feminist Studies 339S

371. Kafka and Cinema. ALP, CCI, STS One course. C-L: see German 372; also C-L: Literature 377, Jewish Studies 372

372S. Articles of Truth: Creating Culture through Multimedia. ALP, CCI One course. C-L: see Documentary Studies 337S; also C-L: Visual Arts 337S

373S. The View Camera: Black and White Large Format Photography. ALP One course. C-L: see Documentary Studies 368S; also C-L: Visual Arts 368S

374. Artists in Healthcare: Collaborations and Complexities. ALP, CCI, CZ, EI, R One course. C-L: see Dance 371; also C-L: Music 371, Theater Studies 371

375S. Recycled Cinema. ALP Found footage filmmaking, cinematic appropriation, the use of archival materials in documentaries, and current day internet mashups. Covering early cinema, experimental and documentary cinema, television, and the internet. Key emphasis on practice based assignments with a concurrent focus on the historical impact of the field from seminal moments to the contemporary moment through films and readings on the subject. Prerequisite: 100-level or above Visual Arts course, or permission of instructor. Instructor: Kaul. One course. C-L: Visual Arts 375S, Documentary Studies 375S, Literature 373S

376SA. Berlin Film City: Movies in the Metropolis. ALP, CCI One course. C-L: see German 376SA; also C-L: History 268SA

377S. Public Policy Video. ALP, CCI, SS One course. C-L: see Documentary Studies 271S; also C-L: Public Policy 375S, Human Rights Program-Franklin Humanities Institute 271S, Human Rights

378. Chinese Buddhist Art. ALP, CCI, CZ, R Chinese sculpture, painting, and architecture in relation to Buddhist texts, practice, and ritual from the fourth through the ninth century C.E. Introduction to precedents in Indian and Central Asian Buddhist art. Emphasis on the relationship between Buddhist and non-Buddhist imagery. Instructor: Abe. One course. C-L: Art History 378

379S. Visiting Filmmaker Master Courses: Special Topics. ALP Intensive production courses with visiting filmmaker. Topics vary by semester. May be taken twice. Instructor: Staff. One course. C-L: Documentary Studies 285S, Visual Arts 325S

380S. Visualizing Cities: Representing Urban Landscapes, Cultures, and Environments. ALP, CZ, R, STS One course. C-L: see Information Science + Studies 380S

380SA. Digital Cities and the Cartographic Imagination. CZ, R, STS One course. C-L: see Information Science + Studies 380SA

381S. Graphic Design in Motion. ALP Motion design is the creation of animated graphics using graphic design, typography, advertising, photography, animation, sound and filmmaking. Emphasis will be on design, conceptualization and ability to communicate ideas and work collaboratively. Learn language and principles of graphic design by developing a method for solving design problems, communicating ideas effectively, and creating professional motion design such as title credits, logo animation, and newsreel that can be integrated into film, life performance or web. Photoshop, Illustrator, After Effects, and video editing software will be used. Prerequisite: one of the following: Visual Arts 102, 206, 223, or 326S, or Arts of the Moving Image 350S or 357S. Instructor: Salvatella de Prada. One course. C-L: Visual Arts 381S

382D. Global Art Since 1945. ALP, CCI, CZ, EI Major avant-garde movements of the post-World War II era, with a concentration on the unprecedented changes in the mediums of art, its forms, impact on society and politics, and ethical role in shaping culture through painting and sculpture, conceptual and performance art, installation and new media, video, photography, and film. Instructor: Stiles. One course. C-L: Art History 381D, Gender, Sexuality, and Feminist Studies 277D, International Comparative Studies 219D, Ethics Elective

385. Mafia at the Movies. ALP, CCI One course. C-L: see Italian 385; also C-L: Literature 385, Theater Studies 375

386S. Documentary and Policy: How Documentary Influences Policy. ALP One course. C-L: see Documentary Studies 272S; also C-L: Public Policy 228S, Innovation and Entrepreneurship 272S

387S. Screenwriting. ALP, W One course. C-L: see Theater Studies 273S; also C-L: English 317S

389S. Women and Visual Media Studies. ALP, CCI This course explores visual media by women artists, as well as the production, circulation, and reception of visual culture about the idea of "woman." Drawing on feminist scholarship across disciplines, students will examine representation, spectatorship, power, beauty, and sex. We will explore work by popular icon Beyoncé, artist Lorna Simpson, but also independent documentary films on relevant themes. Instructor: Cobb. One course. C-L: Gender, Sexuality, and Feminist Studies 338S, African & African American Studies 386S

390. Special Topics in Visual & Media Studies. Topics vary by semester. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Visual Studies. Topics differ by section. Instructor: Staff. One course.

390S. Special Topics in Visual and Media Studies. Topics vary by semester. Instructor: Staff. One course.

390S-1. Topics in Digital History and Humanities. One course. C-L: see History 390S-1; also C-L: Information Science + Studies 390S-1

390T. Special Topics in Visual and Media Studies: Tutorial. 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.

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.

396. Graphic Design in Multimedia: Theory and Practice. ALP Design history and theory. Lectures and projects focused on direct interaction with digitized elements of historically significant designs. Design elements and principles. Comparison of the language and tools of old and new media. Analysis of visual materials, discovering conceptual and stylistic connections, including Illustrator and Photoshop. Consent of instructor required. Instructor: Staff. One course. C-L: Visual Arts 223, Information Science + Studies 396

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 media. 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: Staff. One course. C-L: Information Science + Studies 294L, Visual Arts 242L, Policy Journalism and Media

410S. Black Frame: African American Documentary Film. ALP, CCI, CZ, R One course. C-L: see African & African American Studies 410S; also C-L: Documentary Studies 440S

412S. Cultures of New Media. ALP, SS, STS One course. C-L: see Cultural Anthropology 434S; also C-L: Literature 412S, International Comparative Studies 432S, Asian & Middle Eastern Studies 425S

414A. Urban Fiction and Collective Imagination: Madrid Through Literature and Film. ALP, CCI, CZ, FL One course. C-L: see Spanish 414A

416S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 415S; also C-L: Literature 415S, Cultural Anthropology 415S, International Comparative Studies 415S, Gender, Sexuality, and Feminist Studies 415S

417S. The Middle East: From Facebook to Film. CCI, CZ, SS One course. C-L: see Cultural Anthropology 417S; also C-L: Asian & Middle Eastern Studies 215S, International Comparative Studies 417S, Islamic Studies

419A. Spanish Cinema from the Transition to the Present. ALP, CCI, FL One course. C-L: see Spanish 419A

420S. Political Cinema in Latin America. ALP, CCI, CZ, FL One course. C-L: see Spanish 380S; also C-L: Literature 381S, Latin American Studies 380S

423S. City Stories, Eastern Europe: Prague, Warsaw, Budapest, Sarajevo. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 423S; also C-L: International Comparative Studies 423S

425S. Surrealism: Aesthetics and Politics. ALP, FL, R One course. C-L: see French 425S

429S. Historical Documentary Production. ALP, EI, R, SS Course examines how archival footage and photographs are used in historical documentaries about struggles for social equity in America. Iconic films will be reviewed to assess editors' strategies for employing archival material in documentaries on the labor movement, civil rights movement, anti-Vietnam war movement, and early lesbian and gay rights movement. Students will then conduct research for film footage and photographs and learn practical steps needed to acquire rights to use the material. During the second half of the semester, students will be guided in the production and editing of their own short historical documentary. Instructor: Orenstein. One course. C-L: Documentary Studies 329S

432S. From the Art of the Pleasure Quarters to Tokyo Pop. ALP, CCI, CZ, EI, R Starting in the

bordellos of 17th-century Edo (now modern-day Tokyo) and spanning up through the kitsch of contemporary Japanese pop culture, this course examines the vibrant and often bawdy forms of Japanese print and visual culture. Introduction to Japanese printmaking practices and a forum for discussing critical issues related to sexuality, censorship, spectacle, satire, tourism, the supernatural, and the Asian experience of modernity. Investigates the spectacular worlds of the kabuki theater, sumo wrestling, and the “pleasure quarters” (the red-light district designated for licensed prostitution). Instructor: Weisenfeld. One course. C-L: Art History 432S

433S. Photography in the Americas: War, Tourism, Art, and Protest. ALP, CCI, CZ, FL One course. C-L: see Spanish 433S; also C-L: Art History 433S, International Comparative Studies 459S, Latin American Studies

434. Experimental Sculpture and Installation Art. ALP This course explores ideas surrounding the creation of experimental sculpture. employs non-traditional methods: “readymades,” non-traditional materials, conceptual processes, digital interaction and fabrication techniques (rapid prototyping), mixed media including video, and projection technologies. Content of work driven by individual student interests, sustainability, the anthropocene, feminism, social and political commentary, and/or more formal, abstract sculptural relations. Instructor consent required. Instructor: Seaman. One course. C-L: Visual Arts 435, Information Science + Studies 436, Dance 435

435S. Soviet Life through the Camera’s Lens. ALP, CCI, CZ, FL One course. C-L: see Slavic and Eurasian Studies 433S

438S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 438S; also C-L: Cultural Anthropology 438S, International Comparative Studies 407S, Study of Sexualities 438S, Gender, Sexuality, and Feminist Studies 438S, Literature 438S, International Comparative Studies

439. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 439; also C-L: Cultural Anthropology 439, Literature 439, Gender, Sexuality, and Feminist Studies 439

450S. Narrative Projects. ALP Development and production of short narrative film projects. Project-based course taking short film concepts through script development, pre-production, production and post-production. Prior video production experience recommended. Instructor: Haverkamp. One course. C-L: Visual Arts 450S

451S. Filming Art. ALP Practice-based production course examining the filmic realization and visualization of the artistic process. Screenings of bio-pics, documentaries and experimental films focusing on artists and various art forms complement readings and hands on production exercises that will prepare students to undertake their own short video portrait of an artist or work of art. Instructor: Gibson. One course. C-L: Visual Arts 451S, Documentary Studies 451S

454SL. Digital Art History II: New Representational Technologies Advanced. Team-based research and study in material culture and visual arts expressed by using new visual technologies to record, interrogate, and communicate complex sets of visual and physical data from urban and/or archaeological sites. More advanced techniques for presentation and interpretation of visual material through a series of interpretive and reconstructive technologies. Use test cases (archaeological site or urban/architectural site) to further develop techniques of interpretation and representation. Public facing presentation of data and results of research is aim of final team-based project. Prerequisite: Art History 354SL/Visual and Media Studies 365SL. Instructor: Staff. One course. C-L: Art History 454SL

455S. World of Gaming: Art, Theory, Technology, and Business of a Multi-Billion Dollar Global Industry. CCI, CZ, EI, SS, STS One course. C-L: see Asian & Middle Eastern Studies 455S; also C-L: Art History 453S, Literature 455S

476S. Archiving and Visualizing Asia: Politics and Poetics of Knowledge Production. CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 476S; also C-L: International Comparative Studies 411S, Literature 476S, History 448S, Documentary Studies 476S

489S. Screening Europe. ALP, CCI, CZ One course. C-L: see French 489S; also C-L: International Comparative Studies 479S, Literature 489S

490S. Special Topics in Visual and Media Studies. 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 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 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.

495S. Honors Thesis Workshop. ALP, R, W Research and writing skills for students completing an honors thesis; bibliography, library and on-line research; use of archives; picture research and other research skills relating to the history of art; organization of material and preparation for writing; drafting, editing, and production of a finished text; use of scholarly conventions of referencing, footnoting etc. Compulsory for seniors preparing a graduation with distinction dissertation in art history. Instructor consent required. Instructor: Staff. One course. C-L: Art History 495S, Visual Arts 495S

496S. Visual Arts Practice and Cinematic Arts Concentration Senior Capstone. ALP Senior capstone seminar in advanced research in Visual Arts practice and theory, Cinematic Arts practice and theory. Capstone requires the completion of major research project or body of work, participation in regular critiques, and presentation of work at a capstone exhibition. Visual Arts students work in any given media or combination thereof. Cinematic Arts Concentration students focus on the research and/or production of works in film, video, animation, or any time-based media. Course is structured around joint critiques and guest presentations, fostering an interdisciplinary environment representative of contemporary art contexts and professional practice. Instructor: Gibson, Kaul, Lasch, Salvatella, Wendell. One course. C-L: Visual Arts 496S

497S. Advanced Visual Practice. ALP Majors in the fall of their senior year work on independent projects in a group situation. Students meet weekly with professor teaching course to discuss progress and monthly with full Visual Arts and Visual and Media Studies faculty for critiques. This course serves as anchor course for students participating in Graduation with Distinction in Visual Arts and those Graduation with Distinction students in Visual and Media Studies with a practice-based component to their project. Initial development of projects during the fall semester, brought to completion in the Capstone course in spring. Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 497S

499S. Senior Capstone in Visual & Media Studies. ALP, CCI, CZ, R, W Capstone seminar focusing on advanced visual studies theories, as well as individual senior projects undertaken as a written research paper or written paper plus a visual/media production. Consent of instructor required. Instructor: Abe, Cobb, Olson, Stiles, Szabo, Weisenfeld. One course.

505S. Visual Studies from the Global South. ALP, CCI, CZ, R This seminar shifts the geography of critical theory, introducing interdisciplinary approaches to visual culture and art formulated outside the northern academies of Europe and the United States. Diverse readings introduce how the visual is constituted in sites that have endured colonialism and globalization. Specific topics include: word and image; space, place, and site; media and new technologies; indigenous and Afro-diasporic philosophies; and the raced and gendered body. Instructor: Gabara. One course. C-L: Art History 505S, Romance Studies 505S

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

History 507A. Instructor: Van Miegroet. One course. C-L: Art History 506A, Medieval and Renaissance Studies 504A, International Comparative Studies

507A. History of Netherlandish Art and Visual Culture in a European Context. ALP, CCI, CZ, R Second half of Art History 506A-507A; required for credit for 506A. (Taught in the Netherlands.) Not open to students who have taken Art History 262A-263A. Instructor: Van Miegroet. One course. C-L: Art History 507A, Medieval and Renaissance Studies 505A, International Comparative Studies

510S. (Neosentience) Body as Electrochemical 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 + Studies 666S, Visual Arts 510S

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. C-L: Literature 512S

515S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 515S; also C-L: Literature 515S, International Comparative Studies 515S, Gender, Sexuality, and Feminist Studies 505S

520. Eco-Media: Studies in Planetary Futures. CCI, CZ, SS One course. C-L: see Cultural Anthropology 520; also C-L: Literature 522

520S. Eco-Media: Studies in Planetary Futures. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 520S; also C-L: Literature 522S

522S. Curatorial Practices in a Global Context. ALP History and critical theories of all experimental art from conceptual, performance, and installation to video and multimedia, collectives, and ecological and bioart considered in a global context including international exhibitions, biennials, and new curatorial practices. Instructor: Stiles. One course. C-L: Art History 522S

523S. Imaging a Nation: Japanese Visual Culture 1868-1945. ALP, CCI, CZ Focusing on various visual representations of Japanese national identity at home and abroad during the empire; contending interpretations of "Japaneseness" and changing discourses on Japanese aesthetics in relation to broader historical developments; examining cultural production, exhibition practices, patronage, nationalism, neo-traditionalism, Pan-Asianism, and the role of visual culture under imperialism. Instructor: Weisenfeld. One course. C-L: Asian & Middle Eastern Studies 566S

524S. AfroFuturism. ALP One course. C-L: see African & African American Studies 620S; also C-L: Dance 535S, Theater Studies 535S

525S. Art and the Holocaust: Architecture, Art, and Cultural Politics during the Nazi Period. ALP, CCI, CZ, EI This course will analyze the history of the genocide of the European Jews, and its connection to antisemitic art and cultural policy during the Nazi period. With a sound understanding of the development of oppressive policies against the Jews, and looking at a variety of media (painting, architecture, film, photography, design), the course will explore the complicated relationship between developing racist policies and the world war as they impacted and were in turn influenced by artists. Examines not only artists involved in the Nazi state, but also those who resisted in exile or were its victims. Instructor: Jaskot. One course. C-L: Art History 555S, German 565S, Jewish Studies 555S, History 531S

533S. Live Images: Ancient and Medieval Representations of the Divine. ALP, CCI, CZ, W The study of ancient and medieval works—speaking statues, miraculous icons, moving paintings. Seminar addresses questions of artistic and pictorial agency. Readings include theoretical texts, primary sources, and historical studies. Instructor: Wharton and Dillon. One course. C-L: Religion 552S, Classical Studies 558S, Medieval and Renaissance Studies 507S

535S. Camera Asia. ALP, CCI, CZ, EI, R Examines how the art and technology of photography have changed how we study and understand the historical past, with a focus on China, India, and Japan. Analyzes arrival of the camera as a historical event, along with photographers and studios. Evaluates ways in which the new technology was embraced, and considers how the camera reconfigured attitudes towards the body and gender relations, nation building, war, catastrophes and death. Instructor: Weisenfeld and Ramaswamy. One course. C-L: History 530S, International Comparative Studies 531S, Art History 535S

539S. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 539S; also C-L: Cultural Anthropology 539S, Gender, Sexuality, and Feminist Studies 502S, Literature 539S, Human Rights Program-Franklin Humanities Institute 539S, Human Rights

540S. Memory and Documentary Cinema in Latin America. ALP, CCI One course. C-L: see Romance Studies 540S; also C-L: Documentary Studies 540S, Literature 544S, Latin American Studies 540S

541. Anime: Origins, Forms, Mutations. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 561

542. Creative Industries and the Urban Environment. SS This Bass Connections course examines the relationship between urban development and cultural production in specific contemporary and historical contexts, past and present. Cultural industries generally include printing, publishing and multimedia art, audiovisual, phonographic and cinematographic productions, as well as art creation, marketing and design and local art markets in the urban environment. The aim is to analyze the impact of creative industries on the economic development of a city and what one can learn from historical and present-day examples through the analysis of data. Analytical methods, theories and practices will be interwoven throughout the course. Instructor consent required. Instructor: Van Miegroet. One course. C-L: Art History 552, Information Science + Studies 552

545. Black Camera: Still and Moving Images. ALP, EI This course interrogates still and moving images by and about people of African descent. Students enrolled in this course will consider film, photography, and media art. Together, we will examine documentary film, daguerreotype and archival photography, black cinema, and the cultural politics that render production, reception and circulation particular for black subjects. Instructor: Cobb. One course. C-L: African & African American Studies 539, Art History 539, Documentary Studies

548S. Japanese Design in a Global World. ALP, CZ, STS Japanese design encompasses everything from sushi to Hello Kitty—from Shiseido to Nintendo. This course examines the diverse and vibrant spheres of contemporary Japanese design culture across the globe. It is both an introduction to design practices and a forum for the critical evaluation of theoretical issues related to the larger field of design. Exploring the diverse fields of fashion, graphic design & packaging, industrial design, corporate branding, culinary culture, robotics, electronics, gaming, animation, and toys, the class will be introduced to the global impact of Japanese design on daily life around the world and the dynamic transnational culture in which it participates. Instructor: Weisenfeld. One course. C-L: Art History 548S

549S. Techno-Orientalism: Asian/America, (Post)Human and SF. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 549S

550S. Debates in the Digital Humanities: Multi-Disciplinary Theory and Practice. ALP, STS One course. C-L: see Information Science + Studies 560S

551SL. Advanced Digital Art History: 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: Dillon, Olson, or Szabo. One course. C-L: Art History 551SL, Information Science + Studies 551SL

552. Citizen Godard. ALP, CCI, W One course. C-L: see French 510; also C-L: Literature 510

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. Instructor: Lasch. 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 & 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. C-L: Art History 557S

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. Computational Media, Arts & Cultures Proseminar. ALP, R, SS, STS One course. C-L: see Computational Media, Arts & Cultures 650S; also C-L: Information Science + Studies 650S, Literature 621S, Art History 537S, Policy Journalism and Media Studies

562S. Technology and New Media: Academic Practice. SS, STS One course. C-L: see Information Science + Studies 540S; also C-L: Art History 536S

563. Media and Democracy. CCI, SS One course. C-L: see Public Policy 674; also C-L: Information Science + Studies, Policy Journalism and Media Studies

564S. Physical Computing. **QS, STS** Seminar in physical computing, creative coding, and the emerging artistic possibilities of the Internet of Things. Emphasis on the medial physicality of computation, and exploration of interfaces to the computational that depart from the keyboard, mouse, and screen. Discussion of the social implications of “smart” objects. Hands-on development of individual and group projects using Arduino, an extension of C/C++, internet-enabled microprocessors, and an array of analog and digital sensors and actuators. Topics also include networking, communication protocols, circuit design, and physical prototyping. Instructor: Olson. One course. C-L: Information Science + Studies 555S, Visual Arts 564S, Computational Media, Arts & Cultures 564S

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 polities 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 + 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 + Studies 510S

567S. Art and Markets. **ALP, CCI, R, SS** Cross-disciplinary art history-visual culture-economics seminar. Analytical and applied historical exploration of cultural production and local art markets, and their emergence throughout Europe, Asia, and the Americas. Criteria for valuation of imagery or what makes art as a commodity desirable or fashionable. Visual taste formation, consumer behavior, and the role of art dealers as cross-cultural negotiants. Consent of instructor required. Instructor: Van Miegroet. One course. C-L: Art History 508S, Economics 321S, Markets and Management Studies

569S. Information Archeology: Studies in the Nature of Information and Artifact in the Digital Environment. **SS, STS** One course. C-L: see Information Science + Studies 680S; also C-L: Art History 542S

570S. Poverty and the Visual. **ALP, CCI, CZ** Relationship between art, visual culture, and poverty from 1950s to present across cultures. Readings across broad range of texts in humanities and social sciences. Research, visual analyses, and student productions based on a broader understanding of poverty as a philosophical, economic, social, and cultural concept. Three-part definition of poverty includes: special focus on cultural contributions of grassroots social movements and impoverished sectors of global society, poverty as an intentional set of aesthetic or cultural constraints, and poverty as a critical term to understand historical and contemporary limitations of visuality. Instructor consent required. Instructor: Lasch. One course. C-L: Visual Arts 556S, Sociology 556S

570SL. Roman Topography: Urban Life and Cityscapes in Ancient Rome. **CCI, CZ, R, SS** One course. C-L: see Classical Studies 556SL; also C-L: Art History 560SL

571S. Art as Work: Valuing Labor in the Arts. **ALP, CCI, CZ, EI, R** One course. C-L: see Dance 561S; also C-L: Literature 525S, Visual Arts 571S

575S. Generative Media Authorship - Music, Text & Image. **ALP** Covers Generative Media in all its forms. Lectures, workshops, discussions, one semester-length project, shorter individual exercises and readings. Interdisciplinary Graduate Seminar with advanced undergraduates and MFA students with permission of instructor. Instructor: Seaman and Supko. One course. C-L: Information Science + Studies 575S, Music 575S, Visual Arts 575S, Computational Media, Arts & Cultures 575S

580S. Historical and Cultural Visualization Proseminar 1. **ALP, STS** Interactivity and online content management through databases, collaborative blogs, and other systems. Data visualization based on textual, image, and quantitative sources. Basic techniques for virtual reality, simulations, augmented reality, and game-based historical and cultural visualization project development. Mini-projects based on existing and new research data from the Smith Media Labs and other sources. Best practices for digital research project planning and collaboration. Theoretical topics include: critical digital heritage, virtuality and culture, information aesthetics, hypermedia information design. Instructor consent required. Instructor: Olson or Szabo. One course. C-L: Historical and Cultural Visualization 580S, Information Science + Studies 580S, Art History 580S,

Computational Media, Arts & Cultures 580S

581S. Historical and Cultural Visualization Proseminar 2. ALP, STS 2D and 3D imaging, modeling; raster and vector graphics sources, laser scanners, photogrammetric software, basic database structures. Digital mapping and GIS. Presentation strategies and best practices for the web (standards-compliant HTML/CSS/Javascript), multimedia (audio/video/animation), scholarly annotation, intellectual property. Theoretical, ethical issues in field of new media and digital humanities. Epistemological issues re: mediation and visualization, ethics of intellectual property, politics of geospatial visualization, digital materiality, affordances of new media narrativity. Instructor consent required. Instructor: Olson or Szabo. One course. C-L: Historical and Cultural Visualization 581S, Information Science + Studies 581S, Art History 581S, Computational Media, Arts & Cultures 581S

590. Special Topics in Visual and Media Studies. Subjects, areas, or themes that embrace a range of disciplines related to visual and media studies. Instructor: Staff. One course.

590S. Special Topics in Visual Studies. Subjects, areas, or themes that embrace a range of disciplines related to visual studies. Instructor: Staff. One course.

610S. Basic Concepts in Cinema Studies. ALP One course. C-L: see Literature 610S

611S. Third Cinema. ALP, CCI, EI, SS, STS One course. C-L: see Literature 613S; also C-L: African & African American Studies 530S, International Comparative Studies 613S, Latin American Studies 613S

612S. Theories of the Image: The Image in Walter Benjamin. ALP One course. C-L: see Literature 612S; also C-L: German 512S, Romance Studies 612S

613S. Computational Media Studio in Advanced Digital Practice. ALP, STS Advanced digital practicum in interactive computational media as vehicle for creative and critical expression. Opportunity to synthesize previous course work in multimedia practice, web/graphic/motion design, 3D modeling/gaming, computer programming. In-depth exploration of computational media production as artistic practice through exercises, projects, and critiques. Acquisition and refinement of expertise in procedural and object-oriented programming, two- and three-dimensional graphics, data visualization, physical computing, AR/VR, and other emergent computational platforms. Sustained engagement with computational ethics. Instructor: Olson, Szabo, Wendell. One course. C-L: Historical and Cultural Visualization 613S, Information Science + Studies 613S, Computational Media, Arts & Cultures 613S

614S. Thinking Digital Cinema. ALP, STS One course. C-L: see Literature 614S; also C-L: Theater Studies 671S

615S. The #Selfie. CZ, EI, R, STS One course. C-L: see Literature 615S; also C-L: Gender, Sexuality, and Feminist Studies 615S, International Comparative Studies 615S

620S. Models: Premodern to Posthuman. ALP, CZ, R Architectural models may be either powerful small-scale prototypes for buildings or weak copies of powerful archetypes. Consideration of variety of architectural models from urban projects to dollhouses allows historical and theoretical exploration of models' agency. Instructor consent required. Instructor: Wharton. One course. C-L: Art History 620S

621S. Black Performance Theory. ALP, CCI, R One course. C-L: see African & African American Studies 621S; also C-L: Dance 645S

622S. Film-philosophers/Film-makers. ALP, CZ, STS One course. C-L: see Literature 620S; also C-L: Theater Studies 620S, English 620S, Documentary Studies 620S

625S. Comparative Media Studies. ALP, STS One course. C-L: see Literature 625S; also C-L: Information Science + Studies 615S

629. Projections in Time: The Still and Moving Image. ALP, R Project-based studio course exploring time through film, 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 film, 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. Prerequisite: Two 200-level or above photography or film production classes.

Instructor consent required. Instructor: Staff. One course. C-L: Visual Arts 630, Documentary Studies 630

630S. Phenomenology and Media. ALP, CCI, CZ, R, STS One course. C-L: see Literature 630S; also C-L: Art History 630S, Information Science + Studies 630S

631S. Seminar on Modern Chinese Cinema. CZ, R One course. C-L: see Asian & Middle Eastern Studies 631S; also C-L: Literature 631S

632. Questions of National Cinemas. CZ, R One course. C-L: see Asian & Middle Eastern Studies 631; also C-L: Literature 632

632S. Whitehead, Bergson, James. ALP, CCI, CZ, EI One course. C-L: see Literature 632S; also C-L: Information Science + Studies 632S, Art History 632S

634S. 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. Same as Visual and Media Studies 340S but with additional graduate level work. Instructor: Gibson. One course.

635S. 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. Same as Visual and Media Studies 362S but with additional graduate level work. Instructor: Staff. One course.

640S. Expanded Cinema: Cinema Outside the Movie Theater. ALP This project-based course will explore moving image installation practices beyond the movie theater including alternative public spaces, devices, museums, white cubes and back boxes. The course will simultaneously examine relevant artworks in the context of their diverse histories and attendant theories, from early cinema devices, through works termed as Expanded Cinema around the 1970s, to current new media manifestations. Students will focus on developing moving image installation projects of their own, to be realized at various campus locations. Open to seniors and graduate students. Prerequisite: Two 200-level or above photography or film production classes. Instructor: Kaul. One course. C-L: Visual Arts 640S, Documentary Studies 640S, Literature 545S

641SL. Narrative Practice in Global Art Cinema. ALP, CCI Advanced in-depth examination of alternative narrative and doc-fiction practices emerging from national cinemas around the world. Intended for advanced undergraduate and graduate students with prior production experience. Screenings and readings related to significant national cinema movements and practitioners will inform production exercises, writing assignments and a final moving image project. Instructor: Gibson. One course. C-L: Visual Arts 641SL

650S. Black Camera: Still and Moving Images. ALP, CCI This course interrogates still and moving images by and about people of African descent. Graduate students enrolled in this course will consider film, photography, and media art. Together, we will examine documentary film, daguerreotype and archival photography, black cinema, and the cultural politics that render production, reception and circulation particular for black subjects. Instructor: Cobb. One course. C-L: African & African American Studies 531S, Art History 650S, Documentary Studies

660S. Digital Places and Spaces: Mirror, Hybrid, and Virtual Worlds. ALP, SS, STS One course. C-L: see Information Science + Studies 660S

662S. Mapping Culture: Geographies of Space, Mind, and Power. ALP, CZ, STS One course. C-L: see Information Science + Studies 662S

685S. Visiting Filmmaker Master Course: Special Topics. ALP Intensive production courses with visiting filmmaker. Topics vary by semester. May be taken twice. Instructor: Staff. One course.

690S. Special Topics in Visual and Media Studies. Subjects, areas, or themes that embrace a range of disciplines related to visual and media studies. Instructor: Staff. One course.

691. Independent Study. Directed reading in a field of special interest, under the supervision of a faculty member, resulting in a substantive paper or report. Consent of instructor and director of graduate studies required. Instructor: Staff. One course.

692. Independent Study. Directed reading in a field of special interest, under the supervision of a faculty

member, resulting in a substantive paper or report. Consent of instructor and director of graduate studies required. Instructor: Staff. One course.

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 must be at the 200-level or above. The following courses are required: one (1) Foundations (100-level) course, one (1) Visual Arts (practice-based) course, and two (2) upper-level (400-699-level) seminars. Students pursuing Graduation with Distinction take the Honors Thesis Workshop (Art History 495S) as one of the upper-level seminars. The remaining eight courses must be in at least four of the following five geographical areas, and one course in each of the three chronological periods: Europe and the Mediterranean, Asia and the Pacific, the Americas, Middle East and Africa, Trans-cultural; Prehistoric-1200, 1200-1800, and 1800-present. Individual courses can fulfill both a Geographical and a Chronological requirement.

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 toward 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 to 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.

Concentration in Architecture

The department offers a BA 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; (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.

Concentration in Museum Theory and Practice

The department offers a BA degree in art history with a concentration in museum theory and practice. Certification of this concentration is designated on the official transcript. The concentration allows students insight into the nature and ideology of the museum as a cultural institution, while also providing hands-on experience, working closely with museum staff to gain essential career preparation.

Students must take at least one of the following, preferably in their Junior year—Museum Theory and Practice (Art History 220); The Museum Object: Art and Artifacts on Display (Art History 221S). Students must also take Museum Internship 1 (Art History 310); and one of the following: Museum Internship 2 (Art History 311); Curatorial Practicum (Art History 455S); History and Theory of Curatorial Practice (Art History 222S). Those students who do not take both Art History 220 and Art History 221S must select two of the following courses: Art History 311, Art History 455S, Art History 222S. Students must take seven courses in Art History, including one (1) Foundations (100-level) course and at least one practice-based Visual Arts course. The two Wired! prosemantics (Visual and Media Studies 580S and Visual and Media Studies 581S) and “The Lives of Things” (Visual and Media Studies 590) are recommended as offering opportunities to engage with digital technologies for museum installations and public outreach. Distribution requirements for the major must be fulfilled.

Visual Arts

Major Requirements. The visual arts major requires twelve courses. Courses for the major include: three courses at the 100 level in a variety of disciplines, four courses at the intermediate/advanced level (between 200-

699), Visual Arts 497S (Advanced Visual Practice), Visual Arts 496S or 498S Senior Capstone in the Visual Arts, one course at any level in art history, one course at any level in visual and media studies, and one additional course in either art history or visual and media studies at the 200 level or above.

The requirements 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 toward 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 202D (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) or an approved upper-level seminar, 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 taught by faculty in AAHVS; 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 toward the major. Further courses are available for credit at North Carolina State University and The University of North Carolina at Chapel Hill.

Concentration in Cinematic Arts

The department offers a BA degree in visual and media studies with a concentration in cinematic arts. Certification of this concentration is designated on the official transcript. The concentration allows students deep engagement and mentoring in a range of approaches within the cinematic arts; from film/video production and digital imaging to the myriad ways in which time-based media can become an element of mixed media works and installation art; building on our distinctive strengths in film production and studies on campus. The concentration enables students to extend and focus their study within multiple fields of practice, film history, and theory.

Thirteen courses are required for the concentration, including one gateway course (either Visual and Media Studies 202D or Visual and Media Studies 289) taken preferably in the first or sophomore year, one theory-focused course, four practice and two film studies courses taken from an approved list, and the Visual and Media Studies 496S Cinematic Arts Capstone class in the spring semester of the senior year. Students must take four additional elective courses including one course in media history/art history.

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 104 (Exploring Art and Architecture); 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- to 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: arts of the moving image, graphic design, painting, photography, print making, 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 Satisfactory/Unsatisfactory or Advanced Placement credits do not count toward the minor.

Art History

Requirements: Five courses in art history at the 200 level or above.

Cinematic Arts

Requirements: Five courses, which must include at least one gateway course (either Visual and Media Studies 202D, Visual and Media Studies 289, or Visual and Media Studies 261S) taken preferably in the first or sophomore year. Additionally, students must take at least one film practice course and at least one film studies course (both from a list of approved a Cinematic Arts courses). The fifth course may be either film practice or film studies.

Photography

Requirements: Five courses related to photography, with the following courses required: Visual Arts 115 (Introduction to Photography) or Visual Arts 119S (Introduction to Digital Photography); Art History 303 (History of Photography); 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 visual and media studies courses at the 200 level or above taught by faculty in AAHVS and any two visual and media studies electives in any cross-listed discipline previously approved for the visual and media studies major. Visual and Media Studies 202D is *strongly* encouraged.

Arts & Sciences

Courses in Arts & Sciences (ARTS&SCI)

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

101D. Introduction to Inquiry and Research across Disciplines. **W** Students will analyze, discuss, and write about complex issues through multiple disciplinary frameworks to compose academic arguments about a relevant topic. Topics may include, but are not limited to, public health, big data, digital humanities, behavioral trends, and political climate. Students will learn about writing transfer as they explore research methods and epistemologies across disciplines, while evolving their writing and reasoning strategies in support of their academic arguments. This course is taught by faculty in the Thompson Writing Program. Instructor: Staff. One course.

190. Signature Course (Special Topics). Duke Signature Courses are wide-ranging, theme-based courses that integrate perspectives from across academic fields of inquiry and provide a common intellectual experience for students from a variety of fields and interests. Signature Courses feature some of Duke's most renowned scholar-teachers exploring large themes, enduring questions, or compelling challenges of their disciplines and of our times. Topics vary. Instructor: Staff. One course.

205S. Composing Oneself: Stress, Identity, and Wellness. **ALP, EI, SS, W** One course. C-L: see Writing 205S; also C-L: Study of Ethics 205S

206. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. **ALP, CCI, STS** One course. C-L: see Visual and Media Studies 264; also C-L: Documentary Studies 270, Political Science 276, Public Policy 374

390. University Course (Special Topics). Interdisciplinary course on topics of social relevance, sponsored by the Dean of Arts & Sciences. Topics vary each year. Instructor: Patton. One course.

390S. University Course (Special Topics). Seminar version of ARTS&SCI 390. Interdisciplinary course on topics of social relevance, sponsored by the Dean of Arts & Sciences. Topics vary each year. Instructor consent required. Instructor: Finnegan. One course.

493. Research Independent Study: Duke Connections. **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.

Arts of the Moving Image

Associate Professor of the Practice Gibson, *Director*

The Arts of the Moving Image Program is not currently accepting new students.

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 the studies and the practices of Arts of the Moving Image. 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, film genres, 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, sound, editing, 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 toward the certificate.

Certificate Requirements

Students must take a minimum of six courses, which must include at least one gateway course, either Arts of the Moving Image 101 (Introduction to Arts of the Moving Image), Arts of the Moving Image 201 (Introduction to Film Studies), or Arts of the Moving Image 301S (Moving Image Practice), and Arts of the Moving Image 499S (Arts of the Moving Image Capstone Course). 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.

Asian & Middle Eastern Studies

Associate Professor Ginsburg, *Chair and Director of Undergraduate Studies*; Professors Benmamoun, Ching, Liu, Rojas, and Safi; Associate Professors Ginsburg, Göknar, Hong, Kwon, and McLarney; Assistant Professor Bardawil; Professor Emerita miriam cooke; Professors of the Practice Hae-Young Kim and Lee; Associate Professors of the Practice Khanna and Lo; Assistant Professor of the Practice Chen; Associate Professor of the Practice Emerita Hitomi Endo; Senior Lecturers He and Kurokawa; Lecturers Houssami, E. Kim, Knapczyk, and Liu; Lecturing Fellows Boumaaza, Eun, Havlioglu, Hsieh, and Saito; Instructors Chou, Hsu, and Ye; Instructor B Saad Cheikh Abdi Vall; *Secondary Appointments*: Negar Mottahedeh (Literature); Visiting Associate Professor Chow; Visiting Lecturer Adel

A major and a minor are available in this program.

Asian & Middle Eastern Studies provides language instruction in Arabic, Chinese, Hebrew, Hindi, Japanese, Korean, Persian, Tibetan and Turkish and classes on Arabic, Chinese, Hebrew, Hindi, Japanese, Korean, Persian and Turkish literatures and cultures in translation.

Courses in Asian & Middle Eastern Studies (AMES)

80S. Studies in Special Topics. Opportunities for first-year students to engage with a specific issue in Asian & Middle Eastern Studies, 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.

105. Understanding the Middle East. CCI, SS Introduction to central political, geopolitical, cultural, and socio-economic issues in the Middle East, including revolution, protest, youth movements, war, conflict, imperialism, occupation, neocolonialism, oil, terrorism, religion, Islamism, Zionism, media, social media, culture, creativity, art, music, film, literature, women, gender, and sexuality. Regions covered will range from Morocco to Egypt to Palestine and Israel to Iraq and Iran to Saudi Arabia and the Gulf. A far reaching, but in depth exploration of the politics and culture of the Middle East today. Instructor: McLarney. One course. C-L: International Comparative Studies 205

107. Introduction to East Asian Cultures: Narrating East Asia through Word and Image. ALP, CCI, CZ The study of East Asia makes sense not necessarily as a study of shared canons or of ‘civilizational origins’ or, shared ‘Asian values’: rather, modern East Asia can be productively studied in terms of shared historical, political, cultural concerns; the influx of new ideologies; the processes of ‘becoming modern’; and of course, the positioning of East Asian area studies in the academy and the larger world. In this introductory course, we will be looking at “Global East Asia” and its diasporas through all manners of storytelling, focusing on word-image narratives: Asian traditions of manga, manhwa, manhua, as well as graphic novels. Instructor: Chow. One course. C-L: International Comparative Studies 144

111. Self, Society and Art in Modern Hinduism. CCI, CZ, EI One course. C-L: see Religion 110

114. Buddhism. CCI, CZ, EI One course. C-L: see Religion 120

115. Religions of Asia. CCI, CZ, EI One course. C-L: see Religion 175; also C-L: International Comparative Studies 108

120. Sound and Society in East Asian Contexts. ALP, CCI, CZ One course. C-L: see Music 234

122. Islamic Civilization I. CCI, CZ, EI One course. C-L: see Religion 375; also C-L: Cultural Anthropology 256, History 210, Medieval and Renaissance Studies 268, Ethics Elective, Information Science + Studies, Islamic Studies

123. History and Culture of Iran. ALP, CCI, CZ, R A multi-disciplinary approach to Iran and Persian culture. Covers history, religion, politics, literature, music, and cinema. Focuses on the developments in Iran leading up to and after the 1979 revolution. Does not require any knowledge of Persian or previous background. Instructor: Safi. One course. C-L: History 248, Religion 283

125. Egypt: Mother of the World. ALP, CCI, CZ A cultural history of modern Egypt: the Arab spring; arts of the revolution; Egyptian cinema, popular culture, and literature; Islamic politics, Islamic thought, and Islamic mobilization; Arab nationalism and Gamal Abd al-Nasser; the economics of Egyptian politics; the Awakening (Nahda) of the 19th century; Muhammad Ali and the Ottoman empire; British and French conquests of Egypt; and orientalist knowledge about Egypt. Includes a trip to Egypt over break. Instructor: McLarney. One course. C-L: Islamic Studies, International Comparative Studies

126S. Understanding the Qur'an. CCI, CZ, EI One course. C-L: see Religion 370S

127. The Modern Middle East. CCI, CZ One course. C-L: see History 214; also C-L: Jewish Studies 258, International Comparative Studies, Islamic Studies

129. Master Filmmakers of Chinese Cinemas. 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 o 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, Visual and Media Studies 235

132S. 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

136. China from Antiquity to 1400. CCI, CZ One course. C-L: see History 220

137S. Gateway Seminar: China at War. CZ, W One course. C-L: see History 184S

138. Scripture: Judaism, Christianity, and Islam. ALP, CCI, CZ, EI One course. C-L: see Religion 156; also C-L: Jewish Studies 156

141S. Audiovisual Cultures in East Asia: Film, Music, and Other Media. ALP, CCI, CZ This seminar introduces to students to various aspects of audiovisual cultures in East Asia, including film, photography, music and other new and emerging media. It focuses on visual and sound studies and their interconnected relationship to the constitution of the sensible world within the East Asian regions while connecting to the larger global context, highlighting the global movement and cross-cultural networks of audiovisual media both enabled and complicated by technologies. Emphases are also placed on hand-on practice with individual and group projects. The goal is to not only understand audiovisual cultures critically but also actively engage in their production. Instructor: Hong. One course. C-L: Visual and Media Studies 141S

142. History of Chinese Medicine. CCI, CZ, STS, W One course. C-L: see History 239; also C-L: Global Health 142

143. Contemporary Israeli Cinema. ALP, CCI, EI A comparative approach to Israeli cinema, in the context of American and European cinemas. Cinema and nationalism. Cinematic representations of social, political, racial, and ethnic tensions and fissures: social gap, immigration to and emigration from Israel, militarism and civil society, masculinity and femininity, and the Israeli-Arab conflict. Popular culture and its relationship with high culture. Instructor: Ginsburg. One course. C-L: Visual and Media Studies 248, Literature 217, Jewish Studies 241, Gender, Sexuality, and Feminist Studies 214, Islamic Studies

144. Introduction to Israeli Culture. ALP, CCI, CZ Surveys of Israeli culture from the late 1940s to the present. Examines Israeli fiction, cinema, popular music, visual culture. Major themes include ethnicity, the Israeli-Palestinian conflict, class, the Jewish Holocaust, religion and secularism. Legal and economic aspects of culture. Instructor: Ginsburg. One course. C-L: Jewish Studies 245

145. Chinese Music Ensemble. Half course. C-L: see Music 210-6

150. Chinese Art 1900 to Present. ALP, CCI, CZ, R One course. C-L: see Visual and Media Studies 294; also C-L: International Comparative Studies

151. Indian Cinema. ALP, CCI, CZ, R Sources of vitality in twentieth-century Indian cinema. The resilience of popular cinema in the face of Hollywood. Narrative and non-narrative expressive forms in folk and high culture in India. The work of Guru Dutt, Satyajit Ray, G. Aravindan, and Mani Kaul. Instructor: Khanna. One course. C-L: Literature 211, Visual and Media Studies 231

157S. Indian Civilization. CCI, CZ, EI, SS, W One course. C-L: see History 219S; also C-L: Cultural Anthropology 215S

158. Gandhi: Image and Reflection. CCI, CZ, EI One course. C-L: see Religion 279; also C-L: Human Rights Program-Franklin Humanities Institute 279, Human Rights

160. Islam. CCI, CZ, EI One course. C-L: see Religion 160; also C-L: International Comparative Studies 160, Islamic Studies

161. 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. Instructor: Chow. One course. C-L: Literature 213, Visual and Media Studies 232

161. Anime: Origins, Forms, Mutations. ALP, CCI Historical origins of Japanese anime, as well as its status as art, narrative, genre. Ways in which anime mutates: formally (literature, manga, live action), culturally

(fashion, otaku, fan communities), geographically. No prior knowledge of subject matter or Japanese language required. Instructor: Chow. One course. C-L: Visual and Media Studies 216

165S. 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

167. Ancient and Early Modern Japan. CCI, CZ One course. C-L: see History 226; also C-L: International Comparative Studies

169. The Emergence of Modern Japan. CCI, CZ One course. C-L: see History 227

171. 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, Visual and Media Studies 234, Cultural Anthropology 255

172S. Korean Literature and Culture in Translation: Local and Global Connections. ALP, CCI, CZ Critical examination of variable topics in Korean literature. Texts contextualized in global and local histories. Boundaries of the nation and its narration interrogated. Themes may range from gender and sexuality, diaspora, global/local literary histories, translation, language and power, canonization, and (post)coloniality. Instructor: Kwon. One course. C-L: Literature 239S

174. Japanese Religions: Buddhas, Gods, and Monsters. CCI, CZ, EI One course. C-L: see Religion 176

175S. 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, religious traditions, the Korean War, nuclear development and missiles, North Korean defectors and refugees in other Asian countries, human rights, international relationships, and unification. Instructor: Kwon. One course.

177S. Gateway Seminar: Gandhi, King, Mandela. CCI, CZ, EI, R, SS One course. C-L: see History 163S; also C-L: African & African American Studies 163S, International Comparative Studies 163S

178S. Migration and Human Rights in Korea: Local and Global Perspectives. CCI, CZ, EI, SS Introduces students to the history and contemporary conditions of North Korean refugees and other migrants in South Korea from across the region (Pakistan, China, Nepal, Vietnam, Russia, Philippines, etc.). Examines competing claims about past and ongoing challenges emerging from economic, ethno-racial, ideological, and geopolitical differences. Takes interdisciplinary approaches to study various sources including historical writings, human rights discourses, policy papers, debates in journalism, law, and religion, documentary films, testimonies, and autobiographies. Course is taught in conjunction with the Duke Engage Korea program and open to all students with overlapping interests. Instructor: Kim and Kwon. One course. C-L: International Comparative Studies 105S, Religion 180S

179FS. Turkey: Muslim and Modern. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 279FS; also C-L: History 239FS, Islamic Studies

179S. Turkey: Muslim and Modern. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 279S; also C-L: History 239S

182. Asian American Theatre. ALP, CCI One course. C-L: see Theater Studies 232; also C-L: English 387

183. The China Dream. ALP, CZ, STS A study of the status of dreams in modern Chinese culture, with an emphasis on the ramifications of the contemporary political slogan “the Chinese dream.” Will consider literary, cinematic, social, and theoretical texts. Instructor: Rojas. One course.

185. Islamic Civilization II. CCI, CZ, EI One course. C-L: see Religion 376; also C-L: Cultural Anthropology 257, History 211, Medieval and Renaissance Studies 269, International Comparative Studies, Ethics Elective,

Islamic Studies

186. 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 and nationalism. Secondary topics include Sufism, Islam, gender, and historiography. Interdisciplinary focus. Taught in English. Instructor: Goknar. One course. C-L: Religion 228, History 212, Slavic and Eurasian Studies 287, 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 & African American Studies 133S, International Comparative Studies 183S, Human Rights Program-Franklin Humanities Institute 183S, Public Policy 175S, Human Rights

190A. Duke-Administered Study Abroad: Special Topics in Asian and Middle Eastern Studies. Topics vary each semester. Instructor: Staff. One course.

190FS. AMES Special Topics-Focus Program. Topics vary each semester. Open only to students in the Focus Program. Instructor consent required. Instructor: Staff. One course.

190S. Special Topics in Asian & Middle Eastern Studies. Topics vary by semester. Instructor: Staff. One course.

190SA. Duke-Administered Study Abroad: Special Topics in Asian and Middle Eastern Studies. Topics vary each semester. Instructor: Staff. One course.

195S. Gateway Seminar: Rethinking Asia and the Middle East. CCI, CZ Studies intellectual concepts and cultural frameworks from Asia at large; compares normative European and North American conceptions of East Asia and the Middle East with contemporary challenges; examines how they internalize, negotiate and resisted Eurocentric knowledge; and focuses on nation, gender and race. Instructor: Ching, Ginsburg, McLarney. One course.

201S. The Israeli-Palestinian Conflict in Films. ALP, CCI, CZ, EI Explores cinematic representations of the Israeli-Palestinian conflict; probes the history and the current state of the conflict through its visual representations. Focuses on representations of violence: of state violence vs. non-state terrorism; probes the relationship between spectatorship and violence. Instructor: Staff. One course. C-L: Jewish Studies 206S

202S. Francophone Literature. ALP, CCI, FL One course. C-L: see French 417S; also C-L: History 387S, Latin American Studies

204FS. Documenting the Middle East: Community and Oral History. ALP, CCI, CZ, R Studies the documentary record of the Middle East in photography, film, and oral history. From early studio photography to recent community and student production, considers documentary expression's meaning and function. Analyzes the role of digital humanities and social media in documentary research. Uses best practices of documentary work. Includes a hands-on documentary component: recording diverse voices from Iraqi, Syrian, and Palestinian communities. Student-produced fieldwork from the class will be permanently housed at Duke's Archive of Documentary Arts. Open only to students in the Focus Program. Department consent required. Instructor: Kalow. One course. C-L: Documentary Studies 204FS, Human Rights Program-Franklin Humanities Institute 204FS, Human Rights

205FS. Literary Islam: Poetry, Scripture, Philosophy. ALP, CCI, CZ A broad overview of the most essential elements of the Islamic literary tradition. Begins with pre-Islamic poetry and how it framed the emergence of the Qur'an, hadith (sayings of the Prophet Muhammad), and the early Islamic community. Looks at the early Meccan verses of the Qur'an in comparison to with the later Madinan ones. Traces intertwined oral and scriptural traditions, hadith science and biographical literature, poetry and philosophy, mysticism and rationalism, belles lettres and adab, satire and vernacular literature. Ends with modern takes on classic genres and sources. Open only to students in the Focus Program. Department consent required. Instructor: McLarney. One course.

206S. Muslim Ethics and Islamic Law: Issues and Debates. CCI, CZ, EI One course. C-L: see Religion 388S; also C-L: Study of Ethics 345S

207. Silk Roads and China, Ancient and Medieval Transformations. CCI, CZ One course. C-L: see History 135; also C-L: Medieval and Renaissance Studies 135, Religion 181

208FS. Geopolitics and Culture from ISIS 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, Cultural Anthropology 211FS

208S. Geopolitics and Culture: Islamic States from the Ottomans to ISIS. ALP, CCI, CZ Geopolitical, comparative study of “Islamic states” and majority Muslim nations/polities of the greater Middle East including the Ottomans, Bosnia, Egypt, Algeria, Chechnya, Iran, Afghanistan and ISIS. All of these polities have experienced profound contestation between Islamic and secular state traditions and have recent histories of cultural and ethnic conflict and political violence. Exploration through history, culture, policy and theory of state-formation, revolution, and coup. Analysis through the lenses of US, European and regional geopolitical interests. Instructor: Göknar. One course. C-L: International Comparative Studies 217S, Public Policy 213S, History 379S

210. Arab Cultures: Literature, Politics, History. ALP, CCI, CZ Explore different facets of modern and contemporary Arab cultures; memoirs, novels, prison notebooks, films, comic books, theoretical tracts, music, psychiatric case-studies, histories, and ethnographies; consider how authors depict key historical transformations taking place in the Arab world; different angles through which political questions are tackled; the negotiation between self and other. Instructor: Staff. One course. C-L: Literature 251, Cultural Anthropology 209

211. Melodrama East and West. ALP, CCI 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. Instructor: Hong. One course. C-L: Gender, Sexuality, and Feminist Studies 279, Visual and Media Studies 223

212S. North Indian Classical Music: Structure, Culture and Lyric. ALP, CCI, CZ One course. C-L: see Linguistics 219S

215S. The Middle East: From Facebook to Film. CCI, CZ, SS One course. C-L: see Cultural Anthropology 417S; also C-L: Visual and Media Studies 417S, International Comparative Studies 417S, Islamic Studies

216. Jews and Muslims, Judaism and Islam. CCI, CZ, EI One course. C-L: see Jewish Studies 256; also C-L: Medieval and Renaissance Studies 357, Religion 212, History 294, Islamic Studies

217. Astrology and Religion. CCI, CZ One course. C-L: see Religion 273

218. The Middle East Through Film. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 273; also C-L: Political Science 273, Documentary Studies 274

219. Elements of Linguistic Structure. SS One course. C-L: see Linguistics 203

220S. From Al-Qaeda to ISIS: Understanding Terrorism, its Roots, Responses, and Ramifications. CCI, CZ, EI, SS, W Focus on Al-Qaeda as the preeminent terrorist group of contemporary militant Islam , its roots, ideology, and offshoots such as ISIS. Examination of Al-Qaeda’s ideology, political culture, and development by exploring the origins and the narrative discourse of modern militant Islamic organizations dating back to the Salafi 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: Study of Ethics 221, Islamic Studies

224S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see Religion 219S; also C-L: Gender, Sexuality, and Feminist Studies 209S, International Comparative Studies 365S, History 225S, Cultural Anthropology 224S, Human Rights Program-Franklin Humanities Institute 219S

225. Islam in the Age of Trump: Race, Immigration, and Empire. CCI, CZ, EI, R, SS Policy and history of treatment of Muslim Americans under Trump administration; Islamophobia as state policy; policy, law, history of both African American Muslims and Muslim immigrants; racism, policies of colonialism and Empire, and anti-immigrant bigotry. Instructor: Safi. One course. C-L: Religion 225

230S. Islam in the Americas. CCI, CZ, SS, W One course. C-L: see Religion 384S; also C-L: History 351S, African & African American Studies 274S, Human Rights Program-Franklin Humanities Institute 374S, Islamic Studies, Human Rights

231. Migrant China. CCI, CZ, SS One course. C-L: see Cultural Anthropology 241; also C-L: International Comparative Studies, Marxism and Society

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, International Comparative Studies

234. Survey of Modern China 1800-Present. CCI, CZ One course. C-L: see History 223

240. Games and Culture: Gateway to the Study of Games. CCI, SS Examines analog and computer games from a cultural perspective. Explores how prevailing culture and values affect game design, popularity, and experience. how games affect those areas of culture, such as imagining disaster, utopia and dystopia. Explores role-playing and identity, ethics, group behavior, competition, politics, gender, race, and aesthetics. Instructor: Ching, Ginsburg. One course. C-L: Information Science + Studies 242, Literature 249, Visual and Media Studies 214, International Comparative Studies 265, Political Science 248

240S. Games and Culture: Gateway to the Study of Games. CCI, SS Examines analog and computer games from a cultural perspective. Explores how prevailing culture and values affect game design, popularity, and experience. how games affect those areas of culture, such as imagining disaster, utopia and dystopia. Explores role-playing and identity, ethics, group behavior, competition, politics, gender, race, and aesthetics. Instructor: Ching, Ginsburg. One course. C-L: Literature 249S, Political Science 248S, International Comparative Studies 265S, Cultural Anthropology 440S, Visual and Media Studies 214S, Information Science + Studies 242S, Information Science + Studies

244. Israel/Palestine: Comparative Perspectives. CCI, EI, SS One course. C-L: see Cultural Anthropology 148; also C-L: Environment 147, Jewish Studies 148, Public Policy 178, Political Science 159, Human Rights Program-Franklin Humanities Institute 148, Ethics Elective, Islamic Studies, Human Rights

246. Dance and Dance Theater of Asia. ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Theater Studies 233, Religion 241, International Comparative Studies 243

247. T'ai Chi and Chinese Thought. CCI, CZ One course. C-L: see Religion 247; also C-L: Dance 255

252S. Indigenous Journeys in South Asian Film and Literature. ALP, CCI A survey of real or imagined journeys in South Asian film and literature from the anxieties of modernity towards traces of the indigenous. Combines an interest in travel literature and road movies with inquiry into human values. Examines aesthetic representations of journeys that are made to idealize a particular past or to valorize contemporary traces of indigenous communities, while exploring the perspectives on modernity afforded by these real or imagined journeys. Instructor: Khanna. One course. C-L: Visual and Media Studies 251S, Literature 250S

253S. Epics of India: Ethics, Politics, and Performance Traditions. ALP, CCI, CZ One course. C-L: see Religion 278S

255. Religion and the Novel in Modern India. ALP, CCI, CZ, EI One course. C-L: see Religion 258; also

C-L: English 258

257. Four Funerals and a Wedding: Introduction to Chinese Religious Life. CCI, CZ, R, SS One course. C-L: see Religion 257

262. Contemporary Japanese Visual Culture. ALP, CCI, CZ, W One course. C-L: see Visual and Media Studies 236

270T-1. Voices in Global Health: Arabic Tutorial. Half course. C-L: see Global Health 270T-1

270T-4. Voices in Global Health: Hindi Tutorial. Half course. C-L: see Global Health 270T-4; also C-L: Hindi 270T-4

270T-5. Voices in Global Health: Mandarin Tutorial. Half course. C-L: see Global Health 270T-5

271T. Voices in Philosophy: Chinese Tutorial. Discussion-based course trains students to read and analyze core philosophical texts in Chinese, typically in conjunction with a lecture course offered in philosophy. Classes include close readings of original texts, discussions of interpretation and application in variety of other forms (including film, documentary, multimedia) and real-life situations. Students examine how language/culture impact our understanding of core philosophical texts through attention to issues such as translation, vernacular, and word choice. Tutorials meet weekly for 75 minutes. Recommended prerequisite: Chinese 306 or equivalent. Instructor: Staff. Half course. C-L: Chinese 271T

272T. Voices in the Environment: Mandarin. Half course. C-L: see Environment 269T-3

275. Chinese Philosophy. CCI, CZ, EI One course. C-L: see Philosophy 263; also C-L: Ethics Elective

281SL. Revolution on Screen: Filming Conflict in the Middle East. ALP, CCI, CZ Explores the documentation of conflict in the Middle East through film: the partition of Israel and Palestine in 1948; the wars of independence in the 1950s and 1960s; the Iranian Revolution in 1979; the intifadas in Israel and Palestine; the wars in Iraq and Afghanistan; the more recent upheavals in Egypt, Tunisia, Libya, Yemen, and Syria; and the propagandistic filmmaking of al-Qaeda and ISIS. Looks at documentary film making, motion pictures and feature films that interpret conflict through a storytelling lens. Includes a weekly film screening “lab” and a discussion section. Instructor: McLarney. One course. C-L: Visual and Media Studies 225SL, International Comparative Studies 338SL

283S. Istanbul: City of Two Continents. CCI, CZ Istanbul is the only city in the world located on two continents. Istanbul's Byzantine, Ottoman, and Turkish cultural legacies allow the city to be read as a "palimpsest"—an overwritten, layered text of multiple, even contradictory meanings. Istanbul is an ideal site to explore imperial history, migration, identity, East/West relations, Islam/Christianity, and cosmopolitanism. Through interdisciplinary sources in history, literature, culture and politics, students will examine a variety of urban, architectural and social spaces including churches, mosques, public squares and ethnic neighborhoods. Taught in English. Instructor: Göknar. One course. C-L: Cultural Anthropology 283S, International Comparative Studies 249S, History 397S, Islamic Studies

286. Buddhism and Sexuality. CCI, CZ, EI One course. C-L: see Religion 328; also C-L: International Comparative Studies 389

288S. Religion and Politics in Post-Revolutionary Iran. CCI, CZ, EI One course. C-L: see Religion 377S; also C-L: Political Science 379S, History 265S

290S. Special Topics in Asian and Middle Eastern Studies. Topics vary by semester. Instructor: Staff. One course.

295S. Black Muslims: Race, Religion, & Culture. CCI, CZ The intersection of African, American, European, and Islamic cultures studied through the cultural and intellectual flourishing of black Islam. Topics include early Muslim communities established in the Americas through the transatlantic slave trade, Muslim slave rebellions in Brazil and the Caribbean, Muslim slave autobiographies, African Muslims in Europe, the emergence of the Moorish Science Temple and the Nation of Islam, Elijah Muhammad, Malcolm X, Muhammad Ali, women of the Nation of Islam, women's Qur'an exegeses, Hagar as a black woman, black feminism, the Five-Percent Nation, Islamic hip-hop and rap, "the Black Crescent," the black international and Islam, and the Black Panthers. Instructor: McLarney. One course. C-L: African & African American Studies 295S, Religion 295S, International Comparative Studies 222S, Gender, Sexuality, and Feminist Studies 296S, Human Rights

Program-Franklin Humanities Institute 295S, Human Rights

296S. Turkish History through the Novels of Orhan Pamuk. ALP, CCI, CZ, EI An introduction into Turkish history (including the Ottoman Empire) through a comparative study of the historical novels and nonfiction of Nobel Laureate Orhan Pamuk. Addresses Pamuk's role as an intellectual-author who mediates between Islamic culture, secular modernity, the Turkish national tradition and an international canon of literature. Political implications of Sufism, cultural revolution, Orientalism, and post-colonialism. Secondary focus on representations of cosmopolitan Istanbul, political Islam and the military coup. Taught in English. Instructor: Göknar. One course. C-L: Literature 276S, International Comparative Studies 345S, History 283S, Islamic Studies

301D. Religion, Restrictions, and Violence. CCI, CZ, EI One course. C-L: see Religion 301D; also C-L: Jewish Studies 301D, Political Science 303D, Public Policy 313D, Study of Ethics 303D

303SA. Women and Gender in the Middle East. CCI, CZ, EI Examination of cultural identity and politics in Turkey and modern Middle East. Using Istanbul as a classroom, considers how representations of the Middle East are contested and gendered, analyzing such icons as "veiled women" and "terrorist men" and political implications of such representations. Topics include emergence of new social movements and paradoxes of secularism, Islamism, globalization, and neoliberalism in various settings. Offered only in the Duke in Turkey program. Instructor: Göknar, Gökariksel. One course. C-L: Cultural Anthropology 304SA, Political Science 213SA

304. Africa and Arabia: Cultures, Communities, and Connections. CCI, CZ, SS This course explores communities, cultures, and connections between Africa and Arabia. It provides concepts, information, and theories that help students understand cultural relationships between Arabs and Africans, historical backgrounds, migration within and emigration from the two groups, and areas of collaboration and contention in the globalized world. Selected themes of religion, language, music, and narratives against European colonialism will be examined as case studies within overlapping configurations of identity politics. Scholarly readings, political biographies, films, guest experts, as well as visiting local religious and diasporic communities are vital components of the course. Instructor: Lo. One course. C-L: International Comparative Studies 306, African & African American Studies 306

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

309. 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: Human Rights Program-Franklin Humanities Institute 309, Human Rights

310S. Acquisition of Japanese as a Second Language. CCI, SS Examining the Japanese language data used in the development of second language acquisition theories; learning syntactic and semantic properties of the Japanese language and their comparisons with English; reading published empirical studies about acquiring Japanese as a second language and evaluate their arguments; designing an original research to address the current issues in learning and teaching Japanese. Instructor: Chen. One course. C-L: Linguistics 315S

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, International Comparative Studies 311S

314. Zen Buddhism: A Survey from Its Origins to the Present Day. CCI, CZ, EI One course. C-L: see Religion 324

315. Buddhist Meditation in Transformation: Historical, Scientific, and Medical Perspectives. CCI, CZ, EI One course. C-L: see Religion 323

315S. Buddhist Meditation: Cultivation Practices and Psychology. CCI, CZ, EI One course. C-L: see Religion 323S

317. Martin Luther King and the Prophetic Tradition. CCI, CZ, EI, R, SS Situates Martin Luther King as a preacher in the black Christian tradition with a liberationist reading. Traces the movement from civil rights to opposition to economic injustice, war, and militarism. Analyzes what the prophetic voices of today have to say about issues of poverty, racism, environmental destruction, militarism, homophobia, drones, sexism. Instructor: Safi. One course. C-L: Religion 234, African & African American Studies 249, Public Policy 253, Human Rights Program-Franklin Humanities Institute 249, Human Rights

318S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: African & African American Studies 247S, International Comparative Studies 320S, Latin American Studies 320S, Information Science + Studies 323S, Visual and Media Studies 323S, Human Rights Program-Franklin Humanities Institute 323S

319S. Andalusia: Muslim, Jewish, Christian Spain. ALP, CCI, CZ Intersection of cultures, religions, languages, & peoples through history, poetry, music, architecture, & philosophy in Spain. Cultural flourishing from the contact—and sometimes clash—of European, Spanish, Islamic, Arab, African, Middle Eastern, and Jewish civilizations and Arabic, Spanish, and Hebrew languages. Ends with Andalusian culture in modern music, poetry, art, dance, & architecture at the crossroads of civilizations. Includes travel to Spain over spring break so students witness firsthand the coexistence of different religious traditions and cultures. Instructor consent required. Instructor: McLarney/Lieber. One course. C-L: Religion 214S, Jewish Studies 319S, Romance Studies 319S, Medieval and Renaissance Studies 352S

320S. Refugee Lives: Violence, Culture and Identity. ALP, CCI, CZ, EI Examines how writers, artists and filmmakers represent the ways in which Palestinians, Syrians, Iraqis, Sudanese and Egyptians have become refugees and their adaptation strategies to new, harsh circumstances both in and outside the Arab world. Discusses government and non-governmental organizations that have worked with Arab refugees since 1948. Explores the role played by refugees in constructing national identity and consciousness. Instructor: Cooke. One course. C-L: Documentary Studies 321S, Human Rights Program-Franklin Humanities Institute 321S, Human Rights

321. Rumi: Mysticism and Poetry. ALP, CCI, CZ, R Rumi, the iconic poet of Persian Islamic tradition; course examines his writings, context, and legacy. Involves students' research. Encourages students to cultivate critical skills by assessing relevant scholarship and developing multidisciplinary methodologies. All readings in English; no previous coursework or command of Persian/Arabic required. Instructor: Safi. One course. C-L: Religion 381

322. Mystical Literature. ALP, CCI Explore and 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: Safi. One course. C-L: Religion 263, International Comparative Studies 323, Islamic Studies

324S. Muslim Philosophy and Theology, an introduction. CZ, EI One course. C-L: see Religion 374S; also C-L: Study of Ethics 235S, 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, ijтиhad 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 372, History 444, Islamic Studies

326A. Religion, Security and Global Citizenship 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, International Comparative Studies 362A, Political Science 395A, Public Policy 339A

328S. Literary Islam. ALP, CCI, CZ The Quran as scripture; mystical poetry; stories of the early community; literary cultures in the early community; modern reinterpretations of Islamic sources; Islamist literature; modern Islamic poetry, novels, plays, and stories. Instructor: McLarney. One course. C-L: Literature 328S, Religion 326S

329S. Islamic Media. ALP, CCI, CZ How contemporary technologies reawaken the sense of the sacred in daily life, rather than destroy it. How technologies new and old circulate the Word in its multiple incarnations, but also cultivate modes of communal identification. How Islamic media transform the social and political landscape, as well as the way we see/ feel/ and perceive the world. How religion has been intensified, diversified, and inflected by the information age. How this media constitutes the very experience of religion. Film, video, digital media, satellite television, social media, print media, audiocassettes, radio, music. Instructor: McLarney. One course. C-L: Religion 379S, International Comparative Studies 331S, Visual and Media Studies 342S

330S. Middle East Women Writers. ALP, CCI, CZ The emergence of women writers in the Middle East from nineteenth-century poets to twenty-first-century bloggers. Novels, short stories, autobiographies and poetry dealing with Arab, Turkish, Persian and Israeli women's experiences as well as rights in the home and in politics, war, colonialism, religion and sexuality. Writers include Syrian Samman, Idilbi; Egyptian Sha'arawi, El Saadawi, Lebanese al-Shaykh, Barakat; Palestinian Khalifa, Tuqan; Iraqi al-Malaika and Riverbend; Algerian Djebbar; Turkish Aliye and Edip; Persian Ebadi, Farokhzad and Satrapi; Israeli Ravikovich and Castel Bloom. Instructor: Havligolu. One course. C-L: Islamic Studies

331S. Buddhist Ethics. CCI, CZ, EI, W One course. C-L: see Religion 321S; also C-L: Study of Ethics 321S, Ethics Elective, Marine Science and Conservation

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, International Comparative Studies 336

338S. Globalization and Theater. ALP, CCI, CZ, EI One course. C-L: see Theater Studies 338S; also C-L: International Comparative Studies 357S

339S. Local Islams: Islamic Communities in the Area. CCI, CZ, EI, SS A hands-on introduction to the Sufi, Salafi, Sunni, Shia, and Nation of Islam Muslims in the area and to the diverse locales, ethnicities, and practices of the Muslim community at large. A scholarly examination of 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, films and literature about American Islam. Students will forge local relationships that will deepen and enrich your intellectual understanding of Islam, Muslims, and America. Instructor: McLarney. One course. C-L: Religion 386S

341S. Screening the Holocaust: Jews, WWII, and World Cinema. ALP, CCI, CZ, EI Probes representations of the Jewish Holocaust in World Cinema. Explores divergent filmic strategies employed to represent what is commonly deemed as "beyond representation". Focuses on theoretical and philosophical questions that pertain to the representation of horror in general and of the genocide of Jews in particular. Asks whether anything is permissible in representing such an event: Is there an appropriate way, in contradistinction to inappropriate way, to represent the Jewish Holocaust? Instructor: Ginsburg. One course. C-L: Visual and Media Studies 275S, Jewish Studies 266S, Literature 263S, Documentary Studies

349S. Hinduism and Judaism: Culture, Religion, and Identity. CCI, CZ One course. C-L: see Religion

216S; also C-L: Jewish Studies 215S

351S. Atheism and Buddhism. CCI, CZ, EI One course. C-L: see Religion 330S

352. Modern Hindi Literature. ALP, CCI, CZ A survey of Hindi literature from the early twentieth century to the present focusing on the power of literary forms to induce aesthetic experience and express cultural endeavors. Poetry, plays, short stories, novels. Instructor: Khanna. One course.

357. Modern & Global India. CCI, CZ, EI, SS, W One course. C-L: see History 218; also C-L: International Comparative Studies 218

359. Violent Jihad in the Twentieth Century - A Global History. CCI, CZ One course. C-L: see History 359; also C-L: Political Science 382, Public Policy 359, International Comparative Studies 361

360. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360; also C-L: Literature 361, Sociology 360, International Comparative Studies 369

360S. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360S; also C-L: Literature 361S, Public Policy 358S, Sociology 360S, International Comparative Studies 369S

372. Two Koreas: History, Society and Culture. ALP, CCI, CZ Introduces the divided histories of North and South Korea and their contemporary legacies in regional and global contexts. Explores topics such as colonization, modernization, division, war, migration, gender and sexuality, human rights, popular and political cultures, and globalization in comparative perspectives. Examines historical narratives, journalism, museums, literature, and visual cultures. Instructor: Kwon. One course. C-L: History 473, Cultural Anthropology 473

373S. Islamic Mysticism. CCI, CZ, EI One course. C-L: see Religion 373S; also C-L: International Comparative Studies 380S, Study of Ethics 373S, History 380S, Ethics Elective, Islamic Studies

375S. Middle East and Latin America. CCI, CZ How Middle Eastern identities blend with Latin American ones, through migration, institutions, popular media, transnational political ideologies (Marxist, leftist, socialist, populist, nationalist, religious, or feminist), as well as through conversions and proselytizing. Solidarities across the Global South central to Latin American projects to “decolonize the mind,” to mutually inspired “liberation theologies,” and to new kinds of non-Western feminisms. This course explores the creative conjuncture of Middle Eastern and Latin American politics and cultures, through immigration and assimilation, institution building, political activism, media production, feminism, and conversion. Instructor: McLarney. One course. C-L: Latin American Studies 330S, Latino/a Studies in the Global South

379SA. Gender and Immigration between Europe and the Middle East. ALP, CCI Investigates the gendered experience of immigration and its implications for changing the culture both at home and in the hosting countries. Between the traditions of the country of origin and acculturation to the new home, women and LGBTQ communities are the most vulnerable facing gender-based discrimination and violence. Nonetheless, immigration also offers the opportunity to cross the borders of binaries, such as femininity and masculinity, which can be empowering and liberating. This seminar is offered as part of the Middle East in Europe: Berlin/Istanbul study abroad program. Instructor: Havlioglu. One course. C-L: Gender, Sexuality, and Feminist Studies 269SA

380SA. Transnational Muslims in Germany: Politics of Migration, Religion, and Culture. CCI, CZ, EI, SS Critically analyzes political debates about Muslims and Islam in Europe that often cast them as a “security threat” or a “problem” of failed integration. Traces the geographical production of Muslim subjects through transnational flows, networks and imaginaries. Examines a series of topics including debates about the headscarf, Muslim women’s dress, mosque construction, Muslim civil society organizations, and the refugee crisis in Germany. Taught in English as part of the Duke Middle East in Europe program. Instructor: Gökariksel. One course. C-L: Gender, Sexuality, and Feminist Studies 323SA, International Comparative Studies 278SA, Cultural Anthropology 382SA, Religion 382SA

381SA. Politics and Culture Between Europe and the Middle East. CCI, CZ Surveys the changing geopolitical context of communities between Europe and the Middle East through an interdisciplinary cultural framework from WWI to the present. Emphasis on German/Turkish relations. Analysis of representations of nationalism, identity, ethnicity, gender and religion. Examines intersections of modernity, revolution, and lived and political Islam to analyze the ways in which political ideologies create and question Middle Eastern

identities. Secondary theoretical readings, including work by political scientists, cultural critics, and policy experts. Taught in English as part of the Duke Middle East in Europe program. Instructor: Göknar. One course. C-L: Public Policy 386SA, History 378SA, International Comparative Studies 225SA

383S. Istanbul and Berlin. CCI, EI, SS Examines the cultural and political history of Istanbul and Berlin from the late 19th. c. to the present. Beginning with the late Ottoman context and German national unification, focus on Ottoman-German relations through WWI, Turks in Germany since the 1960s, and Turkish-EU relations in historiography, travelogues, literature and film. Secondary readings in cosmopolitanism, identity, subjectivity, and Islam in Europe. Instructor: Göknar. One course. C-L: German 283S, International Comparative Studies 356S, History 368S

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 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: Slavic and Eurasian Studies 342A

390. Special Topics. Topics vary each semester. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Asian and Middle Eastern Studies. 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.

390SA. Duke-Administered Study Abroad: Advanced Special Topics in Asian and Middle Eastern Studies. 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.

402. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302; also C-L: Gender, Sexuality, and Feminist Studies 320, Visual and Media Studies 324, Information Science + Studies 302

402S. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302S; also C-L: Gender, Sexuality, and Feminist Studies 320S, Visual and Media Studies 349S, Information Science + Studies 302S

409S. Discourse of Disease and Infection. ALP, CCI, CZ, STS Modern discourses of disease and infection. The transmutation of medical theory into a metaphorical discourse of social structure and individual identity. Cultural representations of modern epidemics, including AIDS and SARS. Instructor: Rojas. One course. C-L: International Comparative Studies 404S, Visual and Media Studies 238S

410S. 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 366S, International Comparative Studies 410S

413S. Vampire Chronicles: Fantasies of Vampirism in a Cross-Cultural Perspective. ALP, CCI Literary and cinematic representations of vampirism, from Dracula to Buffy, Chinese jiangshi to the politics of blood-selling and blood donation. The figure of the vampire as embodiment of anxieties about sexuality, desire, gender identity, and ethnic alterity. Cross-cultural circulation of vampiric traditions, vampirism as a symbol of circulation in its own right. Instructor: Rojas. One course. C-L: International Comparative Studies

406S, Gender, Sexuality, and Feminist Studies 231S, Study of Sexualities 231S, International Comparative Studies

415S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI Critical examination of cultural dynamics, political economies, and ethical implications of interethnic intimacies or “intercourse” as represented from and about Asia. Examines shifts within and beyond “Asia,” asking why cultural representations matter in ways societies construct, produce, and consume objects of desire and repulsion. Texts from literature and visual culture read along with theories of critical race studies, gender and sexuality, postcolonialism, globalization, visual culture, and other representative technologies of the Self/Other. Not open to students who have taken the first-year seminar. Instructor: Kwon. One course. C-L: Literature 415S, Cultural Anthropology 415S, Visual and Media Studies 416S, International Comparative Studies 415S, Gender, Sexuality, and Feminist Studies 415S

420S. Civil Society and Civic Engagement in the Arab World: Theories and Practices. CCI, CZ, EI, SS, W Introduces students to realities of civil society and the mechanism of civic engagement in the Middle East and North Africa; explores assumptions on the role of civic engagement in promoting democracy; examines theoretical questions related to applying Western concepts of civic society in mostly majority Muslim countries. Students study modalities of society as well as Arab and Muslim writers conception of an ideal society and analyze civic engagement-oriented entities in the US in order to write and experiment with opportunities and challenges of furthering civic engagement in MENA. Students develop or evaluate a MENA related NGO. Service-learning requires 20 hours minimum outside of class. Instructor: Lo. One course. C-L: International Comparative Studies 233S

425S. Cultures of New Media. ALP, SS, STS One course. C-L: see Cultural Anthropology 434S; also C-L: Literature 412S, Visual and Media Studies 412S, International Comparative Studies 432S

426S. France-Asia: Cultural Transfers and Translations in a Globalized Context. ALP, CCI, CZ, FL, W One course. C-L: see French 426S; also C-L: International Comparative Studies 413S, Literature 426S

432S. Storyworlds: The Art, Technology, and Pleasure of Narrative. ALP, CCI, CZ Is “tell me a story” an universal imperative? Seminar examines storytelling practices across a broad span of histories and cultures, and the creation of storyworlds through multiple media, genres, and platforms. Topics include comparative oral traditions, Medieval story cycles, serial tales, textual poaching and fanfic, alternate reality gameworlds (ARG), social media, transmedia storytelling and transcultural fandoms. Instructor: Chow. One course. C-L: Visual and Media Studies 384S, International Comparative Studies 333S

433S. Serial Fictions: The Art of ‘To Be Continued’. ALP, CCI A survey of the forms that seriality has taken: from Arabian Nights and Journey to the West, to Victorian serialists like Dickens and Conan Doyle, to daily ‘funnies’ and comics, anime and manga, contemporary genre fiction and endless movie sequels. Course will focus on diverse media (oral traditions, modern novels, cinema, soap operas, graphic novels, fanfiction, transmedial narratives, social media) that use the serial form as audience lure and aesthetic device. Instructor: Chow. One course.

435S. Chinese Media and Popular Culture: Politics, Ideology, and Social Change. CCI, SS Examines contemporary Chinese media traditional news press, radio and TV, new media such as the internet and social media, and popular culture, including cinema, popular music and fashions. Uses cross-cultural, interdisciplinary, and comparative approach. Focuses on how China views itself and constructs its global images, and how the world views China through media and popular culture. Primary objective is to understand political, ideological, and social changes since the Reform Era that began in 1978. No foreign language prerequisites are required. Instructor: Liu. One course. C-L: Information Science + Studies 435S, Political Science 435S, Policy Journalism and Media, International Comparative Studies

436. Graphic Asia: Visual Storytelling and Global Asian/American Networks. ALP, CCI Introduces graphic visual theories and practices and explores the graphic novel form. Surveys earlier word-image texts; mainstream, alternative, and web-based comics; Asian traditions of manga, manhwa, manhua. Examines role of the graphic artist in the changing epistemologies, histories, and formations of Global Asian/Pacific/American networks. Instructor: Chow. One course. C-L: Visual and Media Studies 239, International Comparative Studies 264

437S. Capstone Seminar - Globalization: Asia and Asian America. CCI, CZ, R, SS, STS One course.

C-L: see History 454S; also C-L: African & African American Studies 407S, International Comparative Studies 412S, Gender, Sexuality, and Feminist Studies 412S

438S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ Course examines global Science Fiction genres in literature, film, and social media as case studies to understand broad historical and social formations of Otherness, the Alien, Citizenship, (Im)migration. Studies racial assumptions in popular culture, domestic and international law, discourse of the human and human rights, science and technology industries, and other disciplines. Explores interdisciplinary intersections of race, gender, sexuality, class, and geopolitical divisions and interactions in Asian/American Studies and Postcolonial Studies from the past to the present. Instructor: Kwon. One course. C-L: Cultural Anthropology 438S, International Comparative Studies 407S, Study of Sexualities 438S, Visual and Media Studies 438S, Gender, Sexuality, and Feminist Studies 438S, Literature 438S, International Comparative Studies

439. Queer China. ALP, CCI, CZ, EI Examines queer discourses, cultures, and social formations in China, Greater China, and the global Chinese diaspora from the late imperial period to the present. Course will focus on cultural representations, particularly literary and cinematic, but will also consider a wide array of historical, anthropological, sociological, and theoretical materials. Instructor: Rojas. One course. C-L: Cultural Anthropology 439, Literature 439, Visual and Media Studies 439, Gender, Sexuality, and Feminist Studies 439

451S. Death and the Emergence of the Modern Self. ALP, CCI, EI, SS Comparative examination of how “death” informs the modern self. Looks at the tension between the religious death and secular death. Probes the role played by the Jewish experience of the 20th century in shaping post WWII self. Comparison with notions of death and the self in the Middle East and East Asia. Focuses on cultural representations of death (particularly literary, cinematic and artistic), but sociological, anthropological and political perspectives will also be considered. Instructor: Ginsburg. One course. C-L: Jewish Studies 340S

455S. World of Gaming: Art, Theory, Technology, and Business of a Multi-Billion Dollar Global Industry. CCI, CZ, EI, SS, STS Interdisciplinary and transnational exploration into the multi-billion dollar global gaming industry through social and theoretical lens. Asks what are the possibilities and pitfalls of gaming in our societies? Examines local and global cases, through art, storytelling, theory, design, technology, business, and gamer and fan communities. Select social and theoretical issues explored include im/migration and refugees, identity (race, gender, class and sexuality), environment, education, civic engagement, sports, recreation, war, and technology. Asia is one important case study as one of the most vibrant regions for examining gaming cultures, conflicts, and theories. Instructor: Kwon. One course. C-L: Art History 453S, Visual and Media Studies 455S, Literature 455S

456S. Chinese Culture and Ideology in the 20th Century and Now. ALP, CCI, SS Exposes students to cultural and literary expressions and representations of modern China from the beginning of the 20th century to the present; focus on issues of politics and ideology and the formation of Chinese exceptionalism; the beginning of the 20th century (1900-1949) and the Mao era (1949-1976); contemporary China since the era of reform and opening up (1978-present); comparative, interdisciplinary approaches of intellectual and cultural history, literary and cultural studies, and political science. Instructor: Liu. One course. C-L: Political Science 456S

463S. Nightmare Japan. ALP, CCI, CZ, EI, R Inquiry into social anxieties erupted through encounters with natural or man-made ‘disasters.’ Examine defining disasters of modern Japan—the encounter with the West, the imperialist war and subsequent defeat, nuclear bomb and the recent Fukushima meltdowns, earthquakes and tsunami, recession and its associated social malady. Reading through literature, films and popular culture as sites where fantasy and desire are materialized and projected in coping with these ineluctable catastrophes. Instructor: Ching. One course. C-L: Cultural Anthropology 463S

469S. Minor Japan. ALP, CCI, CZ, EI Examine the history and experiences of marginalized peoples in Japan from the Ainu to ethnic Koreans, from queer to the Okinawans, to challenge the myth of racial and ethnic homogeneity and sexual heteronormativity. Enhance understanding about cultural and artistic productions by reading a variety of texts, including fiction, oral histories, philosophical treatises, and films. Instructor: Ching. One course. C-L: Cultural Anthropology 364S

476S. Archiving and Visualizing Asia: Politics and Poetics of Knowledge Production. CCI, CZ, R Engages students in the practices and theories of archiving, documenting and curating marginal histories. Hands-on research in the archives of Duke’s Rubenstein Special Collections and elsewhere. Examines histories of movements and encounters between the “West” and “Asia.” Teaches original archival research and

documentary methods through guided excavations in digital, audiovisual, and material resources. Directed readings and special guest lectures guide students on how to think critically on the theories and praxis of knowledge production, collection, documentation, circulation, and consumption. Students curate projects for final research assignment. Instructor: Kwon. One course. C-L: International Comparative Studies 411S, Literature 476S, Visual and Media Studies 476S, History 448S, Documentary Studies 476S

477S. The Global Arab World. CCI, CZ, SS This seminar will focus on contemporary works, anthropological and historical, that unearth veins of research on the Arab world whose horizons transcend the earlier theoretical metonyms, as well as the frontiers of nation-states and the boundaries of religious traditions. We will read works which explore lives, ideas, practices, and institutions in the Arab world through situating them within global processes. In thinking about the Arab world in a transnational perspective we seek to look into how this area of the world both shaped other societies, and was shaped by, this global circulation of humans, commodities, technologies, ideologies, news and thought. Instructor: Bardawil. One course.

478S. 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

479S. Critical Interventions in Middle East Studies and Policy. CCI, CZ, SS Surveys foundational and contemporary scholarship in Middle East Studies through area studies, cultural studies, history and policy lenses. Students examine both the development of the field, as well as its critical themes, questions and concepts. Comparative analysis of key texts, paradigmatic theories, and a variety of cultural and political sources. Concepts include secular modernity, Orientalism, gender, historiography, identity, postcolonialism, religious practice and Middle East policy. Intersection with regional historical and geopolitical developments. Develops skills in academic analysis and interpretation. Instructor: Göknar. One course. C-L: Public Policy 417S, History 417S, International Comparative Studies 408S, Literature 417S, International Comparative Studies

489S. The History, Theory, and Praxis of Translating Languages and Worlds. ALP, CCI, CZ Examines histories, theories, and praxes of translation, with attention to both the formal elements of translating languages, as well as the larger cultural and social processes involved. Topics include cultural exchange, imperialism, “Global Englishes,” incommensurability, bilingualism, indigeneity and adaptation, changing technological platforms and machine translation. Prerequisite: all participants must have strong command of one language aside from English, as final project involves original translation and commentary. Instructor: Chow, Rojas. One course. C-L: Literature 384S, Linguistics 384S

490S. Special Topics. Topics in Asian and Middle Eastern Studies vary each semester. 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.

494A. 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.

495. Collaborative Research Projects. R Small collaborative research projects of faculty with graduate and undergraduate students. Close mentoring of students. Training in methods of cultural analysis and interpretation. Projects developed in conjunction with ongoing faculty initiatives. Students will present their research in the form of a term paper or some equivalent medium. Funding available to support students' research. Consent of Director of Undergraduate Studies required. Instructor: Staff. One course.

498S. Senior Honors Thesis Seminar. R, W Required for AMES seniors completing an honors thesis. Includes close work with thesis advisers. The fundamentals of writing a research project. Students will share

and critically evaluate portions of each other's projects. Consent of department required. Instructor: Staff. One course.

499S. 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.

503S. Asian & Middle Eastern Studies. Graduate credit for undergraduate course in AMES. Consent of the instructor and the AMES DGS required. Instructor: Staff. One course.

504S. East Asia's Twentieth Century. CCI, CZ, R One course. C-L: see History 504S

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 & 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: Documentary Studies 511, International Comparative Studies 513

515S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI Critical examination of cultural dynamics, political economies, and ethical implications of interethnic intimacies or "intercourse" as represented from and about Asia. Examines shifts within and beyond "Asia", asking why cultural representations matter in ways societies construct, produce, and consume objects of desire and repulsion. Texts from literature and visual culture read along with theories of critical race studies, gender and sexuality, postcolonialism, globalization, visual culture, and other representative technologies of the Self/Other. May be taught simultaneously with AMES 415S with additional requirements. Students who have taken the first-year seminar are not eligible. Instructor: Kwon. One course. C-L: Literature 515S, Visual and Media Studies 515S, International Comparative Studies 515S, Gender, Sexuality, and Feminist Studies 505S

518S. Approaches and Practices in Second Language Pedagogy. CCI Introduction to the history and current trends in language teaching with the goal of acquiring the knowledge and skills for informed, effective and reflective language instruction. Focus on psycholinguistic and sociolinguistic dimensions of second language acquisition, key concepts of second language teaching and their applications, and integration of culture and literature in language instruction. Compares features of the target and source languages. Assignments include review of teaching materials, creating lesson plans and modules, and writing an essay stating teaching philosophies. Open only to students who have a background in Asian languages. Instructor: Kim. One course. C-L: Linguistics 518S, Education 518S

519S. Andalusia: Muslim, Jewish, Christian Spain. ALP, CCI, CZ Intersection of cultures, religions, languages, and peoples through history, architecture, poetry, music, philosophy, and everyday life of southern Spain. Cultural flourishing from the contact—and sometimes clash—of European, Spanish, Islamic, Arab, African, Middle Eastern, and Jewish civilizations and of the Arabic, Spanish, and Hebrew languages. Overlaps in mystical conceptions of the divine, in philosophical ideas about rational knowledge, in poetic, musical, and literary forms, in architectural styles, and in shared histories. Ends with how Andalusian culture continues to thrive in modern consciousness (in music, poetry, art, dance, architecture, etc.) at the crossroads of civilizations. Instructor: McLarney/Lieber. One course. C-L: Religion 519S, Jewish Studies 519S, Romance Studies 519S

526A. Religion and Civil Society in the Arab World. CCI, CZ, EI Examine how the Arab world is embodied in 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. Class content is similar to AMES 326A with added reading materials, meeting hours and assignments. STUDY ABROAD: Duke in the Arab World. Instructor: Lo & McLarney. One course. C-L: Religion 526A

527S. Cartographies of Gender and Sexuality in Middle East. R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 503S; also C-L: International Comparative Studies 503S

528S. Literary Islam. ALP, CCI, CZ The Quran as scripture; mystical poetry; stories of the early community; literary cultures in the early community; modern reinterpretations of Islamic sources; Islamist literature; modern Islamic poetry, novels, plays, and stories. (Same as Asian and Middle Eastern Studies 328S, but with additional readings, assignments, and meeting times). Instructor: McLarney. One course.

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. Instructor: McLarney. One course.

531S. Culture and Environment in Modern Chinese History. CCI, CZ, EI, SS, STS One course. C-L: see History 514S

532S. Research and Writing About Contemporary Chinese Culture. CCI, R, SS Addresses how to conduct research and write about contemporary Chinese culture from interdisciplinary and comparative perspectives; introduces critical theory and comparative and interdisciplinary approaches. Engages students in current debates about the rise of China and its implications for social and human values and cultures. Taught in English. Prerequisite: advanced knowledge of Chinese. Original research projects to explore with primary and secondary materials. Instructor: Liu. One course.

533. 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. Same as Asian and Middle Eastern Studies 333 but with additional graduate level work. Instructor: Rojas. One course.

535. 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 gaige 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 fashion. Instructor: Liu. One course. C-L: Information Science + Studies 535, Policy Journalism and Media

539S. Queer China. ALP, CCI, CZ, EI Examines queer discourses, cultures, and social formations in China, Greater China, and the global Chinese diaspora from the late imperial period to the present. Course will focus on cultural representations, particularly literary and cinematic, but will also consider a wide array of historical, anthropological, sociological, and theoretical materials. Not open to students who have taken Asian and Middle Eastern Studies 439. Instructor: Rojas. One course. C-L: Cultural Anthropology 539S, Gender, Sexuality, and Feminist Studies 502S, Literature 539S, Visual and Media Studies 539S, Human Rights Program-Franklin Humanities Institute 539S, Human Rights

540S. Reading Heidegger. ALP, CCI, CZ, EI Closely reading major works by Heidegger Tracing the Turn in Heidegger's thought from the early metaphysical writing to the lecture courses of the 1930s. Underscores the role played by language in Heidegger's thought Probes what aesthetics means within the context of Heidegger's work. Instructor: Ginsburg. One course. C-L: Literature 543S, Religion 560S

541S. Jews and the End of Theory. CCI, CZ, EI, R, SS Examines role played by the figure of "the Jew" (or "Jews") in critical theory. Assesses role played by Jewish "giants" in shaping critical theory. Explores role played by images of Jews and Jewishness in linguistic turn of 20th century theory. Asks how should one understand

contemporary theory in relation to “Jews”—literal Jews and figurative Jews, whether demise of these intellectual giants and diminishing interest in “Jews” and “Jewishness” means “the end of theory”, and how to conceive the relations between theory and “Jewish Studies” in light of these questions. Instructor: Ginsburg. One course. C-L: Jewish Studies 541S, Literature 580S, International Comparative Studies 541S

549S. Techno-Orientalism: Asian/America, (Post)Human and SF. ALP, CCI, CZ Course examines global Science Fiction genres in literature, film, and social media to understand broad historical and social formations of Otherness, the Alien, Citizenship, (Im)migration. Studies racial assumptions in popular culture, domestic and international law, discourse of the human and human rights, science and technology industries, and other disciplines. Explores intersections of race, gender, sexuality, class, and geopolitical divisions and interactions in Asian/American Studies and Postcolonial Studies from the past to the present. Instructor: Kwon. One course. C-L: Visual and Media Studies 549S

551S. Translation: Theory/Praxis. ALP, CCI Examines theories and practices of translation from various periods and traditions (Cicero, Zhi Qian, classical and scriptural translators, Dryden, Schopenhauer, Benjamin, Jakobson, Tanizaki, Qian Zhongshu, Derrida, Apter, among others) and considers topics such as incommensurability, cultural exchange, imperialism, “Global Englishes,” bilingualism, and techno-language. Prerequisite: open to undergraduates, but all participants must have strong command of one language aside from English, as final project involves original translation and commentary. Instructor consent required. Instructor: Chow. One course. C-L: Literature 551S

560S. Reading the Chinese Novel. ALP, FL A close reading of contemporary Chinese-language novels in the original. Texts will include prominent works from China, Taiwan, Hong Kong, and the Chinese diaspora. Recommended prerequisite: high-level reading knowledge of Chinese. Instructor: Rojas, Chow. One course.

561. Anime: Origins, Forms, Mutations. ALP, CCI Historical origins of Japanese anime, as well as its status as art, narrative, genre. Ways in which anime mutates: formally (literature, manga, live action), culturally (fashion, otaku, fan communities), geographically. No prior knowledge of subject matter or Japanese language required. Not open to students who have taken AMES 361 Anime: Forms and Mutations. Instructor: Chow. One course. C-L: Visual and Media Studies 541

563S. Nightmare Japan. ALP, CCI, CZ, EI, R Inquiry into social anxieties erupted through encounters with natural or man-made ‘disasters.’ Examine defining disasters of modern Japan—the encounter with the West, the imperialist war and subsequent defeat, nuclear bomb and the recent Fukushima meltdowns, earthquakes and tsunami, recession and its associated social malady. Reading through literature, films and popular culture as sites where fantasy and desire are materialized and projected in coping with these ineluctable catastrophes. Same as Asian and Middle Eastern Studies 463S but with additional readings, assignments and meeting times. Instructor: Ching. One course. C-L: Cultural Anthropology 563S

565S. 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 165S but requires extra assignments.) Instructor: Ching. One course. C-L: Cultural Anthropology 565S, International Comparative Studies

566S. Imaging a Nation: Japanese Visual Culture 1868-1945. ALP, CCI, CZ One course. C-L: see Visual and Media Studies 523S

576S. Archiving and Visualizing Asia: Politics of Poetics of Knowledge Production. R Engages students in the practices, politics, and theories of conducting original archival research and knowledge productions. Hands-on research in the archives of Duke’s Rubenstein Special Collections and elsewhere. Examines histories and theories of movements and encounters between the “West” and “Asia.” Teaches research methods through guided excavations in both digital and material resources. Directed readings of histories and theories and special guest lectures guide students on how to think critically on the theories and praxis of knowledge production, collection, circulation, and consumption. Students curate digital humanities projects based on original research. Instructor: Kwon. One course.

580S. History of Buddhist and Christian Interactions. CCI, CZ One course. C-L: see Religion 580S

581S. Pan-Asianism, Religion, and the State in Modern Asia. CCI, CZ, EI One course. C-L: see Religion 581S

590. Special Topics in Asian and Middle Eastern Studies. 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, Human Rights Program-Franklin Humanities Institute 603, Human Rights

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). Instructor: Ching. One course. C-L: Cultural Anthropology 605, Literature 571, International Comparative Studies 605

610S. 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; examines how critical terms originating in one historico-geographical context are translated across geographical boundaries. Taught simultaneously with AMES 410, but includes additional readings, assignments, and meeting times. Instructor: Kwon, Ginsburg. One course.

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

629. Revolution: The Arab World. ALP, CCI, CZ Revolution in the Middle East and the Arab world; focus on Tunis, Syria, and Egypt: revolution in theory and practice; histories of revolution in the region; religion and revolution; media, social media, and social change; the poetics of politics; women's political action. Graduate level includes readings and research in Arabic, or any other primary source readings in original language of graduate students' area of specialty; more extensive theoretical readings; a substantive research paper; regular group meetings with instructors to discuss extra readings. Instructor: McLarney. One course.

631. Questions of National Cinemas. 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 AMES 431 but requires extra assignments.) Research paper required. Instructor: Hong. One course. C-L: Literature 632, Visual and Media Studies 632, 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 AMES 431 but requires extra assignments.) Research paper required. Instructor: Hong. One course. C-L: Literature 631S, Visual and Media Studies 631S, International Comparative Studies

650S. Human Rights in Islam. CCI, CZ, EI Islamic conceptions of human rights, beginning with early formulations of key concepts like freedom and equality during the Arab “awakening” or Nahda and continuing to Islamic conceptions of rights after WWII and the Universal Declaration of Human Rights. Special attention to how women’s rights and women’s emancipation became key points of dispute between the West and the Islamic world. How ideas of the human and humanity (and its “rights”) are constructed, especially within the humanities. Same as 450S, but with graduate level assignments and discussions. Instructor: McLarney. One course. C-L: Religion 661S

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. Course includes several film screenings.(Same as Asian and Middle Eastern Studies 261, but requires extra readings, assignments, and meeting times.) Instructor: Chow. One course.

669S. Minor Japan. ALP, CCI, CZ, EI Examine the history and experiences of marginalized peoples in Japan from the Ainu to ethnic Koreans, from queer to the Okinawans, to challenge the myth of racial and ethnic homogeneity and sexual heteronormativity. Enhance understanding about cultural and artistic productions by reading a variety of texts, including fiction, oral histories, philosophical treatises, and films. Same as Asian and Middle Eastern Studies 469S, with extra graduate level assignments, discussion groups, and papers. Instructor: Ching. One course.

671. World of Korean Cinema. Introduction to Korean Cinema from postwar to contemporary period. Examination of issues such as national division, gender, pop culture, family, transnational identity and its influence abroad. Same as Asian and Middle Eastern Studies 471, but requires extra assignments. Instructor: Staff. One course.

672. Two Koreas: History, Society and Culture. ALP, CCI, CZ This course introduces the divided histories of North and South Korea and their contemporary legacies in regional and global contexts. The course will be organized around select topics and guest lectures. Some topics explored include colonization, modernization, division, war, migration, gender and sexuality, human rights, popular and political cultures, and globalization in comparative perspectives. This course will have additional readings, meeting times, and a substantially longer research paper requirement for graduate-level credit. The course will teach graduate students the foundational methods of conducting original research and writing a research paper by the end of the semester. Instructor: Kwon. One course.

674S. 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: Gökna. One course. C-L: Slavic and Eurasian Studies 674S

683S. 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: Gökna. One course. C-L: Slavic and Eurasian Studies 683S, Islamic Studies

687. 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: Goknar. One course. C-L: Slavic and Eurasian Studies 687, Islamic Studies

690S. Special Topics in Asian and Middle Eastern Studies. Seminar version of Asian and Middle Eastern Studies 590. Topics vary each semester. One course.

695. Collaborative Research Projects. R Small collaborative research projects of faculty with graduate and undergraduate students. Close mentoring of students. Training in methods of cultural analysis and interpretation. Projects developed in conjunction with ongoing faculty initiatives. Students will present their research in the form of a term paper or some equivalent medium. Funding available to support students' research. Director of Graduate Studies consent required. Instructor: Staff. One course.

Arabic

Courses in Arabic (ARABIC)

99. Survival Arabic: Arabic Language and Culture of Lebanon, Jordan, and Palestine. CCI, FL Learning the basic elements of the Arabic language and culture of in Jordan, Lebanon, and Palestine (Shami/Levantine Arabic); developing listening, speaking, reading, writing and cultural proficiencies of the spoken language of this region, memorizing basic survival and communication language skills, learning how to write and read the Arabic alphabet in Modern standard Arabic; Introducing aspects of daily life, society and culture of these three countries. Open to students who have no prior exposure to Arabic language instruction before coming to Duke, and to students who are interested in doing civic engagement or study abroad in the Arabic speaking world. Instructor: Staff. One course.

101. Elementary Arabic. FL Understanding, speaking, reading, and writing modern standard Arabic. Language laboratory. Instructor: Lo. One course.

102. Elementary Arabic. FL Continuation of Arabic 101. Prerequisite: Arabic 101 or equivalent. Instructor: Lo. 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: Staff. One course.

281. Media Arabic I: Arabic in Media and Documentary Film. CZ, FL Development of students proficiency in speaking, writing, reading, and listening comprehension through exposure to a wide variety of Arabic texts taken from newspapers, magazines and websites from around the Arab world, with focus on specialized vocabulary of media Arabic and documentary films. Explore media materials and programs from al-Jazeera news and documentary films. Students will also learn to hold informed discussions and write analyses and reports of current events and debates that are related to these materials. Instructor: Habib. One course.

283. Media Arabic II. CZ, FL Focus on further expansion of speaking, writing, reading, and listening skills through selected materials of media Arabic taken from written news sources, TV and Internet programs. Focus on changes in Arab popular culture, language of the Arab revolution and language of the new social media. Develop students' abilities to conduct research using a variety of media sources. Prerequisite: Arabic 204 or 281. Instructor: Habib. One course.

288. Conversational Egyptian Arabic. CCI, CZ, FL To develop speaking and reading proficiency level in conversational Egyptian Arabic within a cultural context: idiomatic expressions, social interaction, understand customs, and holiday traditions; memorize a set of songs of the 2011 Revolution. Students will visit local Arab/Egyptian cultural associations, religious sites and families; develop profiles of local Egyptians and their journeys through interviews and discussion sessions. Course includes a service-learning component working with the community. Prerequisites: Arabic 204, or instructor's permission. Instructor: Shabaka. One course.

290A. Duke Administered Study Abroad: Special Topics in Arabic. Topics vary each semester.

Instructor: Staff. One course.

295. Arabic Dialect in Music. CZ, FL Exposure to wide variety of Arabic modes of expression through Arabic music. Learn usage of both standard and colloquial Arabic in producing Arabic music. Deal with linguistic differences in materials selected from popular media as well as classical sources. Develop skills in speaking, reading, and listening comprehension beyond intermediate high level. Exposure to Arabic musical traditions language. Introduces some Arabic scales (Maqamat), genres, rhythms and musical instruments, namely Oud, Qanoun and Nay and their usage in language production. Prerequisite: Arabic 203. Instructor: Staff. One course.

296A. Dardasha Arabiyyah: Moroccan Dialect and Culture. CCI, CZ, FL Course facilitates full immersion in Arabic of Morocco within a cultural context; students will develop basic communicative skills through emphasis on all four language skills beyond the elementary level; through daily instructions, home-stay, field visits, exposure to short stories, and interviewing citizens, students will acquire a communicative skill and a strong understanding of society and culture; students will explore cultural institutions and entertainment outlets. Offered in the Duke in the Arab World Study Abroad Program. Instructor: Lo. One course.

304. Advanced Levantine Arabic Language and Culture. CCI, FL This is a proficiency-oriented Levantine (Lebanon, Jordan, Palestine, and Syria) Arabic. It focuses on a complex functional use of the language; explores a variety of complex topics related to daily life, work, formal and information interactions; explores popular culture through personal interviews, music, and online publications. Students will also read and rehearse song lyrics in a range of communicative contexts. Class materials will consist of authentic texts, biographical information, online postings and films. Prerequisite: Arabic 287, or 2 years of MSA beyond intermediate level or equivalent. Instructor: Ben Tarif. 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.

328S. Literary Islam. ALP, CCI, CZ, FL The Qur'an as scripture; mystical poetry; stories of the early community; literary cultures in the early community; modern reinterpretations of Islamic sources; Islamist literature; modern Islamic poetry, novels, plays, and stories. Prerequisite: 2 years of Arabic. Instructor: McLarney. 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 Literature 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 Literature II. ALP, FL Continuation of Arabic 407. Prerequisite: Arabic 306 or consent of instructor. Instructor: Cooke. One course. C-L: International Comparative Studies

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

610S. Quranic Arabic: Tafsir and Tajwid. ALP, FL This is a study of the features and structure of classical Arabic with an emphasis on the sciences of Tajwid/Tajweed and Tafsir. Students will learn the various styles, periods and schools in Tafsir and Tajwid. They will read excerpts from the classical schools of Tafsir, and the main characteristics of each. Memorizing and rehearsing selected verses for Tajwid are required in this course. Prerequisite: a minimum of two semesters of Arabic beyond the advanced level. Instructor: Lo. One course.

690. Special Readings. Variable credit.

Chinese

Courses in Chinese (CHINESE)

101. First-Year Chinese I. FL First semester of a two-semester sequence. Designed for students with little or no knowledge of the Chinese language. Aim at developing basic communicative proficiency in Mandarin Chinese with equal attention to aural comprehension, speaking, reading, and writing skills. Learn some Chinese cultural facts and social-cultural etiquette when developing basic communicative competence in Chinese. Recognize and write approximately 250-300 characters by the end of the semester. Instructor: Staff. One course.

101A. First-Year Chinese. First semester of a two-semester sequence. Designed for students with little or no knowledge of the Chinese language. Aim at developing basic communicative proficiency in Mandarin Chinese with equal attention to aural comprehension, speaking, reading, and writing skills. Learn some Chinese cultural facts and social-cultural etiquette when developing basic communicative competence in Chinese. Recognize and write approximately 250-300 characters by the end of the semester. Offered through the Duke Study in China program. Instructor: Staff. One course.

102. First-Year Chinese II. FL Continuation of Chinese 101. Designed for students with little knowledge of the Chinese language. Focus on developing basic communicative proficiency in Mandarin Chinese with equal attention to aural comprehension, speaking, reading, and writing skills. Learn some Chinese cultural facts and social-cultural etiquette when developing basic communicative competence in Chinese. Recognize and write approximately 300 characters by the end of the semester. Instructor: Staff. One course.

105D. First-Year Chinese in Review I. FL Consolidate learning the basic elements of Chinese language and culture. Equal attention paid to the development of listening, speaking, reading and writing proficiencies. Introduction to aspects of Chinese life and culture. Open to students who had received some Chinese language instruction before coming to Duke but lacked a solid foundation in basic Chinese grammar and pronunciation. Not open for credit to students who grew up in a household speaking Mandarin Chinese. Instructor: Staff. One course.

106. First-Year Chinese in Review II. FL Second semester First Year Chinese for students who have had some background in Mandarin Chinese before coming to Duke, but who do not qualify for the heritage track. Reviews the essential elements of First Year Chinese in the Chinese cultural context. Equal attention paid to the development of listening, speaking, reading and writing proficiencies and cultural literacy. Not open for credit to students who grew up in a household speaking mandarin Chinese, or to students who began their study of Chinese at Duke with no previous contact with the language. Students must contact the instructor for a proficiency assessment before signing up for the course. Prerequisite: Chinese 105 or instructor consent. Instructor: Lee. One course.

131. First Year Chinese for Bilingual Learners. 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.

203. Intermediate Chinese. FL Second-year level Mandarin Chinese. Prerequisite: Chinese 102 or its equivalent. Not open to students who have completed Chinese 232 or 242. Aiming to enhance students' abilities in conversing on personal topics in informal situations, in reading and writing narrative and descriptive texts, and in analyzing the structure of Chinese language. Instructor: Staff. One course.

204. Intermediate Chinese. CCI, CZ, FL Continuation of Chinese 203. Prerequisite: Chinese 203 or its equivalent. Not open to students who have completed Chinese 232 or 242. Continued work on consolidating the language abilities and skills acquired in Chinese 203. Specific emphasis on building the ability to converse on some social issues in formal situations, to read and write not only extended narrative and descriptive texts but also some expository texts, and to analyze the structure of Chinese language and the uniqueness of Chinese culture. Instructor: Staff. One course.

205. Intermediate-Mid Chinese. FL Second-year level Chinese for students who have completed Chinese

105 or its equivalent. Not open to students who grew up in a household speaking Mandarin Chinese. Aim to enhance the abilities in conversing on personal topics in informal situations and some social issues in formal situations. Focus on improving skills for reading and writing narrative, descriptive, and some expository texts, on developing analytical knowledge of the Chinese language structure, and on enhancing cultural literacy. Instructor: Hsieh.

223A. Intensive Progress in Chinese. FL Offered in the Duke Study in China Program at the University of International Business and Economics, Beijing, China. Consent of instructor required. Instructor: Staff. One course.

224A. Intensive Progress in Chinese. FL Continuation of Chinese 223A. Offered in the Duke Study in China Program at the University of International Business and Economics, Beijing, China. Consent of instructor required. Instructor: Staff. One course.

232. Intermediate Chinese for Bilingual Learners. 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.

271T. Voices in Philosophy: Chinese Tutorial. Discussion-based course trains students to read and analyze core philosophical texts in Chinese, typically in conjunction with a lecture course offered in philosophy. Classes include close readings of original texts, discussions of interpretation and application in variety of other forms (including film, documentary, multimedia) and real-life situations. Students examine how language/culture impact our understanding of core philosophical texts through attention to issues such as translation, vernacular, and word choice. Tutorials meet weekly for 75 minutes. Recommended prerequisite: Chinese 306 or equivalent. Instructor: Staff. Half course. C-L: Asian & Middle Eastern Studies 271T

305D. Advanced Intermediate Chinese. CCI, CZ, FL Designed for Chinese as a foreign/second language. Follows Chinese 204 or 224A as part of the language sequence. Increases students' knowledge of more complex forms of the Chinese vocabulary system and competencies in speaking, aural comprehension, reading, and writing. Exposure to a speech variety appropriate to formal and informal speech situations. Materials drawn from newspaper articles, essays, and other readings concerning social and cultural issues in contemporary Chinese society. Emphasis on the active use of the language for communication in written and spoken forms. Recommended prerequisite: Chinese 204 or equivalent. Instructor: Staff. One course.

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.

321S. Business and Interculturality in the Chinese Society. CCI, CZ, FL Introduction to the basis of China's Economic Reform from the late 1970s to 1990s, China's changing social and macro-economic environment, and cross-cultural issues relating to cultural norms and value system in the business context. Focus on oral, written and intercultural communication, product marketing, business practices and protocols, and case studies in mainland Chinese society. Prerequisite: Chinese 204/205 or equivalent. Instructor: Lee. One course.

321SA. Business and Interculturality in Chinese Society. CCI, CZ, FL Study abroad version of Chinese 321S with modifications made to accommodate internship component of course content. Introduction to topics related to recruitment, business negotiation, e-commerce, logistics management, international investment, etc. and specialized terminology for the Chinese-speaking workplace. Focus on oral, written and intercultural communication, product marketing, business practices and protocols, and case studies in mainland Chinese society. Recommended prerequisite: Chinese 325A. Instructor: Staff. One course.

325A. Advanced Progress in Chinese. CCI, FL Third-year Chinese. Offered in the Duke Study in China Program at the University of International Business and Economics, Beijing, China. Consent of instructor

required. Instructor: Staff. One course.

326A. Advanced Progress in Chinese. CCI, FL Continuation of Chinese 325A. Third-year Chinese. Offered in the Duke Study in China Program at the University of International Business and Economics, Beijing, China. Consent of instructor required. Instructor: Staff. One course.

331D. Modern Chinese Society and Culture through New Media. CCI, CZ, FL This course is a continuation of Chinese 232. In this class, students will cover different social and cultural challenges that China is facing nowadays through a thematic approach. Course content will be drawn from Chinese broadcast news, blogs and videos, TV shows, and documentary films. This course aims to improve learners' listening, speaking, reading, and writing skills. Prerequisite: Chinese 232 or equivalent proficiency. Instructor: He. One course.

332. Chinese Translation and Interpretation. CCI, FL A third-year Chinese course focusing on Chinese translation and interpretation skills with the aim to improve students' comprehension and communication abilities in Chinese. Different genres of authentic reading texts and real-life audio and video materials used as course materials. Topics to be covered closely related to culture, literature, society, business/economy, and science/technology. Teacher's lectures of skills combined with students' practices as the course format. Linguistic features and cultural practices between English and Chinese will be compared and demonstrated. Prerequisite: Chinese 232, Chinese 242, or their equivalent. Instructor: Liu. One course.

333. Advanced Chinese for Bilingual Learners. 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.

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. Recommend consultation with instructor before enrolling in course. Prerequisite: Chinese 333 or Chinese 407S. 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.

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 See Chinese 407S. Prerequisite: Chinese 305, 306, 427A, 428A, 473A, 474A, or consent of instructor. Instructor: Staff. One course.

421SA. The Culture of Business and Economics in Chinese. CCI, CZ, FL Designed for students enrolled in the DSIC business Chinese track with practicum. Introduction to topics relevant to business and efficiency, enterprise management, international trade, economic regulations, environmental protection and economic development in the Chinese business context, and specialized terminology for the Chinese-speaking workplace. Focus on oral, written and intercultural communication, product marketing, business practices and protocols, and case studies in mainland Chinese society. Instructor: He. One course.

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 the University of International Business and Economics, Beijing, China. Consent of instructor required. Instructor: Staff. One course.

428A. Intensive Advanced Chinese. ALP, CCI, FL Continuation of Chinese 427A. Equivalent of fourth-year Chinese. Offered in the Duke Study in China Program at the University of International Business and Economics, Beijing, China. Consent of instructor required. Instructor: Staff. One course.

435S. Chinese in the Humanities I. ALP, CCI, FL Designed for advanced learners of Chinese as a second language. Study short stories by prominent writers published in the late 1990s. Stories focus on the concerns of human beings, touching upon contemporary themes such as the recollections of the Cultural Revolution, the impact of commercialization of the traditional family, sex, drugs and crime, etc. Advance analytical competency in the language and cultural literacy. Instructor: Staff. One course.

436S. Chinese in the Humanities 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.

450S. Understanding China and the United States: Stereotypes, Conflicts, and Common Challenges. CCI, CZ, FL Designed for Chinese international students and students who have finished fourth-year Chinese language courses with an aim to enhance students' intercultural knowledge and intercultural communication skills. Authentic reading texts and video/movie clips in English and Chinese used as prompts for class discussions and course projects. Covers the stereotypes about the two countries and the two cultures, the history of Sino-US relations, the common challenges for both countries. Prerequisite: successful completion of at least one 400-level Chinese course or approval of instructor. Instructor: Liu. One course.

455. Modern Chinese Culture: Narratives of Home and Abroad. ALP, CCI, FL Major works in Chinese literature, film, and other cultural media in their creation of the spectacle of "Modern China" at home and abroad. All reading materials and class discussion in Chinese. 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 the University of International Business and Economics, Beijing, China. Instructor: Staff. One course.

474A. Current Issues in Modern Chinese II. CCI, CZ, FL Equivalent to fifth year. Readings and discussion of selections from modern Chinese literature, expository prose, and the Chinese press. Offered in the Duke Study in China Program at the University of International Business and Economics, Beijing, China. Instructor: Staff. One course.

Hebrew

Courses in Hebrew (HEBREW)

101. Elementary Modern Hebrew. FL Introduction to speaking, understanding, reading, and writing modern Hebrew. Language laboratory. Instructor: Plessner. One course. C-L: Jewish Studies 101

102. Elementary Modern Hebrew. FL Continuation of Hebrew 101. Consent of instructor required. Prerequisite: Hebrew 101 or equivalent. Instructor: Plessner. One course. C-L: Jewish Studies 102

203. Intermediate Modern Hebrew. ALP, FL Reading, composition, conversation, and language laboratory. Consent of instructor required. Prerequisite: Hebrew 101, 102 or equivalent. Instructor: Plessner. One course. C-L: Jewish Studies 203

204. Intermediate Modern Hebrew. ALP, CZ, FL Continuation of Hebrew 203. Consent of instructor required. Prerequisite: Hebrew 203 or equivalent. Instructor: Plessner. 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 305S. Consent of instructor required. Prerequisite: Hebrew 305S or equivalent. Instructor: Staff. 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.

407S. Issues in Modern Hebrew. ALP, CCI, FL Readings and other material, including films, television, and radio broadcasts. Exercises in composition. Consent of instructor required. Instructor: Ginsburg. One course. C-L: Jewish Studies 407S

455S. Introduction to Israeli Culture. ALP, CCI, CZ, FL Historical survey of Israeli culture from 1948 to the present. All reading materials and class discussion in Hebrew. Prerequisite: Hebrew 306 or above, or placement test or instructor's consent. Instructor: Ginsburg. One course. C-L: Jewish Studies 455S

Hindi

Courses in Hindi (HINDI)

101. Elementary Hindi. FL This course will provide students with knowledge and understanding of the Hindi language and Indian culture. The major goal is to develop practical ability to communicate in Hindi for day-to-day needs. Topics include the Hindi script, basic grammar and sentence structure, and development of language skills in reading, writing, listening, and speaking. No previous knowledge of Hindi required. Instructor: Knapczyk. One course.

102. Elementary Hindi. FL This course continues with practice in the Hindi script, basic grammar, and sentence structure, including past and future tenses. The focus is on developing practical skills in Hindi through speaking, listening, reading, and writing. Prerequisite: Hindi 101 or a placement test. Instructor: Kusum. One course.

203D. Intermediate Hindi. CZ, FL Students will practice all language skills, including reading, writing, listening, and speaking. Students will learn to communicate and describe their surroundings in all tenses, follow Bollywood movies, short stories, and news articles. The focus is on Indian culture and diversity. Prerequisite: Hindi 102 or a placement test. Instructor: Knapczyk. One course.

204D. Intermediate Hindi. CZ, FL Students will advance in all language skills, including reading, writing, listening, and speaking. Authentic materials such as magazines, newspapers, TV serials, stories, and movies will be used frequently to practice Hindi grammar and vocabulary. Prerequisite: Hindi 203 or a placement test. Instructor: Knapczyk. One course.

270T-4. Voices in Global Health: Hindi Tutorial. Half course. C-L: see Global Health 270T-4; also C-L: Asian & Middle Eastern Studies 270T-4

305. Advanced Hindi. ALP, CCI, FL Proficiency in reading, writing, and speaking. Prerequisite: Hindi 204 or equivalent. Instructor: Khanna. One course.

306. Advanced Hindi. ALP, CCI, FL Continuation of Hindi 305. Prerequisite: Hindi 305 or equivalent. Instructor: Khanna. 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.

391-1. 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. Half course.

407S. Issues in Hindi Language and Society II. ALP, CCI, FL Readings in prevailing literary and

mass media forms. Prerequisite: Hindi 306 or consent of instructor. Instructor: Khanna. One course. C-L: International Comparative Studies

408S. Issues in Hindi Language and Society II. ALP, CCI, FL Continuation of Hindi 407S. Prerequisite: Hindi 306 or consent of instructor. Instructor: Khanna. One course. C-L: International Comparative Studies

Japanese

Courses in Japanese (JPN)

101. Elementary Japanese. FL Introduction to speaking, listening, reading, and writing. Instructor: Kurokawa. One course.

102. Elementary Japanese. FL Continuation of Japanese 101. Recommended prerequisite: Japanese 101 or equivalent. Instructor: Kurokawa. One course.

203. Intermediate Japanese. CZ, FL Continuation of Japanese 102. Continued development of the four language skills: listening, speaking, reading and writing. Cultural component emphasized through short readings. Instructor: Endo. One course.

204. Intermediate Japanese. CZ, FL Continuation of Japanese 203. Prerequisite: Japanese 203 or equivalent. Instructor: Endo. One course.

305. Advanced Japanese. ALP, CCI, FL Readings and other materials, including video. Exercises in composition and conversation. Instructor: Kurokawa. One course. C-L: International Comparative Studies

306. Advanced Japanese. ALP, CCI, FL Continuation of Japanese 305. Prerequisite: Japanese 305 or equivalent. Instructor: Kurokawa. One course. C-L: International Comparative Studies

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 Japanese Language and Society I. ALP, CCI, CZ, FL Readings and other materials, including television and radio broadcasts. Exercises in composition. Instructor: Saito. One course. C-L: International Comparative Studies

408S. Issues in Japanese Language and Society II. ALP, CCI, CZ, FL Continuation of Japanese 407S. Instructor: Saito. One course. C-L: International Comparative Studies

451S. Readings in Japanese Texts. ALP, FL Focus on developing interpretive and expressive abilities in both speaking and writing through reading short stories and novels being made into films. Students are required to have high levels of proficiency in both speaking and writing. Prerequisites: Japanese 408S or equivalent. Instructor: Saito. One course.

471S. Topics in Classical Japanese (Bungo). ALP, CCI, FL Selected readings in ancient, medieval, early modern, and modern texts, prose and poetry. Examples: Heike monogatari , Makura no sôshi, Oku no hosomichi, Hyakunin issyu, Tsurezuregusa, and Gakumon no susume. Emphasis on nuanced, in depth understandings of classical grammar. Translation of major texts in the classical tradition. Prerequisite: Japanese 408S or permission of instructor. Instructor: Tucker. One course.

650. Research Methods in Japanese (B). CCI, SS 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. Instructor: Staff. One course. C-L: History 503, Sociology 664

Korean

Courses in 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: E. 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 (Farsi)

Courses in Persian (PERSIAN)

101. Elementary Persian. FL Introduction to spoken and literary Persian: understanding, speaking, reading, and writing. Language laboratory drill. Instructor: Naeymi-Rad. One course.

102. Elementary Persian. FL Continuation of Persian 101. Instructor: Naeymi-Rad. One course.

203. Intermediate Persian. FL Four hours of classroom work. Advanced reading and composition in classical Persian. Prerequisite: elementary Persian. Instructor: Naeymi-Rad. One course.

204. Intermediate Persian. FL Continuation of Persian 203. Instructor: Naeymi-Rad. One course.

305. Advanced Persian. CCI, CZ, FL Reading, speaking and presentations about cultural, social, political and historical issues. Honing grammatical usage at the discourse level. Instructor consent required. Prerequisite: Persian 204 or equivalent. Instructor: Naeymi-Rad. One course.

306. Advanced Persian. CCI, CZ, FL Continuation of Persian 305. Reading, speaking and presentations about cultural, social, political and historical issues. Honing grammatical usage at the discourse level. Recommended prerequisite: Persian 305 or equivalent. Instructor: Adel. 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. Topics differ by section. Instructor: Staff. One course.

Sanskrit

Course in Sanskrit (SANSKRIT)

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.

Tibetan

Courses in Tibetan (TIBETAN)

101. Elementary Tibetan I. FL Introductory Tibetan language course for students who have little to no knowledge of Tibetan. Development of speaking, listening, reading, writing skills through Tibetan concepts, grammar and syntax of spoken and written Tibetan. Topics include situations of everyday life (e.g. greetings, introductions, family, habits/hobbies, making appointments, food, visiting friends, weather, shopping, etc.) as well as aspects of Tibetan people and culture (e.g. songs, short stories, etc.). Course taught at University of Virginia; Duke students participate through video conference and/or telepresence classroom. One course.

102. Elementary Tibetan II. FL Continuation of Tibetan 101. Prerequisite: Tibetan 101 or equivalent. Development of speaking, listening, reading, writing skills through Tibetan concepts, grammar and syntax of spoken and written Tibetan. Topics include situations of everyday life (e.g. greetings, introductions, family, habits/hobbies, making appointments, food, visiting friends, weather, shopping, etc.) as well as aspects of Tibetan people and culture (e.g. songs, short stories, etc.). Course taught at University of Virginia; Duke students participate through video conference and/or telepresence classroom. Instructor: Staff. One course.

203. Intermediate Tibetan I. FL Intermediate skill-building in the grammar and syntax of spoken and written Tibetan, along with development of skills in listening, speaking, reading and writing through the integrated use of spoken and literary forms. Students will also enhance their knowledge of Tibetan culture in order to improve their communication skills. Course taught at University of Virginia; Duke students participate through video conference and/or telepresence classroom. Prerequisite: TIBETAN 102 Elementary Tibetan II or equivalent. One course.

204. Intermediate Tibetan II. CZ, FL Intermediate skill-building in the grammar and syntax of spoken and written Tibetan, along with development of skills in listening, speaking, reading and writing through the integrated use of spoken and literary forms. Students will also enhance their knowledge of Tibetan culture in order to improve their communication skills. Course taught at University of Virginia; Duke students participate through video conference and/or telepresence classroom. Prerequisite: TIBETAN 203 or equivalent. Instructor: Nepali. One course.

301. Advanced Modern Tibetan I. FL A continuation of the Intermediate Tibetan language sequence,

focusing on advanced grammar, syntax, and structures. Emphasis is laid on mastering comprehension and communication in colloquial Tibetan, writing skills in the various scripts of literary Tibetan, and integrating comprehension of colloquial and literary forms. Course taught at University of Virginia; Duke students participate through video conference and/or telepresence classroom. Prerequisite: Tibetan 204 or equivalent. Instructor: Nepali. One course.

302. Advanced Modern Tibetan II. FL A continuation of the Advanced Modern Tibetan I course, focusing on advanced grammar, syntax, and structures, as well as texts from a variety of media and genre: conversation transcripts, lecture transcripts, newspaper articles, academic essays, short stories, dramatic/comedy skits, magazine articles, radio-TV transcripts. Emphasis is laid on mastering comprehension and communication in colloquial Tibetan, writing skills in the various scripts of literary Tibetan, and integrating comprehension of colloquial and literary forms. Course taught at University of Virginia; Duke students participate through video conference and/or telepresence classroom. Prerequisite: Tibetan 301 or equivalent. Instructor: Nepali. One course.

Turkish

Courses in 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.

203D. Intermediate Turkish. FL Covers the Intermediate Turkish language curriculum. Practice in understanding, speaking, readings, and writing Turkish, and an introduction to some aspects of Turkish cultures. Discussion hours are required. Instructor: Havlioglu. One course.

204. Intermediate Turkish. FL Classroom and laboratory practice in spoken and written Turkish in various cultural contexts. Readings/viewings in a variety of original source material from newspapers to films. Prerequisites: Turkish 203 or equivalent. Instructor: Goknar. One course.

232A. 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, Religion 281A

305. Contemporary Turkish Composition and Readings. CCI, FL Advanced grammar and syntax with intense composition component. Analytical readings in the original. Prerequisite: Turkish 204 or permission of instructor. Instructor: Staff. One course.

306. Contemporary Turkish Composition and Readings. CCI, FL Continuation of Turkish 305. Prerequisite: Turkish 305 or permission of instructor. Instructor: Staff. One course.

391. Turkish Independent Study. ALP, CCI, FL Guided reading and writing program for students of Turkish with a focus on research into primary source texts in Turkish. Students desiring to take this course must have proficiency at the third year level of higher. Instructor consent required. Instructor: Göknar, Havlioglu. One course.

407S. Issues in Turkish Language and Literature I. FL Materials from high and popular culture used to analyze diverse social phenomena and cultural issues in contemporary Turkey. Major focus on developing literary reading and writing skills along with learning methods of writing academic Turkish essays on a wide range of complex topics. Topics include popular politics, culture, literature, cinema and social issues in Turkey. Analysis of cultural and literary texts from variety of media and genres providing a basis for practice in discussion and writing. Prerequisite: Turkish 302S or permission of instructor. Instructor: Havlioglu. One course.

690S. Special Topics in Turkish Studies. Special Topics in Turkish Studies. Topics vary by course or section. Instructor: Tuna or Staff. One course.

Urdu

Course in Urdu (URDU)

101. The Urdu Script. FL Learn how to read and write the Urdu script (Nastaliq); review basic grammar topics; reading and writing assignments based on the website Darvazah. Instructor: Staff. Half course.

102. Urdu and Its Cultures. CZ, FL This course continues with practice in the Urdu script, basic grammar, and sentence structure, including past and future tenses. The focus is on developing practical skills in Urdu through speaking, listening, reading, and writing. Introduces students to critical issues in Indian-Pakistani society, history, and culture. Recommended prerequisite: Urdu 101 or a placement test. Instructor: Staff. Half course.

The Major

The Department of Asian & Middle Eastern Studies explores the cultures of the cities, nations, and regions of East Asia, the Indian Subcontinent, and the Middle East within the framework of the humanities. It provides students with an understanding of the languages, histories, cultural practices, and perspectives of these regions to prepare them for professional work or advanced graduate studies in the international arenas. The curriculum is designed to develop reflective, critical thinking and conceptually grounded understanding of the contemporary cultures of Asia and the Middle East within a global, geopolitical context. The coursework for the major provides an intellectual training that includes the study of languages and of cultural practices as well as of critical frameworks for the analysis of cultural perspectives. The concentration of the major is determined by the language of study: Arabic, Chinese, Hebrew, Hindi, Japanese, Korean, Persian, or Turkish. The department also offers coursework in Tibetan. To major in Asian and Middle Eastern studies, students should take at least ten courses (no fewer than ten credits) in the department, distributed as follows:

- For advanced linguistic skills, students should take at least two language courses at the 300 level in one AMES language or one course at the 400 level or above. Students may take up to six language classes altogether, not necessarily in one language. Students whose competence in a language exceeds the most advanced language course offered by the department may substitute language courses with literature/culture courses at the 100 level or above. 100-level language courses do not count toward the major.
- For a critical engagement with the cultural traditions of Asia and the Middle East, students are required to take four to nine AMES literature/culture courses at the 100 level or above, but no more than two courses at the 100 level.
 1. Students are required to take an AMES Gateway Course.
 2. Students should identify one main AMES regional or thematic pathway and complete at least three courses in the chosen pathway. Regional pathways include: (i) The Middle East; (ii) East Asia; (iii) The Indian Subcontinent. Thematic pathways include: (i) Race, Religion, Class, Gender; (ii) Empire, Nation, Migration; and (iii) Literature, Culture, Media.
- For reflection on their academic trajectory and their accomplishments in studying the languages and cultures of Asia and the Middle East, students turn in a senior portfolio at the conclusion of their final semester. The portfolio includes research papers, papers in AMES languages, creative works, and publications when applicable.

Study Abroad. Study abroad should be 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. Students who study abroad may transfer up to five language credits and up to two literature and culture credits, but no more than five credits altogether, toward their major in Asian & Middle Eastern Studies.

Advising. Majors will be advised by AMES regular-ranked faculty.

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 AMES 493 Research Independent Study with their advisor in the fall

semester and two departmental honors seminars, one in the fall semester (AMES 498S [0.5 credit]) and one in the spring semester (AMES 499S). Students will have an oral defense of their theses at the end of their final semester. In order to graduate with honors, the student must obtain at least an A in the honors seminars.

The Minor

A minor is offered to students interested in the study of language, literature, culture, and history of a particular region of Asia and the Middle East. The concentration of the minor is determined by the language of study: Arabic, Chinese, Hebrew, Hindi, Japanese, Korean, Persian, or Turkish.

The minor offers two pathways: (1) language pathway and (2) literature and culture pathway. Five courses are required in each track.

Minor in Asian & Middle Eastern Studies with a Language Pathway: Five courses are required as follows: 1) a minimum of three and up to a maximum of four language courses in one AMES language at the 200 level or above; 2) a minimum of one and up to a maximum of two AMES literature/culture courses at the 100 level or above.

Minor in Asian & Middle Eastern Studies with a Literature and Culture Pathway: Five courses are required as follows: (1) two language courses in one AMES language at the 200 level or above; 2) a minimum of two and up to a maximum of three AMES literature/culture courses at the 100 level or above.

Study Abroad. Students who study abroad may transfer up to four language credits, but no literature and culture credits, toward the minor in Asian and Middle Eastern studies.

Astronomy

For courses in astronomy, see Physics on [page 611](#).

Biochemistry

For courses in biochemistry, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates (on [page 806](#)); also see Biology (on [page 209](#)) and Chemistry (on [page 226](#)).

Bioethics and Science Policy

Professor Farahany, *Director*

Bioethics and Science Policy is a master of arts program that offers courses open to qualified upper-level students in arts and sciences with the permission of the instructor.

Courses in Bioethics and Science Policy (BIOETHIC)

282. Science, Ethics, & Democracy. EI, SS, STS One course. C-L: see Philosophy 282

390S. Special Topics. Topics vary each semester. Instructor: Staff. One course.

502S. Communicating Science & Bioethics. STS One course. C-L: see Science & Society 502S

510S. Science and the Media: Narrative Writing about Science, Health and Policy. STS, W Those who write about science, health and related policy must make complex, nuanced ideas understandable to the nonscientist in ways that are engaging and entertaining, even if the topic is far outside the reader's frame of reference. Course examines different modes of science writing, the demands of each and considers different outlets for publication and their editorial parameters. Students interview practitioners of the craft. Written assignments include annotations of readings and original narratives about science and scientists. Course considers ways in which narrative writing can inform and affect policy. Prerequisites: a 200-level science course and/or permission of the instructor. Instructor: Angrist. One course. C-L: Policy Journalism and Media Studies 510S, Public Policy 510S, Documentary Studies

591. Topics in Science Policy. R, STS During this independent research study, students will analyze science policy developments across government, including executive and agency actions, as well as proposed legislation and judicial decisions. Students will regularly produce policy brief summaries that overview the policy, explain the science at issue, present relevant background information, provide context concerning endorsements and

opposition, and expound upon related legislation and governmental actions. Instructor consent required. Instructor: Waitzkin. Variable credit.

601S. Foundations of Bioethics. CZ, EI, STS This course is designed to provide the incoming joint degree students in the JD/MA in Bioethics & Science Policy with an introduction to and overview of the central concepts underlying bioethics and the formulation of science policy. In a seminar format, the students will explore the foundations of bioethics, the concept of informed consent, human subject research and the Common Rule, bioethical issues in a clinical setting, risk and the precautionary principle, race and genetics, science and human rights, policy analysis, science communication and the formulation of science policy. Instructor consent required. Instructor: Williams. One course.

602S. Law, Research and Bioethics. EI, SS, STS An examination of the relationship between the law and bioethical issues, particularly in research and medical contexts. The course will explore the ways scientific advances affect law and other social institutions, and, conversely, how law affects the development and use of scientific knowledge. Topics include the history of human subject protections, current regulatory and statutory issues in research, and legal decisions governing informed consent, confidentiality, privacy, the philosophical principles underlying bioethics, and other issues. Consent of instructor is required for undergraduates. Instructor: Williams. One course.

603S. Clinical Bioethics and Health Policy. EI An examination of the leading issues in bioethics, especially those that arise in the context of clinical decision-making and the doctor-patient encounter. The focus will be on the ethical dilemmas faced by medical providers, patients, and their families: how issues are analyzed, what values are considered, and how disputes are resolved. Topics will include end-of-life care; withdrawal or refusal of life-sustaining treatment; pediatric ethics; transplantation; and rationing of scarce drugs or resources. The course will use real case examples to illustrate these dilemmas and challenges. Consent of instructor is required for undergraduates. Instructor: Lemmon. One course.

605S. Contemporary Issues in Bioethics and Science Policy. The course will focus on “Professional and Scholarly Writing” (Fall; Instructor: Angrist) and “Communicating Science and Bioethics” (Spring; Instructor: Weintraub). In the fall, we delve into how and where we express ideas about bioethics and science policy in writing. We begin from first principles: Why do we write? What can good writing do for us? How do we know when we’re done? During the semester we will write clear, thoughtful, analytic and creative pieces in bioethics and science policy. The spring course provides students with practical training in the communication of scientific research and bioethical issues to the media, policy makers, and the general public. Instructor consent required. Instructor: Angrist.

606S. Activism and Advocacy Among Patients and Research Participants. CCI, SS, STS, W In the 1960s, patients appropriated the language and tactics of the civil rights movement to advance clinical and research agendas. In today’s post-genomic and digital information era, patient activism is evolving, leading to new solutions, dilemmas, and organizational structures. This course will examine patient and research participant activism and the ways it challenges conventional notions of expertise, amateurism, “human subjects protections,” and minimization of risk. Students will bring the tools of investigative journalism, humanities scholarship, and community engagement/citizen science to bear on ethical and policy questions. Instructor consent required for undergraduates. Instructor: Angrist. One course.

607. Introduction to Genetics and Genomics. NS, STS An introduction to the fields of genetics and genomics for students without a formal science background. The course begins with an overview of the structure and function of DNA and the genome, and an introduction to the lab techniques and technologies used in these fields. Students will learn how scientists sequence a genome and how they “map” a disease gene. The course will conclude with an examination of the health and societal applications of genetics and genomics. Throughout the course, examples of ethical controversies will be provided to give perspective to the science. Consent of instructor is required for undergraduates. Instructor: Staff. One course.

Biology

Senior Lecturer Grunwald, *Director of Undergraduate Studies*; Associate Professor of the Practice Spana, *Associate Director of Undergraduate Studies*; Professors Alberts, Benfey, Bernhardt, Brandon (Philosophy), Clark (Environment); Cunningham, K. Dong, X. Dong, Donohue, Drea (Evolutionary Anthropology), Hartemink (Com-

puter Science), He, Johnsen, Kiehart, Kornbluth, Lutzoni, Manos, McClay, McShea, Mitchell-Olds, Morris, H. Ni-jhout, M. Noor, Nowacek (Marine Science and Conservation), Nowicki, Patek, Poss (Cell Biology), Pryer, Rausher, Rittschof (Marine Science and Conservation), Roth, Shaw, Schmidt (Physics), D. Sherwood, Silliman (Marine Science and Conservation), Smith, Sun, Uyenoyama, Vilgalys, Willis, Wray, and Yoder; Associate Professors Baugh, Bejsovec, Haase, Hunt (Marine Science and Conservation), Johnson (Marine Science and Conservation), Magwene, Pei, Royal (African & African American Studies), Schmid, Strader, Tung (Evolutionary Anthropology), Volkan, Wilson, and Wright; Assistant Professors Gibert, Goldberg (Evolutionary Anthropology), Monteiro Silva, and Onishi; Professors Emeriti Barber, Forward, Klopfer, Nicklas, Searles, Siedow, Staddon, Strain, Terborgh, Tucker, White, and Wilbur; Professor of the Practice Mercer; Associate Professors of the Practice, Broverman, J. A. Reynolds, N. Sherwood, and Spana; Senior Lecturers Grunwald and Hill; Lecturer Perz

A major and a minor are 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 in Trinity College of Arts & 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.

Courses in Biology (BIOLOGY)

20. General Biology. Pre-matriculation credit awarded for a score of 4 on the College Board AP Examination (or the equivalent). One course.

21. General Biology. Pre-matriculation credit awarded for a score of 5 on the College Board AP Examination (or the equivalent). Students may place into Biology 203L. One course.

20S. First-Year Seminar. Topics vary each semester offered. Instructor: Staff. One course.

128FS. Evolutionary Genomics: Who Are We, Where Have We Been, and Where Are We Going?. NS, STS One course. C-L: see Genome Sciences and Policy 128FS

148FS. Genomics of Host-Microbe Interactions: The Symbiotic Web. NS, R, STS One course. C-L: see Environment 148FS; also C-L: Genome Sciences and Policy 148FS

153. Climate, Coffee, and Coronavirus: Why Ecology Matters to Human Health. EI, NS, STS This course explores interactions between organisms and their environments that impact human health. We will examine the effects of climate change and human population growth on our food supply, water availability, the spread of disease, and ecosystem services. Case studies will be used to illustrate the scientific process, to evaluate supporting evidence, and to investigate ethical issues. For nonmajors. One course. Not open to students who have taken Biology 209-1 or Biology 209S-1. Instructor: Reynolds. One course. C-L: Environment 153, Global Health 153, Global Health

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 154, Global Health

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: Prys. 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. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Environment 175LA, Marine Sciences, Marine Science and Conservation

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

190. Special Topics in Biology. Special topics in Biology, intended for non-majors. Topics vary by term. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Biology. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program Topics in Biology. 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. Occasional seminars in various topics in biology. Intended for nonmajors. Instructor: Staff. One course.

201D. Gateway to Biology: Molecular Biology. NS, STS Non-laboratory version of Biology 201L. 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. Prerequisite: Chemistry 21, 21L, 101DL, 110DL, or 201DL. Not open to students who have taken Biology 201L/201LA. Taught online. Instructor: Hill, Armaleo. 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 21, 21L, 101DL, 110DL, or 201DL. Not open to students who have taken or are currently enrolled in Biology 203L. Instructor: Baugh, Hill, Schmid, and/or Silva. 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 21, 21L, 101DL, 110DL, or 201DL. Not open to students who have taken or are currently enrolled in Biology 203L. Taught in Beaufort at Duke Marine Lab. Instructor: Schultz. One course. C-L: Marine Sciences

202L. Gateway to Biology: Genetics and Evolution. NS, STS Introduction to principles transmission genetics and evolution. Includes Mendelian and non-Mendelian inheritance, quantitative genetics, genetic mapping, evidence for evolution, natural selection, genetic drift, kin selection, speciation, molecular evolution, phylogenetic analysis. Relevance to human family and social structure, evolution of infectious disease, human hereditary disorders, social implications of genetic knowledge. Not open to students who have taken or are currently enrolled in Biology 203L. Instructor: Bejsovec, Tung, Willis, Yoder, or staff. One course.

202LA. Gateway to Biology: Genetics and Evolution. NS, STS Introduction to principles transmission genetics and evolution. Includes Mendelian and non-Mendelian inheritance, quantitative genetics, genetic mapping, evidence for evolution, natural selection, genetic drift, kin selection, speciation, molecular evolution, phylogenetic analysis. Relevance to human family and social structure, evolution of infectious disease, human hereditary disorders, social implications of genetic knowledge. Not open to students who have taken or are currently enrolled in Biology 203L. Taught in Beaufort at Duke Marine Lab. Instructor: Schultz. One course. C-L: Marine Sciences

203L. Gateway to Biology: Molecular Biology, Genetics & Evolution. NS, STS Major concepts in modern biology through the lens of molecular biology, genetics and evolution. The structure and function

of genes at the molecular, organismal, and population level. Molecular mechanisms including replication, transcription, translation, and DNA mutation and repair. Mendelian and non-Mendelian inheritance, genetic mapping, evidence for evolution, natural selection, genetic drift, speciation, molecular evolution, phylogenetic analysis. Relevance to human diseases, social implications of genetics and biotechnology. Prerequisite: Biology 21 and Chemistry 21, 21L, 101DL, 110DL, or 201DL. Not open to students who have taken or are currently enrolled in Biology 201L or 202L. Instructor: Wray, Rausher, Spana. 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: Staff. One course. C-L: Environment 205, Marine Sciences, Marine Science and Conservation

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 206L. Instructor: Manos and Cunningham. One course.

208FS. Computing on the Genome: An Introduction to Genomics and Bioinformatics. NS, QS This course will provide an introduction to key concepts in the genome sciences, using tools and concepts from computational biology and bioinformatics. Topics to be covered include genome structure, function, variation, and evolution. Students will learn computational and statistical methods for describing and quantifying various aspects of genome biology and will apply these tools to real world data. Recommended prerequisite: familiarity with molecular biology concepts such as DNA replication, transcription, and translation. No prior programming experience is required. Open only to Focus Program students. Instructor: Magwene. One course.

209-1. The Ecology of Human Health. NS, STS Humans are the dominant species on Earth and ecology is key to understanding the multiple feedbacks through which their activities affect human health. Fundamental principles of ecology, from population to ecosystem levels, will be examined through the lens of human health. Topics include human population growth and carrying capacity, why we age, infectious disease dynamics, the microbiome and human health, sustainable agriculture and food security, sustainable harvest of wild foods, dynamics of pollutants in food webs, ecosystem services to humans, and human impacts of climate change. Not open to students who have taken Biology 209 or Biology 209D-2. Instructor: Morris and/or Reynolds. One course.

209D-2. 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. Not open to students who have credit for Biology 209 or 209-1. Instructor: Bernhardt, Gibert, and/or Wright. One course.

209S-1. The Ecology of Human Health. NS, STS, W Humans are the dominant species on Earth and ecology is key to understanding the multiple feedbacks through which their activities affect human health. Fundamental principles of ecology, from population to ecosystem levels, will be examined through the lens of human health. Topics include human population growth and carrying capacity, why we age, infectious disease dynamics, the microbiome and human health, sustainable agriculture and food security, sustainable harvest of wild foods, dynamics of pollutants in food webs, ecosystem services to humans, and human impacts of climate change. Not open to students who have taken Biology 209-1 or 209D-2. Instructor: Reynolds. One course.

212L. General Microbiology. NS Classical and modern approaches to the study of microorganisms and their roles/applications in everyday life, medicine, research, and the environment. Microbial cell structure, function, growth, genetics, metabolism, evolution, and ecology. Study of disease, infection, and immunology. Introduction to virology. Recommended for many pre-health programs. Prerequisite: one course in a biological science or consent of instructor. Instructor: Dong, Lutzioni, and/or Schmid. One course. C-L: Global Health

213D. 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. Recommended prerequisite: Biology 201L or 203L. Instructor: Pei and Sun. One course.

215. Introduction to Mathematical Modeling in Biology. NS, QS, R A first course applying mathematics to biological problems. Topics drawn from cell and molecular biology, molecular evolution, enzyme catalysis, biochemical pathways, ecology, systems biology, and developmental biology. Prerequisite: Mathematics 212 or equivalent. Instructor: Mercer. One course.

218. Biological Clocks: How Organisms Keep Time. NS From sleep/wake cycles to flower opening to cell division and malaria infections; all organisms and cells display rhythmic behaviors. Course will focus on genetic and molecular networks that comprise clocks regulating cell division and circadian rhythms. Quantitative aspects clock networks will be examined from the perspective of data analysis and dynamical models. Class will include lectures, primary literature readings, and in-class projects. Recommended prerequisite: Math 112L or equivalent, and Biology 20, 21, 201L, or 203L. Instructor: Haase and staff. One course.

220. Cell Biology. NS The role of genes and proteins in mediating basic cellular 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. Recommended prerequisite: Biology 201L or 203L. Instructor: McClay, D. Sherwood, or staff. One course.

221D. Developmental Biology: Development, Stem Cells, and Regeneration. NS Mechanisms of fertilization, control of cell divisions, diversification of cell types, organization and differentiation of cells and tissues of the organism, and patterning necessary to establish the body plan of many organisms including vertebrates, invertebrates and plants. Included among these mechanisms are the roles of transcription factors in controlling the trajectories toward tissues, signal transduction, morphogenetic movements, and other mechanisms used by different plants and animals to build a functional adult. Also includes stem cell biology, regeneration of tissues, sex determination, and evolutionary mechanisms of diversification. Recommended prerequisite: Biology 201L or 203L or equivalent. Instructor: McClay. One course.

223. Cellular and Molecular Neurobiology. NS One course. C-L: see Neuroscience 223

224. Fundamentals of Neuroscience. NS, STS One course. C-L: see Neuroscience 201; also C-L: Psychology 275

228. Food and Fuel for a Growing Population: Nuts and Bolts of Plant Growth and Production. NS, STS One course. C-L: see Environment 228

228S. Food and Fuel for a Growing Population: Nuts and Bolts of Plant Growth and Production. NS, STS One course. C-L: see Environment 228S

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. Recommended prerequisite: Biology 201L, 203L, or consent of the instructor. Instructor: Mercer. One course. C-L: Science & Society

255. Philosophy of Biology. CZ, NS, R, STS One course. C-L: see Philosophy 314; also C-L: Science & Society, Marine Science and Conservation

260S. Genetics and Genomics of Human Variation. CCI, NS, STS Research over the last 50 years has demonstrated that the human species is characterized by low genetic diversity and extensive recombination. Yet, social constructions of 'race' based on phenotypic differences are ingrained in our understanding of how humans vary. This course will uncover how the human species varies at the genetic and genomic levels, in the context of other primate species. Given this background, we will discuss the social construction of 'race' and the intersection of macroevolution, genetics, and phenotype. Finally, we will explore current research that suggests

a genetic or epigenetic basis for perceived racial health disparities and outcomes in biomedicine. Open only to Duke Immerse students. Instructor consent required. Instructor: Gosselin-Ildari and Lutzoni. One course. C-L: Evolutionary Anthropology 215S

261D. Race, Genomics, and Society. EI, NS, SS, STS One course. C-L: see African & African American Studies 261D; also C-L: Science & Society 258D, Global Health 258D, Cultural Anthropology 261D, Visual and Media Studies 274D

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

263. Biological Responses to Climate Change. NS, W Lecture/discussion course on how organisms, populations, and biological communities are expected to respond to climate change. Topics include evidence for effects of climate change on organisms, how to experimentally test for potential effects of climate change, ecological and evolutionary mechanisms that organisms have—or do not have—that enable them to respond to climate change, community responses to climate change. Recommended prerequisite: Biology 202L or 203L. Instructor: Donohue. One course.

267D. Behavioral Ecology and the 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. Recommended prerequisite: Biology 202L or 203L. Instructor: Alberts. One course. C-L: Evolutionary Anthropology 347D

267D-1. Behavioral Ecology and the Evolution of Animal Behavior. NS, STS 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. Does not carry codes for research- (R) or writing- (W) intensive course. Recommended prerequisite: Biology 202L or 203L. Instructor: Alberts. One course. C-L: Evolutionary Anthropology 347D-1

268D. Mechanisms of Animal Behavior. NS Survey of causal factors underlying the expression of animal behavior, organized around common problems organisms need to solve, such as finding food, avoiding predation, determining when and with whom to reproduce, communicating with other organisms, and extracting information from the environment. These factors are examined from an integrative perspective that includes neurobiology, endocrinology, sensory physiology, genetics, developmental biology, and functional morphology. Prerequisite: Biology 202L, 202LA, or 203L. Instructor: Nowicki. One course. C-L: Neuroscience 268D

270A. Conservation Biology and Policy. EI, NS, STS, W 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). Taught in Beaufort at Duke Marine Lab. Prerequisite: introductory biology; suggested: a policy and/or introductory ecology course. Instructor: Staff. 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. Taught in Beaufort at Duke Marine Lab. 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 Distribution, abundance, and diversity of marine organisms, including a survey of the major flora and fauna in the marine environment, including physical characteristics, adaptation to environment, species interactions, biogeography, larval recruitment, and biodiversity and conservation of communities found in rocky shores, tidal flats, beaches, marshes, mangrove, coral reefs, and subtidal areas. Lectures, field excursions, lab exercises and an independent project. Taught in Beaufort at Duke Marine Lab.

Taught fall, spring, and summer; spring enrollment requires travel. Recommended prerequisite: AP biology or introductory biology. Instructor: Silliman. 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, biomimetics, biological glues, biocorrosion, biodegradation, bioremediation, biological resistance, and biological virulence. Environmental and human health policy. Taught in Beaufort at Duke Marine Lab. Prerequisite: introductory chemistry. Instructor: Rittschof. One course. C-L: Environment 271A, Marine Sciences, Marine Science and Conservation

278LA. Comparative Physiology of Marine Animals. NS, R, W Physiology of marine animals with emphasis on comparisons between marine vertebrates and humans. Focus on physiological processes including gas exchange, circulation, osmoregulation, metabolism, thermoregulation, endocrine, neural control and sensory systems. Lectures and laboratories illustrate the methodology, analysis techniques, and written reporting of physiological research. Taught in Beaufort at Duke Marine Lab. Taught fall, spring, and summer. Prerequisite: AP biology, introductory biology, or consent of the instructor. Instructor: Wise or staff. One course. C-L: Environment 278LA, Marine Sciences, Marine Science and Conservation

279LA. Sound in the Sea: Introduction to Marine Bioacoustics. NS, R, STS One course. C-L: see Environment 280LA; also C-L: Electrical and Computer Engineering 384LA, Earth and Ocean Sciences 280LA, University Program in Marine Science, Marine Science-Natural Science

287A. Biodiversity of Alaska. NS, STS Ecology/biodiversity and conservation in Alaska: identification and natural history of native plants and animals including both terrestrial and marine species, biogeographic history and patterns, native American cultures, conservation issues surrounding Alaskan natural resources. Regional, national, and geopolitical issues surrounding development and conservation in Alaska and elsewhere in the arctic. Lectures and discussions complemented by field trips to examine terrestrial, aquatic, and marine ecosystems across the three major Alaskan biomes: coastal rainforest, boreal coniferous forest, arctic/alpine. Taught in Alaska. Instructor: Shaw. One course. C-L: Environment 277A, Earth and Ocean Sciences 287A

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 floras of the Australian continent and on the impact of humans on the distribution of these plants and animals. Taught in Australia. Instructor: Glass. One course. C-L: Environment 288A, Earth and Ocean Sciences 288A

290. Topics in Biology. Occasional topics in the biological sciences. Instructor: Staff. One course.

290S. Seminar in Biology. Instructor: Staff. One course.

290T. Tutorial. Tutorial under supervision of a faculty member for two or more students working on a related topic. 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 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 in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Marine Sciences, Marine

Science and Conservation

293A-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. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. Half course. C-L: Marine Sciences, Marine Science and Conservation

304. Biological Data Analysis. NS, QS Principles and applications of statistics in biology, with emphasis on genetics, molecular biology, ecology, and evolution. Topics include: the visualization 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, non-parametric tests, and reproducible analysis using the R statistical computing environment. Not open to students who have credit for another 100-level statistics course.

Instructor: Magwene or Mitchell-Olds. One course.

308A. Oceans in Human and Environmental Health. CCI, NS, STS One course. C-L: see Environment 308A; also C-L: Global Health 308A

309A. Oceans in Human and Environmental Health. NS, STS One course. C-L: see Environment 309A; also C-L: Global Health 309A, Marine Sciences

310. Primate Evolutionary Genetics. NS, R One course. C-L: see Evolutionary Anthropology 310

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: Magwene and Schmid. One course. C-L: Science & Society

318. Human Evolutionary Genetics. NS, R One course. C-L: see Evolutionary Anthropology 318

319A. Coastal Watershed Science and Policy. NS, STS One course. C-L: see Environment 321A; also C-L: Marine Sciences

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

322. From Neurons to Brain. NS Physiology of single neurons, and how they come together to form a circuit. Ideas about how circuits encode information. Operation of neural circuits, and experimental and theoretical approaches to unravel them. Principles underlying sensory, motor and decision-making circuits. A range of model systems from small (leech, stomatogastric ganglia) to medium (fruitflies and bees) and large (songbirds, mice, primates) will be introduced. Design principles and constraints that have shaped the nervous system during evolution will be discussed. Prerequisite: Biology 201L and Chemistry 101DL or equivalent. Instructor: Staff. One course. C-L: Neuroscience 322

325. Current Technologies in Genomics and Precision Medicine. NS, STS Comprehensive overview of genome science technologies, analytical tools, clinical applications, and related issues. Exposure to a range of technologies currently used in research and some in clinical practice, as well as the tools to interrogate the large data-sets generated by these technologies. Projects will explore the range of datasets publicly available and analysis of genomic datasets. Prerequisite: Biology 201L or 203L. Instructor: Haga and Wray. One course. C-L: Molecular Genetics & Microbiology 325

326S. Evolutionary Genomics. NS, STS The unification of genomic data, bioinformatic analysis, and evolutionary theory has transformed our understanding of human history, our place within the Tree of Life, and the impact that our species is having on those with whom we share the planet. This course will draw from the primary literature to familiarize students with the multifaceted power of genomics, with a slant towards examining human history and disease from an evolutionary perspective. Readings will be drawn from a wide variety of sources, from some published more than a century ago, up through the contemporary popular press. Recommended prerequisite: Biology 202L. Instructor: Yoder. One course.

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 Biology 329L. Recommended prerequisite: Biology 20, 21, 201L or 203L and Physics 141L and Chemistry 101DL. Instructor: Grunwald. One course.

329L. Principles of Animal Physiology. NS, R, W Examination of physiological principles that guide animal life processes. Framed in an evolutionary context, processes including respiration, circulation, neural control, movement, excretion and metabolism will be understood in terms of core principles that also apply to humans. Laboratories will include directed and self-directed investigations into animal physiology using research grade data acquisition systems. This is a writing-intensive course. Not open to students who have taken Biology 329D. Recommended prerequisite: Biology 20, 21, 201L or 203L and Physics 141L and Chemistry 101DL. Instructor: Patek. 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 difference observed among living vertebrates. Laboratories examining specific problems in the evolution of major organ systems through dissection, comparison and analysis of functional data. Instructor: Staff. One course.

335A. Drones in Marine Biology, Ecology, and Conservation. NS, STS One course. C-L: see Environment 335A; also C-L: Marine Sciences, Marine Science and Conservation

335LA. Drones in Marine Biology, Ecology, and Conservation. NS, STS One course. C-L: see Environment 335LA; also C-L: Marine Sciences, Marine Science and Conservation

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. Recommended prerequisite: Biology 20, 21, 202L, or 203L. Field trips. Instructor: Pryer and Windham. One course.

344S. Plant Diversity: A Field Approach. NS Field-based study of plant diversity. Collection, identification, and ecology of plant species in a specific forested location. Biodiversity informatics, plant evolution, and ecology. Instructor: Shaw. One course. C-L: Environment 344S

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

346. Symbiosis: From Organelles to Microbiomes. NS, R, STS Symbiotic interactions are integral to the biology of multicellular eukaryotes. The discovery of the roles of the human microbiome in the development, physiology, ecology and evolution of humans is currently transforming medicine. This course is a multidisciplinary study, at the intersection of evolutionary biology, ecology and genomics, of symbiotic systems such as plant-animal, microbe-plant, and microbe-animal symbioses spanning the entire tree of life, including the human microbiome. We explore this topic from a researcher's perspective and with the goal of helping students join research labs. Instructor: Lutzoni. One course.

347L. Plants and People. NS, STS The history of humans is deeply intertwined with plants. We depend on them for food, fuel, beverages, medicine, textiles, shelter, and trade. This course explores the evolutionary diversity of plants across the Green Tree of Life and their importance to people through time, the history of their domestication, their current roles in our society, and in our ecosystems. Includes laboratory investigations and scheduled field trips. Instructor: Pryer and Windham. One course.

348LS. Herpetology. NS Introduction to diversity and biology of amphibians and non-avian reptiles. Emphasizes on their evolutionary history, including the relationships among the major taxonomic groups and to other taxa. Topics include evolutionary adaptations with regard to life history, physiology, behavior. Human interactions and species conservation. Examples from North Carolina and the Southeastern US will be used

whenever possible. Laboratory activities, field projects, required and optional field trips. Instructor: Grunwald. One course.

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. Recommended prerequisite: Biology 20, 21, 202L, or 203L. Instructor: Mitchell-Olds. One course. C-L: Science & Society

361LS. Field Ecology. NS, R, W Explore the natural systems of North Carolina through hands-on experimentation. Through student-guided inquiry and field experimentation students will gain experience in formulating hypotheses, designing field observations and experiments, analyzing field data and interpreting results from the fields of ecosystem, community, population, and physiological ecology. In addition to weekly field labs, the course will include a weekend field trip. Recommended prerequisite: Biology 20 or 21 or one course in ecology or consent of instructor; Mathematics 111L. Instructor: Wright or Bernhardt. One course. C-L: Environment 361LS

364L. Advanced Experimental Physics. NS Half course. C-L: see Physics 364L

365L. Advanced Experimental Physics. NS One course. C-L: see Physics 365L

368A. Deep-Sea Science and Environmental Management. NS, R, STS Explores ecosystems in the deep sea, including fundamental aspects of geology, chemistry, and biodiversity; behavioral, physiological, and biochemical adaptations of organisms (primarily invertebrate, but may include microbial and vertebrate components) to deep-sea benthic and benthopelagic environments will be introduced. Students will gain an understanding of the ecosystem services of the deep sea; issues in deep-sea environmental management arising from exploitation of deep-sea resources will be discussed. Taught in Beaufort at Duke Marine Lab. Recommended prerequisite: introductory biology (Biology 20, 21, 202L, or 203L or equivalent). Instructor: Van Dover. One course. C-L: Marine Sciences, Marine Science and Conservation

369LA. Biological Oceanography. NS, R Discusses patterns of abundance, diversity and activity of organisms in major ocean ecosystems. Identifies major physical, chemical and ecological processes that affect these patterns, and analyzes impact of biology on ecosystems. Uses a “flipped” classroom for enhanced development of quantitative skills to measure these patterns, emphasizing hands-on data collection and analyses, multiple field trips aboard DUML research vessels, and participatory activities to demonstrate core concepts in biological oceanography. Taught in Beaufort at Duke Marine Lab. Spring enrollment requires travel. Recommended prerequisite: AP biology or introductory biology. Instructor: Johnson. One course. C-L: Environment 369LA, Earth and Ocean Sciences 273LA, 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: AP Biology or introductory biology or consent of instructor and Chemistry 101DL. Instructor: Rittschof. One course. C-L: Neuroscience 381LA, Environment 373LA, 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. Taught in Beaufort at Duke Marine Lab. Field trip to Puerto Rico required. Prerequisite: introductory biology. Consent of instructor required. Instructor: Godfrey or Staff. 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: introductory biology. Instructor: Godfrey or 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: introductory biology. Instructor: Read. 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: introductory biology. Instructor: Read. One course. C-L: Environment 376LA, Marine Sciences, Marine Science and Conservation

377LA. Biodiversity of Marine Invertebrates. NS, R An introduction to the biodiversity represented by major marine invertebrate groups, with emphasis on the diversity of body forms and behaviors and on anatomical structures and functions. Field trips primarily by boat allow students to explore invertebrates characteristic of a variety of coastal habitats in North Carolina, including mud flats, sandy beaches, salt marshes, oyster reefs, piers and docks, and the water column. Live invertebrates maintained in the laboratory serve as models for detailed study of form and function. Taught in Beaufort at Duke Marine Lab. Instructor: Van Dover, Silliman. One course. C-L: Environment 377LA, Earth and Ocean Sciences 377LA, 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

384A. Marine Conservation Biology - a Practicum. NS, STS One course. C-L: see Environment 384A; also C-L: Marine Sciences, Marine Science and Conservation

385L. Integrative Neuroscience Laboratory. NS, R, W One course. C-L: see Neuroscience 385L

390A. Duke-Administered Study Abroad: Advanced Special Topics in Biology. Topics differ by section. Instructor: Staff. One course.

391. Independent Study: Advanced Topics. Reading in a field of special interest under the supervision of a Biology faculty member. Intended for students interested in studying topics not offered in regularly available courses. Instructor consent is required. Instructor: Staff. One course.

391A. Independent Study: Advanced Topics. Reading in a field of special interest under the supervision of a Biology faculty member. Intended for students interested in studying topics not offered in regularly available courses. Taught in Beaufort at Duke Marine Lab. Instructor consent is required. Instructor: Staff. 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.

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. Recommended prerequisite: Biology 201L, 202L, or 203L, 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. Recommended prerequisite: Biology 201L, 202L or 203L and/or 220 or equivalent. Instructor: D. Sherwood. One course.

416L. Experimenting With, and Writing About, Molecules and Cells. NS, R, W Experiments, analysis, and writing in the field of molecular biology. Investigate hands-on protein-DNA binding, protein domain structure and function, differential gene expression, protein localization. Utilize techniques including genetic transformation, gel mobility shift assays, Western and Northern blotting, PCR, RT-PCR, microarrays, immunolocalization, DNA sequencing. Learn how to evaluate procedures and results and to organize them into

clear, publication-quality scientific papers. Especially helpful for students who wish to maximize the benefits of subsequent or concurrent independent study experiences. Recommended prerequisite: Biology 201L or 203L. Instructor: Armaleo. One course.

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. Recommended prerequisite: Biology 201L, 203L, or 220, or lab experience or consent of instructor. Instructor: Sun. One course. C-L: Science & Society 417S

418. Introduction to Biophysics. NS, QS One course. C-L: see Physics 414

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, genome instability, stem cells, metastasis, and current therapeutic approaches. Prerequisite: (Biology 201L/201LA and Biology 202L/202LA) or Biology 203L. 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

422LS. Experiments in Animal Models of Human Neurodegenerative Disease. NS, R This course will bring students into a basic research setting to directly contribute to our understanding of the molecular and cellular underpinnings of neurodegenerative disease. Classic experimental approaches in the lab (fruit fly genetics, molecular techniques, dissection, immunocytochemistry, microscopy) will be paired with short lectures, literature-based discussions, and data presentations. Students should, through firsthand experience, gain an appreciation for 1) the life cycle of basic research, 2) the utility, challenges, and caveats of various approaches to understanding disease, and 3) the elegance and relevance of gene and cell function across organisms. Recommended prerequisite: Biology 201L or 203L. Instructor: Sherwood, Ozdowski. One course. C-L: Neuroscience 388LS

424S. The Biological, Chemical, and Physical Bases of Cell Shape and Cell Shape Changes. NS Cell shape and shape change are fundamental features of biological development and homeostasis. We investigate the intimate relationship between cellular structure and function at molecular, sub-cellular, cellular and tissue length scales. We study a range of cell types, from the very simple (e.g., red blood cells) to those that are structurally complex (e.g., epithelia, muscle and nerve). We integrate information from studies *in vivo*, *in vitro*, in cell free systems and on purified proteins. We learn from a combination of readings (reviews and primary literature), lectures, discussions and presentations by students. Prerequisite: Biology 201L and Biology 220, or equivalents. Instructor: Kiehart. One course.

425. Biophysics II. NS, QS One course. C-L: see Physics 415

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, electroreception, magnetoreception, bioluminescence, touch, time, and music. Recommended prerequisite: Biology 201L, or 201L and 202L, or 203L or the equivalent, and one course in Neuroscience, or consent of instructor. Instructor: Johnsen. One course. C-L: Neuroscience 427S

429S. How Organisms Move. NS Connecting basic physics with biological systems to examine the principles of organismal movement. Course provides a quantitative and analytical foundation in the major modes of locomotion, such as flight, swimming, and walking, then applies this foundation to broader issues in science and society, such as the development of biologically-inspired mechanisms and the impact of climate change on organismal movement. Foundational lecture presentations, in-class group problem-solving and projects, and R-computer programming. Prerequisite: Physics 25, Physics 141L/141LA, Physics 151L, or Physics 161D. Recommended prerequisite: Biology 203L or 201L and 202L. Instructor: Patek. One course.

431S. Human Embryology: Reproductive Biology in the 21st Century. EI, NS, STS The development of the mammalian embryo. Emphasis on human embryology and reproductive technologies, with major focus on

ethical, policy and social issues such as assisted reproduction, cloning, embryo selection, genome modification and surrogacy. The origin of major teratologies, evolution of developmental patterns, aspects of comparative development, and the molecular mechanisms of development are also discussed. Recommended prerequisite: previous college course work in anatomy, development, or reproductive biology. Instructor: Smith. One course.

432S. Biology of Host-Pathogen Interactions. NS Pathogens have evolved a broad set of strategies for growing and dividing in a host. We will explore the complex and dynamic host-pathogen interactions from the perspective of a variety of pathogenic organisms. This seminar style course will include lectures, discussions, readings, and presentations of primary literature by students. Recommended prerequisite: Biology 201L or 203L. Instructor: Haase. One course.

445A. Climate Change in the Marine Environment. EI, NS, STS One course. C-L: see Environment 445A; also C-L: Public Policy 445A, Marine Sciences, Marine Science and Conservation

450S. Genomics of Adaptation: A Modern Look at Evolution. NS Contemporary studies of how populations and species evolved adaptations to their ecological habitats. Focus on modern methods of genome mapping and sequence data and analysis in wild populations that can identify genetic changes that contributed to ecological adaptations. Emphasis on case studies of genomics of adaptation in plant and animal systems, including humans and our adaptations to environments that our ancestors encountered as they colonized diverse habitats throughout the world. Examples will also illustrate how speciation and hybridization can contribute to adaptive biodiversity. Recommended prerequisite: Biology 202L or 203L or equivalent course. Instructor: Willis. One course. C-L: Science & Society

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. Prerequisite: Biology 201L and 202L, or Biology 203L. Recommended prerequisite: Biology 220 or 221D. Instructor: Baugh. One course. C-L: Science & Society

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. Recommended prerequisite: Biology 202L or 203L. Instructor: Donohue. One course.

454S. Physiological Genetics of Disease. NS, QS, R An exploration of how we have come to understand the relationships between genes and traits, with a focus on traits of biomedical importance. We explore how physiological systems biology can be used to understand the causal pathways by which genes affect traits. Examples will be taken largely from the biomedical literature with a focus on genetic diseases and the roles of genetic background and environment in determining how (and why) genes affect traits. Readings and class participation, short papers and oral presentations on research projects. Recommended prerequisite: Biology 203L or 201L and 202L and Mathematics 112L. Instructor: Nijhout. One course.

460. Population Genetics. NS, QS 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. Not open to students who have taken Biology 250. Instructor: Uyenoyama. One course.

490. Topics in Biology. Lecture course on selected topic. Offerings vary each semester. Instructor: Staff. One course.

490S. Special Topics Seminar. 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.

490T-1. Tutorial. For junior and senior majors with consent of director of undergraduate studies and supervising instructor. Instructor: Staff. Half course.

490TA. Tutorial (Topics). For junior and senior majors with consent of director of undergraduate studies and supervising instructor. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course.

490TA-1. Tutorial (Topics). For junior and seniors with consent of director of undergraduate studies and supervising instructor. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. Half course.

491. Independent Study: Advanced Topics. Reading in a field of special interest under the supervision of a Biology faculty member. Intended for students interested in studying topics not offered in regularly available courses. Consent of instructor required. Instructor: Staff. One course.

491A. Independent Study: Advanced Topics. Reading in a field of special interest under the supervision of a Biology faculty member. Intended for students interested in studying topics not offered in regularly available courses. Taught in Beaufort at Duke Marine Lab. Instructor consent is required. Instructor: Staff. One course. C-L: 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. Prerequisite: Biology 293 or Biology 379LA. May be repeated. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

493A. Research Independent Study. R 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 in Beaufort at Duke Marine Lab. Prerequisite: Biology 293A or Biology 379LA. May be repeated. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

495. Scientific Arguments: Writing an Undergraduate Thesis. W Conventions of scientific writing, focusing on the process of writing a thesis or other major research paper in the natural sciences. Course intended for all candidates for Graduation with Distinction in Biology and Physics. Instructor: Reynolds. One course.

505. Functional Ecology of Plants. NS One course. C-L: see Environment 505

515. Principles of Immunology. NS, R One course. C-L: see Immunology 544

522S. Origins of Cellular Life on Earth and Beyond. NS This course discusses the origins of cellular life on Earth and beyond. We will ask: How did life originate? What are the limits of conditions that sustain life? Is there life elsewhere in the universe? How would we know life if we found it elsewhere (i.e., how is life defined)? This discussion-based course will delve into the literature reporting the biological and astrobiological research community's response to life's "big questions." Recommended prerequisite: Biology 201L or 203L, Chemistry 201DL, and Biology 212L. Instructor: Schmid. One course.

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.

546LS. Biology of Mammals. NS Lab-based version of Biology 546S. Instructor: Roth. One course.

546S. Biology of Mammals. NS The biology of mammals: diversity, evolutionary history, morphology, and aspects of physiology and ecology. Local field trips. Recommended prerequisite: Biology 20, 21, 202L, or 203L, or equivalent. Instructor: Roth. One course.

547L. Entomology. NS The biology of insects: diversity, development, physiology, and ecology. Field trips. Recommended prerequisite: Biology 20, 21, 202L, or 203L, or equivalent. Instructor: H. Nijhout. One course.

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. Recommended prerequisite: Biology 202L or 203L 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. Recommended prerequisite:

Biology 202L or 203L 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. Recommended prerequisite: Biology 20, 21, 212L, 201L, 202L, or 203L. 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. C-L: University Program in Ecology 559S

561. Tropical Ecology. **NS, STS** One course. C-L: see Environment 517; also C-L: Latin American Studies

563S. Stormwater Science: Pollution, Pavement, and Precipitation. **NS** Examines pollution emissions/deposition, impervious surfaces, evapotranspiration, groundwater, stormwater runoff, nutrients, thermal pollution, and freshwater effects. Uses primary literature, as well as a couple of books. Also examines “stormwater control measures” that mitigate problems. Student-driven course: Reading, presenting, and discussing primary literature, asking/answering questions in class, and seeking answers. Course designed for graduate and advanced undergraduate students. Prerequisites: one course in Ecology or Environmental Science or instructor consent. Instructor: Wilson. One course. C-L: Environment 565S

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

564D. Biogeochemistry. **NS, STS** Discussion version of Biology 564. 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. Recommended prerequisite: Chemistry 101DL and 210DL. Instructor: Bernhardt. One course. C-L: Environment 564D

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: Wright. One course. C-L: Environment 575L

565S. Biodiversity Science and Application. **NS** Non-lab version of Biology 565L. 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. Recommended prerequisite: Biology 209D-2 or equivalent. Instructor: Wright. One course. C-L: Environment 575S

566S. Understanding the Ecological Role of Plant Traits in Changing Environments. **NS, R** Ecophysiology studies the adaptation of organism's physiology to its environment and provides a mechanistic framework for understanding how species respond to changing environments and how species interact with each other. As such, it plays a central role in understanding how organisms might respond to global change. This course will explore current topics in plant ecology by reading and discussing recent papers from the scientific literature. Recommended prerequisite: previous coursework in either ecology or physiology. Instructor: Wright. One course.

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. Taught in Beaufort at Duke Marine Lab, 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. Taught in Beaufort at Duke Marine Lab, 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: introductory course in biology or environmental science and consent of instructor. Instructor: Johnson. Half course. C-L: Environment 570LA-2, Marine Sciences

571A. Sojourn in Singapore: Urban Tropical Ecology. CCI, NS, SS, STS One course. C-L: see Environment 571A; also C-L: Marine Sciences, Marine Science and Conservation

579LA. Biological Oceanography. NS, R Variable credit. C-L: see Environment 579LA; also C-L: Earth and Ocean Sciences 579LA, 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. Recommended prerequisite: Biology 202L, 203L, or equivalent. Also recommended: one course in plant or animal diversity and one course in evolution beyond 202L. Instructor: Roth. One course. C-L: Evolutionary Anthropology 588S

590. Topics in Biology. Lecture course on selected topic. Offerings vary each semester. Instructor: Staff. One course.

590S. Seminar (Topics). Seminar on a selected Topic. Offerings vary each semester. Instructor: Staff. One course.

627. Molecular Ecology. NS, STS One course. C-L: see Environment 627; also C-L: Science & Society 627

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.

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. C-L: Evolutionary Anthropology 652S

660. Evolution from a Coalescence Perspective. NS Survey of theoretical and empirical aspects of modern population genetics in the post-coalescence era. Coincident with the development of coalescence theory, evolutionary biology began a profound and pervasive transformation. This course presents the basics of coalescence theory. It builds upon this perspective to address an array of summary statistics and inference methods developed for the analysis of genomic data. Instructor: Uyenoyama. One course. C-L: University Program in Genetics 660

665. Bayesian Inference for Environmental Models. NS Formulation of environmental models and applications to data using R. Distribution theory, algorithms, and implementation. Topics include physiology, population growth, species interactions, disturbance, and ecosystem dynamics. Discussions focus on classical and current primary literature. Instructor: J. Clark. One course. C-L: Environment 665, Information Science + Studies

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: Morris. One course.

678. Population Ecology for a Changing Planet. NS, STS One course. C-L: see Environment 678

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 AB 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 BS degree. A minimum of thirteen courses is required for this major.

Prerequisites. Chemistry 101DL or equivalent

Corequisites. Mathematics 105L and 106L, or equivalent, or Statistical Science 101 or above (102 recommended) or Biology 304

Major Requirements. One or two gateway courses: Either one in molecular biology (Biology 201L) and one in genetics and evolution (Biology 202L), or for students with a 5 on AP exam or equivalent, one course in molecular biology, genetics and evolution (Biology 203L). These courses are prerequisites to many of the advanced courses in these subject areas. In addition to the Biology 201L and 202L, 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; or, in addition to the Biology 203L a minimum of nine full courses in at least nine course registrations in the biological sciences, not including the above corequisites or courses specified not for science majors; two of these eight (or nine) 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 (or nine) 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 (or nine) courses must be in biology. A maximum of two independent study or tutorial courses may be counted toward the eight (or nine) course minimum. At least one of these eight (or nine) 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 BS 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 Statistical Science 101 or above (or 102 recommended) or Biology 304. Physics 141L or 151L. Additional corequisites may be required for professional schools or particular areas of concentration (see below).

Major Requirements. One or two gateway courses: Either one in molecular biology (Biology 201L) and one in genetics and evolution (Biology 202L), or for students with a 5 on AP exam or equivalent, one course in molecular biology, genetics and evolution (Biology 203L). These courses are prerequisites to many of the advanced courses in these subject areas. In addition to the Biology 201L and 202L, 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; or, in addition to the Biology 203L a minimum of nine full courses in at least nine course registrations in the biological sciences, not including the above corequisites or courses specified not for science majors; two of these eight (or nine) 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 (or nine) 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 (or nine) courses must be in biology. A maximum of two independent study or tutorial courses may be counted toward the eight (or nine) course minimum. At least one of these eight (or nine) 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 [page 816](#).

Biophysics

For more information about the major in biophysics, see Physics (on [page 616](#)).

Cell Biology

For courses in cell biology, see Biology (on [page 209](#)) and Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates (on [page 808](#)).

Chemistry

Professor Franz, *Chair*; Professor Hong, *Associate Chair*; Associate Professor of the Practice Canelas, *Director of Undergraduate Studies*; Professors Ashby, Baldwin, Becker, Beratan, Craig, Fitzgerald, Franz, Hong, Liu, McCafferty, Rubinstein, Therien, Vo-Dinh, Warren, Widenhoefer, and Yang; Associate Professors Charbonneau, Franklin, Hargrove, MacPhail, Malcolmson, Wang, and Wiley; Assistant Professors Derbyshire, Roizen, and Welsher; Professors Emeriti Arnett, Chesnut, Crumbliss, McPhail, Palmer, Quin, Ramsay-Shaw, Toone, and Wells; Associate Professors of the Practice Canelas and Roy; Associate Research Professors Fischer and Zhang; Assistant Research Professor Migliore; *Secondary Appointments:* Professors Al-Hashimi, Chilkoti, Donald, Lefkowitz, Mitzi, Modrich, West, Zauscher, and Zhou; Associate Professors Arya, Blum, Brown, Delaire, Ferguson, Lu, Payne, and Yokoyama; Assistant Professors Lynch; Lecturing Fellow Woerner; Instructors Kersey and Fowler

A major and a minor are available in this department.

Courses in Chemistry (CHEM)

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 non-science majors. Normally not open to students who have credit for, or are enrolled in, Chemistry 20, 21, or 101DL. 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.

130L. The Chemistry and Physics of Cooking. NS Explores the chemistry and physics of cooking, including how famous chefs use basic science to create gastronomic art. Includes both lecture and laboratory components. Open to first-year students, or with permission of instructor. Prerequisite: Chemistry 99D or an equivalent background in chemistry. Instructor consent required. Instructor: Charbonneau. 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.

190FS. Special Topics in Chemistry. Focus version of Chemistry 190S. 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 I. 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.

201DLA. Organic Chemistry I at the Duke Marine Lab. 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: Chemistry 101DL, 110DL, or 21. Instructor: Staff. One course. C-L: Marine Sciences

202L. Organic Chemistry II. NS, STS Continuation of Chemistry 201DL. Prerequisite: Chemistry 201DL. Instructor: Staff. One course.

202LA. Organic Chemistry II. NS, STS Taught in Beaufort at Duke Marine Lab. Prerequisite: Chemistry 20, 21, 101DL, or 110DL. Instructor: Roy. One course. C-L: Marine Sciences

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.

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: Roy. 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.

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. How Does Biology Work? The Physical and Chemical Underpinnings of Biological Nanomachines. NS An introduction to biophysical chemistry and molecular biophysics. Explores principles that underpin biological structure and function through such topics as: how the structure and function of biomolecules can be studied at the level of single molecules; how biomolecular machines capture energy and do work; how biomolecules function within networks to convey signals, act cooperatively, and form patterns. Recommended prerequisite: Chemistry 301 or 311 or consent of instructor. Instructor: Beratan. One course.

310. Physical Chemistry I. 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. One course.

394. Research Independent Study. R See Chemistry 393. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

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 Techniques for synthesis include the use of high or low pressure, high or low temperature, microwave synthesis, and/or inert atmospheres. Techniques for characterization of synthetic products include electrical conductance; optical rotation NMR; UV-VIS, IR, and/or mass spectra. Prerequisite: (or corequisite) Chemistry 410. Instructor: Staff. Half course.

493. Research Independent Study. R See Chemistry 393. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study. R See Chemistry 393. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One 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. Instructor: Staff. Half course.

501. Analytical Chemistry. Fundamental considerations of chemical measurements, optical spectroscopy, mass spectrometry, and separation methods. Instructor: Fitzgerald. One 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. Chemistry of Biomolecular Interactions. Chemistry of the noncovalent interactions governing biological systems. Topics include: review of biomacromolecules; chemical principles of non-covalent interactions and the use of model systems; experimental methods to determine binding interactions; interactions responsible for molecular recognition in biological systems; and applications in signal regulation. Recommended precursor to Chemistry 518. Instructor: Hargrove. One course.

517. Molecules in Life and Disease. NS Molecules are an essential component of life as they dictate our development, enable adaptation to our environment, and carry our thoughts. This course explores the roles of molecules in normal physiological functions and disease states ranging from genetic disorders to those caused by deadly toxins, such as anthraxin toxin. Case studies on bacterial pathogenesis, drug resistance and modern drug development are among the topics that will be discussed. Prerequisites: Organic Chemistry and Introductory Biology or consent of instructor. Instructor: Derbyshire. One course.

518. 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, McCafferty, and Wang. One course.

521. Inorganic Chemistry. Bonding and spectroscopy, reactions, transition metal chemistry, main group chemistry, organometallics/catalysis, and solid state. Instructors: Franz and Therien. 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: Franz and Therien. Variable credit.

526. Inorganic Reaction Mechanisms. A discussion of the mechanism of coordination reactions in solution. Examples include redox reactions and linear free energy relationships. Instructor: Staff. Half course.

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, and Widenhoefer. One course.

532. Organic Reactions. Highlights strategic operations that enable selective synthesis of small molecules, including organic ligands, natural products, and molecular probes. Topics include chemical synthesis and retrosynthetic analysis; arrow-pushing mechanisms of polar, radical, transition metal-mediated and pericyclic reactions; protecting groups, oxidation, reduction, enolate reactivity; stereoselective reactions and conformational analysis; cross-coupling transformations. Instructor: Hong and Roizen. 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.

534. Physical Organic Chemistry. Reactive intermediates: carbocations, carbanions, carbenes radicals, photochemistry. Prerequisite: Chemistry 531. Instructor: Craig. One course.

535. Organic Synthesis. NS Application of organic reactions to the synthesis of structurally and biologically interesting compounds. Topics include synthetic design, retrosynthetic analysis, synthetic methods, and total syntheses of natural products. Prerequisite: Chemistry 532 or consent of instructor. Instructor: Baldwin and Hong. One course.

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: McCafferty. One course. C-L: Biochemistry 536

538. Organometallic Chemistry and Catalysis. Introduction to the structure and bonding of organometallic and coordination complexes, stressing the origin of metal-ligand interactions from a molecular orbital theory perspective. Elementary reactions of transition metal complexes and their application to organic synthesis, with special emphasis on catalytic reactions. General concepts of catalysis and the advantages and benefits of catalytic systems. Instructor: Malcolmson. One course.

541. Quantum Chemistry. Foundations and approximate methods in quantum chemistry, with an emphasis on their applications to molecular structure and modeling. Instructors: Beratan, Liu, MacPhail, Warren, and Yang. One course.

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, Warren, 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.

548. Solid-State and Materials Chemistry. Introduction to the structure, physical, and electronic properties of solid-state materials. Instructor: Liu, Franklin, and Wiley. One course.

590. Special Topics in Chemistry. Special topics in chemistry and chemistry-related areas. Content varies by instructor. Instructor: Staff. Variable credit.

590-1. Special Topics in Chemistry. Special topics in chemistry and chemistry-related areas. Content varies by instructor. Instructor: Staff. Half course.

601. Biosensors. Theory and applications of biosensors. Basic principles of interactions between analytes and bioreceptors and various transduction techniques: optical, electrochemical, ion-selective electrode-based, voltametric, conductometric, and mass-sensitive techniques as well as novel nanotechnology-based biosensing systems including nanosensors, plasmonic nanopropes, quantum dots, carbon nanotubes, molecular beacons, and molecular sentinel systems. Applications in chemical, environmental, biological and medical sensing. Paired with Biomedical Engineering 567. Prerequisites: senior or graduate standing or instructor's consent. Instructor: Vo-Dinh. One course.

611. Foundations of Nanoscale Science and Technology. One course. C-L: see Nanosciences 511; also C-L: Electrical and Computer Engineering 511

630. Advances in Photonics (GE, IM). One course. C-L: see Biomedical Engineering 555

For the AB 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, 301 and 301L, or 310 and 310L and 311, 401, 401L plus one of the following three course options:

- Three of the following: Chemistry 302, 410, any 500 or 600 level courses; Biochemistry 301, 302.
- 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.
- One of the following:
 - Physics emphasis. Chemistry 302 or 311; plus two of the following: Physics 264L, 361, 362.
 - 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.
 - Biology emphasis. Biochemistry 301 plus two of the following: Biology 201L, 214L, 220, 227, 329L, 414LS, and 515.

In certain cases, substitutions may be made for courses outside the chemistry department with consent of the director of undergraduate studies.

For the BS 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 301¹; Chemistry 302, 394¹ (or its equivalent in an approved chemistry-related discipline)¹, 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 AB and a BS degree in chemistry with concentration in biochemistry. Certification of this concentration is designated on the official transcript.

¹ Certification of the BS degree by the American Chemical Society requires Biochemistry 301, Chemistry 394, plus Chemistry 295.

For the AB 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, or 310 and 310L and 311, 401, 401L; Biochemistry 301, 302; plus one of the following: (Chemistry 393, Biology 293, or Biochemistry 593).

For the BS 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 Chemical Biology

The chemistry department offers both an AB and a BS degree in chemistry with a concentration in chemical biology. Certification of the concentration is designated on the official transcript.

For the AB Degree with Concentration in Chemical Biology

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, or 310 and 310L and 311, 401, 401L; Biochemistry 301; Chemistry 517 and 518 plus two semesters of independent study involving some aspect of chemical biology (Chemistry 393, 394 or the equivalent in an approved chemistry-related discipline).

For the BS Degree with Concentration in Chemical Biology

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; Chemistry 517 and 518 plus two semesters of independent study involving some aspect of chemical biology (Chemistry 393, 394 or the equivalent in an approved chemistry-related discipline).

The Concentration in Environmental Chemistry

In conjunction with the Nicholas School of the Environment, the chemistry department is pleased to offer both an AB and a BS 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 AB 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, or 310 and 310L and 311, 401, 401L; Environment 360; plus two of the following: Environment 239, 540, 542L, Civil Engineering 565, 667; plus one semester of independent study involving some aspect of environmental chemistry (Chemistry 393 or Environment 393 or Civil Engineering 391).

For the BS 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, 410; Environment 360; plus two of the following: Environment 239, 540, 542L, Civil Engineering 565, 667; plus one semester of independent study involving some aspect of environmental chemistry (Chemistry 393 or Environment 393 or Civil Engineering 391).

The Concentration in Pharmacology

In conjunction with the Department of Pharmacology in the School of Medicine, the chemistry department offers both an AB and a BS degree in chemistry with a concentration in pharmacology. Certification of the concentration is designated on the official transcript.

For the AB 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, or 310 and 310L and 311, 401, 401L; Biochemistry 301; Pharmacology 350 and 360; plus two semesters of independent study involving some aspect of pharmacology (Chemistry 393, 394 or Pharmacology 493, 494).

For the BS 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 two semesters of independent study involving some aspect of pharmacology (Chemistry 393, 394 or Pharmacology 493, 494).

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-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.

Child Policy Research

Associate Research Professor Muschkin, *Director*

A certificate, but not a major, is available in this program.

The goal of the certificate in child policy research 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 allows 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 research paper. Examples of research topics that may 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 Child Policy Research 250S, the capstone course Child Policy Research 495S (Multidisciplinary Approaches to Contemporary Children's Issues), two electives, one research course, and one methods course. The research course is an independent study: students may register for Child Policy Research 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 Child Policy Research 241 (Multi-Method Approaches to Social and Policy Research) (cross-listed with Public Policy 241) or a methods course in the student's home department. Both the research course and the methods course must be approved by the certificate director. The two electives may be drawn from a list of pre-approved electives. Two courses that are counted toward this certificate may also be used to satisfy the requirements of any major, minor, or other certificate program. Three of the courses that count toward the certificate may originate in a single department or program. More information is available at <https://childandfamilypolicy.duke.edu/students/child-policy-research-certificate/>. The certificate director is available to provide additional information and guidance. Contact muschkin@duke.edu.

Courses in Child Policy Research (CHILDPOL)

89S. First-Year Seminar. Topics vary each semester offered. Open only to first year students. Instructor: Staff. One course.

241. Multi-Method Approaches to Social and Policy Research. QS, R, SS One course. C-L: see Public Policy 241

241A. Multi-Method Approaches to Social and Policy Research. QS, R, SS One course. C-L: see Public Policy 241A

250S. Child Policy Research. R, SS Major developmental stages of childhood and influences in a child's life: parents/family life, schools, communities, and the economy. Emphasis on 1) applying 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 program Child Policy Research, but open to all undergraduate students. Instructor: Muschkin. One course. C-L: Public Policy 242S

290. Selected Child Policy Research Topics. 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 Child Policy Research certificate. Instructor: Staff. One course.

290S. Selected Child Policy Research Seminar Topics. Seminar version of Child Policy Research Topics 290. 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 Child Policy Research 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 Child Policy Research certificate program. Consent of Director of that certificate program required. One course. C-L: Public Policy 420S

590. Advanced Child Policy Research Topics. 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 Child Policy Research certificate. Instructor: Staff. One course.

590S. Advanced Child Policy Research Seminar Topics. Seminar version of Child Policy Research 590. Instructor: Staff. One course.

634S. Making Social Policy. R, SS One course. C-L: see Public Policy 563S; also C-L: Sociology 634S

Electives

Students will choose two electives from the following list of preapproved courses. If a student wishes to take a course for certificate credit that is not on the preapproved list, then the certificate director will decide on the appropriateness of that course on a case-by-case basis.

African & African American Studies

549S. Schooling and Social Stratification

Documentary Studies

202S. Children and the Experience of Illness

Education

240. Educational Psychology

241. Promising Paradigms: Issues and Innovations in American Classrooms

243S. Children, Schools, and Society

321S. Infancy, Early Childhood, and Educational Programs

542S. Schooling and Social Stratification

Psychology

207. Child Clinical Psychology

239. Adolescence

240. Educational Psychology

304. Child Observation

325. Social Development from Childhood to Early Adulthood

436S. Clinical Interventions with Children and Families

438S. Children's Peer Relations

Public Policy

243S. Children, Schools, and Society

245. Promising Paradigms: Issues and Innovations in American Classrooms

395S. Children and the Experience of Illness

542S. Schooling and Social Stratification

544S. Schools and Social Policy

563S. Making Social Policy

608. Economics of the Family

Sociology

210. Contemporary Social Problems

219. Juvenile Delinquency

225. Intimate Inequalities: The State of American Families

634S. Making Social Policy

Visual and Media Studies

211S. Children and the Experience of Illness

Chinese

For courses in Chinese, see Asian & Middle Eastern Studies on [page 198](#).

Civic Engagement and Social Change

Eric Mlyn, *Director*; Professor Malone, *Associate Director*; Leslie Parkins, *Assistant Director*

A certificate, but not a major, is available in this program.

The objectives of this certificate program are two-fold: to promote an understanding of the historical, social, and intellectual foundations of civic life and social change; and, to offer an educational pathway that helps students connect historical and contemporary scholarship to their co-curricular experiences working with organizations and communities that promote civic participation and social change. Housed in the Program in Education and overseen by a Faculty Advisory Committee representing several academic disciplines, the certificate provides

students with an intellectual framework for their own active participation in civic life. The certificate's required and elective courses will engage students in a critical examination of the concepts of citizenship including political and non-political participation in civic activities, social movements, social change, diversity, democratic practices, and the public good.

The certificate requires students to satisfactorily complete a gateway course (students can choose to enroll in Civic Engagement and Social Change 201S, Political Science 114, Public Policy 263, or Public Policy 283), two elective courses, two thematically related co-curricular experiences (one of more than 150 hours and a second of more than 300 hours), a public-facing ePortfolio, and a capstone seminar. Through this structured sequence of learning experiences, students will examine their own civic engagement in light of what they have learned about the various ways citizens organize themselves to create social change and to interact with public and private organizations to impact the rules, norms, and laws that affect their lives.

Sequencing is an important feature of the certificate. Students should declare their intention to pursue this certificate as early as possible, but no later than the end of the drop/add period of the fall semester of their junior year. Students must complete the gateway course no later than the first semester it is offered following the student's first thematically related learning experience. Also, neither of the two electives may count toward the certificate if it is taken before the gateway course. Finally, the capstone course may not be taken until the gateway course, two elective courses and the two thematically related experiences are completed. Specific program requirements and further information may be obtained from the Director or Associate Director.

Courses in Civic Engagement and Social Change (CESC)

201. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS Introduction to key concepts, theories, and critiques of civic engagement and social change, with a focus on competing notions of democratic citizenship. Examination of voluntarism, philanthropy, community service, political participation, social activism and other forms of community engagement. Critical reflection on ethical issues related to community engagement and social change, including critiques of progressivism and service. Students will also be asked to apply these various approaches to pressing social issues of our time, such as income inequality, environmental justice, education reform and gender and race equality. Instructor: Mlyn. One course. C-L: Education 201, Public Policy 203, Political Science 213, Human Rights Program-Franklin Humanities Institute 201

201S. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS Introduction to key concepts, theories, and critiques of civic engagement and social change, with a focus on competing notions of democratic citizenship. Examination of voluntarism, philanthropy, community service, political participation, social activism and other forms of community engagement. Critical reflection on ethical issues related to community engagement and social change, including critiques of progressivism and service. Students will also be asked to apply these various approaches to pressing social issues of our time, such as income inequality, environmental justice, education reform and gender and race equality. Consent of instructor is required. Instructor: Mlyn. One course. C-L: Education 201S, Public Policy 206S, Political Science 213S, Human Rights Program-Franklin Humanities Institute 201S, Human Rights

283. Ethics in an Unjust World. CCI, CZ, EI, SS One course. C-L: see Public Policy 283

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. For students enrolled in the Civic Engagement and Social Change Certificate Program. Instructor: Staff. One course.

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement. CZ, EI The fourth course in the Certificate in Civic Engagement and Social Change is a capstone seminar. Students will connect the intellectual themes and scholarly knowledge they have developed in the gateway and elective courses with the learning that has occurred in the two thematically related co-curricular experiences—to create theoretically informed praxis in the spirit of this experiential certificate. The capstone course will require students to critically re-examine strands introduced in the gateway course with the goal of encouraging students to determine in what ways concepts are illustrated in their co-curricular experiences. Prerequisite: CESC 201S. Instructor consent required. Instructor: Mlyn. One course. C-L: Education 401S, Political Science 401S, Public Policy 401S, Study of Ethics 401S, Ethics Elective

Civil and Environmental Engineering

For courses in civil and environmental engineering, see [page 827](#).

Classical Studies

Professor Johnson, *Chair*; Professor González, *Director of Undergraduate Studies*; Professors Forte, Janan, and Johnson; Associate Professors Atkins, Ginsberg, González, Sosin, and Woods; Assistant Professors Jiménez, Morgan, and Weiberg; Assistant Research Professor Casias; Lecturing Fellow Crews; Professors Emeriti Antonaccio, Boatwright, Davis, Newton, Rigsby, and Stanley

A major and a minor are available in this department.

Courses in the Department of Classical Studies offer the chance to bring to life the past of ancient Greece and Rome, through exploration of their languages, literature, history, philosophy, art, material culture, and more. The department offers courses in Latin, Greek, and classical studies; two majors (classical languages and classical civilization); and four minors (Greek, Latin, classical civilizations, and classical archaeology). This rich field of study invites serious engagement with the complexity of the past and evaluation of its place in the present. In grappling with the classical pasts, students develop the tools and habits for thinking critically across space, time, culture, and disciplinary boundaries.

The requirements of the two majors convey the disciplinary coherence of the field, yet are flexible enough to allow students to develop their own interests as they progress through their course of study.

Courses in Classical Studies (CLST)

89S. First-Year Seminar. Topics in classical literature and/or art and archaeology vary each semester. Instructor: Staff. One course.

107. Roman Art and Archaeology. ALP, CZ One course. C-L: see Art History 107

141. Age of Warriors: Pre-Roman and Italian Archaeology. CCI, CZ Classical archaeology is often centered on Roman and Greek civilizations, but can overlook other exciting, formative struggles. What were the earliest civilizations peopling the Italian peninsula in the first millennium BCE? This was an age of conflicts, battles, social change and dramatic events involving individuals and ethnic groups. It was an age of warriors and wars, weapons and armies, contending for the political and religious power of city-states, nations and territories. Among them, the Etruscan civilization was the one able to deeply influence the Roman and other Italic societies for several generations. Instructor: Forte. One course.

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: Jiménez or staff. One course.

151. Classical Etymology: The Greek and Latin Roots of English. CCI, SS Studies the Greek and Latin roots of English words, and the adoption and evolution of English derivatives from Greek and Latin. Focuses on lexical analysis and vocabulary building, with attention to sociopolitical dimensions of word development and language use. Instructor: Crews. One course.

170FS. Liberty and Equality: Ancient and Modern Perspectives. CCI, CZ, EI, SS Examines the democratic values of liberty and equality in Greek, Roman, and American political thought. Are democracy and liberty allies or foes? What is the relationship between liberty and equality? Is freedom possible under non-democratic regimes? Is individual liberty protected by equal and inalienable human rights? What is the relationship between individual liberties and aspirations for a good and just society? Why have some democratic societies embraced imperialism or slavery? Readings drawn from Aristophanes, Thucydides, Plato, Aristotle, Polybius, Cicero, Livy, Tacitus, Jefferson, Madison, Hamilton, Lincoln, London, Vonnegut, Hauerwas, among others. Open only to students in the Focus Program. Department consent required. Instructor: Atkins. One course. C-L: Political Science 170FS, Study of Ethics 170FS

171S. Birth of the West: Thinking about the Greek Origins of Western Civilization. ALP, CCI, CZ Have you ever wondered about the many ways in which those in the West look back to the Greeks for the origins of civilization? There is a breathtaking array of such “beginnings” claimed by the Greeks, such as the invention of the alphabet, the first staged drama, the rise of formal logic and philosophy, democracy, realistic

sculpture, the conventions of writing history (historiography), and much else. In this course, we will think through these claims to cultural “origins,” seeking both to learn and understand the narratives passed down to us, and to thoughtfully interrogate those narratives. An introductory course: no prior knowledge required. Instructor: Johnson. One course. C-L: History 150S

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.

182S. 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.

199. Archaeology of Migration: Greeks, Roman, Egyptians, Etruscans. CCI, CZ, SS Since before recorded history massive migrations have moved people throughout the world, creating hybrid identities and new societies and destroying old ones. This course examines migration in the Mediterranean among classical Greeks, Romans, Etruscans and Egyptians in the first millennium BCE. We explore historical factors, such as famine, overpopulation, and violent conquest and enslavement, and we consider recognized and unacknowledged consequences. After introduction to mapping technologies, we end by mapping various ancient migrations and their effects. Taught online. Instructor: Forte. 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 Myths are humanity’s longest-lasting and most powerful stories. They shape our understanding of transitions and crises, and explore the boundaries between right and wrong, life and death, and the natural and the supernatural. They can also be playful, exuberant, and highly entertaining. This course introduces students to the myths of Greece and Rome, with comparative material drawn from the Hebrew Bible and other ancient texts. Throughout the course we will also think about the role of mythology today, and the way we use stories to come to terms with ourselves and our world. Instructor: Staff. One course. C-L: Theater Studies 228, Religion 208

240L. Virtual Museums: Theories and Methods of Twenty-First-Century Museums. ALP, R, STS One course. C-L: see Visual and Media Studies 332L; also C-L: Information Science + Studies 305L

241. Etruscans: Myth, Archaeology and Civilization. CCI, CZ The Etruscans were a pre-Indo-European population living in the Italic peninsula in the first millennium BCE. One of the most important and fascinating civilizations of the ancient world, which deeply influenced the Classical world and the Mediterranean basin. The class involves archaeological studies and comparative analyses of pre-urban and urban settlements, the necropoleis, art, art history, iconography and archaeological remains of the Etruscan and pre-Roman Italic world. Use of digital technologies for the study of Etruscan cities and landscape with a specific focus on the Etruscan city of Vulci. Not open to students who have taken Classical Studies 198. Instructor: Forte. One course. C-L: Art History 196

243S. Representations of Women in the Classical World. ALP, CCI, CZ, W One course. C-L: see Visual and Media Studies 209S

246. Roman Archaeology: Origins to Empire. ALP, CCI, CZ This course surveys the Roman archaeology of Italy from the 5th century BCE to the end of the reign of Augustus (14 CE). It analyzes the role of material culture in the creation of social structures through the study of urbanism, landscapes, ancient technology, rituals and identity in Italy and the early Roman provinces. Instructor: Jiménez. One course. C-L: Art History 246

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

262. Ancient Athletics. ALP, CCI, CZ The athletic festivals of the ancient Greeks and Romans are among the most enduring legacies of the Classical world, and provide a particularly accessible introduction to the study of antiquity. Through examination of literary and historiographical sources (in translation) and of the material remains at the ancient sites, this course introduces students to the origins and development of the major athletic contests (especially the Olympic Games), the methods and practicalities of ancient training, and the changing role of athletics in ancient and modern education, religion, and politics. We end with a survey of the modern Olympic movement, from the nineteenth century to the present. Instructor: Staff. One course. C-L: History 231

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

266. Gender and Sexuality in the Ancient World. ALP, CCI, CZ Class examines ancient erotic poetry, prose, material evidence (e.g., vase paintings) to explicate gender as a cultural sign: sexuality as a language in which other business is transacted. “Obscene” literature, paintings, etc. evidence how the ancients constructed men, women, sexuality—but also social hierarchies, national prerogatives, and identity. Instructor: Janan. One course. C-L: Gender, Sexuality, and Feminist Studies 266

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

275. Democracy: Ancient and Modern. CCI, CZ, EI, SS Examines democracy in its ancient and modern forms, with special attention to Athenian and American democracy. Does modern democracy fulfill the promise of ancient democracy, or betray its fundamental tenets? Topics may include freedom, equality, and rights; democratic institutions; citizenship; rhetoric; democratic knowledge and decision-making; foreign policy; corruption; religion; and hope. Instructor: Atkins. One course. C-L: Political Science 211, History 234, Study of Ethics 275

278. Roman Political Thought and Its Modern Legacy. CCI, CZ, EI Why does Rome still capture the imagination of modern political commentators and theorists? This course examines Roman political thought as it was conceived under the Republic, reimagined under the Empire, and transformed by Christianity. Topics may include the Roman constitution, liberty, equality, property, slavery, rights, citizenship, civil religion, political corruption, rhetoric, imperialism, just war theory, and cosmopolitanism. Instructor: Atkins. One course. C-L: History 262, Study of Ethics 276, Political Science 278

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: Staff. One course. C-L: History 233

290. Special Topics in Classical Studies. Aimed at first and second-year students. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Special Topics in Classical Studies. Topics vary by semester. Instructor: Staff. One course.

290SA. Duke-Administered Study Abroad: Special Topics in Classical Studies. Topics vary by semester. 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.

299L. Introduction to Landscape Archaeology and Cultural Landscapes. CCI, CZ From hunter-gatherer to post-modern network societies, human, animal and plant life and evolution depend on the complex relations and affordances of landscape and environment. Climate change, geomorphology, natural resources, land use, and human settlements are complex and inter-related phenomena that invite multidisciplinary study with different technologies and methodologies. Comparative research on paleo-environments, ancient landscapes, and societies are crucial for understanding the future of landscape and environment. Instructor: Forte. One course. C-L: Science & Society 299L, Science & Society

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: Weiberg or Ginsberg. 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: Atkins or Sosin. One course. C-L: History 240, Political Science 381

312S. Ancient Greek Notions of Justice. ALP, CCI, CZ, EI Examines constructions of "justice" in ancient Greek literature and culture and explores their reception and modern significance. Instructor: González. One course.

316S. Self-Knowledge and the Pursuit of Wisdom. ALP, CCI, CZ, EI This course looks to the Classical Tradition for guidance on how to grow in wisdom through a deeper knowledge of the self in relation to others. Students explore questions of personal meaning and significance by reading literary, philosophical, and biographical classics of the Western Tradition. Focus on wisdom and fulfillment in life, and the means for attaining them through friendship and community. Topics include: wisdom, conscience, happiness, justice, passion, moderation, guilt, shame, excellence, character, purpose, prudence, and choice. Authors may include Homer, Vergil, Sophocles, Plato, Aristotle, Epictetus, Seneca, Marcus Aurelius, St. Paul, Augustine, Calvin, Hobbes, Spinoza. Instructor: González. One course. C-L: Study of Ethics 316S

322. Jesus and the Gospels. CCI, CZ, EI One course. C-L: see Religion 351; also C-L: Ethics Elective

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: Staff. 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.

343SA. Conservation and Management of the Material Heritage. CCI, CZ This course offers theoretical and practical experience in the management of cultural heritage, with special reference to Roman art and architecture in Rome. Students live the experience of being a conservator of archaeological items, monuments, and sites, and a manager of cultural and material heritage. Instructor: Staff. One course. C-L: Art History 343SA

344. Early Greek Archaeology: From the Fall of Mycenae to the Persian Wars. ALP, CCI, CZ Greek material culture in its social, economic, and historical contexts, 1200 to 480 BCE. Instructor: Staff. One course. C-L: Art History 206

346S. Classical Sculpture. ALP, CZ, W One course. C-L: see Art History 340S

348. Classical Greek Archaeology, Archaic to Classical. 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: Staff. 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: Staff. One course. C-L: Art History 205

354. Roman Spectacle. ALP, CCI, CZ, EI One course. C-L: see Art History 334

357. Roman Coinage: The Materiality of an Ancient Economy. ALP, CCI, CZ The scholarly study of Roman coinage, focusing on historical trends from the late Republic to the early Empire, 3rd c. BCE-2nd c. CE. Topics of particular attention will be: introduction of coinage in Rome and the provinces; historically contextualizing the making, using, and losing of money (how and why coins are produced, exchanged, buried, counterfeited, even used in religious rituals). Coins as works of art—but common, widely circulating works of art produced by governments, often used to spread propaganda about state goals or national identity. Instructor: Jiménez. One course. C-L: Art History 347

360. The History of the Book. ALP, CZ, R The history of the “book” as physical object from its earliest forms (clay tablets, papyrus scrolls) through to texts in the digital age. Introduction to manuscript and early print culture in the West – scribes, scripts and book production. The role of the book in different cultures, and in intellectual history. Hands-on experience with, and study of materials in the Rubenstein Rare Book and Manuscript Library. Instructor: Woods. One course. C-L: Medieval and Renaissance Studies 346, Information Science + Studies 360, History 367

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

366. Inventing Sickness: The Science and Practice of Medicine in Ancient Greece. CZ, EI, SS, STS Exploration of conceptual developments that led to the emergence of medicine in ancient Greece as a science and an art and as a contentious subject of speculative discourse. We will situate these developments firmly within their corresponding cultural, intellectual, and social contexts. Concepts examined include: notions of disease; competing views of human anatomy and physiology; natural versus supernatural causation; the ethics of medical (non-)treatment and research; the rise of the doctor; dietetic, pharmacological, and surgical practices; the doctor-patient relationship. Instructor: Gonzalez. One course. C-L: History 365

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

374S. Aristotle and Neuroscience. CCI, EI, SS Explores the relevance of Aristotle’s thought, especially his treatise “On the Soul,” to understanding the research projects and foundations of cognitive psychology and neuroscience and the relationship between them. Brings Aristotle into dialogue with modern scholarship. Topics include: the use of hylomorphism and functionalism; the nature of perception, representation (including knowledge and belief), memory, emotion, and pain; desire, intentionality, and the relationship of perception to action; consciousness; folk psychology, inference, and explanatory reduction; the self; and moral psychology. Prior knowledge of Aristotelian philosophy or neuroscience is not required. Instructor: Gonzalez. One course. C-L: Neuroscience 274S, Study of Ethics 274S

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. Instructor: Staff. One course. C-L: Political Science 480S, History 480S

480S-1. Capstone Research Seminars in Classical Studies. ALP, CCI, CZ, R 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. Not open to students who have previously taken Classical Studies 480S. Instructor: Staff. One course.

490. Special Topics in Classical Studies. Aimed at third- and fourth-year students. Topic. Instructor: Staff. 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 or Sosin. 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: Johnson or 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: Staff. One course. C-L: History 516

532S. Roman History from Romulus to Augustus. CCI, CZ Study of Roman history from 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: Staff. 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: Staff. 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

540S. Roman Coinage: The Materiality of the Roman Economy. CCI, CZ, R New trends in Roman numismatics (from the late Republic to the early Empire, 3rd c. BCE-2nd c. CE). Archaeology from coins. Barter, money and coinage. The introduction of coinage in Rome and the provinces. Making money (coin production), using money (monetary, non-monetary and ritual uses), losing money (coin circulation, hoards, single finds): contextual interpretations. Monetary systems: coins from Rome and coins from the provinces. Coinage and identity. False coinage. Instructor: Jiménez. One course. C-L: Art History 549S

541S. Greek Art and Society: Archaic to Classical. ALP, CCI, CZ, R One course. C-L: see Art History 501S

542S. Greek Art: Hellenistic to Roman. ALP, CCI, CZ One course. C-L: see Art History 502S

543S. The Archaeology of Death: Ritual and Social Structure in the Ancient World. ALP, CCI, CZ, R Contextual study of material culture linked to funerary practices and traditions in the ancient Greek or Roman world. Topics may include funerary rituals, the ritualization of space around cities and in the countryside; ancestor cult and ancestor representation; monumental and not so monumental tombs, grave offerings and grave assemblages; public personas and funerary iconography: gender, age, occupation. Death in Greece/Rome and death in the provinces. Instructor: Jiménez. One course. C-L: Art History 545S

544L. Introduction to Digital Archaeology. CZ, R, STS Course studies the radical changes that new methodologies and technologies have wrought in archaeology. Remote sensing technologies, digital tools, virtual reality systems for data recording, documentation, simulation and communication of archaeological data have profoundly changed archaeological field operations. Course surveys the state of the art in: techniques of digital recording and digital documentation; GIS and remote sensing; international case studies in digital archaeology; virtual reality and virtual simulation; Web and digital publications. Instructor: Forte. One course. C-L: Art History 547L, Information Science + Studies 544L

546S. Ancient Spain and Portugal: The Roman Provinces of the Iberian Peninsula. ALP, CCI, CZ Examines how Roman provinces were created and incorporated into the Roman Empire. Investigates traces in ancient visual and material culture of bonds between provinces and Rome. Approaches complex issues of colonialism, change and continuity connected with Roman conquest of new territories in the Mediterranean. Examines monuments and new archaeological data available from Roman Spain and Portugal, selected samples from other Roman provinces. Instructor: Jiménez. One course. C-L: Art History 503S

547S. Roman Provincial Archaeology: The West. ALP, CCI, CZ, R Investigates ancient visual and material culture for information about relations between Rome's western provinces (especially Spain) and Rome, from initial, brutal conquest through incorporation. Within an archaeological context we address complex issues, such as colonialism and indigenous change and continuity, as evidence in Rome's conquest of new territories in the Mediterranean. Examines monuments and new archaeological data available from Roman Spain, as well as selected samples from other Roman provinces of the western Mediterranean (Britain, Gaul, and others). Instructor: Jiménez. One course. C-L: Art History 520S

550. Principles of Pre-Roman and Etruscan Archaeology. CCI, CZ This course is about the study of one of the most important and fascinating civilizations of ancient Italy and of the pre-Indoeuropean world, which deeply influenced the Classical world and the Mediterranean basin. It will involve archaeological study and comparative analyses of pre-urban and urban settlements, the necropoleis, art, art history, language, iconography and cultural assets and archaeological remains of the Etruscan and pre-Roman Italic worlds. Ultimately, the archaeological interpretation of Etruscans and other ancient societies in the first millennium BCE will raise new research questions in the field of Mediterranean and classical archaeology. Instructor: Forte. One course.

551S. Principles of Roman Archaeology. CCI, CZ, R Survey of the material culture of the Roman world, from the creation of the first provinces in the Late Republic to the end of the principate under Diocletian (late 3rd c. BCE–late 3rd c. CE). The course analyzes the archaeology of Rome and the provinces from a thematic perspective. Subjects include imperialism and colonization, rural and city landscapes, housing and households, necropoleis, the ancient economy, social identities (such as gender and age) and social structure (slavery). The course addresses various theoretical models to understand, among other topics, the creation and the decline of the empire and incorporates, when possible, hands-on work with artifacts at the Nasher Museum. Instructor: Jiménez. One course. C-L: Art History 553S

552. Greek Archaeology Survey, Part 1. CCI, CZ The first of a two-part intensive survey of the material culture of the Ancient Greek world in the early period, focusing on the Iron Age and Archaic periods (ca. 1000-480 BC). The course will examine the archaeological evidence for civic, rural, sacred, funerary and domestic activities and will consider the development of architectural, sculptural, and ceramic forms throughout the period in order to understand how material culture both reflects and shapes cultural identity. Various methodological approaches and theoretical models will be introduced, and the distinction of Greek culture from others in the Eastern Mediterranean will be interrogated. Instructor: Morgan. One course.

553. Greek Archaeology Survey, Part 2. CCI, CZ The second of a two-part intensive survey of the material culture of the Ancient Greek world, this time focusing in the Classical and Hellenistic periods (ca. 480-31 BC). The course will examine the archaeological evidence for civic, rural, sacred, funerary and domestic activities and will consider the development of architectural, sculptural, and ceramic forms throughout the period in order to understand how material culture both reflects and shapes cultural identity. Special attention will be paid to the definition of "Classical" Greek culture and its re-definition in the Hellenistic period. Various methodological approaches and theoretical models will be introduced. Instructor: Morgan. One course.

556SL. Roman Topography: Urban Life and Cityscapes in Ancient Rome. CCI, CZ, R, SS Advanced undergraduate and graduate seminar on ancient Rome's great monuments and humble buildings, public spaces

and streets, and infrastructure and natural features used by and influencing its inhabitants and visitors from 1st c. BCE to 4th c. CE. We turn to traditional topographical research and new visual technologies alike. Survey of ancient Rome's topographical data and methodologies, followed by student team projects. Course plus lab. Instructor: Staff. One course. C-L: Art History 560SL, Visual and Media Studies 570SL

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

560. Etruscan Cities. CCI, CZ Focuses on concept and definition of city in Etruscan society and its socio-political role in territorial organization. Main topics include pre-urban and urban development of Etruscan society, the first settlements, space and rituals, formation and development of Etruscan City States, cities and landscapes, cultural models between Greeks and Etruscans, colonies and emporia, transformations and changes in Roman times. Primary evidence for all the above will be visualization of material remains from antiquity. Instructor: Forte. One course. C-L: Art History 561

564S. Toleration, Freedom of Conscience, and Religious Liberty. CCI, CZ, EI, R Explores the ideas of toleration, freedom of conscience, and religious liberty through a careful study of philosophers and theologians in the Roman world, where arguments for these concepts first emerged. Also considers the important contributions of early modern political philosophers and discussions by contemporary theorists. Readings may include Cicero, Seneca, Epictetus, Tertullian, Cyprian, Lactantius, St. Augustine, Spinoza, Locke, Rousseau, Roger Williams, Jefferson, Nussbaum, and Forst. Instructor: Atkins. One course. C-L: Political Science 588S, Religion 564S, History 564S

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 Elective

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. Special Topics in Greek Art. One course. C-L: see Art History 590S-1

590SL. Special Topics in Roman Archaeology. 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*. Includes laboratory component. Instructors: Forte or Jiménez. One course. C-L: Art History 590SL

690S. Special Topics in Classical Studies. Topic varies from semester to semester. Instructor: Staff.

691. Directed Reading and Research. Credit to be arranged. Instructor: Staff. Variable credit.

Greek

Courses in Greek (GREEK)

101. Elementary Greek. FL Structure of the language (grammatical forms, syntax, vocabulary, and pronunciation); introduction to reading. Instructor: Johnson or Weiberg. One course.

102. Elementary Greek. FL Second half of Greek 101,102. Prerequisite: Greek 101. Instructor: Johnson or Weiberg. One course.

111. Intensive First-Year Greek. FL Intensive introduction to ancient Greek language and culture. Includes structure of the language (grammatical forms, syntax, vocabulary, and pronunciation) and introduction to reading. Combines in one semester the work of Greek 101-102. Instructor: Johnson. Two courses.

203. Intermediate Greek. CZ, FL Readings in classical Attic prose literature. Prerequisite: Greek 102 or

equivalent. Instructor: Staff. One course.

203A-1. Intermediate Greek. FL Review of grammar, reading of selected texts. Taught at the Intercollegiate Center for Classical Studies in Rome. Consent required. Instructor: Staff. One course.

252A-1. Advanced Intermediate Greek. FL Review of grammar, reading of selected texts. Taught at the Intercollegiate Center for Classical Studies in Rome. Consent required. Instructor: Staff. One course.

252S. Advanced Intermediate Greek. CZ, FL Introduction to ancient Greek poetry. Recommended prerequisite: Greek 203 or the equivalent. Instructor: Johnson, González. 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.

301A-1. Advanced Greek. ALP, CCI, FL Readings vary. Taught at the Intercollegiate Center for Classical Studies in Rome. Consent required. Instructor: Staff. One course.

301AS-2. Advanced Greek. ALP, CCI, FL Readings vary. Taught at the Intercollegiate Center for Classical Studies in Catania. Consent 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). Instructors: Johnson, 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, CZ, 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: Johnson, 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 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: Weiberg. One course.

332S. Greek Drama. ALP, EI, FL 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: Weiberg. One course.

334S. Ancient Greek Scholarship: G(r)eeks on Greek. ALP, CCI, CZ, FL Team-based translation (and web publication) of ancient encyclopedias, lexica, scholia, commentaries, and other ancient scholarly works; most have not been translated into a modern language, so that the work of this class is an immediate, compelling, and citable contribution to scholarship. Students should have 4 semesters of college Greek (or equivalent). Ambitious students with less preparation should contact the professor; accommodation may be possible. Instructor: Sosin. One course.

344S. Greek Novel. ALP, CCI, CZ, FL Readings in the Greek novel with attention to genre, distinctive themes, narrative structure and techniques, characterization, and reception. Works include Achilles Tatius' *Leucippe and Clitophon*, Chariton's *Chaereas and Callirhoe*, Heliodorus' *Aethiopica*, Longus' *Daphnis and Chloe*, and Xenophon's *Habrocomes and Anthia*. Prerequisite: Greek 101, 102, 203, and 204 (or equivalent). Instructor: González or staff. 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.

504. Historians. ALP, CCI, FL Investigation of the Greek concept and practice of writing history from the Atthidographers to Agathias, with attention to key themes, periods, historiographical conventions. Authors and works might include Herodotus, Thucydides, Xenophon, Polybius, Diodorus Siculus, Arrian, Appian, Eusebius, Procopius, Agathias. Instructor: Johnson, Sosin, or Staff. One course.

508S. Greek Philosophy. ALP, CCI, CZ, FL Readings of philosophical works (e.g. fragments of the pre-Socratics, Plato's Dialogues, Aristotle's treatises). Prerequisite: Successful completion of at least one 300-level Greek course, or equivalent, or approval of instructor. Instructor: Johnson, González, or staff. One course.

512S. Greek Rhetoric and Oratory. ALP, CCI, CZ, FL Readings of rhetorical speeches and treatises (e.g. Demosthenes, Isocrates, Dio Chrysostom, Libanius, Plato's *Gorgias*, Aristotle's *Rhetoric*, *Rhetorica ad Alexandrum*); focus on oratory in action, rhetoric as academic discipline or combination of both. Prerequisite: Successful completion of at least one 300-level Greek course or equivalent, or approval of instructor. Instructor: Sosin or staff. One course.

516S. Ancient Greek Literary Criticism. ALP, CCI, CZ, FL Readings from ancient Greek literary criticism (e.g. Aristophanes' Frogs, Aristotle's Rhetoric, Ps.-Longinus, Demetrius, Dionysius of Halicarnassus, Hermogenes, Menander Rhetor); from ancient grammarians (e.g. Aristarchus of Samothrace); from scholia (e.g. to Homer or to Pindar); and from authors, works, and trends in Greek literature under the Roman Empire. Recommended prerequisite: successful completion of at least one 300-level Greek course or equivalent. Instructor: Gonzalez or staff. One course.

520S. Greek Epic. ALP, CCI, CZ, FL Readings in Greek epic, with attention to genre, language, meter, poetics, characterization, narrative structure, ancient and modern interpretations, traditions beyond Greece and Rome, epic poems as codifiers of socially constructed cultural norms, and examination of Greek cultural identity. Authors and works might include the *Iliad*, the *Odyssey*, Apollonius' *Argonautica*, and/or the fragments of the epic cycle. Prerequisite: Successful completion of at least one 300-level Greek course or equivalent, or approval of instructor. Instructor: González, Johnson, or staff. One course.

524S. Greek Lyric. ALP, CCI, FL Readings in Greek Lyric, with attention to genre, language, meter, poetics, persona, ancient and modern interpretations, traditions beyond Greece and Rome, and examination of gender and cultural identity. Authors and works include selections from Sappho, Pindar, Bacchylides, Callimachus, Theocritus, the Greek Anthology, and others. Prerequisite: Successful completion of at least one 300-level Greek course, or equivalent, or approval of instructor. Instructor: González or staff. 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: Weiberg. One course.

534S. Ancient Greek Scholarship: G(r)eeks on Greek. ALP, CCI, CZ, FL Team-based translation (and web publication) of ancient encyclopedias, lexica, scholia, commentaries, and other ancient scholarly works; most have not been translated into a modern language, so that the work of this class is an immediate, compelling, and citable contribution to scholarship. Instructor: Sosin. One course.

551. Elementary Greek for Graduate Students outside Classical Studies. FL Structure of the language (grammatical forms, syntax, vocabulary, and pronunciation); introduction to reading. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Instructor: Staff. One course.

552. Elementary Greek for Graduate Students outside Classical Studies. FL Second half of Greek 551-552. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Prerequisite: Greek 551. Instructor: Staff. 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: Johnson or Sosin. One course.

653. Intermediate Greek for Graduate Students outside Classical Studies. CZ, FL Readings in classical Attic prose literature. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Prerequisite: Greek 552 or equivalent. Instructor: Staff. One course.

654S. Advanced Intermediate Greek for Graduate Students outside Classical Studies. CZ, FL Introduction to Athenian Drama. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Prerequisite: Greek 653. Instructor: Staff. One course.

691. Directed Reading and Research. Instructor: Staff. Variable credit.

Latin

Courses in 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.

102. Elementary Latin. FL Second half of Latin 101, 102. Prerequisite: Latin 101. Instructor: Staff. One course.

203. Intermediate Latin. CZ, FL Readings in Latin literature: Cicero, Livy, Pliny the Younger, and Ovid. Review of grammar essentials accompanies students' transition to reading some of the Latin greats. Instructor: González. One course.

203A-1. Intermediate Latin: Caesar's Civil War. FL Review of grammar, reading of selected texts. Taught at the Intercollegiate Center for Classical Studies in Rome. Consent required. Instructor: Staff. One course.

251. Refresher Latin for First-Year Students. FL This course is for first-year students who have had high school Latin and want or need a single refresher or preparatory course to transition to advanced (300-level) Latin. It includes grammar review and readings of real (unimplified) prose and poetry texts not read in high school. Students must have at least 3 years of high school Latin (or the equivalent). Instructor: Crews or staff. One course.

252. Advanced Intermediate Latin. CZ, FL The culture of Republican and Augustan Rome: selections from Cicero, Catullus, Vergil, Horace, Ovid or similar. Recommended prerequisite: Latin 203 or equivalent. Instructor: Staff. One course.

252A-1. Advanced Intermediate Latin. FL Review of grammar, reading of selected texts from Cicero, Catullus, Vergil, Horace, Ovid or similar. Taught at the Intercollegiate Center for Classical Studies in Rome. Consent required. Instructor: González. One course.

252A-2. Intermediate Latin: Verse (Study Abroad). FL Review of grammar, reading of selected texts. Taught at the Intercollegiate Center for Classical Studies, Catania. 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.

293. Research Independent Study. R, W 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.

301A-1. Advanced Latin. ALP, CCI, FL Readings vary. Taught at the Intercollegiate Center for Classical Studies in Rome. Consent required. Instructor: Staff. One course.

302S. The Catilinarian Conspiracy. ALP, CZ, FL Examines the primary evidence surrounding Catiline's plot to seize power at Rome. The affair involved some of Republican Rome's greatest leaders—Cicero, Caesar, and Cato. But did one of history's most famous conspiracies actually take place? Readings in Latin from Cicero and Sallust. Instructor: Atkins. 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: Ginsberg or Woods. One course.

305S. Roman Historians. ALP, CZ, FL Readings in one or more Roman historians, illuminating historiographical conventions and social, cultural, and political history. Authors might include Caesar, Livy, Tacitus, *vel sim*. Students must have two years of Latin or equivalent. Instructor: Ginsberg or staff. One course.

307S. Philosophy in Rome. ALP, CZ, FL Study of literary works that incorporate philosophical content. Identification and evaluation of this content and of the interaction between literary setting and philosophical material. Instructor: 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: 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: Ginsberg, Janan, 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 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: Janan or staff. One course.

320S. Ovid. ALP, FL Study of Ovid's epic poem, the *Metamorphoses*, and/or his elegiac and exilic poetry. Translation and interpretation of these works in their literary and cultural contexts. Students must have two years of Latin or equivalent. Instructor: Janan or staff. One course.

322S. Vergil. ALP, CCI, FL Study of Latin poetry, poetic syntax, meter, and style through readings from Vergil. Translation and interpretation of the *Aeneid*, the *Georgics*, and/or the *Eclogues* in their literary and cultural contexts. Students must have two years of Latin or equivalent. Instructor: Janan 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: Ginsberg, Janan, or staff. One course.

326S. Latin Lyric. ALP, CCI, FL Readings in Latin Lyric, with special attention to Roman responses to Greek literary traditions. Authors include Catullus, Horace, Statius, and others. Students must have two years of Latin or equivalent. Instructor: Janan or staff. One course.

328S. Elegy. ALP, CCI, FL Readings in Latin Elegy, with special attention to the contemplation of human passions and vices within Roman culture and to Roman responses to Greek literary traditions. 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: Ginsberg, 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 or staff. One course.

356S. Lucretius: On the Nature of Things. ALP, CCI, CZ, EI, FL Study of the poetry and philosophy of Lucretius' *De rerum natura* and of its influence on modern science and philosophy. Topics include Epicurean physics and ethics, free will, contingency and design in nature, death and human mortality, romantic love, religion, politics, and technological progress. Students must have two years of Latin or equivalent. Instructor: Atkins or staff. One course.

360S. Latin of the Late Roman Republic. ALP, FL Course designed to study literature of the Roman Republic's final years, prior to transition to imperial rule. Texts will offer primary evidence of how Roman citizens viewed the radical changes taking place in Republican Rome, and how these created the social "stress fractures" that led to prolonged, bloody civil war, and finally to one-man rule. Readings could include such authors as Catullus, Cicero, Sallust, Caesar, Varro. Prerequisite: Latin 101, 102, 203, and 204 or the equivalent. Instructor: Janan. One course.

362S. Latin Panegyric: Praise and Blame in Latin Letters and Life. ALP, CCI, CZ, EI, FL Readings in the peculiarly Roman tradition of praise for public figures, which often includes censure of others. Authors and works might include Cicero, Pliny the Younger, and the XII *Panegyrici Latini*, and readings will be in both prose and poetry. Attention will be paid to genre and to the widely varied historical contexts of our readings. Instructor: González. One course.

368S. Pliny and Martial. ALP, CCI, CZ, FL Study of Roman history and society from Domitian to Trajan through the writings of Pliny the Younger and Martial. 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: Janan or Woods. One course.

370S. Ancient Autobiography: Augustine's Confessions. ALP, CCI, CZ, EI, FL Readings in Latin and in English translation from the *Confessions*, St. Augustine's intimate and influential spiritual autobiography. Important topics include the genre of ancient autobiography, the relation of Christianity to Greco-Roman literature and culture, the nature of good and evil, memory and time, human motivation, self-transformation,

and self-knowledge. Instructor: Atkins or staff. One course.

376S. Medieval Latin. ALP, CZ, FL Survey of medieval Latin literature, sampling authors and genres from Late Antiquity through the Italian Renaissance. Genres may include biblical literature, late ancient and medieval hymns, letters, medieval plays, sacred and secular poetry including epic, historiography, and Arthurian literature. Instructor: Woods. One course. C-L: Medieval and Renaissance Studies 348S

390S. Special Topics in Latin Literature. FL Prerequisite: the completion of second-year or third-year Latin, depending on the topic. Instructor: Staff. 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.

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: Atkins 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, Lucan, Statius' *Thebaid* and *Silvae*, Valerius Flaccus, Silius Italicus, Catullus, Horace, Tibullus, Propertius, Martial, Juvencus, 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: Ginsberg or Janan. One course.

551. Elementary Latin for Graduate Students outside Classical Studies. FL Study of the structure of the language (i.e., forms, vocabulary, syntax, and pronunciation); selected readings in prose and poetry. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Instructor: Staff. One course.

552. Elementary Latin for Graduate Students outside Classical Studies. FL Second half of Latin 551-552. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Prerequisite: Latin 551. Instructor: 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: Staff. One course.

653. Intermediate Latin for Graduate Students outside Classical Studies. CZ, FL Politics and thought in the late Republic: Caesar and Cicero. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Prerequisite: Latin 552 or equivalent. Instructor: Staff. One course.

654. Advanced Intermediate Latin for Graduate Students outside Classical Studies. CZ, FL The culture of Republican and Augustan Rome: selections from Cicero, Catullus, Vergil, Horace, Ovid or similar. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Prerequisite: Latin 653 or equivalent. Instructor: Staff. One course.

655. Refresher Latin for Graduate Students outside Classical Studies. CZ, FL This course is for graduate students who have had high school Latin and want or need a single refresher or preparatory course to transition to advanced (500-level) Latin. It includes grammar review and readings of real (unimplified) prose and poetry texts not read in high school. The course will feature additional work commensurate with the difference in expectations between undergraduate and graduate classes. This could involve additional reading, additional or differently scoped exam/quiz opportunities or assignments, additional out-of-class meetings, or the like, as consistent with the goals of the class. Recommended prerequisite: at least 3 years of high school Latin (or the equivalent). Instructor: Staff. 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 (i.e., through Greek 252 or the equivalent). Eight courses in Greek and/or Latin, at least six of which must be at the 250 level or above; one 200-level or above course in Classical Studies; Classical Studies 480S (Capstone Seminar). Latin 251 and 252 will both count towards the classical studies major. Total: Ten courses and the Senior Dossier.

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 250 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 level; literature in the original language, at or above the 250 level. Courses must be in at least three of the following areas: literature in translation at or above the 200-level, or in the original language at or above the 250 level; history; art and archaeology; philosophy. Classical Studies 480S (Capstone Seminar). Latin 251 and 252 will both count toward the classical studies major. Total: Ten courses and the Senior Dossier.

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 must have a 3.5 grade point average in the major (3.3 overall) at the beginning of their project and must maintain these through completion. 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 Classical Studies (CLST) courses in ancient art and archaeology. At least three of these must be taught by a primary or secondary member of the Department of Classical Studies, and at least three courses must be at or above the 200-level.

Classical Civilization

Requirements. Five Classical Studies (CLST) courses. At least three of these must be taught by a primary or secondary member of the Department of Classical Studies, and at least three courses must be at or above the 200 level in at least two levels: literature in translation (or in the original language at or above the 250 level); history; art and archaeology; philosophy.

Greek

Requirements. Five courses in ancient Greek. At least three of these must be taught by a primary or secondary member of the Department of Classical Studies, and at least three courses must be at or above the 250 level.

Latin

Requirements. Five courses in Latin. At least three of these must be taught by a primary or secondary member of the Department of Classical Studies, and at least three courses must be at or above the 250 level.

Comparative Literature

For courses in comparative literature, see the Global Cultural Studies in Literature Program on [page 526](#).

Computational Media, Arts & Cultures

Professor Seaman, *Director*; Professors Calderbank, DeFrantz, Dillon, Forte, Hansen, Hardt, Jaskot, Johnsen, Lamarre, Lindroth, Seaman, Van Miegroet, Vo-Dinh, and Wharton; Associate Professor Supko; Associate Professors of the Practice Cetinkaya-Rundel and Klein; Associate Research Professors Lasch and Szabo; Assistant Professors of the Practice Olson Wendell, and Wilber; Assistant Research Professor Kenney

Courses in Computational Media, Arts & Cultures (CMAC)

564S. Physical Computing. QS, STS One course. C-L: see Visual Arts 564S; also C-L: Information Science + Studies 555S

575S. Generative Media Authorship - Music, Text & Image. ALP One course. C-L: see Visual Arts 575S; also C-L: Information Science + Studies 575S, Music 575S

580S. Historical and Cultural Visualization Proseminar 1. ALP, STS One course. C-L: see Art History 580S; also C-L: Information Science + Studies 580S

581S. Historical and Cultural Visualization Proseminar 2. ALP, STS One course. C-L: see Art History 581S; also C-L: Information Science + Studies 581S

590S. Special Topics in Computational Media, Arts, and Cultures. Topics vary by semester and

include subjects, areas, or themes that embrace a range of disciplines in the arts and humanities areas.
Instructor: Staff. One course.

591. Individual Independent Study. This course is an independent study which encourages students to pursue original/individual research in their academic field within Computational Media, Arts and Cultures. Students will conduct directed research and writing in areas unrepresented by regular course offerings. Students will meet with instructor on a weekly basis to discuss project progress; other requirements are to be determined based on needs of project proposal. Only students with pre-approved project proposals should register for this course. Instructor consent required. Instructor: Staff. One course.

592. Individual Independent Study. This course is an independent study that encourages students to pursue original/individual research in their academic field within Computational Media, Arts and Cultures. Students will conduct directed research and writing in areas unrepresented by regular course offerings. Students will meet with instructor on a weekly basis to discuss project progress; other requirements are to be determined based on needs of project proposal. Only students with pre-approved project proposals should register for this course. Instructor consent required. Instructor: Staff. One course.

613S. Computational Media Studio in Advanced Digital Practice. ALP, STS One course. C-L: see Historical and Cultural Visualization 613S; also C-L: Information Science + Studies 613S

650S. Computational Media, Arts & Cultures Proseminar. ALP, R, SS, STS This course is an introduction to scholarship at the nexus of theory and practice. It includes theoretical readings in computational media, design, and critique, and focuses on how these inform and provide critical context for practice-based modes of learning and production. Students will learn about various areas of computational media theory and culture, including media archaeology, data and visualization, computation and culture, database and narrative, and data-mining and big data. Students will explore how theoretical approaches can guide and challenge practical work in media design. Students will be oriented to Media Labs and other computationally-based projects around campus. Instructor: Staff. One course. C-L: Information Science + Studies 650S, Literature 621S, Art History 537S, Visual and Media Studies 561S, Policy Journalism and Media Studies

690S. Special Topics in Computational Media, Arts, and Cultures. Subjects, areas, or themes that embrace a range of disciplines in the arts and humanities areas. Instructor: Staff. One course.

692. Individual Independent Study. This course is an independent study that encourages students to pursue original/individual research in their academic field within Computational Media, Arts and Cultures. Students will conduct directed research and writing in areas unrepresented by regular course offerings. Students will meet with instructor on a weekly basis to discuss project progress; other requirements are to be determined based on needs of project proposal. Only students with pre-approved project proposals should register for this course. Instructor consent required. Instructor: Staff. One course.

Computer Science

Professor Agarwal, *Chair*; Professor Jun Yang, *Associate Chair*; Professor of the Practice Rodger, *Director of Undergraduate Studies*; Professor of the Practice Astrachan, *Associate Director of Undergraduate Studies*; Professors Agarwal, Calderbank, Carin, Chakrabarty, Chase, Chen, Conitzer, Cummings, Donald, Groh, Hartemink, Kim, Lebeck, Maggs, Mukherjee, Munagala, Parr, Reif, Rudin, Sapiro, Sorin, Sun, Tarokh, Tomasi, Trivedi, and J. Yang; Associate Professors Bartesaghi, Board, Farsiu, Gordân, Lee, Li, Machanavajjhala, Panigrahi, Rossman, Schmidler, X. Yang, and Zavlanos; Assistant Professors Carlson, Ge, Gong, Gorlatova, Heller, Nayak, Pajic, Randles, Roy, Steorts, Wills, and Zhou; Professors Emeriti Biermann, Ellis, Loveland, Lucie, Patrick, Ramm, and Starmer, ; Professors of the Practice Astrachan and Rodger; Associate Professors of the Practice Daily, and Forbes; Assistant Professor of the Practice Stephens-Martinez; Assistant Research Professor Fain; Adjunct Professors Baldin, Kaltofen, Konidaris, LaBean, Pitsianis, and Quan; Senior Lecturer Duvall

A major and a minor are 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 Computer Science 92, 94 or 101.

Courses in Computer Science (COMPSCI)

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

92L. Technical and Social Analysis of Information and the Internet. EI, QS, STS Study of standards, software, policy, and the impact of computing and the Internet on science and society. Analysis and creation of software and other computational and digital artifacts to solve problems in many domains using different approaches, including data mining, web-based communication, algorithmic and data-driven approaches, crowdsourcing. Use of real-world problems in understanding evolving international standards. Analysis of tradeoffs in ethical, economic, and technical areas. Instructor: Astrachan or Lucic. One course. C-L: Information Science + Studies 101L, Policy Journalism and Media

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 + 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. Not open to students who have taken Computer Science 201. Instructor: Astrachan, Duvall, Forbes, or Rodger. One course.

102L. Interdisciplinary Introduction to Computer Science. QS Introduction to the practices and principles of computer science and programming and their impact on and potential to change the world motivated by problems drawn from natural science, social science, engineering, and humanities. Programming using Python, appropriate libraries, and APIs to process, analyze, and visualize data. Design, implementation, and analysis emphasizing abstraction, encapsulation, and problem decomposition. No previous programming experience required. Instructor: Astrachan and staff. One course. C-L: Neuroscience 104L

103L. Computing and the Brain. NS, QS Introductory programming based on problems in neuroscience. Provides foundational skills for using computers to collect and analyze neuroscience data. Study of how computational processes are implemented by information-processing entities: both brains and computers. Python programming to generate sensory stimuli and collect/analyze behavioral and neural data. Scientific and Software Engineering best practices for conducting and verifying neuroscience experiments. Not open to students who have taken Computer Science 101. Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107. Instructor: Astrachan. One course. C-L: Neuroscience 103L, Psychology 113L

110. Information, Society & Culture: Bass Connections Gateway. CZ, STS One course. C-L: see Information Science + Studies 110; also C-L: Philosophy 110, Public Policy 110

116. Foundations of Data Science. QS, STS Introduction to computer programming and statistical inference in the process of conducting analysis of real-world datasets, including economic data, document collections, geographical data, and social networks. Exploration of data via visualization and descriptive statistics. Creating predictions with techniques from machine learning and optimization. Testing hypotheses and making statistical inferences. Learn basic Python programming skills to organize and manipulate data in tables, and to visualize data effectively. Discussion of social issues surrounding data analysis such as privacy and bias. No prior programming experience or statistics coursework is required. Instructor: Forbes, staff. One course.

190. Topics in Computer Science. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Computer Science. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program: Topics in Computer Science. Topics vary by semester. Open only to students in the Focus program. Instructor: Staff. One course.

190S. Topics in Computer Science. 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 103L, or equivalent. Instructor: Astrachan, Forbes, or Rodger. One course. C-L: Information Science + Studies

216. Everything Data. QS Study of data and its acquisition, integration, querying, analysis, and visualization. Concepts and computational tools for working with unstructured, semi-structured, and structured data and databases. Interdisciplinary perspectives of data and its impact crossing science, humanities, policy, and social science. Culminating team project applied to real datasets. Prerequisite: 200-level computer science OR 100-level Statistics OR 200-level Math course, or permission of instructor. Instructor: Yang and Machanavajjhala. 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. Pre/corequisite: Computer Science 201. Instructor: Agarwal, Donald, Rodger, or Tomasi. One course.

249. Computer Science Education Research. A project-based course involving computer science education, issues on computer science curricula, and educational techniques in general. Students should have previous or current experience in teaching or tutoring Computer Science. May be repeated. Instructor consent is required. Instructor: Staff. Half course.

250D. Computer Architecture. One course. C-L: see Electrical and Computer Engineering 250D

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 or Gordân. One course. C-L: Science & Society

288. Logic and Its Applications. One course. C-L: see Mathematics 388; also C-L: Philosophy 350

290. Topics in Computer Science. Topics from various areas of computer science, changing each year. Prerequisite: Computer Science 201 or equivalent. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Computer Science. Topics differ by section. Instructor: Staff. One course.

290S. Topics in Computer Science. Seminar version of Computer Science 290. Instructor: Staff. One course.

307D. Software Design and Implementation. Techniques for design and construction of reliable, maintainable and useful software systems development in teams. Programming paradigms and tools for small to medium projects: revision control, GUI, software engineering, testing, documentation. Prerequisite: Computer Science 201. Not open to students who have taken Computer Science 308. Instructor: Duvall. One course.

308. Advanced 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. Not open to students who have taken Computer Science 307. Instructor: Duvall. One course. C-L: Information Science + Studies

309S. Problem Solving Seminar. QS Techniques for attacking, solving, and writing computer programs for challenging computational problems. Algorithmic and programming language tool kits. Course may be repeated. Consent of instructor required. Instructor: Astrachan. Half course.

310. 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 either of Computer Science 250 or Electrical and Computer Engineering 250L. Instructor: Chase, Cox, or Maggs. One course. C-L: Electrical and Computer Engineering 353

316. Introduction to Database Systems. **QS** 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. Instructor: Yang. One course. C-L: Information Science + Studies

323D. 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. Prerequisite: at least one of the following: Computer Science 230, 200-level Mathematics course, or 200-level Statistical Science course. Instructor: Conitzer. One course. C-L: Economics 336D

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. Instructors: Agarwal, Munagala, Panigrahi, or Reif. One course.

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, recommended Computer Science 230. Instructor: Reif or Rodger. One course.

342. Technical and Social Analysis of Information and the Internet. **EI, R, SS, W** 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. Current events as a driver for writing in traditional and online formats related to technology and policy. Open only to students with declared Computer Science major. Prerequisite: Computer Science 201. Instructor: Astrachan and Forbes. One course.

342S. Technical and Social Analysis of Information and the Internet. **EI, R, SS, W** 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. Current events as a driver for writing in traditional and online formats related to technology and policy. Open only to students with declared Computer Science major. Prerequisite: Computer Science 201. Instructor consent required. Instructor: Astrachan and Forbes. One course. C-L: Information Science + Studies

344. Computer Graphics. **QS** Overview, motivation, and history; Graphic software and APIs; 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; animation, levels of detail. Prerequisites: Computer Science 201. Instructor: Duvall. One course. C-L: Visual and Media Studies 241

350L. Digital Systems. One course. C-L: see Electrical and Computer Engineering 350L

351. Computer Security. **SS** Cryptographic primitives including private key cryptography, and public key cryptography. Software security including buffer overflows, SQL injection, Web-based attacks, and viruses. Network security including TCP and DNS. Topics in applied cryptography including digital currency, searchable encryption, secure multiparty computation, secret sharing, homomorphic encryption, Zero knowledge proofs. Anonymity. Prerequisite: Computer Science 250D. Instructor: Maggs or Nayak. One course.

356. Computer Network Architecture. Introduces students to the fundamentals of computer networks.

Focus on layered architecture of the network protocol stack. Case studies will be drawn from the Internet, combined with practical programming exercises. Concepts include the Internet architecture, HTTP, DNS, P2P, Sockets, TCP/IP, BGP, routing protocols, and wireless/mobile networking and their applications such as how to achieve reliable/secure communications over unreliable/insecure channels, how to find a good path through a network, how to share network resources among competing entities, how to find an object in the network, and how to build network applications. Prerequisite: ECE 250D or Computer Science 250D. Instructor: Gorlatova or X. Yang. One course. C-L: Electrical and Computer Engineering 356, Information Science + Studies

370D. 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 and one of the following: Computer Science 230, 200-level Mathematics course, or 200-level Statistical Science course. Instructor: Conitzer, Parr, or Tomasi. One course. C-L: Information Science + Studies

371D. Elements of Machine Learning. **QS** Fundamental concepts of supervised machine learning, with sample algorithms and applications. Focuses on how to think about machine learning problems and solutions, rather than on a systematic coverage of techniques. Serves as an introduction to the methods of machine learning. Prerequisite: Mathematics 221, 218, or 216; Mathematics 212; Mathematics 230 or Statistical Science 230; and Computer Science 201. Instructor: Tomasi. One course.

390. Topics in Computer Science. 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.

394. Research Independent Study. **R** See Computer Science 393. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

408. Delivering Software: From Concept to Client. **EI, R, STS** Development of software in teams that benefits a real-world client in the client's area of expertise. Meet client demands and needs including technology management skills such as feasibility assessment, project planning, project implementation, usability testing, documentation, marketing, and roll-out. Create significant software product, understand software development cycle at scale, create written work to accompany software. Recommended prerequisite: Computer Science 308 or similar team programming experience. Instructor: Duvall and Lucic. One course.

434. Topological Data Analysis. **QS** One course. C-L: see Mathematics 412

445. Introduction to High Dimensional Data Analysis. **QS** One course. C-L: see Mathematics 465; also C-L: Statistical Science 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 Systems. Principles and techniques for sharing information and resources in computer networks, ranging from high-speed clusters and data centers to the global Internet. Topics include advanced distributed storage, distributed programming environments, replication, caching and consistency, transactional concurrency control, reliable update and recovery, and issues of scale and security for Internet services. Recommended prerequisite: Computer Science 310 or 510. Instructor: Chase or Maggs. One course.

514. Advanced Computer Networks. **QS, R** Entry-level graduate course. Basic systems support for process-to-process communications across a computer network. The TCP/IP protocol suite and the Berkeley

sockets application programs interface. The topics include congestion control, packet scheduling, routing, software defined networking, datacenter networks, network function virtualization, programmable switches, network measurement, remote direct memory access, residential networks, peer-to-peer networks, and content distribution networks. Recommended prerequisite: entry-level computer systems course (Computer Science 310, 356, 510); knowledge of the C or Python. Instructor: Maggs or X. Yang. One course. C-L: Electrical and Computer Engineering 558

515. Wireless Networking and Mobile Computing. One course. C-L: see Electrical and Computer Engineering 556

516. Database Systems. **QS, R** Principles and techniques for making intelligent use of the massive amounts of data generated in commerce, industry, science, and society. Topics include basic concepts in databases (SQL, relational algebra, relational calculus, normal forms), indexing and hashing, query processing and query optimizations, transactions (concurrency control and recovery), parallel and distributed data processing, NOSQL and column store, and selected advanced topics (e.g. Datalog, cloud computing fault-tolerant / self-tuning data management, Web information retrieval/extraction, data warehouse, OLAP, data mining). Prerequisites: Computer Science 316 or an introductory database course or consent of instructor. Instructor: Machanavajjhala, Roy, or J. Yang. One course.

520. Numerical Analysis. **QS, R** Error analysis, interpolation and spline approximation, numerical differentiation and integration, solutions of linear systems, nonlinear equations, and ordinary differential equations. Prerequisites: knowledge of an algorithmic programming language, intermediate calculus including some differential equations, and Mathematics 221. Instructor: Sun. One course. C-L: Mathematics 565, Statistical Science 612

524. Nonlinear Dynamics. **NS, QS, R** One course. C-L: see Nonlinear and Complex Systems 513

527. Introduction to Computer Vision. Image formation and analysis; feature computation and tracking; image, object, and activity recognition and retrieval; 3D reconstruction from images. Prerequisites: Mathematics 221, 218 or 216; Mathematics 212; Mathematics 230 or Statistical Science 230; Computer Science 101; Computer Science 230. 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.

531D. Introduction to Algorithms. **QS** Applications include dynamic data structures, graph algorithms, randomized algorithms. Intractability and NP completeness. Prerequisite: Computer Science 201 and 230, or equivalent. Instructor: Agarwal, Ge, Munagala, Panigrahi or Reif. One course.

532. 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. Prerequisites: Computer Science 201 and 330 or equivalent. Instructor: Agarwal, Ge, Munagala, Panigrahi, or Reif. 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: Lebeck, Lee, or Sorin. One course. C-L: Electrical and Computer Engineering 552

553. Compiler Construction. One course. C-L: see Electrical and Computer Engineering 553

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 + Studies

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 532 or equivalent), probability and statistics (Statistical Science 611 or equivalent), molecular biology (Biology 118 or equivalent). Alternatively, consent instructor. Instructor: Gordian or Hartemink. 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.

571D. Probabilistic Machine Learning. QS One course. C-L: see Statistical Science 561D; also C-L: Electrical and Computer Engineering 682D

579. Statistical Data Mining. QS One course. C-L: see Statistical Science 622

590. Advanced Topics in Computer Science. Instructor: Staff. One course.

624. Nanoscale and Molecular Scale Computing. One course. C-L: see Electrical and Computer Engineering 611

630. Randomized Algorithms. QS 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 532. Instructor: Agarwal, Ge, Munagala, Panigrahi, or Reif. One course.

632. 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, Munagala, or Panigrahi. One course.

634. Geometric Algorithms. 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 532 or equivalent. Instructor: Agarwal. One course. C-L: Computational Biology and Bioinformatics 634

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 532. Instructor: Staff. One course. C-L: Mathematics 619

638. Graph Algorithms. QS This is an advanced course in theoretical computer science covering some of the most influential work in graph algorithms. Given the broad impact that graph algorithms have had on the general algorithmic toolkit, this course also provides exposure to many key techniques that have been developed in algorithmic theory. Specific topics covered include network flows, graph connectivity, spectral graph theory, and network design algorithms. Recommended prerequisite: Computer Science 532 or an equivalent course in algorithms at a graduate level. Instructor: Panigrahi. One course.

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, Lee, or Sorin. One course. C-L: Electrical and Computer Engineering 652

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 532 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. One course. C-L: Computational Biology and Bioinformatics 662, Science & Society

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: students should have some familiarity with algorithms, and a basic knowledge of molecular biology. 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

671D. Machine Learning - Introductory PhD Level. QS This is an introductory overview course at an advanced level. Covers standard techniques, such as the perceptron algorithm, decision trees, random forests, boosting, support vector machines and reproducing kernel Hilbert spaces, regression, K-means, Gaussian mixture models and EM, neural networks, and multi-armed bandits. Covers introductory statistical learning theory. Recommended prerequisite: linear algebra, probability, analysis or equivalent. Instructor: Rudin. One course. C-L: Statistical Science 671D, Electrical and Computer Engineering 687D

The Major

For the AB Degree

Prerequisites. Computer Science 101L, 102, or 116 or equivalent; Mathematics 111L or equivalent; Mathematics 112L or equivalent

Major Requirements. Computer Science 201, 230, 250, 330, and one systems course from 310, 316, 350, 351, 356, or their 500-level versions (510, 516, 550, 551, 514). Three electives at 200-level or higher: one in Computer Science (and not an independent study course); and two in either Computer Science (independent study possible), Electrical and Computer Engineering, Mathematics, Statistical Science, or a related area approved by the director of undergraduate studies.

For the previous curriculums, see <https://www.cs.duke.edu/undergrad/ba/previous>.

For the BS Degree

Prerequisites. Computer Science 101L, 102, or 116 or equivalent; Mathematics 111L or equivalent; Mathematics 112L or equivalent

Major Requirements. Computer Science 201, 230, 250, 330, and one systems course from 310, 316, 350,

351, 356, or their 500-level versions (510, 516, 550, 551, 514). Two courses in Mathematics/Statistical Science: one of Mathematics 202, 216, 218, or 221; and one Statistical Science course at or above Statistical Science 111, including the cross-listed Mathematics 230. Five electives at 200-level or higher: three in Computer Science (and not independent study courses); and two in either Computer Science (independent study possible), Electrical and Computer Engineering, Mathematics, Statistical Science, or a related area approved by the director of undergraduate studies.

For the previous curriculums, see <https://www.cs.duke.edu/undergrad/ba/previous>.

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 101L, 102, or 116 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, and one of these: Mathematics 112, Mathematics 122, Statistical Science 101 or above, or Biology 204

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 of Computer Science 216, 220, 224, 316, 370, 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 of Biology 215, 218, 220, 251L, 311, 325, 414LS, 416L, 418, 425, 450S, 556L, 557L, any 500 level or above non-independent study CBB course, or as approved by the director of undergraduate studies in computer science in consultation with the director of undergraduate studies in biology.

Cultural Anthropology

Professor Baker, *Chair*; Associate Professor Stein, *Director of Undergraduate Studies*; Professors Allison, Baker, Ho, Matory, Nelson, Piot, and Starn; Associate Professors Litzinger, Makhulu, Meintjes, Solomon, and Stein; Assistant Professors Folch and McIntosh; Professor of the Practice Thompson; Professors Emeriti Ewing, O'Barr, and Silverblatt; *Secondary Appointments:* Professors Andrews (Slavic and Eurasian Studies), Mignolo (Romance Studies), and Reddy (History); Associate Professors of the Practice Mathers (International Comparative Studies) and Stewart (Global Health)

A major and a minor are 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.

Courses in Cultural Anthropology (CULANTH)

80S. Studies in Special Topics. 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

104. Introduction to Human Rights: Gateway for the Human Rights Certificate. ALP, CCI, CZ, EI This course introduces students to the field of human rights. The course has two primary purposes: to define and explore the key terms, concepts, foundations and theories of human rights; and examine alternative or competing definitions of rights using a case-based approach. This approach will include critiques of human rights, including from conservatives, nationalist and non-western thinkers. This design insures that students will see the connections between key rights ideas, like individual vs. collective rights, Western origins of rights concepts, humanitarian challenges, rights in the arts and visual culture and rights practice. Instructor: Kirk. One course. C-L: Public Policy 162, International Comparative Studies 113, Human Rights Program-Franklin Humanities Institute 104, Human Rights

105. Introduction to African Studies (DS3 or DS4). ALP, CCI, CZ One course. C-L: see African & African American Studies 103; also C-L: History 129, Political Science 108, International Comparative Studies 110

106S. The Documentary Experience: A Video Approach. ALP, R, SS One course. C-L: see Documentary Studies 105S; also C-L: History 125S, Political Science 105S, Public Policy 170S, Visual and Media Studies 106S, Policy Journalism and Media

107. Introduction to Sustainable Development. CCI, EI, SS Readings and case studies in sustainable development, social entrepreneurship, and other attempts to address natural resource limitations, economic inequality, and social justice. Focuses on the problems that sustainability is intended to solve, competing definitions and values. Includes perspectives from development experts, for- and non-profit sector innovators, anthropologists and other social scientists. Instructor: Folch. One course.

113FS. Enterprising Leadership and Civic Engagement. EI, SS One course. C-L: see Education 113FS; also C-L: Human Rights Program-Franklin Humanities Institute 113FS, Human Rights

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: Litzinger or O'Barr. One course. C-L: International Comparative Studies 104, Visual and Media Studies 130, Documentary Studies

131. World Music: Aesthetic and Anthropological Approaches. ALP, CCI, CZ One course. C-L: see

Music 130; also C-L: Human Rights Program-Franklin Humanities Institute 130, Human Rights, 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 & 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

140S. Empires in Modern European History. CCI, CZ, SS One course. C-L: see History 140S; also C-L: Political Science 140S, Sociology 148S

148. Israel/Palestine: Comparative Perspectives. CCI, EI, SS Introduction to the Israel/Palestine conflict, studied through an interdisciplinary lens, including scholarship from the fields of anthropology, environmental studies, history, geography and cultural studies. Themes include: competing nationalisms, environmental politics and resource management, peace building, refugees and displacement, humanitarian crises and challenges, representational politics. Range of primary sources will be used including human rights reports and testimonials, natural resource policies, feature and documentary film, memoirs, political treatises, and maps. Instructor: Stein and Weintal. One course. C-L: Asian & Middle Eastern Studies 244, Environment 147, Jewish Studies 148, Public Policy 178, Political Science 159, Human Rights Program-Franklin Humanities Institute 148, Islamic Studies, Human Rights, Ethics Elective

150. Anthropology of Food. CCI, SS, STS Food systems, globalization and sustainability, cultural and symbolic uses of cuisine, politics and economics of consumption—production. Readings in anthropology of food, food economics, history of cuisine, and allied social science disciplines. Appropriate for students in social sciences, global/public health, etc. Instructor: Folch. One course.

153FS. Borderline Humans: How Walls (and Bridges) Define Us. CCI, CZ, EI, SS One course. C-L: see Documentary Studies 153FS; also C-L: International Comparative Studies 153FS

167S. Gateway Seminar: Nationalism: Ideology, Technology, Globalization. CCI, CZ, SS One course. C-L: see History 167S; also C-L: Sociology 167S

170. Advertising and Society: Global Perspective (DS4). 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: Staff. One course. C-L: Sociology 160, Linguistics 170, Visual and Media Studies 170, International Comparative Studies 169, Markets and Management Studies, Policy Journalism and Media, Gender, Sexuality, & Feminist Studies

170D. Advertising and Society: Global Perspective (DS4). CCI, SS Same as Cultural Anthropology 170 except instruction is provided in lecture and discussion group each week. Instructor: Staff. One course. C-L: Sociology 160D, Linguistics 170D, Visual and Media Studies 170D, Markets and Management Studies

171. Business Anthropology: Anthropologists in the Workplace. CCI, SS Introduces students to the various applications of anthropological theory and ethnographic method in contemporary institutional settings with the aim of familiarizing students with alternative career opportunities. The course looks at corporate and other private and public-sector use cases as well as the extensive literatures in the fields of organizational management, user, and consumer experience. Students also engage professionals in order to better understand processes of research, hypothesis testing, analysis, and the formulation of organizational management, design, and other strategic solutions for clients. Instructor: Makhulu. One course. C-L: African & African American Studies 171, International Comparative Studies 171, Innovation and Entrepreneurship 171, Sociology 171

190A. Duke-Administered Study Abroad: Introductory Special Topics in Cultural Anthropology. 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.

190S. Topics in Cultural Anthropology. Topics vary each semester. Instructor: Staff. One course.

190SA. Duke-Administered Study Abroad: Special Topics in Cultural Anthropology. Topics differ by section. Instructor: Staff. One course.

195. Comparative Approaches to Global Issues. CCI, CZ, SS, W One course. C-L: see International Comparative Studies 195; also C-L: History 103, Political Science 110, Sociology 195, Gender, Sexuality, and Feminist Studies 195, Marxism and Society

196FS. Patient and Research Participant Activism and Advocacy. SS, STS, W One course. C-L: see Science & Society 196FS; also C-L: African & African American Studies 196FS, Global Health 196FS, Psychology 196FS, Public Policy 196FS, Sociology 196FS, Science & Society

201. Introduction to Linguistics. CCI, SS One course. C-L: see Linguistics 201; also C-L: International Comparative Studies

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, Political Science 371, Marxism and Society, International Comparative Studies

205. The Law and Language. CCI, CZ, EI, SS One course. C-L: see Linguistics 205

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: Baker. One course. C-L: African & African American Studies 251, International Comparative Studies 239, Human Rights Program-Franklin Humanities Institute 208, Human Rights

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. Arab Cultures: Literature, Politics, History. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 210; also C-L: Literature 251

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: Staff. One course. C-L: Visual and Media Studies 247, Markets and Management Studies

211FS. Geopolitics and Culture from ISIS to Afghanistan. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 208FS; also C-L: Slavic and Eurasian Studies 209FS

212. Language and Society. CCI, SS One course. C-L: see English 395; also C-L: Linguistics 451, Slavic and Eurasian Studies 385, International Comparative Studies 395, Human Rights Program-Franklin Humanities Institute 395, Human Rights

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: Gender, Sexuality, and Feminist Studies 215, International Comparative Studies 241, 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, International Comparative Studies 256S

215S. Indian Civilization. CCI, CZ, EI, SS, W One course. C-L: see History 219S; also C-L: Asian & Middle Eastern Studies 157S

216S. Global Migration and Ethics. EI, SS Same as Cultural Anthropology 216 except in seminar format. Instructor: McIntosh. One course. C-L: Study of Ethics 262S, International Comparative Studies 244S, Human Rights Program-Franklin Humanities Institute 216S, Human Rights

218S. Anthropology and Global Health. EI, SS, STS One course. C-L: see Global Health 220S; also C-L:

Human Rights Program-Franklin Humanities Institute 220S, Human Rights

219S. Introduction to Performance Studies. ALP, CCI, W One course. C-L: see Theater Studies 202S; also C-L: Literature 202S, Visual and Media Studies 205S, English 202S

220FS. Global ‘Mixed Race’ Studies. CCI, EI, SS, STS By exploring pioneering and controversial writings from both the social and the biological sciences as well as the humanities, this course will situate debates on ‘race’, ‘mixed race’ and social hierarchies within broader global, comparative, and historical contexts. These comparative examples shed light on the different social, cultural, and historical meanings attached to ‘race’ and ‘mixed race’ and address social and cultural variations in the symbolic rules which determine the social status of ‘mixed race’ communities. Open only to students in the Focus Program. Instructor: Ifekwunigwe. One course. C-L: Documentary Studies, Science & Society

220S. Global ‘Mixed Race’ Studies. CCI, SS, STS By exploring pioneering and controversial writings from both the social and the biological sciences as well as the humanities, this course will situate debates on ‘race’, ‘mixed race’ and social hierarchies within broader global, comparative, and historical contexts. These comparative examples shed light on the different social, cultural, and historical meanings attached to ‘race’ and ‘mixed race’ and address social and cultural variations in the symbolic rules which determine the social status of ‘mixed race’ communities. Open only to DukeImmerse students. Instructor consent required. Instructor: Ifekwunigwe. One course. C-L: Documentary Studies, Science & Society

221SL. Capoeira: Practice and Culture. ALP, CCI, SS, W One course. C-L: see Dance 235SL; also C-L: African & African American Studies 221SL, Romance Studies 235SL

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: Meintjes. One course. C-L: Music 239S, International Comparative Studies 246S

222SA. Sound in Social Life. ALP, CCI, SS, STS Focus on sound in NYC, to consider sonic environments as socially cultivated and listening as a cultural practice, shaped by acoustic space. Includes study of music, recorded soundscapes (films, games, installations), built and ecological environments (parks, subways, streets, institutions, clubs, neighborhoods), the politics of soundmaking, and the history and use of sound technology (sound production, reproduction, reception, acoustic materials). Considers noise ordinances in relation to public life, the representation of public life in sound, the shaping of city living practices by its acoustic architecture, and creative responses in sound as urban activist projects. Offered through the Duke in New York program. Instructor: Meintjes. One course. C-L: International Comparative Studies 246SA, Music 239SA

223S. Global Stories, Local Issues. CCI, EI, R, SS What stories are there to tell about often overlooked objects and people and places? How can we research and share those stories with generosity and integrity? In every corner of our lives—the stickers on our computers, the plates at a local restaurant, the wood in our guitars—there is a story to be told that connects our individual experiences to broader, often global, phenomena. Participants will learn and use methods of ethnography and archival research to connect their experiences and their observations about a place, community, or thing to larger stories about culture and society, and they will practice writing about their research in engaging and broadly accessible ways. Instructor: Brown. One course. C-L: Documentary Studies 223S, International Comparative Studies 260S

224S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see Religion 219S; also C-L: Gender, Sexuality, and Feminist Studies 209S, International Comparative Studies 365S, History 225S, Asian & Middle Eastern Studies 224S, Human Rights Program-Franklin Humanities Institute 219S

225. Stimulants and Society. CCI, SS, STS Undergraduate course on stimulants and legal “drug foods” (e.g. sugar, coffee, tea, tobacco) their use and development historically in context of European colonialism and their transformation in major global commodities in modern capitalism. Studies the connection between pharmacology, cultural reception, markets, supply chains, and political economy. Students prepare for independent final research project via interdisciplinary readings from history, anthropology, environmental studies as well as in-class demonstrations and field visits. Suitable for students interested in food studies, STS, pharmacology as well as anthropology, history, environmental studies. Instructor: Folch. One course. C-L:

International Comparative Studies 230

232. Gender and Language. CCI, R, SS One course. C-L: see Russian 364; also C-L: International Comparative Studies 207, Gender, Sexuality, and Feminist Studies 232, Linguistics 364

234S. Anthropology and Education. CCI, EI, SS One course. C-L: see Education 234S

235. African Music: Sound, History, Culture, Politics. ALP, CCI, EI, SS, STS One course. C-L: see Music 236; also C-L: International Comparative Studies 259

236S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, CZ, EI, SS One course. C-L: see Documentary Studies 332S; also C-L: Visual and Media Studies 341S, Latino/a Studies in the Global South 332S, Human Rights Program-Franklin Humanities Institute 332S, Latino/a Studies in the Global South, Human Rights

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 380S, International Comparative Studies 342S, Human Rights Program-Franklin Humanities Institute 342S, Human Rights

240. Love and Loneliness: What's Happening to Relationships in the Twenty-First Century?. CCI, CZ, EI, SS Long-standing ties to other—whether of kinship, marriage, or community—have long been considered to be fundamental to the human condition. But in an age of dissipated and shifting social worlds, the relationships we form with others are radically changing in the twenty-first century. The class will critically examine the ideals, premises, and obstacles for forming intimacy with others through such cases as hook-ups, solitary death, solo weddings, domestic violence, human/non-human attachments, and migrancy. Instructor: Allison. One course. C-L: International Comparative Studies 250, Sociology 240, Study of Ethics 240

241. Migrant 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: Asian & Middle Eastern Studies 231, Marxism and Society, International Comparative Studies

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, Marxism and Society, Documentary Studies

245S. Human Rights in the Americas. CCI, CZ, W This course introduces students to the history of human rights in Latin America, with a focus on certain regions. We will begin with the Conquest and cover the emergence of independent nation-states; the role of imposed economic policies, including neoliberalism; indigenous protest movements and their relationships to corporate interests; and the influence of the United States on human rights, government formation, immigration and the drug trade. Instructor consent required. Open only to students in the DukeImmerse program. Instructor: Kirk. One course. C-L: Latin American Studies 246S, History 242S, Human Rights Program-Franklin Humanities Institute 245S, Human Rights, International Comparative Studies

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 & African American Studies 236S, Human Rights Program-Franklin Humanities Institute 246S, Human Rights

250. Muslim World: Transformations and Continuities. CCI, SS The diversity of social practices within the community of Islam. Particular emphasis on gender relations, religious movements, diaspora communities, and social change. Instructor: Staff. One course. C-L: Religion 380, International Comparative Studies 170, Gender, Sexuality, & Feminist Studies

251S. School Dropout and Educational Policy. CCI, R, SS, W One course. C-L: see Education 310S; also C-L: Public Policy 244S

254. Cultures and Politics of the America Borderlands. CCI, EI, SS, STS Americas borderlands refers to the intersection of North and Latin America through the movement of people, products, ideas, and technologies with focus on culture and agri-culture, including the production of food and pharmaceuticals—legal and illegal; explores dirt as concept of matter out of place and people without place and how sustenance can

become poison; examines histories of Latin American bodies as “terrain” for US-based scientific experiments. Instructor: Nelson. One course. C-L: Latino/a Studies in the Global South 254, Human Rights Program-Franklin Humanities Institute 254, International Comparative Studies 254, Latino/a Studies in the Global South

255. World of Korean Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 171; also C-L: Literature 212, Visual and Media Studies 234

256. Islamic Civilization I. CCI, CZ, EI One course. C-L: see Religion 375; also C-L: History 210, Medieval and Renaissance Studies 268, Asian & Middle Eastern Studies 122, Information Science + Studies, Islamic Studies, Ethics Elective

257. Islamic Civilization II. CCI, CZ, EI One course. C-L: see Religion 376; also C-L: History 211, Medieval and Renaissance Studies 269, Asian & Middle Eastern Studies 185, Islamic Studies, International Comparative Studies, Ethics Elective

258S. Our Culinary Cultures. ALP, CCI, W One course. C-L: see Documentary Studies 344S; also C-L: International Comparative Studies 344S

259S. Around the Bloc: Cold War Culture in the USSR and Eastern Europe. CCI, CZ, EI, SS One course. C-L: see Slavic and Eurasian Studies 240S; also C-L: Literature 241S

261D. Race, Genomics, and Society. EI, NS, SS, STS One course. C-L: see African & African American Studies 261D; also C-L: Science & Society 258D, Global Health 258D, Biology 261D, Visual and Media Studies 274D

262S. Documenting Black Experiences. ALP, CCI, CZ One course. C-L: see Documentary Studies 350S; also C-L: African & African American Studies 225S, Visual and Media Studies 213S, Public Policy 387S, International Comparative Studies 368S, Human Rights Program-Franklin Humanities Institute 350S, Human Rights

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 & African American Studies 263

263S. 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 & African American Studies 263S

269. Black Gods and Kings: Priests and Practices of the Afro-Atlantic Religions. CCI, CZ, EI, SS Surveys the spiritual, political and economic experience of those who worship African gods—West and Central Africans, Cubans, Brazilians, Haitians, and North Americans. The gods as sources of power, organization and healing amid local political dominance of Muslims and Christians and seismic expansion of international capitalism. West African Yoruba religion, West-Central African Kongo religion, Brazilian Candomblé and Umbanda, Cuban Santería and Palo Mayombe, Haitian Vodou, and African American Pentecostalism are examined as belief systems, and contextualized to the trans-Atlantic slave trade, long-distance commerce and pilgrimage by free people. Instructor: Matory. One course. C-L: African & African American Studies 269, Religion 270

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, Gender, Sexuality, and Feminist Studies 217, Study of Sexualities, Gender, Sexuality, & Feminist Studies

275T-1. Voices in Cultural Anthropology: Advertising in Spanish. Discussion-based course trains students to analyze all forms of advertising in Spanish, typically in conjunction with the lecture course Advertising and Society (Cultural Anthropology 170/Linguistics 170, Sociology 160, Visual & Media Studies 170). Classes explore the history and theories of advertising in the Hispanophone world, as well as hands-on strategies for analyzing ads, with particular attention to issues such as translation, localization, and ethics. Tutorials meet weekly for 75 minutes. Recommended prerequisite: Spanish 204 or equivalent. Instructor: Staff. Half course. C-L: Spanish 275T-1

275T-2. Voices in Cultural Anthropology: Advertising in French. Discussion-based course trains students to analyze all forms of advertising in French, typically in conjunction with the lecture course Advertising and Society (Cultural Anthropology 170/Linguistics 170, Sociology 160, Visual & Media Studies 170). Classes explore the history and theories of advertising in the Francophone world, as well as hands-on strategies for analyzing ads, with particular attention to issues such as translation, localization, and ethics. Tutorials meet weekly for 75 minutes. Recommended prerequisite: French 204 or equivalent. Instructor: Staff. Half course. C-L: French 275T-2

278. Sex/Gender - Nature/Nurture: Intersections of Biology and Society. NS, STS One course. C-L: see Gender, Sexuality, and Feminist Studies 278; also C-L: Neuroscience 278, Psychology 226, Study of Sexualities 278

280S. Ethics of Ethnography: In the Field and on the Page. EI, R, SS, W One course. C-L: see Writing 280S

283S. Istanbul: City of Two Continents. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 283S; also C-L: International Comparative Studies 249S, History 397S, Islamic Studies

284. Ritual, Performance, and Religion. ALP, CCI, CZ One course. C-L: see Religion 284; also C-L: Dance 284, Visual and Media Studies 285, International Comparative Studies 266

285SL. Death, Burial, and Justice in the Americas. EI, SS One course. C-L: see International Comparative Studies 283SL; also C-L: African & African American Studies 283SL, Latin American Studies 283SL, Human Rights Program-Franklin Humanities Institute 283SL, Latin American Studies, Human Rights

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. 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.

295S. Anthropology of Childhood. CCI, SS, W What does it mean to be—and to raise—a child? This course begins with the premise that childhood has existed, and continues to exist, in myriad forms. Using the tools of anthropology we will ask a series of questions: how do definitions of childhood and childrearing vary across history and culture? How do children's daily lives differ from place to place and how are race, class and gender linked to discourses and experiences of childhood and childrearing? What role does education – formal and informal – play in shaping childhood? Furthermore, how do children stand in as symbols of broader political and cultural concerns? Instructor: Wesolowski. One course.

298S. Global Humanitarianism. CCI, EI, R, SS One course. C-L: see International Comparative Studies 398S; also C-L: Gender, Sexuality, and Feminist Studies 298S

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: Marxism and Society, International Comparative Studies

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: Innovation and Entrepreneurship 302, Global Health

303S. Theory Today: Introduction to the Study of Literature. ALP One course. C-L: see Literature 301S; also C-L: Gender, Sexuality, and Feminist Studies 301S

304SA. Women and Gender in the Middle East. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 303SA; also C-L: Political Science 213SA

305S. White People: In Anthropological Perspective. CCI, CZ, R, SS One course. C-L: see African & African American Studies 347S; also C-L: History 385S, Human Rights Program-Franklin Humanities Institute 305S, Human Rights

306. Health, Culture, and the Latino Community. CCI, FL One course. C-L: see Spanish 306; also C-L: Latino/a Studies in the Global South 306, Global Health 326, Human Rights

307. Development and Africa. CCI, CZ, SS One course. C-L: see African & African American Studies 307; also C-L: Public Policy 207, International Comparative Studies 308, Marxism and Society

310S. Conflict Analysis in Africa (Case Studies). CCI, CZ, SS One course. C-L: see African & African American Studies 310S; also C-L: Public Policy 218S, Human Rights Program-Franklin Humanities Institute 218S, Human Rights

311S. Dancing States of Mind: The Self, Social and Political Practice of Dance. ALP, R One course. C-L: see Dance 309S; also C-L: Theater Studies 309S, International Comparative Studies 309S

312. War and Public Health in Africa. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 312; also C-L: Public Policy 333, Global Health 312, Human Rights Program-Franklin Humanities Institute 312, Human Rights

315. Africa, Youth and Democracy. CCI, R, SS One course. C-L: see African & African American Studies 315

322. The Modern Caribbean after Emancipation. CCI, CZ One course. C-L: see History 321; also C-L: African & African American Studies 240, Romance Studies 321, International Comparative Studies 319

323. Fundamentals of Global Mental Health. R, SS One course. C-L: see Global Health 363; also C-L: Psychology 323

327S. Migrations. ALP, CCI, CZ, EI, R One course. C-L: see Documentary Studies 327S

329S. Undocumented America in Literature. ALP, CCI One course. C-L: see Latino/a Studies in the Global South 330S; also C-L: Literature 329S, Romance Studies 330S

330S. Narratives of Migration. ALP, CCI, R One course. C-L: see English 397S; also C-L: Linguistics 397S, International Comparative Studies 330S

332S. Race in Durham. CCI, R, SS One course. C-L: see African & African American Studies 341S; also C-L: History 339S, Human Rights Program-Franklin Humanities Institute 336S, Human Rights

333S. The Wire. CCI, EI, SS One course. C-L: see African & African American Studies 333S

335. The History of Hip-Hop. ALP, CCI One course. C-L: see African & African American Studies 335; also C-L: Music 335, Visual and Media Studies 337, English 381

336. Hollywood and Africa: Case Studies in Filmic Representation. ALP, CCI, W One course. C-L: see African & African American Studies 337; also C-L: International Comparative Studies 337

341. Life and Death: Global Perspectives. CCI, CZ, EI, SS Anthropological investigation of customs, practices, and beliefs that get activated when people (and other living beings) die. What constitutes life as in when does it start, what determines well-being, how is it measured; and what constitutes death as in a good versus bad death, by what medical definition, and according to what rituals and beliefs. Comparative inquiry into such questions as why brain-death is not accepted in some cultures and why people in some places prefer to die rather than live after an amputation. Topics will include organ transplants, gang warfare, cancer, and warzones from China and Botswana to Mexico and the United States. Instructor: Allison. One course. C-L: International Comparative Studies 353, Global Health 353, Sociology 351

342. Displacements: Migration and Human Trafficking. ALP, CCI, EI, R, SS One course. C-L: see

African & African American Studies 343; also C-L: Latin American Studies 343, Sociology 343, Human Rights Program-Franklin Humanities Institute 339, Human Rights

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 224A, Political Science 298A, International Comparative Studies

345S. Energy Futures and Environmental Justice. CCI, SS, STS Advanced undergraduate seminar on comparative energy crises and natural resource management. Uses case studies of fossil fuel, nuclear, and renewable energy resources drawn from anthropology, natural sciences, and even business economic readings. Appropriate for students interested in global politics, economic development, human rights, or environmental issues. Instructor: Folch. One course. C-L: Environment 343S, Human Rights Program-Franklin Humanities Institute 334S, Human Rights

346S. The Connection between Human Rights, Memory and How Societies Create Memorials.

ALP, EI This seminar introduces students to multiple approaches to how to create memory, with a focus on building a proposal for Duke to expand the sites where stories are told. We are particularly interested in how to tell difficult stories of slavery, segregation and inequality through new sites and interpretive plans. Students will create a Duke memory map and develop a Story Bank. The class is in part funded by Bass Connections and is affiliated with the Story Lab. Instructor: Kirk. One course. C-L: History 350S, Public Policy 347S, Human Rights Program-Franklin Humanities Institute 346S, Human Rights

347S. The University as a Culture: A Survivor's Guide. CCI, CZ, EI, SS The university generates some of the most influential forms of knowledge in the world, yet we seldom examine the historically specific cultural, social, political, and economic conditions under which knowledge is produced in the laboratories, classrooms, offices, dormitories, Greek-letter societies, and sports complexes that are the infrastructure of the academy. This course will employ readings from a range of disciplines, as well as the investigative and interpretive methods of cultural anthropology, to examine the taken-for-granted context of university life. Instructor: Matory. One course. C-L: Education 347S, History 334S, Sociology 324S, Public Policy 350S, Human Rights Program-Franklin Humanities Institute 347S, Human Rights

347T. Memory Bandits: Human Rights, Duke's History and a Plan to Expand History-Telling.

ALP, CCI, EI, R, SS This is affiliated with a Bass Connections project that takes on the societal and cultural challenge of historical memory, human rights and memorialization. We intend to mine memory studies to ask how, why and where people use the past for contemporary meaning; how the Duke campus currently embodies and tell its story; and how this team can help chart a deeper engagement with history. Consent of instructor is required. Instructor: Kirk. One course. C-L: History 340T, Public Policy 340T, Human Rights Program-Franklin Humanities Institute 346T, Human Rights

348A. The Politics of Salsa: Music, Urban Spaces and Globalization. ALP, CCI, FL One course. C-L: see Spanish 344A; also C-L: Music 325A, Latin American Studies, Latino/a Studies in the Global South

350. Anthropology of Money. CCI, CZ, EI, SS We will explore the history and theory of money – what it represents, how it circulates, the meanings it carries, its contemporary transformations – not only in the West but also in the global south. Some of the topics to be considered include shell currencies, gift economies, Ponzi schemes, paperless money, derivatives and futures, hedge funds, and global debt. Instructor: Piot. One course. C-L: Economics 309, Public Policy 306, International Comparative Studies 328, African & African American Studies 211

352A. From Enlightenment Culture to Popular Culture. CCI, FL, SS One course. C-L: see French 352A; also C-L: Sociology 252A

360. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS Examination of the Apple Corporation's development from a Silicon Valley garage operation to a company with unprecedented global reach; the Cult of Steve Jobs, the Apple Launch and use the design and development of the Apple Store; labor and environmental struggles over Apple supply chain and production processes, from cobalt mining in Africa to Foxconn factories in China; migrant worker suicide and poetry as forms of protest in China; e-waste villages and digital rubbish; everyday uses of Apple technology and the ethics of consuming Apple products. Instructor: Litzinger. One course. C-L: Literature 361, Asian & Middle Eastern Studies 360, Sociology 360, International Comparative Studies 369

360S. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS Examination of the Apple Corporation's development from a Silicon Valley garage operation to a company with unprecedented global reach; the Cult of Steve Jobs, the Apple Launch and use the design and development of the Apple Store; labor and environmental struggles over Apple supply chain and production processes, from cobalt mining in Africa to Foxconn factories in China; migrant worker suicide and poetry as forms of protest in China; e-waste villages and digital rubbish; everyday uses of Apple technology and the ethics of consuming Apple products. Instructor: Litzinger. One course. C-L: Literature 361S, Public Policy 358S, Asian & Middle Eastern Studies 360S, Sociology 360S, International Comparative Studies 369S

361S. African Cities, Development, and Climate Change. CCI, EI, SS One course. C-L: see African & African American Studies 397S

364S. Minor Japan. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 469S

365S. The World of Japanese Pop Culture. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 165S

366S. Trauma and Space in Asia. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 410S; also C-L: International Comparative Studies 410S

367S. 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: International Comparative Studies 460S, Latino/a Studies in the Global South 412S

368. Visualizing the Caribbean. ALP, CCI, R, SS One course. C-L: see African & African American Studies 321; also C-L: International Comparative Studies 318, Latin American Studies 321

382SA. Transnational Muslims in Germany: Politics of Migration, Religion, and Culture. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 380SA; also C-L: Gender, Sexuality, and Feminist Studies 323SA, International Comparative Studies 278SA, Religion 382SA

383. Cities and City Life in Italy. ALP, CCI, CZ One course. C-L: see Italian 383; also C-L: History 237, Medieval and Renaissance Studies 343

383A. Cities and City Life in Italy. ALP, CCI, CZ One course. C-L: see Italian 383A; also C-L: History 237A, Medieval and Renaissance Studies 343A

385S. Race, Gender and Culture of the African Diaspora. CCI, CZ, SS One course. C-L: see African & African American Studies 385S

389S. Food, Culture, and Society. CCI, CZ, EI, SS One course. C-L: see Italian 388S; also C-L: Sociology 388S

390SA. Duke-Administered Study Abroad: Special Topics in Cultural Anthropology. Topics differ by section. Instructor: Staff. One course.

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.

396AS. Health Policy in Transition: Challenges for China. CCI, CZ, 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 and Litzinger. 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, International Comparative Studies 396S, Human Rights Program-Franklin Humanities Institute 396S, Human Rights

399. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399; also C-L: Public Policy 223,

International Comparative Studies 399, Markets and Management Studies

399A. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399A; also C-L: Public Policy 399A, International Comparative Studies 399A

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 403S, International Comparative Studies 403S, Human Rights Program-Franklin Humanities Institute 403S, Human Rights

406S. South African Life Histories. CCI, CZ, R, W One course. C-L: see African & African American Studies 406S; also C-L: History 450S, Political Science 406S, Human Rights Program-Franklin Humanities Institute 406S, Public Policy 406S

409. Surviving Globalization: The Global South and the Development Imagination. CCI, EI, SS One course. C-L: see African & African American Studies 409; also C-L: International Comparative Studies 409, Sociology 409, Latin American Studies 409

414S. Research in Human Rights. CCI, EI, R, SS One course. C-L: see Public Policy 414S; also C-L: History 414S

415S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 415S; also C-L: Literature 415S, Visual and Media Studies 416S, International Comparative Studies 415S, Gender, Sexuality, and Feminist Studies 415S

417S. The Middle East: From Facebook to Film. CCI, CZ, SS Studying the Middle East through the lens of popular culture, with a focus on the cultural changes of the digital era. Focus on social media, film, graphic novels, amateur cameras. Studies how popular cultural forms relate to concurrent political and historical processes. Themes include: digital media and society, state violence and terrorism, human rights, sexuality and youth culture. Instructor: Stein. One course. C-L: Asian & Middle Eastern Studies 215S, Visual and Media Studies 417S, International Comparative Studies 417S, Islamic Studies

418S. Meaning, Mattering, and Black Being-in-the-World: Towards a Critical Theory of Race and Value. CCI, CZ, W One course. C-L: see International Comparative Studies 419S; also C-L: African & African American Studies 419S

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 + Studies, Marine Science and Conservation

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

424-1. Medical Anthropology. CCI, EI, SS, STS Cross-cultural study of health and illness. Prerequisites: Completion of both Writing 101 and any First Year Seminar. Instructor: Solomon. One course. C-L: Global Health 321-1, International Comparative Studies 424-1

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

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. Prerequisite: Previous gender studies course or consent of the instructor. Instructor: McIntosh. One course. C-L: Study of Sexualities 432S, Gender, Sexuality, and Feminist Studies 432S, International Comparative Studies 428S, Human Rights Program-Franklin Humanities Institute 428S, Human Rights

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, International Comparative Studies 432S, Asian & Middle Eastern Studies 425S

438S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 438S; also C-L: International Comparative Studies 407S, Study of Sexualities 438S, Visual and Media Studies 438S, Gender, Sexuality, and Feminist Studies 438S, Literature 438S, International Comparative Studies

439. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 439; also C-L: Literature 439, Visual and Media Studies 439, Gender, Sexuality, and Feminist Studies 439

440S. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240S; also C-L: Literature 249S, Political Science 248S, International Comparative Studies 265S, Visual and Media Studies 214S, Information Science + Studies 242S, Information Science + Studies

450S. The Global Caribbean. CCI, EI, R, SS One course. C-L: see African & African American Studies 450S; also C-L: International Comparative Studies 418S, Sociology 450S, Latin American Studies 450S

463S. Nightmare Japan. ALP, CCI, CZ, EI, R One course. C-L: see Asian & Middle Eastern Studies 463S

465S. Global Cities. CCI, EI, SS One course. C-L: see African & African American Studies 465S; also C-L: International Comparative Studies 465S, International Comparative Studies

470S. Capstone: Research in Human Rights. R, W A primary learning objective is to have students connect the intellectual themes and scholarly knowledge they have developed in the Gateway, Introduction to Human Rights, and the electives they have taken toward the Human Rights Certificate. The course integrates co-curricular rights-related experiences (through DukeEngage, DukeImmerse, internships and volunteer placements). The capstone culminates in a final project. Students may work in teams toward a final project so long as each student's work is evaluated separately and at a high standard. Prerequisite: Cultural Anthropology 104D. Consent of director of undergraduate studies required. Instructor: Kirk. One course. C-L: Environment

470S, History 488S, Human Rights Program-Franklin Humanities Institute 470S, Human Rights

473. Two Koreas: History, Society and Culture. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 372; also C-L: History 473

481. Living, Dying, Healing in Russia. CCI, EI, SS One course. C-L: see Russian 481; also C-L: Global Health 481

490. Advanced Special Topics in Cultural Anthropology. Selected topics in methodology, theory, or area. Instructor: Staff. One course.

490S. Special Topics. Advanced Special Topics in Cultural Anthropology. Instructor: Staff. One course.

495S. Latino/as in the Global South Capstone - Global/Local Contexts. CCI, CZ, SS One course. C-L: see Latino/a Studies in the Global South 495S; also C-L: Latin American Studies 495S, Romance Studies 495S, Gender, Sexuality, and Feminist Studies 495S

498S. Senior Seminar Distinction Program Sequence. R No credit for Cultural Anthropology 498S without satisfactory completion of Cultural Anthropology 499S. Students who wish to exit the Senior Seminar Distinction Program sequence after completion of 498S must petition the course instructor, their advisor, and the director of undergraduate studies. The student will be given course credit and a final grade provided the instructor, their advisor, and the director of undergraduate studies determine the student has done adequate work. 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. Students who wish to exit the Senior Seminar Distinction Program sequence after completion of 498S must petition the course instructor, their advisor and the director of undergraduate studies. The student will be given course credit and a final grade provided the instructor, the student's advisor, and the director of undergraduate studies determine the student has done adequate work. 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: Staff. One course. C-L: History 572S, Romance Studies 521S

502S. Race, Class, and Gender in the University. CCI, CZ, EI, SS The American university generates some of the most influential ideas and policies on the planet. It is the product of culture-specific ideas and aspirations, as well as a long history of selective social exclusion, inclusion, and transformation. Yet most of us take for granted the culture-specific forms of reasoning, discourses, political loyalties, administrative practices, social relationships, and financial flows that constitute it. Through theoretical, historical, ethnographic, statistical, policy-oriented, novelistic, and journalistic accounts, we will de-naturalize and historicize the power/knowledge that not only forms us but also, in many ways, rules the world. Instructor: Matory. One course. C-L: History 513S, Sociology 502S

503S. Moments in Black (Radical) Theory: From Ferguson to Rhodes Must Fall to Silent Sam. CCI, EI, SS One course. C-L: see African & African American Studies 503S; also C-L: Religion 503S, Political Science 589S, International Comparative Studies 504S

511S. The Fetish: The Role of Things in Spiritual, Economic, and Sexual Life. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 512S; also C-L: Religion 511S

520. Eco-Media: Studies in Planetary Futures. CCI, CZ, SS This course explores film, photography, online media, museum and artistic productions about the contemporary planetary ecological crisis. Visual materials will focus on climate change, environmental activism, plastic and nuclear waste, digital rubbish, "cancer alleys" and "cancer villages," pollution and toxic environments, among other topics. Course readings will introduce students to debates about the Anthropocene, post-human natures, species extinction, multi-species care, geo-engineering, and planetary futures. Instructor: Litzinger. One course. C-L: Literature 522, Visual and Media Studies 520

520S. Eco-Media: Studies in Planetary Futures. CCI, CZ, EI, SS This seminar explores film, photography, online media, museum and artistic productions about the contemporary planetary ecological

crisis. Visual materials will focus on climate change, environmental activism, plastic and nuclear waste, digital rubbish, “cancer alleys” and “cancer villages,” pollution and toxic environments, among other topics. Course readings will introduce students to debates about the Anthropocene, post-human natures, species extinction, multi-species care, geo-engineering, and planetary futures. Instructor: Litzinger. One course. C-L: Literature 522S, Visual and Media Studies 520S

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. C-L: International Comparative Studies 525S

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. Theories of capitalism, globalization and anti-globalization movements, “imaginaries” and fantasies, nature and the virtual, consumption, and disciplinary practices of the body. Instructor: Staff. One course.

533. Culture and Explosion: How Russian Culture Changed the World. ALP, CCI, CZ, STS One course. C-L: see Russian 533; also C-L: Public Policy 508

535S. Race, Racism, and Democracy. CCI, SS, W The paradox of racial inequality in societies that articulate principles of equality, democratic freedom, and justice for all. Instructor: Baker. One course. C-L: African & African American Studies 545S

539S. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 539S; also C-L: Gender, Sexuality, and Feminist Studies 502S, Literature 539S, Visual and Media Studies 539S, Human Rights Program-Franklin Humanities Institute 539S, Human Rights

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: Staff. One course. C-L: Gender, Sexuality, and Feminist 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 & African American Studies 645S; also C-L: International Comparative Studies

561S. Global Africa. CCI, EI, SS Africa’s participation in globalization has not simply been a matter of “joining the world economy.” Rather, Africa’s inclusion has been selective, uneven, and partial. This is quite a different proposition than arguing, as many social theorists, economists, and journalists have suggested that the Continent is somehow structurally irrelevant to the process of globalization. This course responds to this debate by retracing the history of globalization, beginning with the Atlantic trade in human beings and concluding with an account of Africa’s place in the global circulation of people things, ideas, and currencies in early twenty-first century. Instructor: Makhulu. One course. C-L: African & African American Studies 510S, History 561S, Political Science 527S, International Comparative Studies 510S

562S. African Cities. CCI, SS One course. C-L: see African & African American Studies 640S

563S. Nightmare Japan. ALP, CCI, CZ, EI, R One course. C-L: see Asian & Middle Eastern Studies 563S

565S. The World of Japanese Pop Culture. ALP, CCI, CZ, R One course. C-L: see Asian & Middle

Eastern Studies 565S; 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 & 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 605, International Comparative Studies

610S. Africa, Cuba, Brazil: Great Powers of the Black Atlantic. CCI, CZ, SS One course. C-L: see African & African American Studies 610S; also C-L: History 610S, Romance Studies 522S

611. Global Mental Health. CCI, NS, R, SS, STS One course. C-L: see Global Health 660; also C-L: Psychology 611, Human Rights Program-Franklin Humanities Institute 660, Human Rights

641S. Citizen and Subject in a Neoliberal Age. CCI, EI, SS One course. C-L: see African & African American Studies 641S; also C-L: Sociology 645S

660. Health in the African Diaspora. CCI, EI, SS, STS One course. C-L: see African & African American Studies 660; also C-L: Global Health 672

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

Associate Professor of the Practice Shah, *Director of the Program*; Associate Professor of the Practice Vinesett, *Director of Undergraduate Studies*; Professor DeFrantz; Professor of the Practice Khalsa; Associate Professors of the Practice Klien and Woods Valdés; Associate Professor of the Practice of Ballet T. Walters; Assistant Professor of the Practice Wilbur; Professors of the Practice Emeriti Dickinson and Taliaferro; Associate Professor of the Practice Emeritus Dorrance; Assistant Professor of the Practice Emeritus J. Walters

A major and a minor are available in this program.

The Duke University Dance Program focuses on dance as an integral part of the human experience and a medium for rigorous intellectual creativity. Our aim is to engage students in the profound potential for dance as embodied knowledge in the service of society. The Dance Program curriculum is designed to encourage the exploration of dance from interdisciplinary perspectives: historical, cultural, aesthetic, literary, technological, musical, scientific and creative.

The Dance Program welcomes all students, regardless of the extent of their experience in dance. The curriculum provides opportunities to encounter dance traditions and movement experimentation as processes for discovery, communication, inquiry and discourse. Students already deeply engaged in specific dance forms can explore and further enhance their physical, performance, and creative capacities. Students will experience dance as a mode for personal development and leadership, and as a transformative force for social action. As the landscape of dance continues to evolve, Duke Dance Program students will gain the knowledge and skills to impact the nature and function of dance in contemporary society and reimagine the future of performance. They will move into action, agency, and sustainability with tools that can transform relationships locally and globally.

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 the arts in New York City. Appropriate courses taken at New York University may fulfill a requirement of the major or minor.

Fifteen hours total of service work are required of each student majoring in dance, and ten hours total of service work are required of each student minoring in dance. This requirement may be completed at any time during the four-year undergraduate experience.

Courses in Dance (DANCE)

Technique and Performance Courses (Half Credit)

110. Elementary Modern Dance. Technical and artistic training in the modern dance idiom through technique, improvisation and composition. First steps in developing skill, clarity and motivational intent as well as strength and flexibility. No previous dance experience necessary. Instructor: Khalsa or staff. Half course.

116. Alexander Technique for Musicians, Dancers, and Actors. ALP Half course. C-L: see Music 116; also C-L: Theater Studies 247

120. Beginning Ballet. Basic classical ballet technique, body alignment, vocabulary, and musicality for the absolute beginner. Barre and center exercises included. Instructor: Staff. Half course.

121. Advanced Beginning Ballet. 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: Staff. Half course.

122. Intermediate Ballet. 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: Staff. 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: A. Vinesett. 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. Instructor: R. Vinesett. Half course. C-L: Music 132L

140. Jazz Dance I. No previous dance experience required. Instructor: Wheeler. 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: Marrone or staff. Half course.

143. 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: Marrone or staff. Half course.

151. Kundalini Yoga. Practice course to experience the components of Kundalini Yoga—breath work (pranayam), movement, postures (asanas, mudras), focus techniques (meditation, drishti), use of sound current (mantra), and relaxation techniques. For a more intensive study of Kundalini Yoga that includes practice, lecture, writing and discussion, see full credit course Dance 357L. Instructor: Khalsa. Half course.

152. Dance Improvisation. Introductory dance studio course exploring states of presence, perception, awareness, and responsiveness to one's self and environment through movement improvisation. Utilizing techniques of music visualization, contact improvisation, responding to sensory stimuli (visual, aural, kinesthetic) to create movement in the moment, this course is designed to develop freedom of thought and expanded personal movement vocabulary. The improvisation techniques range from aerobic to meditative. Creative games, spatial awareness, and problem solving are investigated in order to discover the innovative language of the body. Disability is not a limitation. Instructor: Wilbur, Khalsa. Half course.

160. Intelligence in Motion: Conceptualizing & Performing Dance Through Somatic Principles. Focus on practice and performance of contemporary dance movement and classical/contemporary ballet utilizing somatic principals. Conducted in a workshop environment. Sessions will investigate deeper conceptual structures embedded in various somatic methods in relation to processing movement. Course is designed to increase proprioception and kinesthetic awareness and includes basic and complex injury prevention techniques. Instructor: Staff. Half course.

161. Flamenco. Flamenco, a dance and music form of Southern Spain forged by a remarkable intercultural exchange among Arabic, Judaic and Iberian cultures, and subsequently enriched by rhythms and influences from the East Indian gypsies and from Latin America. Introduces the complex footwork, rhythms and physical style of flamenco dance. Instructor: Santana. Half course.

210. Intermediate Modern Dance. Increased complexity of movement sequences and greater emphasis on clarity of expression and quality of performance. Prerequisite: Dance 110 or equivalent dance training. Prerequisite: Dance 111 or equivalent. Instructor: Khalsa, Woods Valdés, or staff. Half course.

220. Advanced Intermediate Ballet. Greater complexity of barre and center sequences with increased

emphasis on correctness of style and quality of performance. Prerequisite: Dance 122 or equivalent. Instructor: 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: A. Vinesett. Half course.

240. Jazz Dance II. Prerequisite: Dance 140 or equivalent. Instructor: Wheeler. 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. Advanced Modern Dance. Technical and artistic training in the modern dance idiom at an advanced level. Increased complexity of movement sequences and emphasis on clarity of expression, musicality, and quality of performance. Prerequisite: Dance 210 or equivalent dance training. Prerequisite: Dance 210 or equivalent. Instructor: Khalsa, Woods Valdés, or staff. Half course.

314. Thinking through the Body: Becoming an Ordinary Genius. ALP Practice-based studio and outdoor work and discussions. Introduces numerous established and experimental artistic methodologies as tools to aid the process of creative, associative thinking and the development of new ideas in any chosen field. The cultivation of students' radically subjective creativity, awareness, perception, and imagination in order to explore, experience and apply embodied thought, unlocking creative potential and visionary thinking. No movement or artistic experience required. Students of all abilities welcome. Instructor: Klien. Half course. C-L: Theater Studies 304, Music 314

320. Advanced Ballet. 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: 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: Staff. Half course.

410. Intensive Modern Dance. Intensive modern dance training at the Intermediate and advanced levels. Prerequisite: Dance 310 or equivalent. Instructor: Khalsa, Woods Valdés, or staff. Half course.

412. Performance: Modern. The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Separate enrollment in dance technique is encouraged. Consent of department required. Instructor: Khalsa, Kliën, Woods Valdés, or staff. Half course.

420. Intensive Ballet. Continuation of Dance 320. Daily training for the performing student at the advanced/professional level. Prerequisite: Dance 320 or equivalent. Instructor: Staff. Half course.

422. Performance: Ballet. The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Separate enrollment in dance technique is encouraged. Consent of department required. Instructor: Staff. Half course.

432. Performance: African. The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Separate enrollment in dance technique is encouraged. Consent of instructor required. Instructor: Vinesett. Half course.

442. Performance: Jazz. Study of choreography and performance through participation in the mounting of a dance work in the jazz idiom from inception through rehearsal to performance. Separate enrollment in dance technique is encouraged. Consent of instructor required. Instructor: Wheeler. Half course.

443. Performance: Tap. The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Separate enrollment in a dance technique course encouraged. Consent of department required. Instructor: DeFrantz. Half course.

462. Performance: Interdisciplinary. The study of choreography and performance through participation in the research and creation of a collaborative art work (or works) from inception through rehearsal to performance. Separate enrollment in dance technique is encouraged. Consent of department required. Instructor: Staff. Half course.

472. Performance: Dance Theater. The study of choreography and performance through participation in the mounting of a dance work from inception through rehearsal to performance. Separate enrollment in a dance technique course required. Consent of department required. Instructor: DeFrantz. 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: Shah or Wilbur. 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: Khalsa, Woods Valdés, or staff. One course.

135. Experimental Sculpture and Installation Art. ALP One course. C-L: see Visual and Media Studies 135; also C-L: Information Science + Studies 135

165. Let's Dance! Live Art and Performance. ALP, CCI, CZ This introductory course offers an examination of the major movements in the history of concert and social dance, including ballet, tap, jazz, modern dance, musical theater, and particular cultural forms. Considerations of popular culture and reality competition dance programs; feminist foundations of modern dance; contemporary performance idioms that involve the presence of the body. Instructor: DeFrantz. One course. C-L: Theater Studies 104, Music 165

201S. Arts Entrepreneurship. One course. C-L: see Music 295S; also C-L: Innovation and Entrepreneurship 295S, Visual and Media Studies 295S, Theater Studies 312S, Documentary Studies 295S, Visual Arts 295S

205S. Advanced Dance Composition. ALP, R Focuses on developing your creative voice in movement and choreography. Open to dancers of any style. Continuation of the basic movement, choreographic devices and forms explored in Dance 105S. Explores the use of props, sets, lighting and costuming, and the relationship of music to dance. Choreographing and directing ensembles. Improvisation, choreographic tools, inter-disciplinary projects, site specific work, and lots of individual attention to guide students through the creative process. Prerequisite: Dance 105S. Instructor: Woods-Valdés or staff. 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 non-profit organizations to lead workshops and/or develop and perform interactive Forum theater. Instructor: Khalsa. One course. C-L: Theater Studies 204S, International Comparative Studies 227S

208S. Non-Profit Cultural Institutions. EI, SS One course. C-L: see Theater Studies 310S; also C-L: Economics 247S, Innovation and Entrepreneurship 310S, Visual and Media Studies 329S, Public Policy 318S

211. Musical Theater Workshop: Performance. ALP One course. C-L: see Theater Studies 211; also C-L: Music 218

215S. Performing Sexual Health: The Duke Sex Ed Squad. ALP, CCI Service-Learning course exploring the history, theories, and strategies behind activist sexual health education theatre as it has been used locally

and globally. Intensive training on sex, sexuality, HIV/AIDS, and history of artists' interventions to open urgent dialogues. Examination of humor, personal narrative, and non-judgmental, sex-positive approaches to open dialogue about sexual health by and for diverse communities. Students create and tour a live performance and workshop for high school students and also create short video segments to be used by high school teachers in health classrooms. Instructor: Khalsa or staff. One course. C-L: Global Health 216S, Theater Studies 279S

235SL. Capoeira: Practice and Culture. ALP, CCI, SS, W Lecture/lab course introducing the movement, music and culture of capoeira, an Afro-Brazilian martial art that combines dance, self-defense and acrobatics. Created by male African slaves in Brazil several hundred years ago, viewed as a social threat and outlawed in the 19th century, celebrated as an element of national identity in the 20th century, today capoeira is rapidly crossing national, racial and gender borders as it becomes a popular global practice. Studio classes twice a week focus on the basic movements, percussive music and call-and-response singing. Seminar once a week focuses on the historical, cultural and socio-political dynamics that shape capoeira in Brazil and beyond. Instructor: Wesolowski. One course. C-L: Cultural Anthropology 221SL, African & African American Studies 221SL, Romance Studies 235SL

255. T'ai Chi and Chinese Thought. CCI, CZ One course. C-L: see Religion 247; also C-L: Asian & Middle Eastern Studies 247

279SA. The Economics of Art (The Chicago Scene). ALP, CCI One course. C-L: see Theater Studies 217SA; also C-L: Visual and Media Studies 221SA, Music 217SA, Innovation and Entrepreneurship 217SA, Markets and Management Studies

284. Ritual, Performance, and Religion. ALP, CCI, CZ One course. C-L: see Religion 284; also C-L: Cultural Anthropology 284, Visual and Media Studies 285, International Comparative Studies 266

290. Special Topics Lecture. Content to be determined each semester. Instructor: Staff. One course.

290A. Special Topics in Dance Duke-Administered Study Abroad. Topics differ each semester. Instructor: Staff. One course.

290S. Special Topics Seminar. Content to be determined each semester. Instructor: Staff. One course.

302S. Writing about Performance. ALP, CCI, R, W One course. C-L: see Writing 305S; also C-L: Theater Studies 283S, Music 305S

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: Staff. 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, Visual and Media Studies 345S

307SA. stARTup Project. ALP, R One course. C-L: see Theater Studies 316SA; also C-L: Visual and Media Studies 315SA, Music 316SA, Innovation and Entrepreneurship 316SA, Markets and Management Studies

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: Brooke and DeFrantz. One course. C-L: Theater Studies 364, Information Science + Studies 376, Electrical and Computer Engineering 364

309S. Dancing States of Mind: The Self, Social and Political Practice of Dance. ALP, R Practice-based studio work, discussion, and readings in current political discourse, System Theory, contemporary philosophy and cultural theory. Reveals the culturally constructed nature of dance in Western society—its manner of production, dissemination and aesthetics—and examines the consequences of 'the cultured flesh'

as a mode of propaganda. The cultivation of students' radically subjective creativity, artistic experimentation, awareness, perception and expression, in order to understand and challenge the status quo; and to integrate abstract concepts into one's own physical existence and redefine assumptions by moving right through them. Instructor: Kliën. One course. C-L: Theater Studies 309S, Cultural Anthropology 311S, International Comparative Studies 309S

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. C-L: International Comparative Studies 315S

316S. Postmodernism in Dance, 1950-2000. ALP, W An examination of American modern dance since the 1950s, which reinstated 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.

317. The Body in Art in Early Modern Europe: Power and Limits of Corporeal Representations. ALP, CCI, CZ One course. C-L: see Art History 317; also C-L: Romance Studies 317, Theater Studies 245, Medieval and Renaissance Studies 217

318S. Movement in Question: Introduction to Critical Dance Studies. ALP, CCI, CZ, R, W This writing-intensive seminar casts students as a research team engaging in multiple ways with the interdisciplinary field of critical dance studies. Students read and analyze foundational texts and theories, develop capacity to interpretively analyze movement, and practically engage in embodied activities that make gaps between textual representation and embodiment visible. This holistic approach throws movement into question and centralizes dance as a critical way of making the social world. Final Research Projects include conventional academic papers or choreographed performances that engage issues raised in the course. Zero dance experience required. All physical abilities welcomed. Instructor: Wilbur. One course. C-L: Visual Arts 317S, Theater Studies 320S

335SL. 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: A. Vinesett. One course. C-L: African & African American Studies 220SL, Religion 240SL

336. Black Dance. ALP, CCI, R, W One course. C-L: see African & African American Studies 320

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, Asian & Middle Eastern Studies 246, International Comparative Studies 243

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 & 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: Gender, Sexuality, and Feminist Studies 212, Theater Studies 236, International Comparative Studies 215, Study of Sexualities

370S. The Choreographic Mind: Order, Disorder, Organization, Relations. ALP, CCI, CZ, R Practice-based studio work, discussions, and readings in current cultural theory, contemporary philosophy, and political discourse. Introduces choreography as a creative act of structuring movement; interrogates culturally dominant as well as subversive modes of ordering; examines the wider social and political context and consequences of various forms of artificially created structures. The students' radically subjective creativity, artistic experimentation, awareness, perception and expression is cultivated in order to understand and challenge the status quo and to create "relational artefacts" through choreographic craft. Instructor: Klien. One course. C-L: Visual Arts 371S

371. Artists in Healthcare: Collaborations and Complexities. ALP, CCI, CZ, EI, R The economically over-burdened US health care system and extended life expectancies for older adults offer a unique opportunity for working artists—not arts therapists—to intervene in the rapidly expanding field of integrative art and health. Rather than study health outcomes as indicators of "success," we centralize creative practice as our axis of inquiry. Course readings, interviews, and field visits to a Durham-based intervention highlight power imbalances and cultural sensitivities in hospitals, clinical care, assisted living, and nonprofit community care contexts. Culminates in student driven case studies of local arts work and workarounds. Instructor: Wilbur. One course. C-L: Visual and Media Studies 374, Music 371, Theater Studies 371

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. In-class movement, rhythm, and listening exercises, both solo and in groups, along with written and creative assignments, using drums, voice, body percussion and digital audio. The goal of this course is to provide musical training for dance/movement artists. Requirements: no musical training required to take the class, however, students should be able to create/choreograph/improvise movement phrases. Instructor: Hanks. One course. C-L: Music 342

377S. Dance Science: An Evolutionary Approach. ALP, NS, R One course. C-L: see Evolutionary Anthropology 336S

379S. Legal Issues for the Performing Arts. EI, SS One course. C-L: see Theater Studies 311S; also C-L: Public Policy 363S, Economics 223S, Innovation and Entrepreneurship 311S

390. Special Topics. Content to be determined each semester. Instructor: Staff. One course.

390L. Special Topics. Content to be determined each semester. Consent of instructor required. Instructor: Staff. One course.

390S. Special Topics. Content to be determined each semester. Instructor: Staff. One course.

391. Independent Study. 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.

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.

435. Experimental Sculpture and Installation Art. **ALP** One course. C-L: see Visual and Media Studies 434; also C-L: Information Science + Studies 436

487S. Capstone Seminar: Research Methods in Dance Studies and Choreographic Performance. **ALP, CCI, CZ, R, W** Methods used in dance theory, history, ethnography, education and choreography/practice. 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. Open only to junior/seniors. Recommended prerequisite: Dance 101, one additional course in dance history, theory, or world cultures of dance. Requires instructor consent. Instructor: Shah or Wilbur. One course.

489T. Capstone: Senior Project. **ALP, R** A research paper, choreographic project, or performance 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. Special Topics in Dance. Instructor: Staff. One course.

499S. Capstone Seminar: Distinction Project. **ALP, R** A substantial historical, analytical, empirical or theoretical paper of 30-50 pages in length, or a major choreographic or performance project with a written component of 15-25 pages in length that analyzes and elucidates the project's conceptual, thematic and technical aspects. One course.

535S. AfroFuturism. **ALP** One course. C-L: see African & 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.

561S. Art as Work: Valuing Labor in the Arts. **ALP, CCI, CZ, EI, R** Interdisciplinary seminar on work, working identities, and workplace performances in the arts. Enrolled graduates and advanced undergraduates review theories of artistic production, labor, and value across the analytical traditions of cultural labor studies, critical race and feminist studies, dance and performance studies. Analysis of dominant representations of arts labor and entrepreneurship from arts management, administration and policy discourse. Our goal is to highlight institutional pressures that constrain enabling environments for the arts. Culminating research projects analyze and interpret local arts workworlds, including but necessarily students' own. Instructor: Wilbur. One course. C-L: Literature 525S, Visual Arts 571S, Visual and Media Studies 571S

575S. Somatics: Embodiment for the Twenty-First Century. **ALP, EI, NS, R** Examines Somatics as emancipatory and ethical dance education designed to train reflective and autonomous dancers. The course is underscored by ethical principles foundational to somatic education, namely, acceptance, inclusivity, privacy, respect, and non-judgment. Somatic education is viewed as an intelligent movement-centered response to complex problems within the larger sphere of bio-politics, re-negotiating issues of control and fostering autonomy—of ourselves and of our environment. Classes will draw from the history of Somatics and its scientific and psychosocial underpinnings in forming a critique around current societal issues and its evolving impact on dance training. Instructor: Batson. One course.

590S. Topics in Dance/Embodiment. Subjects, areas, or themes embracing a range of approaches to embodiment in arts and humanities areas. Topics vary by semester. Instructor: Staff. One course.

645S. Black Performance Theory. **ALP, CCI, R** One course. C-L: see African & African American Studies 621S; also C-L: Visual and Media Studies 621S

665S. Contemporary Dance History. **ALP, CCI, CZ, W** A survey course spanning twentieth- and twenty-first-century developments in selected dance forms from around the world, including discussions of dance in its historical, political and cultural context. Readings will focus on dance as a social phenomenon; dance in the

form of political activism; dance as a medium of projecting gendered identity and the historical trajectory of dance aesthetics. Discussions will also include postmodernism in dance and the impact of globalization on world dance forms. Invited guest artists. Instructor: Shah. One course. C-L: International Comparative Studies 509S, History 554S

690S. Special Topics in Dance. Special topics in dance. Instructor: Staff. One course.

The Major

Four pathways highlight the research trajectories of the Dance Program. None of the pathways targets a specific physical style or cultural tradition; rather, these traditions interweave through all the pathways.

These pathways are:

- a. Dancing Cultures
- b. Being and Healing
- c. Process, Practice, and Research
- d. Social Issues and Social Action

Please refer to the Dance Program website (<https://danceprogram.duke.edu/>) for the current descriptions and listing of courses under each of these pathways.

Major Requirements: To major in dance, a student must take a minimum of twelve course credits:

- Dance 101 (Introduction to Dance)
- Four courses selected from one pathway
- One course each from the other three pathways
- Dance 487S (Capstone Seminar: Research Methods and Writing in Dance Studies and Choreographic Performance)
- Dance 489T (Capstone: Senior Project) or Dance 499S (Capstone Seminar: Distinction Project)
- Equivalent of two course credits from partial or full-credit movement courses.

Fifteen hours total of service work are required of each student. This may be completed at any time during the four-year undergraduate experience.

Pathways

Courses listed below are suggested choices in the pathways.

- **Dancing Cultures**

- Dance 165 (Let's Dance! Live Art and Performance)
- Dance 235SL (Capoeira: Practice and Culture)
- Dance 255 (T'ai Chi and Chinese Thought)
- Dance 316S (Postmodernism in Dance, 1950-2000)
- Dance 318S (Movement in Question: Introduction to Critical Dance Studies)
- Dance 336 (Black Dance)
- Dance 356 (Dance and Dance Theater of Asia)
- Dance 561S (Art as Work: Valuing Labor in the Arts)
- Dance 365L (The Art and Cultural History of Flamenco)
- Dance 590S (Topics in Dance/Embodiment)
- Dance 535S (AfroFuturism)
- Dance 645S (Black Performance Theory)
- Dance 665S (Contemporary Dance History)
- Dance 690S (Special Topics in Dance)

- **Being and Healing**

- Dance 284 (Ritual, Performance, and Religion)
- Dance 377S (Dance Science: An Evolutionary Approach)
- Dance 390/390S (Special Topics)
- Dance 575S (Somatics: Embodiment for the Twenty-First Century)
- Dance 590 (Topics in Dance/Embodiment)
- Dance 690S (Special Topics in Dance)

- **Process, Practice, and Research**

- Dance 105S (Dance Composition)

- Dance 205S (Advanced Dance Composition)
- Dance 211 (Musical Theater Workshop: Performance)
- Dance 302S (Writing about Performance)
- Dance 308 (Performance and Technology: Composition Workshop)
- Dance 309S (Dancing States of Mind: The Self, Social and Political Practice of Dance)
- Dance 370S (The Choreographic Mind: Order, Disorder, Organization, Relations)
- Dance 375 (Music for Dancers)
- Dance 390/390S (Special Topics)
- Dance 412 (Performance: Modern)
- Dance 422 (Performance: Ballet)
- Dance 432 (Performance: African)
- Dance 442 (Performance: Jazz)
- Dance 443 (Performance: Tap)
- Dance 462 (Performance: Interdisciplinary)
- Dance 472 (Performance: Dance Theater)
- Dance 535S (AfroFuturism)
- Dance 590S (Topics in Dance/Embodiment)
- Dance 690S (Special Topics in Dance)
- **Social Issues and Social Action**
 - Dance 201S (Arts Entrepreneurship)
 - Dance 207S (Performance and Social Change)
 - Dance 379S (Legal Issues for the Performing Arts)
 - Dance 390/390S (Special Topics)
 - Dance 309S (Dancing States of Mind: The Self, Social and Political Practice of Dance)
 - Dance 590 (Topics in Dance/Embodiment)
 - Dance 690S (Special Topics in Dance)

Courses originating outside of the Dance Program not listed here may be considered as satisfying pathways requirements at the discretion of the director of undergraduate studies and the student's major advisor. No more than two courses originating outside of the Dance Program may count toward the pathways requirements.

The Minor

Requirements. To earn the minor in dance, students must complete the following requirements:

- Dance 101 (Introduction to Dance Pathways)
- Four full-credit courses
- One course credit made up of partial or full-credit course(s)
- Ten hours total of service work are required of each student. This may be completed at any time during the four-year undergraduate experience.

Documentary Studies

Lecturing Fellow Sims, *Director*

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, and the departments of African and African American studies, art, cultural anthropology, arts of the moving image, 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 farm worker 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 director should facilitate the completion of the final project.

Courses in Documentary Studies (DOCST)

80S. Studies in Special Topics. Opportunities for first-year students to engage with a specific issue in documentary studies, 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. 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, International Comparative Studies 111

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. Instructor: Hawkins. One course. C-L: Cultural Anthropology 106S, History 125S, Political Science 105S, Public Policy 170S, Visual and Media Studies 106S, Policy Journalism and Media Studies

107. History of Documentary Film. ALP, CCI One course. C-L: see Visual and Media Studies 265

107A. History of Documentary Film. ALP, CCI One course. C-L: see Visual and Media Studies 265A

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: Lanier. One course. C-L: History 126S

115S. Introduction to Black and White Photography. ALP Foundation class in photography utilizing black and white film and a wet darkroom. Shoot, process, and print individual student work throughout the semester. Emphasis on the documentary approach and a continual visual exploration of meaning and metaphor in the form of regular assignments, slide lectures of important historic and contemporary photographic work, and critiques of each other's work. No textbooks are required, though students will need to budget a comparable amount for supplies and equipment. Instructor consent required. Instructor: Sharp. One course. C-L: Visual Arts 115S, Visual and Media Studies 115S

119S. Introduction to Digital Photography. ALP One course. C-L: see Visual Arts 119S

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: Policy Journalism and Media Studies 135S, Information Science + Studies

153FS. Borderline Humans: How Walls (and Bridges) Define Us. CCI, CZ, EI, SS Examines the

border/frontera as national metaphor: a scar on land and bodies, a wall between friends, a line of demarcation for enemies, a nightmare for policy-makers, a delineation for human rights abuses, a law enforcement nightmare, a pass-through for trade and NAFTA, a catchall for the poor, a diversion for traffickers. Study history, culture, policy, creative writing and art addressing the only line between two nations with such disparity in wealth. Look at immigration as it relates to labor, particularly farmworkers and their work in US fields. Students will engage in a research project related to the instructor's Bass Connections Project entitled: America's Sacred Spaces. Instructor: Thompson. One course. C-L: International Comparative Studies 153FS, Cultural Anthropology 153FS

159S. Gateway Seminar: What Did Your Grandparents Do? A Global Exploration of Individual Life Histories. CCI, CZ, R One course. C-L: see History 159S

171SA. Capturing the City: Documentary Photography in Berlin. ALP, CCI History and development of documentary photography in Germany since the 19th century. Photography fieldwork projects focused on interpreting cultural life, public spaces, landscapes, and people in Berlin. Includes techniques and practice of color photography—composition, lighting, color correction, editing, and sequencing. Engagement with contemporary photography scene in Berlin through visits with area artists, museum visits, and mounting of exhibition of student work. Offered through the Duke in Berlin program. Instructor: Sims. One course. C-L: German 222SA, Visual Arts 171SA, Visual and Media Studies 171SA

190S. Special Topics. Special topics in Documentary Studies. Instructor: Staff. One course.

202S. Children and the Experience of Illness. ALP, 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 395S, Visual and Media Studies 211S, Child Policy Research

204FS. Documenting the Middle East: Community and Oral History. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 204FS; also C-L: Human Rights Program-Franklin Humanities Institute 204FS, Human Rights

206S. Medicine and the Vision of Documentary Photography. ALP The intersection of healthcare and documentary photography. Explore work of established photographers engaged with healthcare topics. Produce semester-long documentary photography project and 5-10 page documentary essay on healthcare related topic. Students must have or quickly develop proficiency in the use of a digital SLR camera and Adobe Lightroom. Course materials include photographs, articles, and books. Class sessions combine critique of student work, discussion of course materials, and discussion of ethical questions involved in documentary representation of healthcare-related topics. Instructor: Moses. One course. C-L: Public Policy 377S, Visual and Media Studies 204S, Visual Arts 204S

208S. The Silent Film: An Introduction. ALP, STS One course. C-L: see Visual Arts 208S

209FS. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI Documentary photography as a tool for exploring public education in Durham. Learn digital techniques including camera function, Photoshop, ink-jet printing, audio capture and production of audio-visual slide shows. Discuss ethical issues that emerge as a result of digital photographic impermanence. Service-learning environment consisting of fieldwork photography in collaboration with community organization, culminating in an exhibit. This is a Focus Program Course for Knowledge in the Service of Society. Department consent is required. Instructor: Post-Rust. One course. C-L: Visual Arts 212FS, Visual and Media Studies 212FS, Education 209FS

209S. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI Documentary photography as a tool for exploring public education in Durham. Learn digital techniques including camera function, Photoshop, ink-jet printing, audio capture and production of audio-visual slide shows. Discuss ethical issues that emerge as a result of digital photographic impermanence. Service-learning environment consisting of fieldwork photography in collaboration with community organization, culminating in an exhibit. Consent of instructor required. Instructor: Post-Rust. One course. C-L: Visual Arts 212S, Visual and Media Studies 212S, Education 209S, Information Science + Studies

215S. 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 color and black-and-white photography—exposure, development, and printing—diverse ways of representing the cultural landscape of the region through photographic imagery. The role issues such 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 216S, Visual and Media Studies 215S

222S. The Photographic Portfolio. ALP One course. C-L: see Visual Arts 222S

223S. Global Stories, Local Issues. CCI, EI, R, SS One course. C-L: see Cultural Anthropology 223S; also C-L: International Comparative Studies 260S

224S. Children's Self Expression: Literacy Through Photography. ALP, EI, SS Children's self-expression and education through writing, photography and documentary work. Focus on reading and critical interpretation of images. The history, philosophy, and methodology of Literacy Through Photography. Includes internship in an elementary or middle school classroom. Required participation in service-learning. Consent of instructor required. Instructor: Hyde. One course. C-L: Education 244S, Visual and Media Studies 207S

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 389S, Visual and Media Studies 224S, Policy Journalism and Media

236S. Color Photography: Fieldwork and Digital Color. ALP Field-based course examining color photography as a documentary tool. Students learn about aesthetic and technical foundations of color photography using recent digital technology. Class-conducted intensive examination of the work of historic and contemporary color documentary photographers. Advanced techniques in film scanning, Photoshop, and color pigment printing using Arts Warehouse multimedia classroom. Completion of semester-long color photographic project, and final project consisting of production of a series of color pigment prints. Consent of instructor required. Instructor: Harris. One course. C-L: Visual Arts 240S, Visual and Media Studies 227S

242S. Dance for the Camera. ALP, R, STS One course. C-L: see Dance 306S; also C-L: Visual and Media Studies 345S

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, International Comparative Studies 245S

246S. Feeding Diaspora: Global Food Stories and Audio Journalism. CCI, CZ Audio production-based course. Learn histories of global diaspora and their relationship to food and culture. Understand social, political and economic factors that shape global food production. Develop journalistic and storytelling skills including interview techniques, interpersonal and cross-cultural engagement with subjects, journalistic research, and narrative construction. Critical engagement with ethical considerations of representation central to journalism in a cross-cultural, diasporic context. Build audio-production skills including recording techniques and editing software. Produce broadcast-quality, full-length audio journalism piece on a global food story of

student's choosing. Instructor: Diaz. One course.

248S. Environmental Conservation and Documentary Photography. ALP, EI, R One course. C-L: see Environment 222S; also C-L: Marine Science and Conservation, Human Rights

250S. The Photobook: History and Practice. ALP, CCI, CZ One course. C-L: see Visual Arts 249S

264. Introduction to Film Studies. ALP One course. C-L: see Visual and Media Studies 289; also C-L: Theater Studies 278, English 181, Literature 110, Policy Journalism and Media Studies

268. Religion and Film. ALP, CCI, CZ, EI One course. C-L: see Religion 268; also C-L: Visual and Media Studies 269, Ethics Elective

270. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS One course. C-L: see Visual and Media Studies 264; also C-L: Political Science 276, Public Policy 374, Arts & Sciences IDEAS themes and University Course 206

271S. Public Policy Video. 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 375S, Visual and Media Studies 377S, Human Rights Program-Franklin Humanities Institute 271S, Human Rights

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: Visual and Media Studies 386S, Public Policy 228S, Innovation and Entrepreneurship 272S

274. The Middle East Through Film. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 273; also C-L: Asian & Middle Eastern Studies 218, Political Science 273

275S. The Documentary Essay: Exploration, Research, and the Peripatetic Tradition in Documentary Writing. ALP, R, W Writing workshop course exploring the intersection of documentary fieldwork methods and the exploratory traditions and practices of the essay. Grounded in the recognition that the documentary essay engages the world first, seeking knowledge and understanding, gathers the material of art by direct experience, and turns more outward than inward. Out-of-class exploration emphasized: on foot in the tradition of the flâneur; through careful exploration of the special collections of Duke University; and by pursuing a common subject as a class. Wide readings in documentary essays, workshop discussion of student work, and the eventual goal of publication in the new CDS student documentary magazine. Instructor: Staff. One course. C-L: English 213S

276S. Writing American Politics. CZ, EI, R, SS, W Reading and writing intensive seminar focused on documentary works that document and discuss US politics and political movements. Engage and analyze historical and contemporary documentary media on the Populist movement, the long civil rights movement, the modern women's movement, Black Lives Matter, Moral Mondays, and other social movements, as well as US elections and significant figures in US politics. Emphasis on 20th century. Course materials include historical writings, journalism, memoir, fiction, music, and film. Guided research on a US political phenomenon resulting in a 20-page final paper. Instructor: Tyson. One course. C-L: African & African American Studies 233S, History 360S, Gender, Sexuality, and Feminist Studies 226S

278S. Producing Docu-Fiction. ALP One course. C-L: see Visual Arts 340S

279S. Docu-Poetry: Real Life Truths Outside and Inside the Poetic Narrative. ALP, EI, W Investigates written and oral poetry as a mode of documentary storytelling. Engage with contemporary and historical poetry examining real-life, historical events. Investigate relationship between history, documentary,

and poetry. Write poems based on research with multiple forms of archival source material and critical interpretation thereof. Instructor: Green. One course. C-L: English 279S, Literature 279S

281S. Cinematography. ALP One course. C-L: see Visual Arts 248S

282AS. Studies in the United States Culture Industries. ALP, R, W One course. C-L: see Visual and Media Studies 279AS; also C-L: Public Policy 293AS

285S. Visiting Filmmaker Master Courses: Special Topics. ALP One course. C-L: see Visual and Media Studies 379S; also C-L: Visual Arts 325S

288S. Editing for Film and Video. ALP One course. C-L: see Visual and Media Studies 356S

290. Special Topics in Documentary Studies. Selected topics in methodology, theory, or area in lecture format. Instructor: Staff. One course.

290A. Special Topics in Documentary Studies: Study Abroad. Documentary Studies course taught in Duke-administered study abroad programs. Topics vary by semester. Instructor: Staff. One course.

290S. Special Topics in Documentary Studies. Selected topics in methodology, theory, or area in seminar format. Instructor: Staff. One course.

295S. Arts Entrepreneurship. One course. C-L: see Music 295S; also C-L: Innovation and Entrepreneurship 295S, Dance 201S, Visual and Media Studies 295S, Theater Studies 312S, Visual Arts 295S

303. History of Photography, 1839 to the Present. ALP, CCI, CZ One course. C-L: see Visual and Media Studies 303; also C-L: International Comparative Studies 352

310S. The Short Audio Documentary. ALP, R Introductory to intermediate public radio-style audio documentary production. Includes instructor-supervised fieldwork with an audio recorder in a variety of settings using creative approaches; students produce four short pieces (3-4 minutes long) in varying styles (journalistic, narrative, artistic) for posting on class site and public websites. Instructor: Biewen. One course. C-L: Policy Journalism and Media Studies 310S, Information Science + Studies, Policy Journalism and Media

311S. 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: Staff. One course. C-L: English 214S, Policy Journalism and Media Studies 311S

312S. Documentary Video Production Workshop. ALP Students research, write, direct, shoot, and edit independent documentary video projects and improve storytelling, videography, and lighting skills. Build upon prior knowledge of editing software and other technical aspects. Learn professionalization techniques for studio, freelance, or independent work, including: budgeting, cover letters, professional project proposals, client "pitch" skills. Class discussion and critique to build editing skills and storytelling sensibilities. Prerequisites: Documentary Studies 105 or Documentary Studies 271S or instructor consent. Instructor: Orenstein. One course. C-L: Visual Arts 312S, Visual and Media Studies 313S

315S. Environmental Issues & the Documentary Arts. ALP One course. C-L: see Environment 315S; also C-L: Visual and Media Studies 309S

316S. Activating the Archive: Archival Research as Documentary Practice. ALP, EI, R Introduces methods of archival research and investigates its use as a tool for activism within documentary practice. Uses Duke's Rubenstein Rare Book and Manuscript library to gain practical experience to effectively locate, retrieve, handle, document and analyze primary source materials. Students produce original written and multimedia documentary projects that rethink notions of history, identity, memory, and loss. Explores individual and open source archives, as well as works by contemporary artists and documentarians who mediate archival materials and structures. Emphasizes the archive as a site of discovery and construction. Instructor: McCarty. One course. C-L: Visual Arts 316S, Visual and Media Studies 314S

317S. Veterans Oral History Project. CCI, SS Explore methods of oral history, specifically focusing on interviewing U.S. military veterans who have served during times of conflict. Weekly readings concerning ethics of oral history work and the particulars of interviewing veterans. Learn techniques for conducting successful

oral history interviews and master technical skills involving recording equipment. Conduct multiple interviews with veterans throughout semester. Discuss interviews and transcriptions with classmates. Assignments include written responses and a final presentation on conducted interviews. Includes a service-learning component involving work in the community. Instructor: Lanier. One course. C-L: History 381S, Human Rights Program-Franklin Humanities Institute 317S, Human Rights

318S. Photo Workshop. ALP Examines historical and contemporary photographic artists for whom a particular photographic technique is essential to the creation of their work. Investigates strategies of intentional lighting. Explores techniques most suited to the documentation of individual student's chosen subject matter and create a cohesive body of work by semester's end employing that strategy. May use digital or analog equipment. No textbooks are required, though students will need to budget a comparable amount for supplies. Not open to students who have taken DOCST 217S/ARTSVIS 218S. Instructor consent required. Prerequisite (any one of): DOCST 115S, 119S; ARTSVIS 115S, 119S; VMS 115S. Instructor: Sharp. One course. C-L: Visual Arts 318S, Visual and Media Studies 333S

320S. Documenting Black Power: Writing the History of the African American Freedom Struggle. ALP, CCI, CZ Documentary writing course exploring the African American Freedom Struggle in the United States from the Civil War era to the present. Focus on the American South and black social movements from World War II until 1980. Students engage wide ranging archival material including documentary research, traditional historiography, interviews, memoirs, fiction, poetry, music and film. Students write weekly essays and a final documentary history project on a topic of their choosing. Instructor: Tyson. One course. C-L: African & African American Studies 231S, History 356S, Human Rights Program-Franklin Humanities Institute 320S, Human Rights

321S. Refugee Lives: Violence, Culture and Identity. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 320S; also C-L: Human Rights Program-Franklin Humanities Institute 321S, Human Rights

322S. American Independent Cinema. ALP, CCI One course. C-L: see Literature 318S; also C-L: English 389S, Theater Studies 373S, Visual and Media Studies 332S

323S. Motion Graphics for Film and Video. ALP, STS One course. C-L: see Visual Arts 322S

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 embedded 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 & African American Studies 230, History 358, Human Rights Program-Franklin Humanities Institute 326, Human Rights

326S. The South in Black and White. ALP, CCI, CZ Seminar with 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 embedded 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 & African American Studies 230S, History 358S

327S. Migrations. ALP, CCI, CZ, EI, R Climate refugees, exiles of war, economic migrants, expatriates seeking new opportunities, along with others compelled to flee their current circumstances and look for a new life, are moving across borders. Combine these movers with the billions of religious pilgrims, adventure travelers, and tourists, and we find a movement of humanity en masse in greater numbers than ever in the history of humanity. Combining literature on pilgrimage with travel memoirs and essays on travel, films on the act of walking, and multimedia explorations of refugee journeys, immigrant life, and border crossings, this course seeks to make sense of our unprecedented era of migration. Instructor: Thompson. One course. C-L: Cultural Anthropology 327S

329S. Historical Documentary Production. ALP, EI, R, SS One course. C-L: see Visual and Media

Studies 429S

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, CZ, EI, SS Focus on those who bring food to our tables, particularly those who labor in the fields of North Carolina and the Southeast. Students will learn about farm work from the plantation system and slavery to sharecropping and up to the migrant and seasonal farmworker population today. Study and analysis of media representations of farmworkers and agricultural issues as well as historical and contemporary documentary work and its contributions to farmworker advocacy. Includes a service-learning component involving work in the community. Instructor: Thompson or Sims. One course. C-L: Cultural Anthropology 236S, Visual and Media Studies 341S, Latino/a Studies in the Global South 332S, Human Rights Program-Franklin Humanities Institute 332S, Latino/a Studies in the Global South, Human Rights

336S. Unraveling Paradise: Examining the Mythical Ideal Through Art and Documentary of the Caribbean. ALP, CCI, CZ The concept of the Caribbean as “paradise” is central to Western conceptions of the Caribbean. This course looks at the origins of the paradise myth throughout the Caribbean at large with special emphasis on the Bahamas. Examines the paradise myth as present through a variety of artistic and documentary media forms, including texts, film, photographs, fine art, poetry, music, and performance. Explores why and how Caribbean paradise myth was created and the ways in which it is perpetrated, and its effects on Caribbean culture, society, and self-understanding in present day. Looks at how present-day art and documentary are working to counter the long-standing paradise-myth narrative. Instructor: Galanis. One course. C-L: Visual Arts 336S, Visual and Media Studies 367S, Latin American Studies 336S

337S. Articles of Truth: Creating Culture through Multimedia. ALP, CCI Engage the work of historical and contemporary media creators who played an influential role in shaping cultural, social, and political movements. Learn tools and strategies used by media producers and apply them to students own documentary and artistic work. Examine and discuss ethical issues that arise for documentary media producers with political and social goals and commitments. Respond to current events through individualized multidisciplinary practices including writing, song, photography, film, and new media. Emphasis on punk, rock, hip-hop, and activist movements. Instructor: Road. One course. C-L: Visual Arts 337S, Visual and Media Studies 372S

338S. Media and Indigenous Experiences. ALP, CCI, CZ This course examines the relationship between media and Indigenous Peoples in American history. Course content focuses on the following: First, critical analysis of representations of Indigenous Peoples, politics, issues, and cultures in historical and contemporary mainstream media, including television, Hollywood films, popular music, and news media. Second, the ways media has been used by Indigenous media producers as a social and political platform to engage the non-Indigenous American public on Indigenous issues. Environmental issues and land rights issues play a large role in content of media examined in this course. Instructor: Dewey. One course.

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 380S, International Comparative Studies 342S, Human Rights Program-Franklin Humanities Institute 342S, Human Rights

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, International Comparative Studies 344S

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 & African American Studies 236S, Human Rights Program-Franklin Humanities Institute 246S, Human Rights

350S. Documenting Black Experiences. ALP, CCI, CZ 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 United States. 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: Tyson. One course. C-L: African & African American Studies 225S, Visual and Media Studies 213S, Cultural Anthropology 262S, Public Policy 387S, International Comparative Studies 368S, Human Rights Program-Franklin Humanities Institute 350S, Human Rights

352S. Documentary Publishing from Gutenberg to the Web: The Vanishing Point Course.

ALP, CCI, R, SS, STS Publishing course leading to publication of Vanishing Point Magazine (<http://vanishingpointmag.com>); grounded in cultural, technical, and aesthetic history of documentary periodicals, from 16th century Venetian avvisi through 18th century English gentlemen’s magazines through mid-20th century “Golden Age” of American magazines, to current age of digital documentary publication; speakers and advisors from publishing industry; wide readings in international history of periodicals and documentarism; production of Vanishing Point as conceived, created, edited, designed and built by students in accordance with professional standards and practices. Instructor: Staff. One course. C-L: Policy Journalism and Media Studies 352S, Visual and Media Studies 352S, Visual Arts 352S

353S. Sound for Film and Video. ALP One course. C-L: see Visual and Media Studies 339S

354S. Web Design and Narrative: Artists, Documentarians, Art Historians, and Entrepreneurs. ALP, R Professional practices course for students in creative fields without a computer science background: for artists and documentarians to create robust web-based portfolios; for art historians to showcase curatorial and scholarly projects; for entrepreneurs to demonstrate ideas, concepts, and products to the public. Develop customized, individual websites using CMS platforms. Hone and workshop artistic/curatorial/product statements. Develop teaching philosophies, exhibition imagery, and video documentation of artistic, curatorial, or product talks. Publish a blog magazine on arts and innovation topics. Guest speakers visit the course on a regular basis to review the students’ work. Instructor: Sims. One course. C-L: Information Science + Studies 354S, Visual and Media Studies 364S, Visual Arts 364S

356S. Magazine Journalism. SS, W One course. C-L: see Policy Journalism and Media Studies 366S; also C-L: Public Policy 366S, Policy Journalism and Media Studies Core

357S. 16mm Film Production. ALP One course. C-L: see Visual Arts 356S

358S. Understanding Mediation. ALP, CCI, CZ One course. C-L: see Literature 325S; also C-L: Visual and Media Studies 316S, English 480S, Theater Studies 249S, Gender, Sexuality, and Feminist Studies 325S

359A. Introduction to Global Los Angeles: An Interdisciplinary Survey (Service-Learning).

ALP, CCI, EI One course. C-L: see Visual and Media Studies 359A; also C-L: Literature 230A, Innovation and Entrepreneurship 359A

360S. Multimedia Documentary: Editing, Production, and Publication. ALP Edit and shape fieldwork material into a Web-based multimedia presentation, with a focus on video. 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 357S, Visual and Media Studies 348S, Innovation and Entrepreneurship 242S

361S. Photographic Memory: Photo Albums, Photobooks, & Zines. ALP Examination of history

and uses of photo albums, zines, and self-published photobooks as a means to memorialize and document underrepresented communities, cultural movements, customs, and personal experiences. Students view, handle, and analyze examples of all three formats from material in Rubenstein Rare Book & Manuscript library. Produce photo album, zine, and photo book using photographs and ephemera from personal archives. Interplay of text and image, methods for sequential storytelling, basic layout and design techniques, as well as methods for production distribution. Emphasis on photographic books as an accessible and democratic storytelling medium. Instructor: McCarty. One course. C-L: Visual Arts 361S, Visual and Media Studies 361S

362S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South. **CCI, EI, R, SS** Immersion in the dangerous and contentious history of women's activism in the American South. Explores methods for documenting and creating narratives of women's social activism using oral history, archival research methods, and cultural production. Examines historical and contemporary women's activism including: campaigns to end racial profiling and mass incarceration, preventing environmental destruction, improving public education, advocating for undocumented workers, creating safe spaces for GLBTQ youth, and championing reproductive justice. Final project (written or multimedia) consists of documentary exploration of one specific type of southern girls' or women's activism. Instructor: Hogan. One course. C-L: Gender, Sexuality, and Feminist Studies 306S, African & African American Studies 245S, Human Rights Program-Franklin Humanities Institute 362S, Human Rights

363S. The Autobiographical Impulse in Photography. **ALP, EI** Study the autobiographical impulse in photography. Study and discuss methods of sequencing images and how these choices affect the photographic narrative. Interrogate subjective and ethical implications of the editorial process. Create autobiographical photographs and narratives. Study and discuss autobiographical narrative in the work of photography's most renowned practitioners – From Alfred Stieglitz and Vivian Maier to Lee Friedlander and Carrie Mae Weems. Instructor: Harris. One course.

364S. Art of the Interview. **R, W** One course. C-L: see Policy Journalism and Media Studies 364S; also C-L: Public Policy 364S

365S. The Documentary Turn: Southern Culture. **ALP, CZ, EI, W** Traces the convergence of traditional 20th c. documentary narrative (oral history, photography, film, and ethnography) with emergent 21st c. technologies (digital platforms, crowd-sourced communications, viral information) that expand and test definitions of documentary practice. Course looks for unexpected outcomes and future possibilities at the intersections of analog and digital practice. Focus is on the cultures of the American South with an understanding of that region as mapped within a global imaginary. Requirements include experimental documentary project that combines storytelling (visual/literary), performance (theater/dance/music) or investigative research (oral/archival). Instructor: Hogan. One course. C-L: Visual and Media Studies 365S

366S. Human Rights and Documentary: Aesthetics, Ethics, History. **ALP, CZ** Course examines how artists, filmmakers, and journalists have used images to address complex human rights challenges in past and present. Engages complex ethical and legal questions that arise when documenting human rights issues, e.g., rights of people photographed, written about, or filmed, versus rights of photographers, writers, filmmakers. Learn historical and contemporary strategies for image makers to improve the society in which they live. Learn methods (visual, audio, writing) to document non-traditional political actors work in human rights fields. Apply knowledge and skills developed to address key issues in human rights policy in a thoughtful, clear way orally, visually, and written. Instructor: Hogan. One course. C-L: Public Policy 388S, History 398S, Visual Arts 366S, Visual and Media Studies 368S, Human Rights Program-Franklin Humanities Institute 366S, Human Rights

367S. Video Journalism. **ALP, SS** One course. C-L: see Policy Journalism and Media Studies 365S; also C-L: Public Policy 365S, Visual and Media Studies 305S, Information Science + Studies, Policy Journalism and Media Studies

368S. The View Camera: Black and White Large Format Photography. **ALP** Advanced, production-based photography course introduces students to the 4 x 5 large format view camera and its role in the documentary tradition. Learn to operate a view camera and attendant processes and materials to develop black and white sheet film and make silver gelatin contact prints from 4 x 5 negatives. Begins with focus on black and white negatives and contact prints. After demonstration of proficiency, students may optionally work in color film. Students produce a final portfolio of prints from their work throughout the semester. Class meetings consist of lectures, demonstrations, darkroom work, and critique of both process and final images. Instructor:

Rankin. One course. C-L: Visual Arts 368S, Visual and Media Studies 373S

371. News as a Moral Battleground. EI, R, SS, W One course. C-L: see Policy Journalism and Media Studies 371; also C-L: Public Policy 371, Study of Ethics 259, Human Rights Program-Franklin Humanities Institute 371, Human Rights

375S. Recycled Cinema. ALP One course. C-L: see Visual and Media Studies 375S; also C-L: Literature 373S

440S. Black Frame: African American Documentary Film. ALP, CCI, CZ, R One course. C-L: see African & African American Studies 410S; also C-L: Visual and Media Studies 410S

451S. Filming Art. ALP One course. C-L: see Visual and Media Studies 451S

476S. Archiving and Visualizing Asia: Politics and Poetics of Knowledge Production. CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 476S; also C-L: International Comparative Studies 411S, Literature 476S, Visual and Media Studies 476S, History 448S

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.

490. Special Topics in Documentary Studies. Topics vary each semester. Instructor: Staff. One course.

490S. Special Topics in Documentary Studies. Topics vary each semester. Instructor: Staff. One course.

491. Independent Study in Documentary Studies. Supervision and guidance of individual, documentary production-based topics at an advanced level. Consent of director of undergraduate studies required. Instructor: Staff. One course.

492. Independent Study. Supervision and guidance of individual, documentary production-based topics at an advanced level. Consent of director of undergraduate studies required. Instructor: Staff. One course.

493. Research Independent Study. R Supervision and guidance of individual, research-based topics at an advanced level. Consent of director of undergraduate studies required. Instructor: Staff. One course.

494. Research Independent Study. R Supervision and guidance of individual, research-based topics at an advanced level. Consent of director of undergraduate studies required. 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: International Comparative Studies 513

540S. Memory and Documentary Cinema in Latin America. ALP, CCI One course. C-L: see Romance Studies 540S; also C-L: Visual and Media Studies 540S, Literature 544S, Latin American Studies 540S

590. Special Topics in Documentary Studies. Selected topics in methodology, theory, or area in lecture format. Instructor: Staff. One course.

590S. Special Topics in Documentary Studies. Selected topics in methodology, theory, or area in seminar format. Open only to graduate students in the MFAEDA program. Instructor: Staff. One course.

620S. Film-philosophers/Film-makers. ALP, CZ, STS One course. C-L: see Literature 620S; also C-L: Visual and Media Studies 622S, Theater Studies 620S, English 620S

630. Projections in Time: The Still and Moving Image. ALP, R One course. C-L: see Visual and Media Studies 629

640S. Expanded Cinema: Cinema Outside the Movie Theater. ALP One course. C-L: see Visual and Media Studies 640S; also C-L: Literature 545S

Program Courses

African & African American Studies

- 207. African Americans Since the Civil War
- 531S. Black Camera: Still and Moving Images
- 539. Black Camera: Still and Moving Images

Art History

539. Black Camera: Still and Moving Images
650S. Black Camera: Still and Moving Images

Asian & Middle Eastern Studies

341S. Screening the Holocaust: Jews, WWII, and World Cinema

Bioethics and Science Policy

510S. Science and the Media: Narrative Writing about Science, Health and Policy

Cultural Anthropology

130. Anthropology and Film
131. World Music: Aesthetic and Anthropological Approaches
137. Music, Social Life, and Scenes
220FS. Global 'Mixed Race' Studies
220S. Global 'Mixed Race' Studies
243. Culture and Politics in Latin America

History

347. African Americans Since the Civil War

Human Rights Program-Franklin Humanities Institute

130. World Music: Aesthetic and Anthropological Approaches

262. Human Rights in Theory and Practice

371. News as a Moral Battleground

International Comparative Studies

104. Anthropology and Film
325. Culture and Politics in Latin America

Jewish Studies

266S. Screening the Holocaust: Jews, WWII, and World Cinema

Literature

230A. Introduction to Global Los Angeles: An Interdisciplinary Survey (Service-Learning)

263S. Screening the Holocaust: Jews, WWII, and World Cinema

Music

130. World Music: Aesthetic and Anthropological Approaches
137. Music, Social Life, and Scenes

Philosophy

262. Human Rights in Theory and Practice

Policy Journalism and Media Studies

371. News as a Moral Battleground

510S. Science and the Media: Narrative Writing about Science, Health and Policy

Political Science

272. Human Rights in Theory and Practice

Public Policy

231. Human Rights in Theory and Practice

371. News as a Moral Battleground

510S. Science and the Media: Narrative Writing about Science, Health and Policy

Religion

268. Religion and Film

Study of Ethics

259. News as a Moral Battleground

Visual Arts

206. Digital Imaging

Visual and Media Studies

130. Anthropology and Film

206. Digital Imaging

275S. Screening the Holocaust: Jews, WWII, and World Cinema

359A. Introduction to Global Los Angeles: An Interdisciplinary Survey (Service-Learning)

545. Black Camera: Still and Moving Images

650S. Black Camera: Still and Moving Images

Duke Center for Interdisciplinary Decision Sciences

Courses in Decision Sciences (DECSCI)

101. Fundamentals of Decision Science. SS This course is a question-driven introduction to the certificate and the fundamentals of how humans make decisions. The primary goal is to provide hands-on and problem-focused instruction designed to connect students to research as quickly as possible. Substantive topics include behavioral and experimental economics, consumer behavior and marketing research, game theory, medical decision making, neuroeconomics, and political psychology. Instructor: de Marchi, Huettel. One course. C-L: Psychology 141

201. Discovering Game Theory: Social Complexity and Strategic Interdependence. QS, SS One course. C-L: see Political Science 217; also C-L: Economics 362

401S. Research in Decision Science. QS, R This seminar allows students to engage in original research in the area of individual decision-making. As part of the Decision Science program, the emphasis is on interdisciplinary research combining insights from disciplines that include behavioral economics, game theory, machine learning, neuroscience, political psychology, and statistics. Work completed in this seminar can lead to either a stand-alone research project or honors in the student's home major. Prerequisite: Decision Sciences 101. Instructor: Staff. One course.

Duke Institute for Brain Sciences

Courses in Brain & Society (BRAINSOC)

390S. Bass Connections in Brain and Society: Special Topics. Bass Connections in Brain and Society: Special Topics; course content varies by semester. Enrollment requires prior acceptance into an associated Bass Connections in Brain and Society project team, which is managed separately by Bass Connections administration. Only students admitted into a project team will be given instructor consent for enrollment. Instructor: Staff. One course.

395. Bass Connections in Brain and Society: Interdisciplinary Team Projects. R Teams of undergraduate and graduate/professional students work with faculty to identify, explore and develop solutions to important, strategic issues where brain science impacts and is informed by society. Teams may also include postdoctoral fellows, visiting fellows and researchers, community partners, and other experts from business, government, and the non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Enrollment requires prior acceptance into an associated Bass Connections in Brain and Society project team. Only students admitted into a project team will be given consent for enrollment. Instructor: Staff. One course.

395-1. Bass Connections in Brain and Society: Interdisciplinary Team Projects. Teams of undergraduate and graduate/professional students work with faculty to identify, explore and develop solutions to important, strategic issues where brain science impacts and is informed by society. Teams may also include postdoctoral fellows, visiting fellows and researchers, community partners, and other experts from business, government, and the non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Enrollment requires prior acceptance into an associated Bass Connections in Brain and Society project team. Only students admitted into a project team will be given consent for enrollment. Instructor: Staff. Half course.

396. Bass Connections in Brain and Society 2: Interdisciplinary Team Projects. R Teams of undergraduate/graduate/professional students work with faculty in a second term to identify, explore, and develop solutions to strategic issues in brain science and society. Teams may also include fellows, community partners, and other experts from business, government, and the non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Enrollment requires prior acceptance into an associated Bass Connections in Brain and Society project team, which is managed separately by Bass Connections administration. Consent of the director of undergraduate studies required. Prerequisite: Brain & Society 395. Instructor: Staff. One course.

396-1. Bass Connections in Brain and Society 2: Interdisciplinary Team Projects. Teams of undergraduate/graduate/professional students work with faculty in a second term to identify, explore and develop solutions to strategic issues in brain science and society. Teams may also include fellows, community partners, and other experts from business, government, and the non-profit sector. The work may run in parallel

with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Enrollment requires prior acceptance into an associated Bass Connections in Brain and Society project team, which is managed separately by Bass Connections administration. Only students admitted into a project team will be given consent for enrollment. Prerequisite: Brain & Society 395-1. Instructor consent required. Instructor: Staff. Half course.

397. Bass Connections in Brain and Society 3: Interdisciplinary Team Projects. Teams of undergraduate/graduate/professional students work with faculty in a third term to identify, explore and develop solutions to strategic issues in brain science and society. Teams may also include fellows, community partners, and other experts from business, government, and non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Prerequisite: Brain & Society 395 and 396. Instructor consent required. Instructor: Staff. One course.

397-1. Bass Connections in Brain and Society 3: Interdisciplinary Team Projects. Teams of undergraduate/graduate/professional students work with faculty in a third term to identify, explore and develop solutions to strategic issues in brain science and society. Teams may also include fellows, community partners, and other experts from business, government, and the non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Prerequisite: any two of the following courses: Brain & Society 395, 395-1, 396, and 396-1. Instructor consent required. Instructor: Staff. Half course.

398. Bass Connections in Brain and Society 4: Interdisciplinary Team Projects. Teams of undergraduate/graduate/professional students work with faculty in a fourth term to identify, explore and develop solutions to strategic issues in brain science and society. Teams may also include fellows, community partners, and other experts from business, government, and the non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experience relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Prerequisite: Brain & Society 395, 396, and 397. Instructor consent required. Instructor: Staff. One course.

398-1. Bass Connections in Brain and Society 4: Interdisciplinary Team Projects. Teams of undergraduate/graduate/professional students work with faculty in a fourth term to identify, explore and develop solutions to strategic issues in brain science and society. Teams may include fellows, community partners, and experts from business, government, and the non-profit sector. The work may run in parallel with or contribute to ongoing, faculty-initiated research. Teams will participate in seminars, lectures, laboratory-based research, field work, and/or other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Prerequisite: any three of the following courses: Brain & Society 395, 395-1, 396, 396-1, 397, and 397-1. Instructor consent required. Instructor: Staff. Half course.

Ecology

For courses in ecology, see Biology (on [page 209](#)) and the Environmental Sciences and Policy Program (on [page 356](#)).

Earth and Ocean Sciences

Professor Klein, *Chair*; Professor Klein, *Director of Undergraduate Studies*; Lecturer Glass, *Co-Director of Undergraduate Studies*; Professors Baker, Boudreau, Klein, McGlynn, Murray, Pratson, Shindell, and Vengosh; Associate Professor of the Practice Johnson; Associate Professors Cassar and Li; Professors Emeriti Chameides, Haff, Heron, Perkins, Pilkey, and Schlesinger; Senior Lecturer Glass; Senior Research Scientist Dwyer

A major and a minor are available in this division.

The Division of Earth and Ocean Sciences offers introductory and advanced courses in climatology, coastal processes, environmental geology, hydrology, geochemistry, geomorphology, oceanography, paleontology, petrology, marine geology, and energy. 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. The majors are administered by the Nicholas School of the Environment. Additional information about the division can be found on the divisional website at <https://nicholas.duke.edu/academics/undergraduate-programs/earth-ocean-sciences>.

Courses in Earth and Ocean Sciences (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: Klein or 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. Instructor: Glass. One course. C-L: Biology 157, Marine Science and Conservation

201L. The Solid Earth: Minerals, Rocks, and Structural Geology. NS Description and interpretation of minerals, rocks and geologic structures. Lectures on theoretical aspects, lab on practical applications and use of petrographic microscope. Instructor consent required. Prerequisite: Earth and Ocean Sciences 101. Instructor: Boudreau. One course.

202. Atmosphere and Ocean Dynamics. NS, R Introduction to the dynamics of ocean and atmospheric circulations, with particular emphasis on the global climate cycle. Prerequisite: Mathematics 21 and 122, Physics 141L or consent of instructor. Instructor: Li. One course. C-L: Marine Science and Conservation

203. 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. Prerequisite: Earth and Ocean Sciences 101 or 102. Instructor consent required. Instructor: Murray or Baker. One course.

204L. The Evolving Earth and Life. NS Evolution of the earth and life through time. Weekend field trip to Appalachian Mountains. Recommended: Earth and Ocean Sciences 101. Instructor: Glass. One course.

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 or Dwyer. One course. C-L: Environment 226S

231. Energy and the Environment. NS, SS, STS One course. C-L: see Environment 231; also C-L: Energy 231

239. Introduction to Atmospheric Chemistry: From Air Pollution to Climate Change. NS, STS One course. C-L: see Environment 239

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 One course. C-L: see Biology 369LA; also C-L: Environment 369LA, Marine Sciences, Marine Science and Conservation

280LA. Sound in the Sea: Introduction to Marine Bioacoustics. NS, R, STS One course. C-L: see Environment 280LA; also C-L: Electrical and Computer Engineering 384LA, Biology 279LA, Marine Sciences, Marine Science and Conservation

287A. Biodiversity of Alaska. NS, STS One course. C-L: see Biology 287A; also C-L: Environment 277A

288A. Biogeography in an Australian Context. NS, STS One course. C-L: see Biology 288A; also C-L: Environment 288A

290A. Duke-Administered Study Abroad: Advanced Special Topics in Earth and Ocean Sciences. Topics differ by section. Instructor: Staff. One course.

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. Instructor: Murray. One course. C-L: Marine Science and Conservation

316A. Beach and Island Geological Processes. 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.

322. Hydrologic and Environmental Data Analysis. NS, QS Focus on development of quantitative approaches used to interpret observations on hydrological and environmental processes across space and time, with application to case studies in water science. In this course, we will (1) generate knowledge of fundamental processes in aquatic ecosystems as they relate to contemporary issues, (2) apply data science skills to datasets in the water resources field, and (3) quantitatively explore a topic in aquatic science through an in-depth course project. Recommended prerequisite: prior experience with computational software (R preferred; Stata, MATLAB, and/or GIS acceptable). Instructor consent required. Instructor: Salk-Gundersen. One course. C-L: Environment 322, Civil and Environmental Engineering 365

323. Landscape Hydrology. NS Introduction to hydrology examining how rainfall and snowmelt become streamflow, groundwater and atmospheric water, with emphasis on hydrological processes inside watersheds. Topics include: the hydrologic cycle and water balances, evapotranspiration and snow energy balances, vadose zone hydrology, hydrogeology, hyporheic zones, riparian zones, streamflow generation mechanisms, biogeochemical budgets, and field measurement techniques. Linkages between physical hydrology and broader ecological and environmental sciences will be highlighted. Instructor: Salk-Gundersen. One course.

325. The Anthropocene: The Next Epoch of Geologic History. NS, STS Introduction to the next epoch of geologic history. The evolution of the technosphere, the global human-technological system that increasingly dominates biology, hydrology, and other major natural earth systems. The future of the earth and humanity. Instructor consent required. Prerequisite: Earth and Ocean Sciences 101 or 203. Instructor: Staff. 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. Prerequisite: Prior course work in Earth and Ocean Sciences or Biology or consent of instructor. Instructor: Glass. One course. C-L: Biology 345

355. Global Warming. NS, STS Broad, interdisciplinary course on the observations, causes, and consequences of climate change. Course will cover modern and paleoclimate observations, human and natural drivers, and links between drivers and responses. Building on this physical science base, course will then analyze how socioeconomic choices affect future climate as well as the factors influencing those choices, including risk analyses, geoengineering proposals, climate metrics and the media. Instructor: Glass or Shindell. One course. C-L: Energy and the Environment

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, Energy and the Environment

364SA. Changing Oceans. NS, STS This seminar will explore the human disturbances of 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, and noise pollution. Taught in Beaufort at Duke Marine Lab. Instructor: Cassar. One course. C-L: Environment 362SA

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. 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. Biodiversity of Marine Invertebrates. NS, R One course. 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.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Earth and Ocean Sciences. Topics differ by section. 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.

390S-1. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff. Half course.

391. Independent Study. Directed reading or individual projects. Term paper required. Open only to qualified students by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences

391A. Independent Study. Marine Lab version of EOS 391. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course.

392. Independent Study. See Earth and Ocean Sciences 391. Term paper required. Open to qualified students 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 to qualified students by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L: Marine Sciences

393-1. Research Independent Study. R See EOS 393. Open to qualified students with consent of instructor and director of undergraduate studies. Half course. Instructor: Staff. Half course.

393A. Research Independent Study. R Marine Lab version of Earth and Ocean Sciences 393. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Marine Sciences

394. Research Independent Study. R See Earth and Ocean Sciences 393. Open to qualified students by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course. C-L:

Marine Sciences

394A. Research Independent Study. R Marine lab version of Earth and Ocean Sciences 394. Taught in Beaufort at Duke Marine Lab. 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.

403. Geology and Natural History of the Yellowstone Region. NS This course is a laboratory and field-trip based examination of the geological history of Yellowstone Country. We will look at the formation and deformational history of the Wyoming Thrust Belt, the volcanic history of the Absaroka Range, the dramatic activity and influence of the arrival of the Yellowstone Hotspot during the Pleistocene (and present day), the complex tectonic and world-famous glacial history of the Grand Tetons, and learn about the unique Eocene lacustrine and fluvial settings of the Wyoming Fossil Basin. Instructor: Glass. 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: Dwyer. One course.

507S. 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.

508. Climate History. NS Climate variation during the entire scope of Earth history. Coupling between climate evolution and biological evolution. Methods for reconstructing climate history. Implications of past climate change for future climate. Scientific and mathematical literacy assumed, but no specific prerequisites. Mid-term and final exams plus short term papers. 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: Li. One course.

512. Climate Change and Climate Modeling. 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.

513. Groundwater and the Environment. NS, STS An introduction to the principles of groundwater flow, development, and protection, with an emphasis on aquifer and groundwater evaluation and management. Topics include: baseflow analyses; stream-groundwater interactions; aquifer and vadose zone characterization; groundwater hydraulics and recharge; field hydrogeological data; groundwater modeling; water quality; and groundwater management. Open only to students who have taken at least one college-level natural science course (e.g., earth science, chemistry, physics, biology). Instructor: Staff. One course. C-L: Environment 513

515. Mountain Ecohydrology Field Course - Montana. NS, R, STS Study of watershed ecohydrology and the interactions and feedback among hydrological and ecological processes in the western United States. Includes required pre-semester week-long field trip to Montana (with required fee), where participants visit active research watersheds, some of the most intensively instrumented ecohydrological research sites in the country. Students learn techniques to collect hydrologic and ecological field data and work with instructors to collect a comprehensive suite of ecohydrological data, to be interpreted and presented during series of follow-up class meetings. Prerequisite: General background in Earth and Environmental Sciences. Instructor: McGlynn.

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: Staff. One course.

524. Water Quality Health. Explore basic concepts of water quality and human health with focus on the global water cycle, global water demand and availability, chemical properties of water, contaminants in water, health implications, and environmental isotope hydrology. Highlights relationships between human activities, water scarcity, water quality degradation, and ecological and health consequences. Addresses some policy implications related to conflicts over water resources and impact of energy production on water resources. Prerequisites: prior knowledge of introductory calculus and chemistry or consent of instructor. Instructor: Vengosh. C-L: Environment 524, Global Health 534, Energy 524

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.

530. Remote Sensing in Coastal Environments. NS, QS Introduction to the field of remote sensing and image processing with focus on applications to coastal monitoring and currently open research questions. Students will acquire an operational knowledge of various remote-sensing tools and data types, with emphasis on their application in coastal areas. Content will include theory, in-class laboratory exercises, and projects with environmental applications. Prerequisite: introductory or AP physics preferred or permission of instructor.

Instructor: Silvestri. One course. C-L: Environment 530, Civil and Environmental Engineering 574

540. Introduction to Modeling in the Earth Sciences. NS, QS Elementary methods for quantitatively modeling problems in the earth sciences. Formulation and solution of classical equations that express fundamental behaviors of fluids, sediments, and rocks. Examples from different fields of geology. Simple modeling exercises, including a final project. Instructors: Staff. 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.

550. Climate and Society. EI, NS Advanced, interdisciplinary course on causes, consequences, and future trajectory of climate change. Course will cover physical observations of past climate change, role of human activities in driving climate change to date, and impacts of climate change on human and natural systems. Course will analyze how socioeconomic choices affects future climate as well as factors influencing those choices, including risk analyses, geoengineering proposals, intergenerational equity, climate metrics and the media. Instructor: Shindell. One course. C-L: Environment 552

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.

568S. Integrated Assessment Modeling—Examining Strategies for Meeting Energy and Environmental Goals. NS, STS The primary objective is to provide students with a hands-on opportunity to use one such Integrated Assessment Model—the Global Change Assessment Model with state-level resolution (GCAM-USA)—to examine the air quality and GHG implications of new and emerging energy system technologies. To facilitate the use of GCAM-USA, students will use the GLIMPSE decision support software being developed at EPA. GLIMPSE provides a user interface for GCAM, which facilitates developing and running scenarios as well as visualizing results. Team projects—examinations of electric vehicles, renewable electricity, energy efficiency in buildings and potentially other topics of interest to students. Instructor: Shindell. One course. C-L: Environment 568S

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. Isotopes in Earth and Environmental Sciences. NS, QS, STS The use of stable and radioactive isotopes in earth and environmental sciences, with applications to processes including climate change, hydrology, oceanography, geology and biology. Recommended prerequisite: Introductory college chemistry and calculus. Instructor: Baker. One course. C-L: Civil and Environmental Engineering 551, Environment 570

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.

578. Tropical Climate and Paleoclimate. NS Thermodynamics of tropical climate. Nature and mechanisms of climate variability in the tropics on time scales from daily to multi-millennial. Impact of climatic variability on the tropical biota. Effects of anthropogenic changes of the environment on future climatic change in the tropics and potential extratropical teleconnections. Prerequisite: Earth and Ocean Sciences 101 or 102. Instructor: Baker. One course.

579LA. Biological Oceanography. NS, R Variable credit. C-L: see Environment 579LA; also C-L: Biology 579LA, Marine Sciences

590. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff. Variable credit.

590S. Special Topics in Earth and Ocean Sciences. Content to be determined each semester. Consent of instructor required. Instructor: Staff. Variable credit.

The Major

The Division of Earth and Ocean Sciences offers one AB degree and one BS degree.

For the AB Degree

The AB 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.

Corequisites. Mathematics 105L and 106L, or Mathematics 111, or Mathematics 122. One course from each of two of the following three subject areas: Biology 201, or 202, or 206; Chemistry 101DL, or 110DL; or Physics 141L or equivalent.

Major Requirements. 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 earth and ocean sciences or related fields (biology, chemistry, environment, evolutionary anthropology, mathematics, physics, or statistics), as approved by the director of undergraduate studies.

For the BS Degree

The BS 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. Four of the following five courses: Earth and Ocean Sciences 201L, 202, 203S, 204L, and 365, plus four additional earth and ocean sciences courses at the 200 level or higher, including one field-oriented class. Up to two courses from a related field (biology, environment, evolutionary anthropology, mathematics, physics, or statistics) may be substituted with the approval of the director of undergraduate studies.

Ocean Science

An exciting area in earth and ocean sciences is the study of the ocean 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, North Carolina, which often include 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 <https://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 research 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.

East Asian Studies

Professor Richard Jaffe, *Director*

A certificate, but not a major, is available in this program.

The undergraduate certificate in East Asian studies is administered by the Asian/Pacific Studies Institute (APSI). This certificate provides students with the opportunity for interdisciplinary, in-depth study of historical and contemporary East Asian societies and cultures. Students construct a sequence of courses complementing their major field of study, enabling them to knowledgeably engage with East Asia in professional and academic contexts. It is particularly appropriate for students interested in the social sciences (e.g., history, political science, sociology, economics, public policy) as an alternative to the Asian and Middle Eastern studies minor. Undergraduates also have the opportunity to publish their academic work for the certificate in the student-run journal *Duke East Asia Nexus*.

Students interested in earning a certificate in East Asian studies are encouraged to declare it by their fifth semester. The course of study for program participants is intended to be interdisciplinary. To qualify for the certificate, students must take an approved gateway course, an approved capstone seminar, and four additional electives, including East Asian language courses. The elective courses must be at or above the 200 level. At least two different departments must be represented in the course selection, with no more than three courses originating from one single department. No more than two of the required six courses may double count for a major, minor, or another certificate program.

Program Requirements

The following requirements must be met in order to earn a certificate in East Asian studies:

- Students must take at least six courses from the designated East Asian studies course list, including East Asian language courses at the 200 level or above (see <https://asianpacific.duke.edu/academics/courses> for course list)
- Students must take courses across at least two departments or programs.
- No more than three courses from any single department or major may count toward the certificate.
- One of the six courses must be an approved gateway course for the certificate.
- One of the six courses must be an approved capstone seminar course.
- At least four of the courses must be at the 200 level or above.

For more information on the East Asian studies certificate, visit <https://asianpacific.duke.edu/academics/undergraduate-certificate-east-asian-studies>.

Courses in East Asian Studies

A list of approved East Asian studies courses is updated each semester on the APSI website at <https://asianpacific.duke.edu/academics/courses>. Approved courses from previous semesters can be found in the course archives at <https://asianpacific.duke.edu/academics/courses>. Courses pre-approved as gateway classes or capstone seminars for the certificate are indicated on the website. In addition, students may petition for appropriate classes to be approved.

Economics

Professor Burnside, *Chair*; Professor of the Practice Fullenkamp, *Director of Economics Center for Teaching*; Research Professor Becker and Professor of the Practice Rasiel, *Associate Chairs*; Professor of the Practice Fullenkamp, *Director of Undergraduate Studies*; Associate Professor of the Practice Kim, *Associate Director of*

Undergraduate Studies; Professors Abdulkadiroglu, Adler, Ambrus, Anton, Arcidiacono, Ariely, Bansal, Bayer, Bollerslev, Burnside, Clotfelter, Cohen, Coleman, Collard-Wexler, Conitzer, Darity, Field, Frakes, Frankenberg, Hoover, Hotz, Hsieh, Kimbrough, Kramer, Kranton, Kuran, Lewis, Li, Lopomo, Marx, McAdams, McElroy, Munger, Nechyba, Pattanayak, Patton, Peretto, Petters, Pfaff, Pizer, Rampini, Roberts, Rosen, Sanders, Sarver, Smith, Tauchen, Taylor, Thomas, Timmins, Tower, Viswanathan, Xu, and Yildirim; Associate Professors Ananat, Bardhi, Bennear, Berger, Bianchi, Bugni, Conrad, Daley, Dix-Carneiro, Ilut, Leventoglu, Mohanan, Sadowski and Suarez Serrato; Assistant Professors Garlick, Jurado, Kehrig, Komisarov, Lanteri, Macartney, Masten, Maurel, Rangel, Sexton, Sidibe, Wang, and Weller; Professors Emeriti Cook, De Marchi, Grabowski, Graham, Kelley, Ladd, Sloan, Wallace, and Weintraub; Research Professors Emeriti Burmeister and Toniolo; Research Professors Becker, Caldwell, and Medema; Associate Research Professors Boyd and Zanalda; Professors of the Practice Connolly, Fullenkamp, Leachman, Leven, Rasiel, and Ridley; Associate Professor of the Practice Kim; Assistant Professor of the Practice Levonmaa

A major and a minor are 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.

Courses in Economics (ECON)

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. 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.

80S. Special Topics. Introductory special topics course. Instructor: Staff. One course.

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

101. Economic Principles. 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: Fullenkamp, Leachman, or staff. One course.

101D. Economic Principles. 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: Staff. One course.

104D. Statistical Foundations of Econometrics and Data Science. QS Rigorous introduction to statistical concepts that underpin econometrics. Course emphasizes conceptual understanding, uses mathematics to illustrate ideas, and applies ideas to examples from economics broadly construed. Students analyze data to reinforce understanding. Topics include experimental and non-experimental research designs; modern approaches to summarizing data; random variables, probability, expectations, density and distribution

functions; sampling; estimation; inference and hypothesis testing; introduction to linear regression. First course in two-semester econometrics sequence. Prerequisite: Mathematics 21, 106L, 111L, 112L, 121, 122, 122L, 202, 202D, 212, or 222. Instructor: Staff. One course.

111D. Introduction to the History of Economic and Business Cultures. CZ, EI, SS One course. C-L: see History 107D

112FS. Globalization and Corporate Citizenship. EI, SS One course. C-L: see Study of Ethics 160FS; also C-L: History 127FS, Public Policy 187FS

119. Introduction to Political Economy. EI, SS One course. C-L: see Political Science 145; also C-L: Energy and the Environment, Markets and Management Studies

174. Financial Accounting. QS, SS Introductory course in financial accounting. How and why information is created and communicated. Purposes of financial accounting. Bookkeeping for basic business transactions that map into the statements. Analyze corporate reports. Interpret key financial information. Course is designed for students with little or no background in accounting. Does not count for economics major or minor requirements. Instructor: Skender or Staff. One course.

190. Selected Topics In Economics. Topics vary by semester. Instructor: Staff. One course.

190A. Duke Administered Study Abroad: Special Topics in Economics. Topics differ by section. Instructor: Staff. One course.

190AS. Duke Administered Study Abroad: Special Topics in Economics. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program Topics in Economics. Open only to students in the Focus Program. Topics vary each semester offered. Instructor: Staff. One course.

190S. Selected Topics in Economics. Topics differ by section. Check individual semester offerings for prerequisites. Instructor: Staff. One course.

190S-1. Selected Topics In Economics. Topics differ by section. Check individual semester offerings for prerequisites. Instructor: Staff. Half 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. Prerequisite: Economics 21 and 22 or 101, 101D; and Mathematics 21 or 111L or 105L and 106L, 112L, 121, 122, 202, 212, or higher level math. Instructor: Staff. One course.

204D. Econometrics and Data Science. QS, R This course is designed to build on the foundation laid in 104. Students will develop the skills necessary to analyze and interpret real world data using modern data science methods and ultimately provide them with the toolkit to be sophisticated consumers and producers of empirical research in econ as well as other fields in the social, health and life sciences. Mastery of the material is intended to provide students with sufficient knowledge of and econometric and data science methods to think critically about the quality of evidence in support of a claim about how individuals behave, markets work, firms make money or societies operate. Prerequisite: (Economics 21 and 22, Economics 23 and 24, Economics 101, Economics 101D, or Economics 201D) and (Economics 104D or Statistical Science 111). Instructor: Staff. One course.

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 Mathematics 222 or any higher-level mathematics course with Mathematics 212 as a prerequisite. Instructor: Staff. One course.

208D. Introduction to Econometrics. QS, R Introduction to the theory and practice of econometrics. Estimation, hypothesis testing and model evaluation in the linear regression model. Observational and

experimental methods to identify causal effects including instrumental variable and panel data methods. Lectures are supplemented by labs that use STATA. Prerequisite: Economics 21 and 22 or 23 and 24 or 101 or 101D or 201, and Mathematics 112L or 122L or 202 or 212 or higher; and Statistical Science 111 or Mathematics 340/Statistical Science 231 or Mathematics 342/Statistical Science 250 or Statistical Science 130. Instructor: Staff. One course. C-L: Information Science + Studies

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, 212, or 222. Economics 205D is also required as a prerequisite or a co-requisite to be taken concurrently with Econ 210D. Instructor: Staff. One course.

212. Engineering Systems Optimization and Economics. SS One course. C-L: see Engineering 305

213. Follow the Ruble: Money in Russian Literature and Culture. ALP, CZ, EI One course. C-L: see Russian 318; also C-L: International Comparative Studies, Ethics Elective, Philosophy, Politics, and Economics

222D. American Business History. CCI, CZ, R, W One course. C-L: see History 364D; also C-L: Markets and Management Studies

223S. Legal Issues for the Performing Arts. EI, SS One course. C-L: see Theater Studies 311S; also C-L: Public Policy 363S, Dance 379S, Innovation and Entrepreneurship 311S

224. Neoclassical Economics and Its Opponents: What Even Is ‘Mainstream’?. CZ, SS Why do economics departments teach the theories they teach today? And how do these theories impact the real world? This course surveys the historical development of the economics discipline with a focus on those schools of thought that contested what is now mainstream economics. After a brief history of neoclassical economics, we will examine a few of its challengers: institutional economics, Keynesianism, and behavioral economics. We will discuss how their theories differ from neoclassicism, and their influence on US economic policy at several moments in the twentieth century. Course focuses on understanding theory by reading works by influential economists throughout the history of economics. Instructor: Benack. One course.

241D. From Machine Learning to Ethnography: Puzzles and Approaches to International Development. CCI, SS One course. C-L: see Political Science 258D

247S. Non-Profit Cultural Institutions. EI, SS One course. C-L: see Theater Studies 310S; also C-L: Innovation and Entrepreneurship 310S, Visual and Media Studies 329S, Public Policy 318S, Dance 208S

255S. Shakespeare & Financial Markets: Why This Time is Never Different. CCI, SS Course discusses how lessons from Shakespeare's plays can provide insight into human behavior in today's financial markets. Plays will include Hamlet, Julius Caesar, Twelfth Night, and others. Lessons about policy errors, cultural and political dislocation, regime changes, demographic conflicts etc. in current financial and macroeconomic environments. Discussion will include human biases in decision-making, and how these transcend cultural and historic boundaries. An important component of this class is understanding how to integrate themes from classical literature to better understand current socioeconomic trends. Instructor: Forlines. One course. C-L: Public Policy 257S

256. Practical Financial Markets. Familiarizes students with the practical, hands-on tools and knowledge required for careers in the financial markets. Topics covered include: securities markets; corporate valuation techniques including DCF, Comps, Precedent Transactions, LBO and IPO models; equity research methodologies; asset allocation and risk-return analytics; current market news and events; regulation; ethics; contemporary finance/business issues as applicable. Open only to sophomores. Instructor: Rasiel. One course.

260A. Economics of a United Europe. CCI, SS Implications of a common monetary policy, common welfare standards, unemployment, and migration in the European Union. (Taught only in the Duke-in-Berlin Program.) Instructor: Tolksdorf. One course. C-L: German 321A, International Comparative Studies

269A. Australia and the Asia-Pacific Economies. CCI, SS Economic growth, development, immigration, foreign investment, deregulation, privatization, tax reform, and financial liberalization in Australia and the Asia-Pacific. ASEAN. Taught only in the Duke-in-Australia Program. Instructor: Lodewijks. One course. C-L: International Comparative Studies

270. Life Within Capitalism: A History of its Values, Measures and Struggles. CZ, EI One course. C-L: see Public Policy 249; also C-L: Study of Ethics 271, History 284, Political Science 252

274. Advanced Financial and Managerial Accounting. QS, SS Problems of liability valuation and the related issues of income determination from the perspective of the financial analyst. Studies the assessment of past and future performance with an introduction to equity valuation. Accounting and reporting problems of complex corporate structures. Use of accounting information for internal purposes for planning and control. Prerequisites: Economics 174. Instructor: Skender. One course. C-L: Markets and Management Studies

281A. Building and Sustaining a Successful Enterprise. SS One course. C-L: see Innovation and Entrepreneurship 271A; also C-L: Markets and Management Studies

285. Denial, Faith, Reason: Sustainability and Survival. EI One course. C-L: see Public Policy 284; also C-L: Study of Ethics 285, Environment 276, History 325, Sustainability Engagement 276

290. Selected Topics In Economics. Topics vary each semester offered. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Special Topics in Economics. Topics differ by section. Check individual semester offerings for prerequisites. Instructor: Staff. One course.

290AS. Duke-Administered Study Abroad: Special Topics in Economics. Topics differ by section. Check individual semester offerings for prerequisites. Instructor: Staff. One course.

290FS. Focus Program Topics in Economics. 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.

295. Intellectual Property and Innovation: Law, Policy & Entrepreneurship. EI, SS, STS One course. C-L: see Markets and Management Studies 425; also C-L: Sociology 425, Information Science + Studies 425, Public Policy 425

298D. Discovering Education and Human Development I: How Social Scientists Learn from Data. EI, R, SS How does what happens in families, schools and communities shape individuals and the world around them? How can we learn what really matters? Course explores variety of ways in which various methods of social sciences can and cannot give answers to these basic questions and how practitioners wrestle with ethical implications of their work. Main focus is on thinking critically about claims made by researchers. Prominent Duke faculty from various social science disciplines who are open to involving students in their work will participate. Social Science Research Institute, including Bass community in Education and Human Development, will support students in explorations of research topics. Instructor: Nechyba. One course. C-L: Education 298D, Sociology 298D, Psychology 242D

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: Staff. One course. C-L: History 306, International Comparative Studies 303

303A. Political Philosophy of Globalization. CCI, CZ, EI, SS One course. C-L: see Philosophy 237A; also C-L: Political Science 297A, Public Policy 204A

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, or 122, or 122L, or 202, or 212 or higher level math. Instructor: Zanalda or Staff. One course. C-L: History 310, International Comparative Studies 304

305. 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. Attention to international implications/connections on European/Asian money supply, banking/credit systems; reaction to South Sea Bubble and John Law Credit Systems in numerous European nations; experiments with paper money in America; rise/demise of gold standard in 19th/20th century; currency and exchange rate problems of last three decades. Case studies will be selected and assigned according to participants' interests. Prerequisites: Economics 205D and 210D. Instructor: Staff. One course. C-L: History 305, International Comparative Studies 305

305A. History of International Financial and Monetary Crises. CZ, EI, SS Course seeks to examine monetary/financial crises plaguing world since 16th century. It analyzes origin, unfolding, and impact of crises, debates generated by them, and formulation/implementation of policy measures. It 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. Prerequisite: Economics 205D and 210D. Consent of instructor is required. Instructor: Caccavale. 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 351, Islamic Studies

307. Understanding Financial Bubbles and Crises. SS Examines the similarities/differences of historical financial crises from "Tulipmania" through the Great Recession to better understand our current economic environment. Explores the regulatory changes that are enacted post-crisis and determines factors that might prevent future economic bubbles/crises. Class includes guest speakers from the NY financial community who experienced recent crises from 1987 Black Monday Crash through Credit Crisis of 2008 to provide an inside view and feel of the markets during those periods. Prerequisite: Economics 201D. Instructor: Caccavale. One course.

307A. Understanding Financial Bubbles and Crises. SS This course, offered on the Duke in London Finance summer program, examines the similarities/differences of historical financial crises, from "Tulipmania" through the Great Recession of 2008, to better understand our current economic environment. The class explores the regulatory changes that are enacted post-crisis and determines factors that might prevent future economic bubbles/crises. Class includes guest speakers from the London financial community to provide an inside view and feel of the markets during those periods as well as current topics in the financial arena. Prerequisite: Economics 101. Instructor: Caccavale. One course.

309. Anthropology of Money. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 350; also C-L: Public Policy 306, International Comparative Studies 328, African & African American Studies 211

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: Staff. One course. C-L: History 307, Marxism and Society, International Comparative Studies

312S. Adam Smith and the System of Natural Liberty. SS, STS A seminar focused on 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. Recommended prerequisite: Economics 311. Instructor: Hoover. One course. C-L: History 308S, Philosophy 312S

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: Staff. One course.

314S. 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. C-L: History 309S

319. The Philosophy and Methodology of Economics. EI, SS, W One course. C-L: see Philosophy 345

320A. Globalization and Deglobalization. FL, SS One course. C-L: see French 350A; also C-L: Political Science 320A, Public Policy 356A, International Comparative Studies 363A

321S. Art and Markets. ALP, CCI, R, SS Three courses. C-L: see Visual and Media Studies 567S; also C-L: Markets and Management Studies

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.

324A. International Finance. SS For students in Duke-in-NY Financial Markets & Institutions Program only. Provides working knowledge of international business finance, including currency, markets and manager behavior of international corporations. Emphasis on mechanics of foreign exchange market, reviewing tools used to hedge exchange rate risk. Construct building blocks of international finance: interest rate parity, purchasing power parity and international Fisher arbitrage equation. Address management issues, such as transfer pricing, offshore banking, working capital management, international M&A, business planning, and optimal international portfolios. Analyze international financial scams, swindles and trading abuses. Instructor: Staff. 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. Course equips students to evaluate proposals and arguments from all sides of the energy debates using facts and analysis. Prerequisite: Economics 201D. Instructor: Boyd or staff. One course. C-L: Energy 325S

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 308, Islamic Studies

330A. The Economic and Political History of the European Union. CCI, CZ, FL, SS One course. C-L: see French 351A; also C-L: Political Science 325A, Public Policy 351A, History 331A

331SA. The Economics of the Energiewende in Germany. EI, SS, STS One course. C-L: see German 362SA; also C-L: Environment 367SA

333. Private Equity. SS Introduces students to the process of private equity investments, including evaluating potential investments, deal structure and financing, and key drivers of value. Students will learn about a range of private investment styles, from early stage to mature investments, with a focus on acquisitions of existing mid-market firms for value enhancement utilizing various strategies. The course will include both in-class discussions and lectures from visiting speakers from the private equity world. Prerequisite: Economics 205D or 372. Instructor: Forlines. One course.

334. Health Economics. EI, SS, W 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 331

335. Economics of Global Health. SS, STS Examines reciprocal relationships between income, poverty and health across countries with focus on identifying effect of health on development. Addresses structural problems in delivery and quality of healthcare that arise from cultural as well as economic causes. Attention given to

challenges of healthcare financing, and tension between high-tech care and basic care in developing countries. Students examine empirical evidence from interventions affecting health including infant mortality reduction programs. Focus on issues of poverty alleviation and the promise of foreign aid. Prerequisites: Economics 201 or Public Policy 303 and Economics 208 or Public Policy 604 or instructor consent. Instructor: Field. One course. C-L: Global Health 335

336D. Computational Microeconomics. QS One course. C-L: see Computer Science 323D

337S. Social Inequalities and Low-Wage Work. EI, SS This course introduces students to several, different economic theories and viewpoints regarding social inequality, class, and socio-economic status in the United States. Current debates are discussed, such as the possible raising of the minimum wage. Students also gain first-hand knowledge concerning the livelihood strategies of low-wage workers in Durham, through students' participation in a service-learning project in the community. Instructor: Miller. One course.

338. Economics of the Public Sector. SS One course. C-L: see Public Policy 304

339. Environmental Economics and Policy. QS, 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. Prerequisites: Economics 201D and one Statistics course; Economics 208D recommended. One course. C-L: Environment 363, Marine Science and Conservation, Energy and the Environment. Instructor: Timmins. One course. C-L: Environment 363, Marine Science and Conservation, Energy and the Environment

343. The Contemporary Art Market. ALP, R, SS 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. Pre-req: Economics 201D. Instructor: De Marchi. One course. C-L: Art History 261, Markets and Management Studies

344. History of Art Markets. R, SS, STS One course. C-L: see Visual and Media Studies 242

344D. History of Art Markets. R, SS, STS One course. C-L: see Visual and Media Studies 242D

345. Urban Economics. EI, R, SS, W Introduction to urban and spatial economics. Neoclassical monocentric city spatial model, patterns of land values, property prices, residential density and impact of distressed communities on broader development. Systems of cities and regional growth, role of cities in economic development. United States urban features: ethical and socio-economic effects of housing segregation and implications for discrimination. Tradeoffs between efficiency and fairness in housing resource allocation. Business location theory, impact of innovations in transportation, and technology's effect on work patterns. Prerequisite: Economics 201D. Instructor: Becker. One course.

346. Philosophical and Conceptual Problems of Entrepreneurship. SS One course. C-L: see Philosophy 447; also C-L: Innovation and Entrepreneurship 447

347. African Economic Development. R, SS, W This course will seek to provide students with a realistic picture of African economies 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: Gender, Sexuality, and Feminist Studies 230, International Comparative Studies 348

351S. The Economic and Political Performance of Civilizations. CCI, CZ, R, SS Critical survey of theories concerning the economic and political development of major civilizations, with an emphasis on the causes of differences that took shape and persisted over long time periods. The theories covered address the roles of institutions, cultures, legal systems, beliefs, family structures, religions, institutions, technologies, geography, and natural resources. Interactions between economic and political development. Prerequisite: Econ 201D, or instructor consent. Instructor: Kuran. One course. C-L: Political Science 327S

353. Financial Institutions. 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 or 372. Instructor: Leachman, Kim, Kimbrough, or staff. One course.

353A. Financial Institutions. SS, STS Duke-in-NY Financial Markets and Institutions Program. 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. Instructor consent required. Prerequisite: Economics 210D. Instructor: Kim. One course.

353S. Financial Institutions. 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 or 372. Instructor: Leachman, Kim, Kimbrough, or staff. One course.

355. International Trade. CCI, SS, STS 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 288, Markets and Management Studies

355A. International Trade. 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. Director of Undergraduate Studies consent required. Offered through Duke in New York Program. Prerequisites: Economics 201D. Instructor: Leachman. One course.

361. Prisoner's Dilemma and Distributive Justice. EI, SS One course. C-L: see Political Science 331; also C-L: Philosophy 246, Human Rights Program-Franklin Humanities Institute 331, Ethics Elective, Information Science + Studies, Human Rights

361D. Prisoner's Dilemma and Distributive Justice. EI, SS One course. C-L: see Political Science 331D; also C-L: Philosophy 246D, Ethics Elective, Information Science + Studies

362. Discovering Game Theory: Social Complexity and Strategic Interdependence. QS, SS One course. C-L: see Political Science 217; also C-L: Duke Center for Interdisciplinary Decision Sciences 201

368. Behavioral Finance: A Taxonomy of Money Mistakes. SS Uses popular and accepted theories of human behavior from the fields of psychology and decision-making to characterize some prevalent features of irrational behavior in financial markets. Includes discussion of typical errors made by financial market participants as a result of behavioral biases, and examination of the extent to which irrationality can affect financial markets at the aggregate level ("bubbles"), how long irrationality may persist, and what factors will eventually cause these bubbles to burst ("crashes"). Instructor consent required. Prerequisite: Economics 205. Instructor: Rasiel. One course. C-L: Psychology 368

368A. Behavioral Finance: A Taxonomy of Money Mistakes. SS We will use popular and accepted theories of human behavior from the fields of psychology and decision-making to characterize some prevalent

features of irrational behavior in the financial markets. We will discuss typical errors made by financial market participants as a result of behavioral biases, and examine the extent to which irrationality can affect financial markets at the aggregate level (“bubbles”), how long irrationality may persist, and what factors will eventually cause these bubbles to burst (“crashes”). Prerequisite: Economics 205D. Instructor consent required. Instructor: Rasiel. One course. C-L: Psychology 368A

369. People and Poverty: Policymaking in Theory and in Practice. R, SS Students will use a combination of news articles and research papers to study the problems faced by the world’s poor and to analyze specific policies that have been designed to resolve them. The broad goal of this course is to learn how to use econ models, empirical analysis, and experiments “in the field” to gain a deeper understanding of poverty, in order to design and implement more effective policies in the future. Prerequisite: Economics 201D and calculus. Instructor: Wang. One course.

370. Global Capital Markets. SS, W Financial markets and the role of investment banks as intermediaries. Divisions and functions within investment banks: sales and trading, corporate finance, research and wealth management. Aspects of asset pricing and corporate valuation. Impact of current events on financial markets. Intended primarily for sophomores interested in a career in financial markets. Consent of instructor required. Instructor: Staff. One course.

370A. Global Capital Markets. SS, W This course, offered on the Duke in Chicago Finance summer program, examines financial markets and the role of investment banks as intermediaries. Divisions and functions within investment banks: sales and trading, corporate finance, research, and wealth management. Impact of global current events on financial markets around the world, and the importance of Chicago as a global financial center. Visiting speakers from Chicago-based firms provide in-depth analysis of the various roles and opportunities in the Chicago financial arena. Instructor: Caccavale. 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. Students 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.

372. Asset Pricing and Risk Management. QS, SS Integrates micro and macro economics with topics in finance. Utility maximization within mean variance framework for portfolio analysis and capital asset pricing model. Corporate valuation and discounted cash flow analysis. Capital structure and principal-agent problem will lead into a discussion of the Efficient Markets Hypothesis and underlying assumptions. Market pricing, forecasting, and financial crises. Prerequisite: Economics 101 (or Economics 21 and 22); Statistical Science 111, or 130, or 230, or 210, or 250, or BME 244L; Economics 205D, or Mathematics 212 or Mathematics 222, or Mathematics 216. Instructor: Rasiel. 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. Prerequisite: Economics Majors: Economics 205D and 208D; Economics or Financial Economics Minors: Economics 372. 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: Staff. 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. Pre-requisite: Economics 201D. Instructor: Kim. One course. C-L: Innovation and Entrepreneurship
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375A. Economics of Entrepreneurship. SS Duke-in-NY Financial Markets & Institutions Program. Application of microeconomics 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 consent required. Prerequisite: Economics 201D. Instructor: Kim. One course.

377. The Economics of Financial Derivatives & Financial Engineering. 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. Prerequisite: Economics 205D or 372. Recommended prerequisite: either a statistics/probability course or demonstrated knowledge of basic probability concepts such as discrete and continuous probability distributions, expected value, variance, and correlation. Instructor: Rasiel. One course.

377A. The Economics of Financial Derivatives & Financial Engineering. QS, SS Duke-in-NY Finance Program. 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 helpful but not required. DUS consent required. Instructor: Tauchen. One course.

378. Financial Risk Management. QS, SS Identifying, measuring, and dealing with risk factors faced by firms in increasingly complex financial system. Course examines major types of financial risks faced by firms and introduces models for measuring, and frameworks for managing risk, and the main tools used in financial risk management, with application to real-world examples and case studies. Assessment of models, tools and frameworks for managing various risks. Attention given to role of public policy in shaping practice of risk management. Prerequisites: Economics 205D and 210D. Instructor: Fullenkamp. One course.

379. Emerging Markets: Finance, Trade, Institutions and the World Economy. CCI, CZ, EI, SS Analyzes rise of emerging markets/economies and their new role in the context of global economy. Focus on post-1970s growth of countries such as China, India, South Korea, Chile, Mexico, and Brazil (and/or other countries according to students' interests) with particular emphasis on financial, industrial/trading and institutional aspects, linking such rise to the emergence of vast global economic imbalances and new trend in capital and trade flows of the last decade. Explores economic and policy challenges these countries and their companies increasingly face and implications for the world economy. Prereqs: Econ 205D and Econ 210D. Instructor: Zanalda. One course. C-L: International Comparative Studies 379

381S. Inside Hedge Funds. SS Background and evolution of hedge funds, their structure, and various investment strategies. An analysis of why hedge funds have become the most prolific investment vehicles in the world, and why they have become the key customer base to investment banks. There will be a range of guest lecturers from the hedge fund world that will provide a bird's-eye view into the industry. Prerequisite: Economics 372. Instructor: Hughes. One course.

382. Asset Management. An interdisciplinary approach to asset management, providing introduction to a discipline that has wide-ranging implications for all businesses. Begins with an overview of portfolio management and valuation tools, then discussion of different investment vehicles (hedge funds, private equity, venture capital) and asset classes (real estate, fixed income, commodities, emerging markets, currencies). The course will conclude with an overview of the history of asset management (including market crises) as well as topics of current interest and likely future impact to investors. Course led by Prof. Jones; will include lectures from a number of investment professionals from DUMAC. Prerequisite: Economics 201D. Instructor: Jones. One course.

383. Foreign Exchange Markets. SS The course is a focused look at foreign exchange markets investigating classic economic models, structure of institutions and regimes, identifying and hedging exposure and methods for trading and related topical issues. Prerequisite: Economics 201D. Instructor: Leven. One course.

383A. Foreign Exchange Markets. SS The course is a focused look at foreign exchange markets investigating classic economic models, structure of institutions and regimes, identifying and hedging exposure and methods for trading and related topical issues. Prerequisite: Economics 201D. Instructor consent required. Instructor: Leven. One course.

389. Politics, Philosophy, and Economics Capstone. R, SS One course. C-L: see Political Science 449; also C-L: Philosophy 465

390. Selected Topics in Economics. Topics vary by semester. Prerequisite: Economics 201D; check individual semester offerings for additional prerequisites. Instructor permission usually an option. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Economics. Topics differ by section. Prerequisite: Economics 201D; check individual semester offerings for additional prerequisites. Instructor: Staff. Variable credit.

390AS. Duke-Administered Study Abroad: Advanced Special Topics in Economics. Seminar version of Economics 390A. Topics differ by section. Prerequisite: Economics 201D; check individual offerings for additional prerequisites. Instructor: Staff. One course.

390S. Selected Topics in Economics. Topics vary by semester. Prerequisite: Economics 201D; check individual semester offerings for additional prerequisites. Instructor permission usually an option. 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 393, but for second-semester juniors and seniors. Consent of director of undergraduate studies required. Prerequisite: Economics 205D and 210D. Instructor: Staff. One course.

407. Soviet and Post-Soviet Economic History. CCI, CZ, W This course traces economic factors leading to the downfall of the Russian Empire and the rise of the USSR, followed by an assessment of the collapse of the USSR. Particular attention is devoted to the NEP period, earlier Soviet economic models, the famine of the 1930s, the impact of WWII, industrialization and urbanization, Soviet planning, and declining productivity growth and life expectancy in the 1970s and 1980s. The course then explores the economic consequences of the USSR's collapse as well as the nature of recovery in various countries that followed. The course concludes with an overview of formal political economy models. Prerequisite: Economics 201D and (Economics 208D or 204D, either of which can be taken concurrently). Instructor: Becker. One course. C-L: History 407, Russian 407

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: Mathematics 202, or 212, or 216, or 221, or 222; and Economics 208D, or Statistics 111, or Statistics 130, or Statistics 230/Mathematics 230, or Statistics 250/Mathematics 342. Instructor: Patton. One course. One course.

432S. Environmental Justice: The Economics of Race, Place, and Pollution. EI, R, SS,

W Minorities, people of color, and low-income households bear a disproportionate burden from environmental pollution. Since the Clinton Administration, addressing environmental injustice has been among the policy objectives of the Environmental Protection Agency. Course examines how environmental injustices may arise out of discriminatory behavior and/or market forces founded on individual, firm, and government incentives. We begin with the theoretical framework used to document and explain disproportionate exposures, then review existing empirical evidence through case studies and evaluate competing explanations for injustice using an economics framework. Prerequisites: Econ 201D, 205D, 208D. Instructor: Timmins. One course. C-L: Environment 332S

433. The Economics of Wages and Employment. EI, QS, R, SS, W 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 Statistics 111, 130, 230, 250, or Mathematics 230 or 342. Instructor: McElroy or Sloan. One course.

434A. Political Economy of Immigration. CCI, SS Two courses. C-L: see Political Science 294A; also C-L: Public Policy 355A, Sociology 294A

435S. Economics of Education. SS A course in applied microeconomic policy analysis, focusing on the economic factors underlying the historical and current provision of education in the United States. Topics of interest include the private and social returns to education; the effect of scholastic inputs on student achievement (including teacher quality and class size); the valuation of school quality through house prices; and the role of incentives in increasing the efficiency with which education services are delivered. To facilitate a deeper understanding of such concepts, key econometric techniques used in empirical research are reviewed. Prerequisites: Economics 205D required; Economics 208D strongly recommended. Instructor: Macartney. 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 303D. Instructor: Serrato or staff. One course. C-L: Public Policy 289

442. Development Economics: Theory, Evidence and Policy. CCI, R, SS This course studies the past, present and future of economic development. We begin by briefly learning about patterns of economic development through time and across countries. We then study a selection of specific development policy challenges chosen from conflict, education, health, governance, infrastructure, international aid, labor markets, and trade. We emphasize learning the tools that economists use to study economic development: statistical analysis of large datasets, economic models, and historical case studies. Prerequisite: Economics 205D, 208D, and 210D. Instructor: Garlick. One course.

452. Economic Growth. CCI, R, SS Examination of the enormous differences in living standards across countries, which reflect differences in growth experiences. Course studies both analytical foundations of modern growth theory and the most recent advances in modeling to shed light on old and new questions about such experiences. Not open to students with credit for Economics 352/International Comparative Studies 356. Prerequisite: Economics 205D, 208D and 210D. Instructor: Peretto. One course. C-L: International Comparative Studies 452

453. Advanced Econometrics. QS, R, SS This course surveys the formal theory of causality, how to identify it from data, and how these methods are used in applied microeconomics and public policy. While causality is the focus, the course will also introduce various nonparametric statistical methods as necessary. Prerequisite: Economics 208D. Instructor: Masten. One course.

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.

461. How Markets Work: Theory, Evidence and Empirical Tools. QS, R, SS Uses theoretical models & empirical tools to understand how markets work and implications for public policy/firm strategy. Introduces

main theoretical models and empirical techniques used to study range of markets, applying these methods to understand issues/markets in detail. Topics may include auctions, mergers/antitrust policy, collusion, dynamic pricing of new products, price discrimination, insurance markets and advertising. Students will read/evaluate research papers and complete empirical problem sets, highlighting areas suitable for future research. Prerequisites: Economics 208D. Instructor: Roberts. 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. Prerequisite: 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

465. Market Power and Public Policy. QS, SS The purpose of antitrust laws is to control how firms attain and maintain their market position, presumably for the betterment of consumers, or at least for the benefit of society. Using a rigorous set of tools from microeconomic and game theory, this class will investigate the underpinnings of policies meant to deal with market power broadly defined, such as antitrust laws, the regulation of public utilities, the regulation of financial markets, and anti-dumping rules. Prerequisites: Economics 101 or 101D, and 201D and 205D. Instructor: Collard-Wexler. One course. C-L: Public Policy 310

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. Prerequisite: Economics 205D or Economics 372; and Statistical Science 111, 230, 130 or 250, or Mathematics 230 or 342. Instructor: Weller. One course.

471A. Financial Markets and Investments. QS, SS This is a Duke in London course. 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: Rasiel. One course.

472S. Goodner Equity Research Project. R, SS An introduction to the art and science of equity research. Using detailed financial statement analysis and other public sources of information to analyze companies. Comparables analysis, discounted cash flow, event studies, and outside-the-box ways to find evidence of hidden value in companies. Course will include periodic video conference with New York investment manager for practical applications. Instructor: Rasiel. One course.

473. Corporate Finance Theory: Governance, Incentives and Valuation. QS, SS Uses tools of contract theory (information economics, mechanism design, and game theory) to analyze key features of corporate structure, performance, and valuation. Investigates critical interactions among stakeholders in a modern business enterprise (directors, executives, management, labor, financiers, shareholders, and regulators) in achieving goals and objectives of the corporation. Topics include: reform of corporate governance and auditing; role of private equity, financial markets, and takeovers; efficient determination of leverage, dividends, liquidity, risk management, and design of managerial incentive packages. Prerequisite: Economics 205D. Instructor: Taylor. One course.

474S. The Eichel Asset-Backed Securitization Project. SS, STS Introduction to asset-backed securitization market; analysis of risk and return of securitized products as investment tools. History of US

mortgages and securitized products, and factors leading to the credit crisis. Exposition of relevant econometrics techniques and risk evaluation models. Students will work on team-based projects in which they identify a relevant research question, collect data, and apply robust statistical analysis of their hypothesis. Course enhanced by period visiting lectures from alumnus Scott Eichel and colleagues at Barclays to discuss practical applications of research. Prerequisite: (Economics 208D or Economics 372) and Mathematics 212. Instructor: Kreicher. One course.

476. Empirical Asset Pricing. SS This course develops, examines, and applies models for portfolio decisions by investors and the pricing of securities in capital markets. While developing portfolio theory, we will study the extensive empirical work that characterizes movements in security prices, evaluates alternative investment and asset pricing models, and attempts to test those models and interpret the implications of those tests. This is a research oriented course with practical implementation of quantitative methods in finance, aimed at highly motivated and technically proficient undergraduate and master's students. Prerequisite: Economics 372/572 or Economics 471/571. Instructor: Weller. One course.

477. Fixed Income Markets and Quantitative Methods. QS Areas of focus 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. Prerequisite: Economics 372. Instructor: Staff. One course.

490. Selected Topics in Economics. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor permission usually an option. Instructor: Staff. One course.

490A. Duke-Administered Study Abroad: Advanced Special Topics in Economics. Topics differ by section. Prerequisite: Economics 205D; check individual semester offerings for additional prerequisites. Instructor permission usually an option. Instructor: Staff. One course.

490AS. Duke-Administered Study Abroad: Advanced Special Topics in Economics. Topics differ by section. Prerequisite: Economics 205D; check individual semester offerings for additional prerequisites. Instructor permission usually an option. Instructor: Staff. One course.

490S. Selected Topics in Economics. Seminar version of Economics 490. Prerequisite: Economics 205D; check individual semester offerings for additional prerequisites. Instructor permission usually an option. 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.

494. Research Independent Study. R Individual research in a field of special interest under the supervision of a faculty member, containing significant quantitative analysis and interpretation of a previously approved topic. Department consent required. Prerequisite: Economics 205D and 210D. Instructor: Fullenkamp. 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, 208D and 210D. Instructor: Connolly, Kim, 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, Kim, Kimbrough, or staff. One course.

502S. Law, Economics, and Organizations. SS One course. C-L: see Public Policy 602S

503S. Microeconomics of International Development Policy. SS One course. C-L: see Public Policy 603S

505. International Trade and Policy. SS One course. C-L: see Public Policy 605

506. Macroeconomic Policy and International Finance. SS One course. C-L: see Public Policy 606

507. The Uses of Economics. 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. Combined with Economics 311, this course may yield a written product suitable for submission for graduation with distinction. Graduate pairing for Econ 313; graduate students will receive additional writing assignments. Instructor: Staff. One course.

511. History of Economic Thought. 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. Graduate version of Economics 313; graduate students will receive additional writing assignments. Instructor: Medema. One course.

512. Equity Valuation and Financial Statement Analysis. High-level course for those who have previously had experience in corporate finance and accounting. 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. Prerequisites: Economics 174, and either Economics 372 or Economics 373. Instructor: Staff. One course.

513. Structuring Venture Capital and Private Equity Transactions. 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. Covers federal securities law and state corporate law issues, including important forms of private ordering, such as poison pills, lock-ups, earn outs and the allocation of risks by the acquisition agreement. Relevant accounting, tax and antitrust issues and various regulatory considerations will also be covered. Prerequisites: Economics 174, and either Economics 372 or Economics 373. Instructor: Staff. One course.

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 596; also C-L: Environment 532

521D. Evaluation of Public Expenditures. SS One course. C-L: see Public Policy 596D; also C-L: Environment 532D

522S. Seminar in Applied Project Evaluation. R, SS One course. C-L: see Public Policy 597S

523. Microfinance. Microfinancing, in which small loans are given to those who are impoverished/lack collateral, has been credited for alleviating poverty/raising the incomes of millions of people in developing countries. Is it really so successful? Course focuses on historical/theoretical basis of microfinance. Students engage in a critical assessment of microfinance. Overall, students gain factual/historical information concerning the “microfinance revolution”, learn the basic theoretical/analytical tools needed to design microfinance programs, and engage in critical thinking regarding recent debates in the field. Graduate pairing for Econ 323; graduate students will receive additional writing assignments. Instructor: Staff. One course.

527. Regulation and Deregulation in Public Utilities. Class explores historical basis for regulation of public utilities from an economic/legal perspective. Application of standard monopoly microeconomics leading to rate of return regulation is developed. This background sets stage for evolution of economic thought on electric power system economics and changes in some states, to “deregulate,” the electricity markets. Class will explore case studies of developments in these markets, including evolution of regional market clearing entities like PJM, the basis for location marginal pricing, measures of market power, and pricing of capacity/reliability. Graduate pairing for Econ 328; graduate students will receive additional writing assignments. Instructor: Staff. One course.

529S. Medical Malpractice. 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 of “tort reform.” Graduate pairing for Econ 329S; graduate students will receive additional writing assignments. Instructor: Staff. One course.

530. Resource & Environmental Economics I. SS C-L: see Environment 520; also C-L: Public Policy 576,

Energy 520, Marine Science and Conservation

530D. Resource and Environmental Economics and Policy. One course. C-L: see Environment 520D; also C-L: Public Policy 575D

530L. Resource and Environmental Economics. One course. C-L: see Environment 520L; also C-L: Public Policy 575L, Marine Science and Conservation

531. Resource & Environmental Economics II. SS Variable credit. C-L: see Environment 521; also C-L: Public Policy 584

541S. Global Inequality Research Seminar. ALP, CCI, R, SS One course. C-L: see Public Policy 645S; also C-L: African & African American Studies 642S, Sociology 642S, Political Science 642S, Human Rights Program-Franklin Humanities Institute 642S, Human Rights

542S. Social Change, Markets, and Economy in China. CCI, SS One course. C-L: see Sociology 651S

544S. Computer Modeling. 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. Graduate pairing for Econ 344S; graduate students will receive additional writing assignments. Instructor: Staff. One course.

547S. Economy, Society, and Morality in Eighteenth-Century Thought. R, SS One course. C-L: see Political Science 675S

548S. Political Economy of Growth, Stabilization and Distribution. R, SS One course. C-L: see Political Science 645S

550S. Global Responses to the Rise of China. CCI, SS One course. C-L: see Sociology 570S

553. Labor Economics. 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, Background in microeconomics and econometrics recommended. Similar to Economics 433, but intended for MA students. Instructor: Staff. One course.

554. Urban Economics. EI, R, SS, W Introduction to urban and spatial economics. Neoclassical monocentric city spatial model, patterns of land values, property prices, residential density and impact of distressed communities on broader development. Systems of cities and regional growth, role of cities in economic development. United States urban features: ethical and socio-economic effects of housing segregation and implications for discrimination. Tradeoffs between efficiency and fairness in housing resource allocation. Business location theory, impact of innovations in transportation, and technology's effect on work patterns. Same as Economics 345, but requires additional work. Not open to students who have taken Economics 345. Instructor: Staff. One course.

555. International Trade. R, SS International trade, investment and migration, commercial policy, and the political economy of trade. Prerequisite: Economics 205D; and Economics 210D. Instructor: Staff. One course.

557S. International Macroeconomics. 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. Same as Economics 455 but with additional work. This course is not open to students who have taken Economics 455. Prerequisites: Economics 205D and 210D. Instructor: Staff. One course.

561. African Economic Development. Same as undergraduate course of the same name but requires an additional paper. This course will seek to provide students with a realistic picture of African economies 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: Staff. One course.

564. 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. Similar to Economics 464, but requires additional assignment. Not open to students who have taken Economics 464. Instructor: Staff. 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: Staff. One course.

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: Staff. One course. C-L: International Comparative Studies 512S

570. International Finance. 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. Graduate pairing for Econ 455; graduate students will receive additional writing assignments. Instructor: Staff. One course.

571. Financial Markets and Investments. QS, R Same as Economics 471, but requires an additional paper. Prerequisite: Economics 205D; Economics 210D; and Statistical Science 101, 111, 230, 130 or 250, or Mathematics 230 or 342. Instructor: Weller or staff. One course.

572. Asset Pricing & Risk Management. Integrates micro and macro economics with topics in finance. Utility maximization within mean variance framework for portfolio analysis and capital asset pricing model. Corporate valuation and discounted cash flow analysis. Capital structure and principal-agent problem will lead into a discussion of the Efficient Markets Hypothesis and underlying assumptions. Market pricing, forecasting, and financial crises. Graduate pairing for Economics 372; graduate students will receive additional writing assignments. Prerequisite: Economics 101 (or Economics 21 and Economics 22); Statistical Science 111, 130, 230, 210, or 250, or BME 244L; and Economics 205D or Mathematics 212. Instructor: Staff. One course.

580. Law and Economics. 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. Graduate pairing for Econ 463; graduate students will receive additional writing assignments. Instructor: Staff. One course.

581. Investment Strategies. SS Course examines issues in personal investment strategies. Topics include behavioral finance, closed-end and open-end mutual funds, data-mining, diversification, efficient market hypothesis, equity premium, exchange-traded funds, expenses and transaction costs, life cycle investing, market timing, passive versus active investing, survivorship bias, tax managed investing, time zone arbitrage, Robert Shiller's CAPE, Tobin's Q. Prerequisite: Economics 201D. Instructor: Staff. One course.

590. Selected Topics in Economics. Instructor: Staff. One course.

590S. Selected Topics in Economics. Seminar version of Economics 590. One course.

591. Independent Study. Individual non-research, directed reading, or individual project in a field of special interest under the supervision of a faculty member. Consent of instructor and director of graduate studies or MA program director required. Instructor: Staff. Variable credit.

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 and director of graduate studies or MA program director required. Instructor: Staff. Variable credit.

597. Economic Science Studies. SS, STS Application of techniques of science and technology studies to problems in the history, philosophy, methodology and sociology of economics. Addresses modern economics as a illustrative case of issues arising in Studies of Scientific Knowledge. What counts as "fact" in economics?

Who decides, and by what processes of negotiation? Does accepting that knowledge in economics as a construct reduce the usefulness of that knowledge and affect the notion of progress in economic science? 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. (Similar in context to Economics 318S, but requires an additional assignment. Not open to students who have taken Economics 318S) Prerequisites: Economics 205D; and Economics 210D or 248; and consent of instructor. Instructor: Staff. One course.

601D. Microeconomics. QS, SS Topics include theory of consumer choice, demand, uncertainty, competitive and imperfectly competitive firms, factor markets, producer theory, and general equilibrium. Intended for master's students. Prerequisites: Intermediate microeconomics and multivariate calculus necessary. Matrix algebra and differential equations useful. Instructor: Staff. One course.

602. Macroeconomic Theory. Micro-founded dynamic general equilibrium models have become the standard tool for macroeconomic analysis. Course provides guidance on how to work with these models. Our baseline New Keynesian model will feature sticky prices combined with monopolistic competition. We will show that the result in framework is appealing from an empirical point of view and we will use it to assess the desirability of alternative arrangements for the conduct of monetary policy. Prerequisite: Economics 601. Instructor: Staff. One course.

606. Advanced Macroeconomics II. This course will briefly introduce you to some of the most widely used core models of modern macroeconomics. At the same time, it will provide a strong theoretical and practical background that can be helpful if you want to pursue further studies in (macro-)economics. In particular, we will build, step-by-step, one of the standard workhorses to study the business cycles, the real business cycles (RBC) model. We will start from its ancestor, the Solow growth model, we will pass by its origins, the deterministic neoclassical growth model, and we will work all the way up to its current dynamic stochastic general equilibrium (DSGE) model version. Instructor: Staff. One course.

608D. Introduction to Econometrics. QS, R Data collection, estimation, and hypothesis testing. Use of econometric models for analysis and policy. (Same as Economics 208D but requires additional term paper; not open to students who have taken Economics 208D.) Economics MA's only. All other students require permission number. Prerequisites: Economics 21 and 22 or 201D; Mathematics 212 (co-requisite); Statistical Science 101, 111, 230, 130 or 250, or Mathematics 230 or 342. Instructor: Staff. 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: Staff. One course.

613. Applied Econometrics in Microeconomics. QS, R, SS Empirical research in microeconomics, with emphasis on three main sub-fields: 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. Same as Economics 411, but additional work required. Not open to students who have taken Economics 411. Prerequisite: Economics 208D or 608D. Instructor: Staff. One course.

620. Game Theory with Applications of Economics and other Social Sciences. SS Game theory is a way of thinking about strategic situations. On one hand its content is normative: it provides guidelines for decision makers to predict others' actions and to recognize good and bad strategies. On the other hand its content is positive: it helps the social scientist to understand the nature of social interaction in various applications, in economics, political science, sociology and anthropology. We will learn new concepts, methods and terminology. Course will emphasize examples and applications. We will also play some games in class. Instructor: Staff. One course.

621. Non-Market Valuation. This course will cover non-market valuation techniques typically used to measure the value of local public goods and (dis)amenities. These techniques are used to determine the "benefits" side in a cost-benefit analysis, and are central to the formulation of regulatory policy in the US. In addition, they play an important role in local public finance, urban, and environmental economic analysis. Papers will be both theoretical and applied. Applications will focus on questions in public finance, as well as

urban and environmental economics, with a strong focus on the latter. MA Micro Theory is recommended. Instructor: Timmins. One course.

623. Forecasting Financial Markets. 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). Prerequisite: Economics 608D or 672. Instructor: Patton. One course.

624. International Trade. This is a semester-long course in international trade. The objective of the course is to introduce students to current research topics on international trade as well as the tools and methodologies that are prevalent in the field. Instructor: Dix-Carneiro and Xu. One course.

627. Soviet and Post-Soviet Economic History. CCI, CZ, SS, W This course traces economic factors leading to the downfall of the Russian Empire and the rise of the USSR, followed by an assessment of the collapse of the USSR. Particular attention is devoted to the NEP period, earlier Soviet economic models, the famine of the 1930s, the impact of the Great Patriotic War (WWII), industrialization and urbanization, Soviet planning, and declining productivity growth and life expectancy in the 1970s and 1980s. The course then explores the economic consequences of the USSR's collapse as well as the nature of recovery in various countries that followed. Prerequisite: Economics 201D and (Economics 208D or 204D, either of which can be taken concurrently). Instructor: Becker. One course. C-L: History 627, Russian 627

650. Labor Economics. SS The goal of this class is to acquaint students with topics in labor economics. After reviewing basic facts about labor markets around the world (participation rates, unemployment, wages, etc.), we will cover theories of labor supply, labor demand, wages, and human capital. Additional topics include wage discrimination, unemployment, and labor market policies. There will be an emphasis on the interplay between theory and empirical exercises. Instructor: Staff. One course.

656S. International Monetary Economics. R, SS Financial aspects of growth and income determination, and macroeconomic policy in open economies. Applications to exchange rate determination, capital markets, fluctuations in the trade balance and current account, monetary and fiscal policies in open economies, currency crises, and monetary reform. Significant research component required. Economics MA students only. Instructor: Staff. One course.

664. Industrial Organization. QS This class provides a graduate level introduction to Industrial Organization, covering theoretical and empirical work dealing with the structure, behavior, and performance of firms and markets. There will be more focus on empirical methods and applications. Topics include the organization of the firm, monopoly, price discrimination, oligopoly, auctions, vertical market structures, market entry. The course integrates theoretical models and empirical studies. It also presumes that students have a familiarity with intro micro theory, some basic game theory and some econometrics. Prerequisites: Economics 205, Econ 208, Econ 601. Instructor: Staff. One course.

665. Market Power and Public Policy. The purpose of antitrust laws is to control how firms attain and maintain their market position, presumably for the betterment of consumers, or at least for the benefit of society. Using a rigorous set of tools from microeconomic and game theory, this class will investigate the underpinnings of policies meant to deal with market power broadly defined, such as antitrust laws, the regulation of public utilities, the regulation of financial markets, and anti-dumping rules. The graduate section of this class will have additional assignments doing structural evaluation of mergers. This will involve a combination of estimation techniques and computational work for merger simulations. Prerequisite: Economics 608D. Instructor: Staff. One course.

667. 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: Staff. One course.

671. Financial Markets and Investments. The structure and workings of financial markets. Topics include risk-return relationships, portfolio selection, the capital asset pricing model, the arbitrage pricing theory, fixed income analysis, and aspects of derivatives. This is an advanced version of Economics 571 intended primarily for students in the Master's in Quantitative Financial Economics program. It employs a more mathematically rigorous and theoretically advanced approach than Economics 471 and 571. Instructor: Staff. One course.

672. Empirical Methods in High Frequency Financial Econometrics. Focus is on understanding and

applying principal results with emphasis on substantive applications. Topics generally include jump diffusions, semi-martingales, jump-robust volatility estimation, realized beta, jump regressions, local volatility estimation, diffusive beta, and measurement error (noise). Instructor: Staff. One course.

673. Mathematical Finance. QS One course. C-L: see Mathematics 581

674. Financial Derivatives. One course. C-L: see Mathematics 582

675. Corporate Finance Theory: Governance, Incentives and Valuation. QS, SS Course uses tools of contract theory (information economics, mechanism design, and game theory) to analyze key features of corporate structure, performance, and valuation. Investigates critical interactions among stakeholders in a modern business enterprise (directors, executives, management, labor, financiers, shareholders, and regulators) in achieving goals and objectives of the corporation. Topics include: reform of corporate governance and auditing; role of private equity, financial markets, and takeovers; efficient determination of leverage, dividends, liquidity, and risk management, and design of managerial incentive packages. Prerequisite: Economics 205D. Instructor: Staff. One course.

676. Empirical Asset Pricing. SS This course develops, examines, and applies models for portfolio decisions by investors and the pricing of securities in capital markets. While developing portfolio theory, we will study the extensive empirical work that characterizes movements in security prices, evaluates alternative investment and asset pricing models, and attempts to test those models and interpret the implications of those tests. This is a research-oriented course with practical implementation of quantitative methods in finance, aimed at highly motivated and technically proficient undergraduate and master's students. Prerequisite: Economics 372 or 572 or 471 or 571. Instructor: Staff. One course.

677. 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. Prerequisite: Economics 372. Instructor: Staff. One course.

678. Derivatives for Speculation and Risk Management. A rigorous introduction to financial derivatives focused on their use for hedging/risk management, establishing trades to reflect market outlooks and a means to create leverage. Students will learn theoretical underpinnings of derivative products and understand advantages and pitfalls they offer for traders and hedgers. Topics include: basics of bond and swap valuation, difference and overlap of forwards and futures, use and pricing of basic and exotic options, Black-Scholes-Merton formula, Value-at-Risk (VAR). Emphasis on markets-based implementation of technical material and real world examples of market disruption. Recommended prerequisite: Economics 608D or equivalent; multivariable calculus. Instructor: Leven. One course.

690. Selected Topics in Economics. Instructor: Staff. One course.

690-82. Topics in Mathematical Finance. One course. C-L: see Mathematics 690-82

690S. Selected Topics in Economics. Seminar version of Economics 690. Instructor: Staff. One course.

699. 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 an economics-related topic, maintaining significant analysis and interpretation. Consent of director of graduate studies required. Instructor: Staff. Variable credit.

The Major

The undergraduate degree in economics signifies achievement of proficiency in quantitative skills and experience in applying these to economics.

For the AB Degree

Prerequisites: Mathematics 122 or 112L and 202; or 212, or 222, or any higher-level mathematics course with Mathematics 212 as a prerequisite. Economics 104D. Economics 104D is a prerequisite for Economics 204D 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 Satisfactory/Unsatisfactory, with the exception of Economics 101.

Requirements: Five core courses: (Economics 21 and 22; Economics 23 and 24; or Economics 101), Economics 201D, Economics 204D, Economics 205D, and Economics 210D. Students are encouraged to complete these classes no later than the spring of their sophomore year and Economics 204D must be taken before their senior 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 344, 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, Economics 222D, or other courses 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.) Transfer credits are not permitted for Economics 104D, 204D, 205D, or 210D.

For the BS 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: Mathematics 122 or 122L and 202; or 212, or 222 or any higher-level mathematics course with Mathematics 212 as a prerequisite. Economics 104D. Economics 104D is a prerequisite for Economics 204D 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 Satisfactory/Unsatisfactory, with the exception of Economics 101.

Requirements: Five core courses: Economics 21 and 22; Economics 23 and 24; or Economics 101. Economics 201D, Economics 204D, Economics 205D, and Economics 210D. Students are encouraged to complete these classes no later than the spring of their sophomore year, and Economics 204D must be taken before their senior 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.) Transfer credits are not permitted for 104D, 204D, 205D, or 210D.

For the BS Degree with Concentration in Financial Economics

The economics department also offers a BS 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 BS degree with the addition of the following requirements.

Requirements: Economics 372 (Intermediate Finance). Three electives chosen from among the following economics courses: Economics 305S, 307A, 333, 353, 368, 370/370A, 373, 377/377A, 378, 379, 381S, 382, 413, 455, 461, 471, 476, 477, 512, 581, Economics 673/Mathematics 581, Economics 674/Mathematics 582, Mathematics 381K, Energy 620, Biomedical Engineering 385, select special topics courses with number Economics 390, 490, or 590, and others with approval of the director of undergraduate studies. Students graduating with a concentration in financial economics may not include Economics 372 as one of the five electives required for the BS degree in economics.

The Department of Economics maintains online resources to guide economics majors and minors at <https://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:

- A minimum grade point average of 3.3 in the major and 3.3 overall;
- Completion of five electives commensurate with an undergraduate AB or BS degree; and
- The honors committee determines 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 BS degree.

To be considered for Graduation with Distinction in economics, students must pursue one of two paths outlined below.

- **Path 1: Honors Workshop Courses:** 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 a two-semester research workshop sequences for students interested in writing an honors thesis: Economics 495S (Honors Seminar I) and Economics 496S (Honors Seminar II). 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. The honors committee will determine if the honors thesis qualifies for Graduation with Distinction. 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.
- **Path 2: Independent Study Courses:** Students choosing this path enroll in Economics 394 (Research Independent Study) 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 Economics 493 (Honors Research Independent Study) 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. The honors committee will determine if the honors thesis qualifies for Graduation with Distinction.
Students who start on Path 2 may switch to Path 1 by enrolling in Economics 496S (Honors Seminar II) 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; Economics 23 and 24; or Economics 101. Economics 201D. Three additional economics courses, of which no more than one course may be at the 200 level other than Economics Economics 204D, 205, 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

Requirements: Economics 21 and 22; Economics 23 and 24; or Economics 101. Economics 104D or Statistical Science 111 or Statistical Science 112FS or Statistical Science 130 or Statistical Science 210; or Statistical Science 230/Mathematics 230, or Statistical Science 250/Mathematics 342D, or Biomedical Engineering 244L Mathematics 222 or Mathematics 216; or Mathematics 212. Economics 372. Three electives to be selected from among the following: Economics 305S, 307A, 333, 353, 368, 370/370A, 373, 377/377A, 378, 379, 381S, 382, 413, 455, 461, 471, 476, 477, 512, 581, Economics 673/Mathematics 581, Economics 674/Mathematics 582, Mathematics 381K, Energy 620, Biomedical Engineering 385, select special topics courses with number Economics 390, 490, or 590, and others with approval of the director of undergraduate studies.

Education

Associate Professor of the Practice Wynn, *Director of the Program*; Professor of the Practice Malone, *Director of Undergraduate Studies*; Professor of the Practice Riggsbee; Associate Professor of the Practice Stephens; Assistant Professors of the Practice Anderson and Smith; Instructors Carboni, Daniels, and McDonald; University Distinguished Service Professor Emeritus O'Barr; Associate Professor of the Practice Emeritus Jentleson; *Affiliated Faculty*: Adjunct Associate Professors Airall and Teasley; Adjunct Assistant Professor Morrison; Adjunct Instructors Chin, Fierro, Goldwasser, Hollowell, Hunter Twietmeyer, Miglarese, and Smith

A minor, but not a major, is available in this department.

Courses in Education (EDUC)

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, Smith, or Daniels. One course. C-L: Ethics Elective

101S. 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: Wynn or Daniels. One course.

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. C-L: Human Rights Program-Franklin Humanities Institute 111FS, Human Rights

112FS. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI Study of medical ethics,

policy, clinical, and personal issues in working with dying and bereaved people. Focuses on diverse populations in ethnicity, culture, socioeconomic status, education, sexual orientation, and more. Various models for providing care to the dying and bereaved. Visits from medical personnel. Works to be read/viewed may include "Me, Earl, and the Dying Girl," Charon's "Narrative Medicine," Gawande's "Being Mortal," Tolstoy's "Death of Ivan Illich," Kalanithi's "When Breath Becomes Air," and policy articles on end of life care and physician assisted suicide. Focus Program students only. Service-Learning course. Instructor consent required. Instructor: Gheith. One course. C-L: Public Policy 183FS, Russian 121FS, Science & Society 112FS, Human Rights Program-Franklin Humanities Institute 112FS, Human Rights

113FS. Enterprising Leadership and Civic Engagement. EI, SS An exploration of ways that students can exercise enterprising leadership to develop innovative, resourceful solutions to important civic issues within and external to Duke University. Course includes four primary focuses: understanding models of change, exploring and practicing enterprising leadership behaviors, reflecting upon ethical values, and designing and implementing a civic engagement project on campus. Open only to students in the Focus Program. Instructor consent required. Instructor: Bergene. One course. C-L: Cultural Anthropology 113FS, Human Rights Program-Franklin Humanities Institute 113FS, Human Rights

190S. Special Topics. Topics vary each semester. Instructor: Staff. One course.

201. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS Introduction to key concepts, theories, and critiques of civic engagement and social change, with a focus on competing notions of democratic citizenship. Examination of voluntarism, philanthropy, community service, political participation, social activism and other forms of community engagement. Critical reflection on ethical issues related to community engagement and social change, including critiques of progressivism and service. Students will also be asked to apply these various approaches to pressing social issues of our time, such as income inequality, environmental justice, education reform and gender and race equality. Instructor: Mlyn. One course. C-L: Civic Engagement and Social Change 201, Public Policy 203, Political Science 213, Human Rights Program-Franklin Humanities Institute 201

201S. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS Introduction to key concepts, theories, and critiques of civic engagement and social change, with a focus on competing notions of democratic citizenship. Examination of voluntarism, philanthropy, community service, political participation, social activism and other forms of community engagement. Critical reflection on ethical issues related to community engagement and social change, including critiques of progressivism and service. Students will also be asked to apply these various approaches to pressing social issues of our time, such as income inequality, environmental justice, education reform and gender and race equality. Consent of instructor is required. Instructor: Mlyn. One course. C-L: Civic Engagement and Social Change 201S, Public Policy 206S, Political Science 213S, Human Rights Program-Franklin Humanities Institute 201S, Human Rights

209FS. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI One course. C-L: see Documentary Studies 209FS; also C-L: Visual Arts 212FS, Visual and Media Studies 212FS

209S. Digital Documentary Photography: Education, Childhood, and Growth. ALP, EI One course. C-L: see Documentary Studies 209S; also C-L: Visual Arts 212S, Visual and Media Studies 212S, Information Science + Studies

220. Race, Power, and Identity: From Ali to Kaepernick. CCI, EI, R, SS Exploration of historic and contemporary psycho-social and socio-cultural aspects of the African American sport experience. Examination of research that addresses the effect of physical differences, racial stereotyping, identity development, gender issues, and social influences on African American sport participation patterns. Analysis of sport as a microcosm of society with an emphasis on examining associated educational and societal issues. Instructor: Smith. One course. C-L: African & African American Studies 232, Sociology 202, Human Rights Program-Franklin Humanities Institute 221, Human Rights

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

239. Marxism and Society. CZ, EI, SS One course. C-L: see Literature 380; also C-L: Cultural Anthropology

203, Sociology 339, Political Science 371, International Comparative Studies, Marxism and Society

240. Educational Psychology. 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: Malone or Daniels. One course. C-L: Psychology 240, Child Policy Research, Ethics Elective

240-1. Educational Psychology. 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. Online equivalent to Education 240. Not open to students who have taken Education 240. Instructor: Stone. One course. C-L: Psychology 240-1

240S. Educational Psychology. 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: Goldwasser. One course. C-L: Psychology 240S

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: Stephens. One course. C-L: Public Policy 245, Child Policy Research

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 243S, Child Policy Research, Ethics Elective

244S. Children's Self Expression: Literacy Through Photography. ALP, EI, SS One course. C-L: see Documentary Studies 224S; also C-L: Visual and Media Studies 207S

255S. Literacy, Writing, Tutoring. SS, W One course. C-L: see Writing 255S

259S. Student Activism, Storytelling, and Community Change. ALP, EI, W The course will include an examination of personal narrative in U.S. student activism across multiple media and genres. Students will investigate the ways in which personal narratives and storytelling advocate for social justice and reform, the ethics and practice of crafting, circulating, and using personal narratives in student-led movements, and the university's role in advancing student activism as a form of civic engagement. Instructor: Ahern-Dodson. One course. C-L: Writing 259S, Human Rights Program-Franklin Humanities Institute 259S, Human Rights

261S. Peer Academic Advising. Review and discussion of issues related to the theory and practice of peer advising and relevant issues in higher education. Open only to students in the peer advising program. Instructor: Staff. Half course.

262. The 21st Century Student: Open Knowledge and Education Innovation. SS, STS One course. C-L: see Innovation and Entrepreneurship 262; also C-L: Information Science + Studies 262

272S. Overlooked Children: Topics of Equity and Access in Gifted Education. CCI, EI, SS The underrepresentation of certain groups in gifted programs persists. This course will examine the enrollment disparities that exist in gifted and advanced programs, critically review the assessment practices used to identify gifted students, and explore educational policy designed to reconcile equity and access issues in education. A

variety of partners will host students for the service-learning component for this course. Potential partners include, but are not limited to, local schools, non-profit organizations, and research centers focusing on equity and access issues in education. Instructor: Stephens. One course. C-L: Public Policy 272S

275S. Leadership and the Changing Landscape of Health Care. EI, SS, W Investigates historical, educational, social, political, economic and ethical implications of healthcare in US. Explores educational preparation of providers and current calls for reform. Analyzes health outcomes and costs as well as implications for future national economy. Investigates proposed healthcare models, methods of educating healthcare workers for an aging population, inequalities in distribution and political and ethical implications of change. Writing intensive: includes short weekly written reflections of assigned readings, mid-term paper on either education or policy. Final project will investigate solutions for identified population health problem. Instructor: Sangvai. One course. C-L: Global Health 275S

277S. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI, W Study of educational, political, ethical, clinical, and personal issues related to working with dying and bereaved people. Focuses on diverse populations in education, ethnicity, culture, socioeconomic status, sexual orientation. Various models for providing care. Visits from Hospice practitioners and doctors, field trips to funeral home and to Duke Hospice where the professor is a social worker. Works to be examined include: Atul Gawande's "Being Mortal," policy articles on end of life care, and on physician assisted suicide/death with dignity, fiction such as Tolstoy's "Death of Ivan Ilich," "Me, Earl, and the Dying Girl". This is a service-learning course. Instructor: Gheith. One course. C-L: Global Health 277S, Public Policy 274S, Russian 277S, Study of Ethics 277S, Human Rights Program-Franklin Humanities Institute 277S, Human Rights

289S. Learning Outcomes Assessment: Understanding and Using Evidence to Guide Teaching, Learning, & Policy. R, SS, STS, W The practice of assessment and its impacts on education policy and curriculum. Course introduces undergraduate students to the practice of learning outcomes assessment in higher education – its traditions, contexts, and objectives. Students will cultivate critical judgment about the issues facing higher education and the ways in which the practice of assessment can help explain and mitigate those issues. At some point in their careers, students will be asked to design, execute, or evaluate a body of research. Course provides fundamental knowledge and skills necessary to engage in social science research, particularly research in education. Instructor: Hill. One course.

290. Selected Topics. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Special Topics in Education. 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.

298D. Discovering Education and Human Development I: How Social Scientists Learn from Data. EI, R, SS One course. C-L: see Economics 298D; also C-L: Sociology 298D, Psychology 242D

303S. De/Re/Segregation in Education: A Case of Back to the Future?. CCI, EI, SS Course traces timeline of segregation, desegregation, integration and resegregation in education in the United States, from policies and practices first enacted at this nation's birth through current policies and practices that challenge our commitments to opportunity, equality, and equity. Course invites students to study historical and contemporary practices in education, comparing segregation and resegregation as moments in the education history of the US, taking recent developments in North Carolina education policy and practice as cases to enrich understanding. Students engage in a minimum of 20 hours of planned service activities. Instructor: Anderson. One course. C-L: Public Policy 340S, Human Rights Program-Franklin Humanities Institute 303S, Human Rights

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

310S. School Dropout and Educational Policy. CCI, R, SS, W The history of the US school dropout issue, scope of the problem, current statistics and trends. Overview of theories and research related to school dropout and educational attainment. Analysis of effective dropout prevention strategies, programs, and policies.

Emphasis on critical thinking, discussion, and application. Participation in service-learning is an option, incorporating issues of race/ethnicity, socioeconomic status, gender, and culture. Instructor consent required. Instructor: Staff. One course. C-L: Public Policy 244S, Cultural Anthropology 251S

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: Child Policy Research

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: Wasolek. One course.

338S. Race, Class and the Rise of the American Charter School. CCI, EI, SS, W Students explore the legitimacy of the charter school as an educational reform movement, designed to offer alternatives for underserved student populations. Students explore: the role of choice in public education; charter schools fulfilling or contradicting the American philosophical and historical narrative; impact of KIPP, TFA and Harlem Success Academy; the Brown decision through the lens of the charter movement; re-segregation vs. self segregation; parental and family educational rights; privatization of public education. Instructor: Staff. One course. C-L: Public Policy 338S

345S. Asians in American Higher Education: Trends and Issues. CCI, EI, R, SS An interdisciplinary examination of the history and experience of students of Asian descent at the higher education level, including demographic trends, sociocultural development, and access and support. Special attention will be given to intragroup diversity within the Asian/American community in today's global context. Instructor: Chin. One course. C-L: Sociology 346S

347S. The University as a Culture: A Survivor's Guide. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 347S; also C-L: History 334S, Sociology 324S, Public Policy 350S, Human Rights Program-Franklin Humanities Institute 347S, Human Rights

356S. Digital Durham. ALP, R, STS, W One course. C-L: see Information Science + Studies 356S; also C-L: Visual and Media Studies 358S, History 382S

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 exceptionailities are also examined. Prerequisites: Education 101, 240 or 243S. Instructor consent required. Instructor: Stephens. Half course.

371S. Cognition in the Classroom: Applying the Science of Learning to Education. NS, R, SS One course. C-L: see Psychology 371S

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.

390T-2. Junior-Senior Tutorials. Small group discussions of significant authors and ideas in education. Different courses indicated by letter. May be repeated. 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.

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement. CZ, EI The fourth course in the Certificate in Civic Engagement and Social Change is a capstone seminar. Students will connect the intellectual themes and scholarly knowledge they have developed in the gateway and elective courses with the learning that has occurred in the two thematically related co-curricular experiences—to create theoretically informed praxis in the spirit of this experiential certificate. The capstone course will require students to critically re-examine strands introduced in the gateway course with the goal of encouraging students to determine in what ways concepts are illustrated in their co-curricular experiences. Prerequisite: CESC 201S. Instructor consent required. Instructor: Mlyn. One course. C-L: Civic Engagement and Social Change 401S, Political Science 401S, Public Policy 401S, Study of Ethics 401S, Ethics Elective

407S. Teaching Practices in Elementary Mathematics and Science. SS, STS Research-based teaching practices in elementary mathematics and science for culturally diverse populations. Emphasis on the influence of science, mathematics, and technology in social issues and shaping teacher decision making about teaching and learning. Readings and field experience on ethical teaching practices, role of teachers and schools in society, and impact of teacher effect on environment and student learning. Consent of instructor required. Instructor: Carboni. 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 effect 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 Elective

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 or Stephens. 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: Practicum. EI Engagement, as part of a teaching practicum 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. Instructor consent required. Service-Learning course. Instructor: Riggsbee or Stephens. Two courses.

420-1. Elementary Education: Practicum. EI Engagement, as part of a teaching practicum 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. Includes an optional pre-semester guided study, either domestic or global, focused on culturally and socially responsive teaching and learning. Instructor consent required. Service-Learning course. 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: Ahern-Dodson and Scott. One course. C-L: Sociology 430S, Ethics Elective

446S. From Reconstruction to No Child Left Behind: The Challenges of Reform in a Nation Divided. CCI, CZ, EI, SS, W

Exploration of the challenges of crafting and sustaining equitable educational reform in the United States from Reconstruction to NCLB. Students will assess and evaluate the impact of broad historical, Constitutional and philosophical forces on the educational terrain. Instructor: Staff. One course.

490A. Duke-Administered Study Abroad: Advanced Special Topics in Education. 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: McDonald. 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: Smith. One course. C-L: Ethics Elective

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: Smith. One course.

498. Secondary Education: Practicum. CCI, R, SS Supervised practicum in a local high school focused on integration of educational theories and effective teaching practices. Design, implementation, and evaluation of units of instruction. Creation of portfolio to demonstrate competencies for teaching certification in a specific secondary content field. Instructor consent required. Instructor: Smith. Two courses.

498-1. Secondary Education: Practicum. CCI, R, SS Supervised practicum in a local high school focused on integration of educational theories and effective teaching practices. Design, implementation, and evaluation of units of instruction. Creation of portfolio to demonstrate competencies for teaching certification in a specific secondary content field. Includes an optional pre-semester guided study, either domestic or global, focused on culturally and socially responsive teaching and learning. Instructor consent required. Instructor: Smith. Two courses.

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: Staff. Half course.

518S. Approaches and Practices in Second Language Pedagogy. CCI One course. C-L: see Asian & Middle Eastern Studies 518S; also C-L: Linguistics 518S

525. Global Engagement and Career Development through Service-Learning. CCI, SS In this half-credit course students will examine the research literature on cultural competence and engage with people of diverse cultural backgrounds through various cultural and language exchange programs offered at Duke. One goal this half-credit course is to expose students to differences in cultural norms and social systems. The

readings and experiential activities are designed to enable the students to examine their own cultural lenses and assumptions and increase their intercultural competency to be true global citizens, well prepared for the increasingly globalized society and job market. Instructor consent is required. Instructor: Jeong. Half course.

542S. Schooling and Social Stratification. CCI, SS One course. C-L: see Public Policy 542S; also C-L: African & African American Studies 549S, Child Policy Research

590. Special Topics. Selected topics in education. Instructor: Staff. One course.

591. 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 graduate studies required. Instructor: Staff. One course.

620. Nature and Needs of the Gifted Learner: Introduction to Characteristics and Education

Affective Needs. 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: Stephens. One course.

621. Methods and Materials for Teaching the Gifted Learner: Procedures for Differentiating Instruction.

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: Stephens. One course.

622. Differentiating Curriculum for the Gifted Learner: Program Planning and Curriculum Development.

Development. Organize and deliver appropriate curriculum for gifted and talented students. Focus on program planning, exemplary program models, development of differentiated curriculum with appropriate modifications to content, process, product and learning environment. Instructor: Stephens. One course.

623. Practicum and Seminar in Gifted Education. Supervised practicum with gifted learners in a differentiated education program. Students plan, develop, and evaluate educational experiences, with a special emphasis on the social and emotional development of gifted learners. Instructor consent required. Instructor: Stephens. One course.

690S. Selected Topics Seminar. 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, scientific, technological, historical, political, and cultural issues that impact education, schooling, teaching, and learning throughout the lifespan.

Requirements. A total of five courses including two required courses: Education 101 and Education 240. The three remaining courses are electives. Only one of the five courses may be taken at an institution other than Duke.

University Teacher Preparation Programs

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 are required by most public school systems and recommended by many independent schools. Duke University is accredited by the North Carolina Department of Public Instruction (DPI) and the Council for the Accreditation of Educator Preparation and has reciprocal approval for initial licensure with most of the fifty states. Title II data is available upon request.

Brief descriptions of two undergraduate programs based on bachelor of arts or bachelor of science degrees (secondary school teaching and elementary teaching) follow.

Secondary School Teaching (AB or BS degree)

The Program in Education offers secondary school teacher licensure programs in English, mathematics, social studies, and science. Prospective teachers are advised to consult with the academic advisors in their majors and the secondary program director concerning their interest in teaching and this licensure program.

Interested undergraduate students may apply to the secondary school teaching program beginning in the sophomore year. Students are accepted by competitive criteria into a program that includes education courses with field experiences in local schools and an intensive senior spring semester teaching practicum. During the practicum, students teach high school classes in their respective disciplines under the supervision of an experienced mentor teacher and a university professor.

Upon successful completion of the senior year spring semester practicum and the four-year Trinity College undergraduate degree, students earn a teaching license and the minor in education.

Elementary School Teaching (AB or BS degree)

Undergraduate students who plan to teach young children (kindergarten through sixth grade) may become eligible for licensure to teach while at Duke in addition to completing any academic major offered by Trinity College. The Elementary School Teaching Program provides students with opportunities to examine critical issues in public education and engage with K-6 schools through supervised field experiences in diverse classroom settings. The senior spring capstone semester includes a student teaching practicum in a local public school in Durham in addition to courses on curriculum design and implementation.

Interested undergraduate students may apply to the Elementary School Teaching Program beginning in the sophomore year. Students are selected by competitive criteria for participation in the program.

Upon successful completion of the senior year spring semester practicum and the four-year Trinity College undergraduate degree, students earn a teaching license and the minor in education.

Master of Arts in Teaching (MAT) in Secondary Schools

The Master of Arts in Teaching Program is designed for students who wish to teach English, mathematics, or science in secondary schools by completing a twelve-month graduate degree, which begins in July and ends the following June.

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 [page 839](#).

Energy and the Environment

Professor Emily Klein and Professor Josiah Knight, *Codirectors*

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 in both Trinity and Pratt 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 student's career options in the private, nonprofit, 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. Energy use is a multifaceted problem that draws upon the perspectives and expertise of a variety of disciplines; the certificate in energy and the environment is therefore

similarly interdisciplinary.

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 Energy Initiative.

Program Requirements

Students pursuing the certificate in energy and the environment have the opportunity to choose from two different pathways. The first option is a course-based pathway consisting of six courses, including the Core and Capstone courses (which are required for every certificate student). No more than three of the six courses 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.

The second option is an experiential pathway. This pathway combines four courses (the Core and Capstone courses and two electives) with two experiential components: one research/design experience and one field experience. In this pathway, no more than one course counted toward the certificate in energy and the environment may also satisfy the requirements of any major, minor, or other certificate program. Completion of a publicly-facing e-portfolio is also required.

AP credit may not fulfill certificate requirements in either pathway.

In the standard course-based pathway, six courses are required for completion of the certificate program:

- **One introductory course:** Earth and Ocean Sciences/Environment/Energy 231 (Energy and the Environment)
- **One elective course from each of the following three areas:** Markets and Policy; Environment; and Energy Science and Technology (See approved elective courses below.)
- **One additional elective course,** selected from elective course list below, other energy courses, or approved independent study.
- **One Capstone Project Course:** Energy 395/396 (Connections in Energy: Energy and the Environment: Design and Innovation). Teams of undergraduate and graduate students work with faculty supervisors on a Bass Connections team to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from business, government, and the nonprofit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Participation consists of a half-credit course in the fall and a full-credit course in the spring, typically taken in the certificate candidate's senior year. Instructor consent required.

In the experiential pathway of the certificate, students take four courses and complete two experiences:

- **One introductory course:** Earth and Ocean Sciences/Environment/Energy 231 (Energy and the Environment)
- **One elective course from both of the following areas:** Markets and Policy; and Energy Science and Technology (See approved elective courses below.)
- **Two experiences:** one research/design experience and one field experience. One experience must exceed 300 hours; the other must exceed 150 hours. Both experiences must be energy-related, and two different types of experiences must be completed. Students must receive pre-approval for the two thematically-related experiences.
- **One Capstone Project Course:** Energy 395/396 (Connections in Energy: Energy and the Environment: Design and Innovation). Teams of undergraduate and graduate students work with faculty supervisors on a Bass Connections team to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from business, government, and the nonprofit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Participation consists of a half-credit course in the fall and a full-credit course in the spring, typically taken in the certificate candidate's senior year. Instructor consent required.
- **E-portfolio:** Must reflect coursework and experiential learning

Electives (requirement differs depending upon chosen pathway)

Four elective courses are required for the course-based pathway, with one course chosen from each of the three key areas (Markets and Policy, Environment, and Energy Science and Technology) taken from the below list. The fourth elective is a “free” elective and may repeat any one of the key areas. For the experiential pathway, two elective courses are required in the markets and policy and energy science and technology areas. The most up-to-date version of this list can be found on the program’s website at <https://nicholas.duke.edu/academics/certificate-programs/certificate-energy-environment>.

Markets and Policy

Economics

- 119. Introduction to Political Economy
- 339. Environmental Economics and Policy

Environment

- 212. United States Environmental Policy
- 363. Environmental Economics and Policy
- 544S. Collective Action, Property Rights, and the Environment

577. Environmental Politics

583S. Energy and U.S. National Security

Human Rights Program-Franklin Humanities Institute

- 213. United States Environmental Policy

Political Science

- 145. Introduction to Political Economy
- 549S. Collective Action, Property Rights, and the Environment
- 663S. Energy and U.S. National Security

Public Policy

- 275. United States Environmental Policy
- 577. Environmental Politics
- 583S. Energy and U.S. National Security

Environment (required only for course-based pathway)

Chemistry

- 91. Chemistry, Technology, and Society

Civil and Environmental Engineering

- 461L. Environmental Aquatic Chemistry
- 462L. Applied Biological Principles and Processes in Environmental Engineering

Earth and Ocean Sciences

- 355. Global Warming
- 364S. Changing Oceans

Environment

- 102. Introduction to Environmental Sciences and Policy
- 245. The Theory and Practice of Sustainability
- 362S. Changing Oceans

Sustainability Engagement

- 245. The Theory and Practice of Sustainability

Energy Science and Technology

Note: in selecting the elective course in energy science and technology, it is important to consider which course will provide optimal preparation for the student’s capstone project course. Students should discuss their selection of this elective with a codirector of the program.

Energy

- 310. Introduction to Energy Generation, Delivery, Conversion and Efficiency
- 383. Engineering the Global Middle East
- 630. Transportation and Energy

Energy Engineering

- 310. Introduction to Energy Generation, Delivery, Conversion and Efficiency

Environment

- 630. Transportation and Energy

Global Health

- 549S. Histories of Science and Technology

History

- 106. Science and the Modern World: Introduction to the History of Science
- 383. Engineering the Global Middle East
- 549S. Histories of Science and Technology

International Comparative Studies

- 118. Science and the Modern World: Introduction to the History of Science

Mechanical Engineering and Materials Science

- 461. Energy Engineering and the Environment

Physics

- 137S. Energy in the 21st Century and Beyond

Science & Society

118. Science and the Modern World: Introduction to the History of Science
549S. Histories of Science and Technology

Students may also participate in a Bass Connections in Energy & Environment team (see Capstone Project description) as their fourth elective course for the certificate's course-based pathway.

Energy Initiative

Energy education at Duke capitalizes on the university's broader Energy Initiative, a university-wide interdisciplinary collaboration addressing today's pressing energy challenges related to the economy, the environment, and security. Duke students—at all levels—will gain the training, skills, and experiences needed to play leadership roles in a rapidly evolving energy future. For more details see energy.duke.edu.

There are many different curricular opportunities within the energy designation. Undergraduate students may opt to enroll in a certificate program through the energy and environment certificate, and Pratt School of Engineering students may also choose to minor in energy engineering. Professional students may choose to concentrate in energy within many of their programs. In addition, students may register for an energy gateway course or go deeper by registering for one of the energy depth courses.

In addition to the traditional courses, students may also choose to become involved with the Energy & Environment theme within Bass Connections. Bass Connections in Energy & Environment independent study courses engages students and faculty in team-oriented, problem-focused education across disciplines, educational levels, and schools; geographic boundaries; and boundaries between the university, business, civil society, and government.

Courses in Energy (ENERGY)

89S. Special Topics: First-Year Seminar. First-year seminar. Topics vary by semester. Instructor: Staff. One course.

190. Special Topics in Energy. Topics vary by semester. Instructor: Staff. One course.

190FS. Focus Program Seminar in Energy: Special Topics. Topics vary by semester. Open only to students in the Focus Program. Department consent required. Instructor: Staff. One course.

231. Energy and the Environment. NS, SS, STS One course. C-L: see Environment 231; also C-L: Earth and Ocean Sciences 231

290. Special Topics in Energy. Topics vary by semester. Instructor: Staff. One course.

310. Introduction to Energy Generation, Delivery, Conversion and Efficiency. One course. C-L: see Energy Engineering 310; also C-L: Energy and the Environment

325S. Economic Analysis of Current Energy Issues. SS, STS One course. C-L: see Economics 325S

364. Green Germany: World Leader in Environmental Policy. CCI, CZ, EI, SS, STS One course. C-L: see German 364; also C-L: History 250, Environment 366

383. Engineering the Global Middle East. CCI, CZ, EI, SS, STS One course. C-L: see History 383; also C-L: Energy and the Environment

390. Special Topics in Energy. Topics vary by semester. Instructor: Staff. One course.

390S. Special Topics in Energy. Topics vary by semester. Instructor: Staff. One course.

395. Connections in Energy: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. One course.

395-1. Connections in Energy: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from

business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. Half course.

395A. Connections in Energy: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course.

396. Connections in Energy: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. One course.

396-1. Connections in Energy: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing energy issues. Teams may also include postdoctoral fellows, visiting energy fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. Half course.

452L. Energy and Environment Design. NS, R One course. C-L: see Environment 452L

520. Resource & Environmental Economics I. SS C-L: see Environment 520; also C-L: Economics 530, Public Policy 576

524. Water Quality Health. C-L: see Earth and Ocean Sciences 524; also C-L: Environment 524, Global Health 534

590. Special Topics in Energy. Content to be determined each semester. May be repeated. Instructor: Staff.

590-1. Special Topics in Energy. Topics vary by semester. Instructor: Staff.

590S. Advanced Topics in Energy. Selected topics vary by semester. Instructor: Staff.

620. Energy Finance. Exploration of energy financing and investment decisions as they relate to energy companies and energy-related projects. Key topics include discount rates, discounted cash flows, valuation approaches, option pricing, real options, energy derivatives, project finance, energy specific taxation, and risk management. Prerequisites: College-level calculus, Introductory Micro/Macroeconomics (Economics 101 Economic Principles or equivalent), and either Economics 572, Environment 782, or Engineering Management 530.

630. Transportation and Energy. SS, STS C-L: see Environment 630; also C-L: Energy and the Environment

631. Energy Technology and Impact on the Environment. NS, STS C-L: see Environment 631

635. Energy Economics and Policy. SS C-L: see Environment 635

638. Environmental Life Cycle Analysis & Decision. NS, R, STS C-L: see Environment 638

Engineering

For courses in engineering, see [page 853](#).

English

Professor Mitchell, *Chair*; Professor Vadde, *Director of Undergraduate Studies*; Professors Aers, Armstrong, Beckwith, Ferraro, Khanna, Mitchell, Mackey, Moi, Pfau, Porter, Strandberg, Tennenhouse, Tetel, Torgovnick, and Wald; Associate Professors Baran, Jaji, Psomiades, Stan, Sussman, and Vadde; Assistant Professors Black, D'Alessandro, McInnis, and Werlin; Professors of the Practice Donahue and Sharma; Assistant Professors of the Practice Gritton and Maren

A major, a minor, and a minor in creative writing are available in this department.

Courses in English (ENGLISH)

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. 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. Topics vary by semester; emphasis on development of writing skills. Instructor: Staff. One course.

101S. The Art of Reading. ALP, W An introduction to the skills of critical reading through the close examination of literary works, or other media such as film. Instructor: Staff. One course.

110S. Introduction to Creative Writing. ALP, W A multi-genre course designed for students who have little or no previous experience producing imaginative literary texts. This course does not count toward the English major, but would count toward the minor in creative writing. Instructor: Staff. One course.

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.

173FS. The Ethics of Democracy. ALP, CZ, EI One course. C-L: see Study of Ethics 171FS

173S. The Ethics of Democracy. CZ, EI One course. C-L: see Study of Ethics 171S

181. Introduction to Film Studies. ALP One course. C-L: see Visual and Media Studies 289; also C-L: Theater Studies 278, Literature 110, Documentary Studies 264, Policy Journalism and Media Studies

190-1. Special Topics in Language and Literature. Topics vary each semester. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in English. Topics differ by section. Instructor: Staff. One course.

190FS-2. Focus Program Seminar: Topics on Literature. Topics vary each semester offered. Instructor: Staff. One course.

190FS-3. Focus Program Seminar: Topics on Linguistics. Topics vary each semester. Instructor: Staff. One course.

190S-1. Special Topics in Language and Literature. Topics vary each semester. Instructor: Staff. One course.

190SA. Duke-Administered Study Abroad: Special Topics in English. Topics differ by section. Instructor: Staff. One course.

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. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course.

198FS. Performing Science: Experimentation, Collaboration, and Artistry. ALP, R, STS One course. C-L: see Science & Society 198FS; also C-L: Literature 198FS, Theater Studies 198FS

202S. Introduction to Performance Studies. ALP, CCI, W One course. C-L: see Theater Studies 202S; also C-L: Literature 202S, Cultural Anthropology 219S, Visual and Media Studies 205S

204. History of English. 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

206. Variety in Language: English in the United States. CCI, SS One course. C-L: see Linguistics 206

208S. Criticism and the Arts. ALP, W This is a course in the critical practice of literary theory in relation to the arts--literature, but also possibly the visual and performing arts--that occasion and challenge it. Exemplars to be drawn from the Anglo-European, Trans-oceanic, and/or North American (including multicultural) oeuvres, both contemporary and established. Ultimate concern is to develop each student's own critical writing, drawing upon brilliant precedents, responding creatively to the literature/arts at hand, and crafting personal voice. Instructor: Staff. One course.

209FS. The Mind and Language. SS Explores 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. For Focus Program students only. Instructor: Andresen. One course. C-L: Linguistics 210FS

210SA. Writing for Publication. ALP, W Same as English 210S. Offered through the Duke in New York Program. Instructor: Torgovnick. 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: Staff. One course.

213S. The Documentary Essay: Exploration, Research, and the Peripatetic Tradition in Documentary Writing. ALP, R, W One course. C-L: see Documentary Studies 275S

214S. Documentary Writing Workshop. ALP, R, W One course. C-L: see Documentary Studies 311S; also C-L: Policy Journalism and Media Studies 311S

220S. Introduction to the Writing of Poetry. ALP, W The introductory level genre specific workshops are for students with some experience in creative writing who wish to deepen their knowledge of their chosen genre and gain increased mastery of elements of craft. Recommended for students who have taken English 110S. Instructor: Staff. One course.

221S. Introduction to the Writing of Fiction. ALP, W Introductory level genre-specific workshops for students with some experience in creative writing wishing to deepen their knowledge of their chosen genre and gain increased mastery of elements of craft. Recommended for students who have taken English 110. Instructor: Staff. One course.

222S. Introduction to the Writing of Creative Non-Fiction. ALP, W The introductory level genre-specific workshops are for students with some experience in creative writing who wish to deepen their knowledge of their chosen genre and gain increased mastery of elements of craft. Recommended for students who have taken English 110S. Instructor: Staff. One course.

224S. Ready for Prime Time: Writing the Dramatic TV Episode. ALP, W One course. C-L: see Theater Studies 285S; also C-L: Visual and Media Studies 220S

225S. Writing the Movie. Introduction to the Theory and Practice of Writing for the Screen. ALP, W One course. C-L: see Visual and Media Studies 360S

226S. Dramatic Writing. ALP, W One course. C-L: see Theater Studies 280S

227S. Writing Movies and Plays: Adaptation. ALP, W One course. C-L: see Theater Studies 282S; also C-L: Visual and Media Studies 321S

228S. Writing the Musical Book. ALP, W One course. C-L: see Theater Studies 216S; also C-L: Music 220S

235. Shakespeare. ALP, EI, W Introduction to the major works of Shakespeare. Exploration of the author's central themes and contexts, with particular focus on Shakespeare's exploration of love as a mode of ethical

inquiry and moral philosophy. Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 330, Theater Studies 222

236S. Shakespeare's Nature. ALP, EI This class explores conflicting and competing ideas about nature in Shakespeare's plays. We examine creatureliness, human and non-human, in relation to ideas of the natural and the supernatural. Instructor: Beckwith. One course.

237. America from Abroad: Literature and Cinema. ALP, CCI, EI, W One course. C-L: see Italian 337; also C-L: Jewish Studies 337, Literature 337

244. Modern European Short Fiction. ALP, CCI, CZ, EI One course. C-L: see Italian 220; also C-L: German 243, Literature 244, Jewish Studies 243, International Comparative Studies 212

245. English Literature of the Romantic Period. ALP Wordsworth, Coleridge, Byron, Shelley, Keats. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

246. Jane Austen. ALP This course traces the development of Jane Austen's writing and ideas through her six major novels. Instructor: Sussman. 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.

253. Social Marketing: From Literary Celebrities to Instagram Influencers. SS, STS One course. C-L: see Innovation and Entrepreneurship 253

254. Medieval Christianity in Film and Fiction. ALP, CCI, CZ, EI One course. C-L: see Religion 261; also C-L: History 244, Medieval and Renaissance Studies 354

258. Religion and the Novel in Modern India. ALP, CCI, CZ, EI One course. C-L: see Religion 258; also C-L: Asian & Middle Eastern Studies 255

269. Classics of American Literature, 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.

269S. Classics of American Literature, 1820-1860. ALP, CZ, W What makes a "classic" of American literature? Why do a handful of texts endure while others have fallen by the wayside? By reading a variety of well-known texts from early American literature, we pose-and attempt to answer-these questions. Supplemental readings illuminate pivotal political debates, social movements, gender struggles, and ethnic clashes from 1820 to 1860. Texts include Nathaniel Hawthorne's *The Scarlet Letter*, Walt Whitman's *Leaves of Grass*, and Harriet Beecher Stowe's *Uncle Tom's Cabin*, as well as works by Dickinson, Melville, Douglass, and Poe. Films will include *Sleepy Hollow* (1999) and *12 Years a Slave* (2013). Instructor: D'Alessandro. One course.

270. Classics of American Literature, 1860 to 1915. ALP, CCI Prose and poetry by such authors as Cather, Chesnutt, Chopin, Crane, Dickinson, DuBois, Freeman, Gilman, James, Jewett, Twain, Washington, Wharton. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

271. Classics of American Literature, 1915 to 1960. ALP Prose and poetry by such authors as Eliot, Fitzgerald, Hemingway, Faulkner, and others. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.

272SA. Transforming Fiction for Stage and Screen. ALP, W One course. C-L: see Theater Studies 282SA

274. The Dramatic Monster: Horror on Stage and Screen. ALP One course. C-L: see Theater Studies 277

276. African Diaspora Literature: Twentieth- and Twenty-First-Century Black Writers. ALP, CCI, CZ, EI, W Late-nineteenth-century to contemporary writers, including African American, Caribbean, and African authors. Satisfies the Area III requirement for English majors. Instructor: Jaji. One course. C-L: African

277. The Novel, Live! ALP A course in the truly contemporary Anglophone novel, designed as a Signature Course for students across all majors and classes who want to ask the big questions about life and the ways we aspire to live it most fully, intensely, and in its highest forms. The course is team-taught in an interactive update of the Socratic method. Likely authors include Toni Morrison, Cormac McCarthy, J.M. Coetzee, Kazuo Ishiguro—and lesser known, but no less magisterial, visionaries. In addition to Nobel Prize, Man-Booker, and National Book Award winning novelists, students will encounter an example of the newest 21st-century novel-form: an epic TV series such Deadwood, The Sopranos, or The Wire. Instructor: Ferraro and Moses. One course.

279S. Docu-Poetry: Real Life Truths Outside and Inside the Poetic Narrative. ALP, EI, W One course. C-L: see Documentary Studies 279S; also C-L: Literature 279S

281. American Apocalypse: Beat Generation Spirituality. ALP, CZ, EI, W One course. C-L: see Religion 281; also C-L: Literature 281

282S. Modernism and the Arts. ALP, CCI, CZ This course places international modernism in an intermedial perspective, presenting it as a broad conversation among international artists across various art forms. In addition to reading major literary works by writers such as Baudelaire, Mallarmé, Joyce, Eliot, Kafka, Woolf, Wat, Babel, Rilke, Anand, Césaire, Lu Hsun, students will enhance their understanding of modernism through exposure to other art forms, such as painting (Matisse, Picasso, Marc, Kandinsky, Chagall, Schoenberg), sculpture (Rodin, Brancusi, Giacometti), music (Schumann, Débussy, Stravinsky, Schoenberg, Berg, Gershwin), and film (Buñuel, Dali, Eisenstein, Vertov, Carné, Godard, Ruttmann, Cavalcanti, Vigo). Instructor: Stan. One course. C-L: Art History 281S, German 282S, Romance Studies 282S, Literature 282S

284S. Book Publishing & Marketing: A Case Study of the Romance Fiction Industry. ALP, CCI, CZ, W One course. C-L: see History 248S; also C-L: Gender, Sexuality, and Feminist Studies 248S

285. Existentialism. ALP, CCI, EI One course. C-L: see Literature 285; also C-L: Philosophy 285

287. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney. ALP, CCI, CZ One course. C-L: see German 262; also C-L: Literature 252

287D. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney. ALP, CCI, CZ One course. C-L: see German 262D; also C-L: Literature 252D

288. American 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 *Singing' 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, technique, and Hollywood's history. Instructor: Malone. One course. C-L: Theater Studies 272, Visual and Media Studies 355

290-7. Special Topics in Language and Literature. Area requirements for majors to be determined by the Director of Undergraduate Studies in English. Instructor: Staff. One course.

290AS-1. Topics in Renaissance British Literature. (Taught in the Oxford Summer Program). Satisfies Area I for English majors. Instructor: Staff. Two courses. C-L: Medieval and Renaissance Studies 290AS-1

290AS-2. Topics in Nineteenth-Century British Literature. 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. Topics vary each semester offered. Open only to students in the Focus program. Instructor: Staff. One course.

290S. Special Topics in Language and Literature. Topics vary each semester. Instructor: Staff. One course.

290S-1. Special Topics in Medieval and Early Modern Literature. A major author, topic, or theme of the medieval and early modern period (excluding Chaucer). Satisfies the Area I requirement for English majors. Topics vary each semester. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 290S-1

290S-2. Special Topics in Eighteenth and Nineteenth Century Lit. A major author, topic, or theme of

eighteenth and nineteenth century literature. Satisfies the Area II requirements for English majors. Topics vary each semester Instructor: Staff. One course.

290S-3. Special Topics in English Literature: Modern and Contemporary. A major author, topic, or theme of modern and contemporary literature. Satisfies Area III for the English major. Topics vary each semester. Instructor: Staff. One course.

290S-4. Special Topics in Creative Writing. Topics vary each semester. Instructor: Staff. One course.

299. Hip Hop and Religion. ALP, CCI, CZ, EI One course. C-L: see Religion 248; also C-L: African & African American Studies 248, Gender, Sexuality, and Feminist Studies 299

310A. The Business of Art and Media. 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: Torgovnick. One course. C-L: Art History 313A, Visual and Media Studies 301A, Policy Journalism and Media

312A. The Arts in New York: A Thematic Approach. ALP, R, W Duke in New York. Various topics dealing with the arts in New York. Group attendance at, and subsequent seminar discussion of, performances, exhibitions, films, and lectures. Research or critical paper required. Open only to students admitted to the Duke in New York Arts Program. Satisfies the Area III requirement for English majors. Instructor: Staff. One course. C-L: Theater Studies 213A, Visual and Media Studies 259A, Public Policy 312A

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, Art History 312A, Visual and Media Studies 296A

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, Visual and Media Studies 296A-1, Art History 312A-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

315SA. New York Scenes. ALP, R New York Scenes will focus on the various cultural institutions, scenes, establishments, happenings, hang-outs, movements, etc., that make up New York City. Early in the semester, students will select a particular "scene" to research over the course of the term. For example: Tin Pan Alley (popular music, theater), The Lafayette Theatre (black arts), St. Mark's Church (poetry, punk rock), the Chelsea Hotel (mid-century writers, pop stars and outcasts), La MaMa (experimental theater), the Christopher Street Piers (queer history, lgbtq youth) and Union Square Park (leftist organizing history). Open to students in the Duke in New York program. Instructor: Taylor Black. One course. C-L: Theater Studies 218SA, Gender, Sexuality, and Feminist Studies 315SA, Art History 318SA, African & African American Studies 318SA, Jewish Studies 315SA

316S. Playmaking: Collaboration from Page to Stage. ALP, W One course. C-L: see Theater Studies 380S

317S. Screenwriting. ALP, W One course. C-L: see Theater Studies 273S; also C-L: Visual and Media Studies 387S

318S. Expressing Immigrant Experience: The Russians. ALP, CCI, EI One course. C-L: see Russian 317S; also C-L: Literature 319S

319S. Narrative and Moral Crisis. ALP, CZ, EI One course. C-L: see Study of Ethics 320S

320S. Intermediate Workshop in the Writing of Poetry. ALP, W Intermediate workshops present a higher creative standard than introductory workshops and increased expectations in both quantity and quality of revised, finished work. Pre-requisite: English 110S OR English 220S, or consent of the instructor if prior work merits admission to the class (as judged by the instructor). Instructor: Staff. One course.

321S. Intermediate Workshop in the Writing of Fiction. ALP, W Intermediate workshops present a higher creative standard than introductory workshops and increased expectations in both quantity and quality of revised, finished work. Pre-requisite: English 110S OR English 221S, or consent of the instructor if prior work merits admission to the class (as judged by the instructor). Instructor: Staff. One course.

322S. Intermediate Workshop in the Writing of Creative Non-Fiction. ALP, W Intermediate workshops present a higher creative standard than introductory workshops and increased expectations in both quantity and quality of revised, finished work. Pre-requisite: English 110S OR English 222S, or consent of the instructor if prior work merits admission to the class (as judged by the instructor). Instructor: Staff. One course.

331S. Late Medieval Literature and Culture. ALP, CCI, CZ, EI Explores a range of medieval writings together with the culture in which they are made. Inquiries involve the close reading of medieval texts to learn about medieval Christianity, ethics, politics and theology in the culture. Considers questions concerning relations between the medieval world and our own. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 334S

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

333. Chaucer II. ALP, CCI, R The Canterbury Tales. Satisfies the Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 321

336. Shakespeare through 1600. ALP, EI, R Examination of twelve plays by Shakespeare written before 1600. Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Theater Studies 336, Medieval and Renaissance Studies 331

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: Theater Studies 337, Medieval and Renaissance Studies 332

338S. Milton. ALP, EI, R Poetry and its literary and social background. Satisfies Area I requirement for English majors. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 337S

344. Eighteenth-Century British Novel. ALP, W Novels by such authors as Defoe, Richardson, Fielding, Smollett, and Sterne, Walpole, and Austen. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

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, Swinburne, Morris, and others. Satisfies Area II requirement for English majors. Instructor: Staff. One course.

350S. Law and Literature: Race Matters. CZ, SS One course. C-L: see African & African American Studies 350S

355. Idealistic Nature: The Literature, Philosophy, and Cognition of Ecology. ALP, CZ, EI One course. C-L: see Information Science + Studies 307; also C-L: Medieval and Renaissance Studies 347, Visual and Media Studies 347

362D. What Is Beauty?. ALP, CCI, CZ, EI One course. C-L: see German 360D; also C-L: Art History 360D, Literature 362D

365S. Modern Drama: 1940-2000. ALP, CCI, W One course. C-L: see Theater Studies 335S

371S. Studies in American Literature, WWI-WWII. ALP A seminar version of English 371. Instructor: Staff. One course.

372S. Modern American Poetry. ALP, R Focus on twentieth-century American poets; developments in style, subject, voice, diversity of representation, and impact of critical methodologies on shaping American poetic literature. Satisfies the Area III requirement for English majors. 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.

374. Contemporary American Writers. ALP Novelists and poets prominent since 1984. Satisfies Area III requirement for English majors. Instructor: Staff. One course.

375S. Popular Fictions. ALP One course. C-L: see Literature 345S; also C-L: Gender, Sexuality, and Feminist Studies 252S

376S. The Detective Novel. ALP, CZ One course. C-L: see Italian 379S; also C-L: Literature 379S

377. Contemporary Novel. ALP Major trends in fiction since 1950: modernism/postmodernism, ethnicity and ethnic identity, feminism, postcoloniality, genre-bending, and more. Readings from the United States and from Great Britain, India, Canada, South Africa, and the Caribbean. Satisfies Area III for English majors. Instructor: Staff. One course. C-L: Literature 351, International Comparative Studies 377

377S. Contemporary Novel. ALP Seminar version of English 377. Instructor: Staff. One course. C-L: Literature 351S, International Comparative Studies 377S

378. Beat Generation/Russian New Wave: Cultural Dissent in the Cold War. ALP, CCI, CZ, EI, W One course. C-L: see Russian 330; also C-L: Literature 331

379S. Fictions That Mark the Moment. ALP, CCI, CZ, EI, R One course. C-L: see African & African American Studies 228S; also C-L: Literature 382S

380. Popular Representations of Black Masculinity. ALP, CCI One course. C-L: see African & African American Studies 338; also C-L: Visual and Media Studies 340

380S. James Baldwin and Toni Morrison. ALP, CCI, CZ, EI One course. C-L: see Religion 399S; also C-L: African & African American Studies 322S, Gender, Sexuality, and Feminist Studies 402S

381. The History of Hip-Hop. ALP, CCI One course. C-L: see African & African American Studies 335; also C-L: Cultural Anthropology 335, Music 335, Visual and Media Studies 337

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 (DS4). ALP, CCI One course. C-L: see Theater Studies 240AS

385S. Fiction/Reality: Reality Hunger in Recent Literature. ALP, CCI One course. C-L: see Literature 303S

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 story telling. Instructor: Staff. One course. C-L: Art History 238

387. Asian American Theatre. ALP, CCI One course. C-L: see Theater Studies 232; also C-L: Asian &

388S. Love, Marriage, Education: Theories About Women from Rousseau to Beauvoir. ALP, CCI One course. C-L: see Literature 365S; also C-L: Philosophy 274S, Gender, Sexuality, and Feminist Studies 365S

389S. American Independent Cinema. ALP, CCI One course. C-L: see Literature 318S; also C-L: Theater Studies 373S, Visual and Media Studies 332S, Documentary Studies 322S

390-1. Special Topics: Single American Author. Area requirements for the English major (Area I, II, or III) to be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

390-2. Special Topics in a Single British Author. 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.

390-3. Special Topic in an Individual African American Author. Studies in an individual African American author. Satisfies the Area III requirement for English majors. Instructor: Staff. One course. C-L: African & African American Studies 290-3

390-4. Special Topics in African American Literary Genres. Autobiography, Drama, Poetry, The Novel, and The Essay. Satisfies Area II or III for English majors—to be determined by the Director of Undergraduate Studies. Instructor: Staff. One course. C-L: African & African American Studies 290-4

390-5. Special Topics in Genre. Area 1, 2, 3, or elective, to be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

390-6. Special Topics in Film. A lecture version of 390S-6. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in English. Topics differ by section. Instructor: Staff. One course.

390S-1. Special Topics in a Single American Author. 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.

390S-2. Special Topics in a Single British Author. 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.

390S-6. Special Topics in Film. A major genre, period, or director. Satisfies the Area III requirement for English majors. Instructor: Staff. One course.

390S-7. Special Topics in Language and Literature. Area requirements for majors to be determined by the Director of Undergraduate Studies in English. Instructor: Staff. One course.

391A. Duke in New York Arts and Media Independent Study. 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, International Comparative Studies 395, Human Rights Program-Franklin Humanities Institute 395, Human Rights

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, International Comparative Studies 396S, Human Rights Program-Franklin Humanities Institute 396S, Human Rights

397S. Narratives of Migration. ALP, CCI, R Stories of migration captivate us because they touch on universally important themes: home, family, belonging, identity, pain, loss. In this course, we will explore narratives, or stories, of migration, as told by refugees and immigrants from across the world, through different media: written, spoken, photographed, and constructed digitally on social media. This course approaches narratives of migration primarily from the perspective of sociocultural linguistics and discourse analysis, but we will refer to other scholarly traditions as well. This is a Service-Learning course: students will engage in a mentoring relationship with an immigrant student in a Durham high school. Instructor: Baran. One course. C-L: Linguistics 397S, Cultural Anthropology 330S, International Comparative Studies 330S

398. Digital Media Internship. Experience producing digital content for departmental use. Editor-peer mentorship introduces journalistic practices in writing and photography. Writing intensive. Consent of instructor is required. Instructor: Sussman. Half course.

420S. Advanced Workshop in the Writing of Poetry. ALP, W Advanced Writing Workshops build on the work done at the intermediate level, and are intended for the most well-prepared and gifted creative writing students. Pre-requisite: English 320S or consent of the instructor if prior work merits admission to the class (as judged by the instructor). Instructor: Staff. One course.

421S. Advanced Workshop in the Writing of Fiction. ALP, W Advanced Writing Workshops build on work done at intermediate level, and are intended for the most well-prepared and gifted creative writing students. Pre-requisite: English 321S or consent of the instructor if prior work merits admission to the class (as judged by the instructor). Instructor: Staff. One course.

480S. Understanding Mediation. ALP, CCI, CZ One course. C-L: see Literature 325S; also C-L: Visual and Media Studies 316S, Theater Studies 249S, Gender, Sexuality, and Feminist Studies 325S, Documentary Studies 358S

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

490. Special Topics in Language and Literature. 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. Instructor: Staff. One course.

490-7. Special Topics in Literature and the Other Arts. 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. Special Topics in Language and Literature. Seminar version of 173. Area requirements (Area I, II, III) will be determined by the Director of Undergraduate Studies. Instructor: Staff. One course.

490S-1. Special Topics in Linguistics. Instructor: Staff. One course.

490S-10. Special Topics in Criticism, Theory, or Methodology. Satisfies the Criticism, Theory, or Methodology (CTM) for English majors. Instructor: Staff. One course.

490S-2. Special Topics in African American Literary Studies. 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.

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. R 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. R 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: Staff. One course.

522S. Narrative Writing. ALP, W The writing of short stories, memoirs, tales, and other narrations. Readings from ancient and modern narrative. Close discussion of frequent submissions by class members. Instructor: Staff. One course.

530S. Special Topics in Middle English Literature: 1100 to 1500. 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

537S. Shakespeare & Co.: English Renaissance Drama. ALP, CCI, CZ, R Interrogates drama of Marlowe, Shakespeare, Jonson, and Middleton, and other playwrights from only the second time in world history when the genre conducts a culture's dominant intellectual currents. Umbrella questions: ethnicity, proto-feminism, sexual orientation, secularism, aesthetic-commercial rivalry, mercuriality, Shakespearean exceptionalism. In addition to edited play-texts we will also use major new electronic resources. Grade based equally on class discussion and a twenty-page essay. Instructor: Porter. Variable credit. C-L: Medieval and Renaissance Studies 637S

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 (DS3). 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

581S. Mimesis in Theory, Embodied Practice, and Literary Arts. ALP, CCI, CZ, FL One course. C-L: see French 507S; also C-L: Art History 509S, Literature 507S

582S. Wittgensteinian Perspectives on Literary Theory. ALP One course. C-L: see Literature 681S; also C-L: Philosophy 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. 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.

590-2. Special Topics II. 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.

590-3. Special Topics III. 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.

590-4. Special Topics in Criticism. Satisfies the Criticism, Methodology, Theory (CTM) requirement for English majors. Instructor: Staff. One course.

590-5. Selected Topics in Feminist Studies. 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.

590S-1. Special Topics Seminar I. 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.

590S-2. Special Topics Seminar II. 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.

590S-3. Special Topics Seminar III. 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.

590S-4. Special Topics Seminar in Criticism, Theory, or Methodology. Seminar Version of 288.

Satisfies the Criticism, Theory, or Methodology (CTM) for English majors. Instructor: Staff. One course.

591. Special Readings - Independent Study. Independent study. Department consent required. Instructor: Staff. One course.

620S. Film-philosophers/Film-makers. ALP, CZ, STS One course. C-L: see Literature 620S; also C-L: Visual and Media Studies 622S, Theater Studies 620S, Documentary Studies 620S

691S. Black Sonic Culture—Analog to Digital. One course. C-L: see African & African American Studies 622S; also C-L: Literature 691S, Music 691S

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 section of English 101S (The Art of Reading), and complete it ideally in their sophomore year and no later than the end of the junior year.

Each student must take at least nine additional courses at the 200 level or above. Five of these courses must satisfy the following requirements:

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); two courses required
- Area II (Eighteenth and Nineteenth Centuries); one course required
- Area III (Modern to Contemporary); one course required

Criticism, Theory, Methodology (CTM). Students must select one course on criticism, theory, or methodology. Some courses to satisfy CTM are English 204, 395, 396, 480S, 482S, 490S-10—in addition, other English courses designated as CTM will be posted on the English website each semester.

Recommendations

1. Students should take at least one course focused on minority literatures or Anglophone literatures from beyond the United States and Great Britain. The department offer courses in African, Asian, Caribbean, diasporic, and ethnic literatures (e.g., African American, Asian American) that will broaden students' perspectives on English as a global language.
2. 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

Minor in English

Requirements. Five courses at or above the 200 level; or English 101S 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.

Minor in Creative Writing

Five courses are required for the creative writing minor:

- English 110S (Introduction to Creative Writing);
 - Two courses in creative writing at the 200 level or above;
 - One course at the 300 level or above; and
 - An additional course in English, other than creative writing, at the 200 level or above, in a literary genre appropriate to the student's emphasis;
- or
- Three courses in creative writing at the 200 level or above;
 - One course at the 300 level or above; and
 - An additional course in English in a literary genre appropriate to the student's emphasis.

Note: For English majors, two courses will be allowed to overlap.

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 thirty-five to seventy pages.

Coursework. The distinction courses count toward the major. Students must complete eleven total courses to graduate with distinction in the major instead of the standard ten.

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 ten 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 advisor, 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

Professor Kasibhatla, *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 & Sciences. A concentration in marine science and conservation for majors and a minor in environmental science and policy are also offered.

Environmental Sciences and Policy (AB Degree)

The undergraduate major in environmental science and policy is offered as a bachelor of arts degree to students interested in the interdisciplinary study of environmental issues. The major draws from the breadth of perspectives from, science, policy, and humanities while engaging students in an in-depth study in natural or social sciences. 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 corequisites for the AB degree stress a firm foundation in basic natural, environmental, and social science areas. The gateway course focuses on local, regional, and global case studies taught by interdisciplinary teams of faculty. The major requirements include three topical courses selected from three categories (Environmental Humanities, Environmental Sciences, and Environmental Policy) and three additional focus area courses. Students are required to participate in a relevant field experience or internship and many students choose to fulfill this requirement through study abroad, a semester at Duke Marine Lab, or the Stanback Internship Program. The department encourages all students to pursue independent research with Nicholas School faculty members.

Environmental Sciences (BS Degree)

The undergraduate major in environmental sciences is offered as a bachelor of science degree to students interested in a scientific perspective on environmental issues. The major is designed to expose students to the breadth of environmental sciences, while engaging students to develop depth in a focus area. 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-health requirements. The corequisites for the BS degree stress a firm foundation in the physical and life sciences, and mathematics. The gateway course focuses on local, regional, and global case studies taught by interdisciplinary teams of faculty. The major requirements include five core courses selected from five categories (Environmental Health, Ecology, Environmental Physical Sciences, Environmental Social Science, and Environmental Tools and Skills) and three focus area courses (one of which can be a core course). Students are required to participate in a relevant field experience or internship and many students choose to fulfill this requirement through study abroad, a semester at Duke Marine Lab, or the Stanback Internship Program. The department encourages all students to pursue independent research with Nicholas School faculty members.

Courses in Environmental Sciences and Policy Program (ENVIRON)

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. Instructor: Vidra or Wernegreen. One course. C-L: Marine Science and Conservation, Energy and the Environment

147. Israel/Palestine: Comparative Perspectives. CCI, EI, SS One course. C-L: see Cultural Anthropology 148; also C-L: Asian & Middle Eastern Studies 244, Jewish Studies 148, Public Policy 178, Political Science 159, Human Rights Program-Franklin Humanities Institute 148, Ethics Elective, Islamic Studies, Human Rights

148FS. Genomics of Host-Microbe Interactions: The Symbiotic Web. NS, R, STS Genomic insights into the astonishingly diverse microbial world, including microbes that interact with hosts in beneficial and harmful ways. Dominance of microbes in our own bodies, which contain 10 times more bacterial cells than human cells and 150 times more bacterial genes than human genes. Understanding how microbial interactions have impacted life's history, genome evolution, ecology, and human health. Factors that dictate trajectories toward parasitism versus mutualism, how microbial symbionts respond to environmental change, molecular and cellular mechanisms of homeostasis. Readings will focus on primary articles. Open only to students in the Focus Program. Instructor: Wernegreen, Lutzoni. One course. C-L: Biology 148FS, Genome Sciences and Policy 148FS

153. Climate, Coffee, and Coronavirus: Why Ecology Matters to Human Health. EI, NS, STS One course. C-L: see Biology 153; also C-L: Global Health 153, Global Health

155. Principles of Economics and the Environment. EI, SS, STS Teaches basic economic literacy and introduces environmental and natural resource issues through the lens of economics. Analyzes incentives and decisions of individuals, firms, and governments and how they interact with the natural environment. Examples include a consumer deciding to purchase organic produce, a firm deciding to install pollution control technology, a government choosing to regulate a carcinogenic chemical, and group of nations deciding to regulate greenhouse gas emissions. Stresses command of economic reasoning and analytical tools as ways to understand why people and governments do what they do and how policies might better address the needs of society. Instructor: Smith. One course.

175LA. Marine Biology. EI, NS, STS One course. C-L: see Biology 175LA; also C-L: Marine Sciences, Marine Science and Conservation

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.

190S. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Instructor: Staff. One course.

201. Integrating Environmental Sciences and Policy. NS, SS, STS 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. Prerequisite: Environment 102 or consent of instructor. Instructor: Pan, Clark, or Wernegreen. 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 Gender, Sexuality, and Feminist Studies 275; also C-L: Global Health 225, History 221

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: Albright. One course. C-L: Public Policy 275, Human Rights Program-Franklin Humanities Institute 213, Marine Science and Conservation, Energy and the Environment

214S. Ethical Challenges in Environmental Conservation. EI, SS, W Examination of current 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. Analysis of the evolving environmental movement, in relation to current issues. Instructor: Vidra. One course. C-L: Human Rights Program-Franklin Humanities Institute 214S, 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 279S, Political Science 367S, International Comparative Studies 229S, Human Rights Program-Franklin Humanities Institute 229S, Islamic Studies, Marine Science and Conservation, Human Rights

217. Restoration Ecology: Theory and Applications. EI, NS, STS, W 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.

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. Studio, seminar, study of photography in university archives and field trips. Consent of Instructor required. Instructor: Satterwhite. One course. C-L: Documentary Studies 248S, Marine Science and Conservation, Human Rights

223. Environment and Global Capitalism in Latin America. CZ, R, SS, W One course. C-L: see History 222; also C-L: Latin American Studies 222, Latin American Studies

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 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. Recommended prerequisite: Biology 201L, 202L, or 203L. Instructor: Reid. One course. C-L: Biology 228

228S. 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. Offered through the DukeImmerse program. Will include travel to farms in NC locally, to the mountains, and to the coast. Recommended

prerequisite: Biology 201L, 202L, or 203L. Instructor consent required. Instructor: Reid. One course. C-L: Biology 228S

231. 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 231, Energy 231

239. Introduction to 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. Prerequisite: Chemistry 101DL. Instructor: Kasibhatla. One course. C-L: Earth and Ocean Sciences 239

240S. Biodiversity Issues and Field Methods. NS, R, STS Biodiversity is affected by many factors, both local and global, including climate and climate change, fire regimes, habitat fragmentation, and urbanization. These issues and others will be covered through readings, discussions, and field research. Explores and assesses local biodiversity through field exercises and field trips with emphasis on local flora and fauna identification. Applies field techniques to monitor, compare, and evaluate local communities for biodiversity in both urban and rural settings and their interface. Complements Environment 226, 210, and 217. Instructor: Staff. One course.

245. The Theory and Practice of Sustainability. EI, NS, R, SS, STS Theories and practices of sustainability explored with application to the campus environment, including economic, social and environmental factors, and a local to global reach. The Duke campus is used as a case study to illustrate institutional practices including building design and operations, utility supply and consumption, carbon offsets design and calculation, transportation, water, sustainability education and communication, behavior change, waste production and recycling, and procurement. In a service-learning project, students might perform sustainability inventories and cost/benefit analyses, or gather behavior change data. Instructor: Clark. One course. C-L: Sustainability Engagement 245, Energy and the Environment

265. Environmental Law and Policy. SS Legal principles governing environmental problems in the United States, including endangered species, hazardous waste, air pollution. Introduction to the overarching topics in law and in regulatory design that shape the contributions and roles law plays in solutions to environmental problems. Instructor: Staff. One course.

268. Examining the Ethics of Engaging in Environmental Professions. EI Examines internship experience in context of personal, professional and environmental ethics. Marries internship experience with critical engagement with peer-reviewed literature, academic texts, essays, videos, and podcasts. Students engage in reflective conversations with co-workers and peers to practice weighing evidence, synthesizing research, articulating own perspective through writing and revising. Employs written reflection to examine lessons learned through internship experience and enhance transfer of lessons to new situations. Online course available only in summer. Department consent required. Instructor: Vidra. One course.

269T-1. Voices in the Environment: Spanish. In this course, students will explore how language and culture impact environmental policy and practice. Through authentic text, video, and case studies in Spanish, students will analyze environmental issues in Latin America to develop their understanding of core issues in the field. Tutorials meet for 75 minutes/week. Taught in Spanish. Instructor: Staff. Half course. C-L: Spanish 272T-1

269T-2. Voices in the Environment: French. In this course, students will explore how language and culture impact environmental policy and practice. Through authentic text, video, and case studies in French, students will analyze environmental issues in the Francophone World to develop their understanding of core issues in the field. Tutorials meet for 75 minutes/week. Taught in French. Instructor: Staff. Half course. C-L: French 272T

269T-3. Voices in the Environment: Mandarin. In this course, students will explore how language and culture impact environmental policy and practice. Through authentic text, video, and case studies in Mandarin, students will analyze environmental issues in the Francophone World to develop their understanding of core issues in the field. Tutorials meet for 75 minutes/week. Taught in Mandarin. Instructor: Staff. Half course. C-L:

Asian & Middle Eastern Studies 272T

270A. Conservation Biology and Policy. EI, NS, STS, W One course. C-L: see Biology 270A; also C-L: Marine Sciences, Marine Science and Conservation

271A. Biology for Engineers: Informing Engineering Decisions. NS, STS One course. C-L: see Biology 275A; 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

275SA. Global Fisheries Conflicts: Exploring Local and Global Economic, Ecological, and Social Impacts. EI, SS, STS Interdisciplinary investigation of fisheries management. Theoretical and practical policy questions regarding resource allocation measures (e.g., quota systems, marine protected areas, seasonal closures, and gear restrictions) and place-specific conflicts (e.g., over space, regulatory measures, cultural meanings, and livelihoods). Evaluation of fisheries science and examination of economic, ecological, and social ramifications of different management scenarios. Broad overview of the state of fisheries and fishing practices around the globe; in-depth analysis of local science and policy conflicts. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Marine Sciences

276. Denial, Faith, Reason: Sustainability and Survival. EI One course. C-L: see Public Policy 284; also C-L: Study of Ethics 285, Economics 285, History 325, Sustainability Engagement 276

277A. Biodiversity of Alaska. NS, STS One course. C-L: see Biology 287A; also C-L: Earth and Ocean Sciences 287A

278LA. Comparative Physiology of Marine Animals. NS, R, W One course. C-L: see Biology 278LA; also C-L: Marine Sciences, Marine Science and Conservation

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 at Duke Marine Lab. Prerequisite: AP Biology, introductory biology, or consent of instructor; Physics 141L or 164L (or equivalent Physics courses) or consent of instructor. Instructor: Nowacek. One course. C-L: Electrical and Computer Engineering 384LA, Earth and Ocean Sciences 280LA, Biology 279LA, Marine Sciences, Marine Science and Conservation

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. Taught in Beaufort at Duke Marine Lab. Instructor: Murray. One course. C-L: Public Policy 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. Taught in Beaufort at Duke Marine Lab. Recommended prerequisite: introductory biology. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

288A. Biogeography in an Australian Context. NS, STS One course. C-L: see Biology 288A; also C-L: Earth and Ocean Sciences 288A

290. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Environmental Sciences and Policy. Topics differ by section. Instructor: Staff. One course.

290S. Special Topics in Environmental Sciences and Policy. Same as Environment 290 but taught as a seminar. Instructor: Staff. One course.

305SA. Social Impact Analysis. EI, SS Course covers theoretical, methodological and applied aspects of social impact analysis. Students will think sociologically about environmental issues and social impacts they create. Course reviews key US policies and guidelines that require and inform social impact analysis. Students will understand and critique key methods and approaches used in social impact analysis to generate inclusive decisions that protect the environment and health of human communities that share its abundance and meaning. Course will compare and critique a range of national and international social impact examples, including ethical issues associated with the non-human world. Consent of instructor is required. Taught in Beaufort at Duke Marine Lab. Instructor: Murray. One course. C-L: Marine Science and Conservation

307A. Barrier Island Ecology, Geology, and Policy. NS, STS An integration of barrier island ecology with coastal physical processes and geomorphological change. Management and policy relating to impacts of human interference with natural processes including climate change are emphasized. Students conduct original research, which includes data collection in the field and lab processing, to produce a final report. Taught in Beaufort at Duke Marine Lab. Classes and research at both UNC Institute of Marine Sciences (IMS) in Morehead City and nearby Duke University Marine Labs (DUML) in Beaufort so as to maximize field site access to the iconic Outer Banks chain of barrier islands. Prerequisite: a course in ecology or geology or permission of the instructor. Instructor consent required. Instructor: Rodriguez, Fegley, Peterson. One course. C-L: Marine Sciences, Marine Science and Conservation

308A. Oceans in Human and Environmental Health. CCI, NS, STS Students will gain a grounding in marine sciences which will help them to evaluate impacts of anthropogenic activities on both marine ecosystems and the humans that rely on them. After developing an understanding of the issues facing environmental and human health and well-being in marine systems, students will travel to Duke Kunshan University in China, to better understand environmental challenges facing a rapidly developing economy. This course will embrace immersive field experiences in both North Carolina and China that will contextualize classroom learning as well as develop connections with environmental practitioners and residents. Taught in Beaufort at Duke Marine Lab. Duke Immerse course. Instructor consent required. Instructor: Hunt. One course. C-L: Global Health 308A, Biology 308A

309A. Oceans in Human and Environmental Health. NS, STS Focus on the concept of “One Health” that the health of the environment and the people who live in it are linked. The basis (from a biological perspective) of threats facing the marine environment and interactions between environmental and human health and their role in global health disparities. For example, in discussing fisheries and aquaculture, the course will cover environmental impacts of these extractive industries and their importance in human and societal well-being. This course will embrace immersive field experiences in North Carolina that will contextualize classroom learning and develop connections with practitioners and residents. Taught in Beaufort at Duke Marine Lab. Instructor: Hunt. One course. C-L: Global Health 309A, Biology 309A, Marine Sciences

310. Forest Measurements. NS This course aims to familiarize students with the field and analytic measurement skills expected of professionals in forest ecosystem management. In this course, we consider techniques for measuring forest characteristics at three different scales: individual plant, forest stand, and landscape. These techniques require the use of traditional forestry instruments (e.g., clinometers, Biltmore sticks) and contemporary handheld GPS units. This course heavily emphasizes field activities and quantitative skills. Recommended prerequisite: Environment 311 (Dendrology, past or concurrent) and/or instructor consent. Instructor consent required. Instructor: Cagle. One course.

311. Dendrology. NS This course aims to familiarize students with the secret lives of trees. We begin by learning to identify over 130 woody plants of the Piedmont. To do this, we will also grapple with dichotomous keys and plant systematics to help us identify plants anywhere in the world. We also address topics like the chemical communication of trees, the relationships among wildlife and trees, and the value of trees. Most of this course will be outside. Instructor consent required. Instructor: Cagle. One course.

314. Managing the Oceans to Solve Global Problems. EI, SS This course highlights the importance of the oceans in addressing central development and environmental problems facing the world, including poverty, hunger, access to energy, climate change, and biodiversity loss. The fundamental role the oceans could play in helping to solve these problems depends on public policies created to manage them. The course will expose students to the important laws and policies that make the resources and services provided by the ocean resilient and sustainable, and explore challenges of protecting corals, regulating fishing and pollution, and helping climate refugees. Instructor: Roady. One course. C-L: Public Policy 314, Marine Science and Conservation

315S. 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: Staff. One course. C-L: Documentary Studies 315S, Visual and Media Studies 309S

319A. Aquaculture and the Environment. NS, STS, W The major environmental, social and economic drivers of increasing global aquaculture, with a focus on marine systems. Quantitative evaluation and comparison of the range of species for aquaculture, locations where operations occur, operational aspects including environmental impacts and management considerations. Investigation of alternative approaches and potential future areas for aquaculture expansion as well as social, economic and technical barriers to implementation. Taught in Beaufort at Duke Marine Lab. Instructor: Johnson. One course.

320. Planetary Health: Ecosystems, Human Health and Policy. NS, SS, STS Planetary health focuses on human health impacts of anthropogenic disruptions of Earth's natural systems. Examines interplay of human activity, environmental changes, human health impacts, and policy interventions. Topics include climate change, loss of biodiversity, urbanization, global pollution, and changing food systems. Uses a social justice perspective to understand which communities and populations are most vulnerable to disruptions of natural systems. Examines evidence on effective policy responses. Explores real world case studies and solutions. Instructor: Kramer. One course. C-L: Global Health 320

321A. Coastal Watershed Science and Policy. NS, STS Examination of coastal watersheds, their biological function, and how anthropogenic modifications impact wetlands, estuaries and near shore coastal ecosystems. Human ecosystem modifications addressed in terms of alterations caused by forestry, agriculture, highways, rural housing, suburban development, urban development and industry. Discussion of human and environmental health as well as ecosystem services provided by coastal systems (biogeochemical cycling and "blue" carbon). Emphasis placed on gaining an understanding of human impacts on the biology of coastal waters through alteration of the physics, chemistry and geology of coastal waters. Taught in Beaufort at Duke Marine Lab. Instructor: Hunt. One course. C-L: Biology 319A, Marine Sciences

322. Hydrologic and Environmental Data Analysis. NS, QS One course. C-L: see Earth and Ocean Sciences 322; also C-L: Civil and Environmental Engineering 365

332S. Environmental Justice: The Economics of Race, Place, and Pollution. EI, R, SS, W One course. C-L: see Economics 432S

335A. Drones in Marine Biology, Ecology, and Conservation. NS, STS Lecture-based version of Environment 335LA. Taught in Beaufort at Duke Marine Lab. Instructor: Johnston. One course. C-L: Biology 335A, Marine Sciences, Marine Science and Conservation

335LA. Drones in Marine Biology, Ecology, and Conservation. NS, STS Includes a full overview of past and emerging applications for ecology and biology of marine species and coastal habitats, with in-depth discussion on future of drone applications in coastal biological and ecological research. Comprehensive exploration of current drone technologies, including detection of target species, payloads, aeronautical concepts, rules and regulations, mission planning, aircraft design, maintenance, data collection, management and analysis. Lab components tailored to student interests: active participation in megafaunal or environmental research and data analysis; building, operating and maintaining aircraft, programming for manual and autonomous flight. Taught in Beaufort at Duke Marine Lab. Instructor: Johnston. One course. C-L: Biology 335LA, Marine Sciences, Marine Science and Conservation

336. Seabird Survival and Dispersal Analysis. NS Introduction to bird migration, navigation, seabirds as indicator species, natural history of sooty tern birds in the context of conservation. Introduction to field survey methods for seabirds, capture-recapture technique, population estimate and population evaluation, and habitat description for long-term monitoring, and its importance. Sampling activities include bird capture, banding, and morphometric measurements. Field course primarily at the Dry Tortugas National Park, FL where students can interact closely with park managers. Required field trip during Spring Break. Prerequisite: Environment 210D. Instructor: Pimm. Half course.

338S. Introduction to Environmental Life Cycle Assessment: Applications to Food Systems. NS, R, STS This DukeImmerse course introduces fundamental concepts and methods to conduct Environmental Life Cycle Assessments (LCA) to identify magnitude, type, and location of environmental impacts by food production from input for crops to the disposal of the final products. Discuss the Economic-Input Output LCA (EIO-LCA). Emphasis in understanding and estimation of the environmental impacts associated to the production, transportation, storage, and waste of food for human consumption, paying special attention to the water and energy use associated to these processes. Instructor consent required. Instructor: Patino-Echeverri. One course.

343S. Energy Futures and Environmental Justice. CCI, SS, STS One course. C-L: see Cultural Anthropology 345S; also C-L: Human Rights Program-Franklin Humanities Institute 334S, Human Rights

344S. Plant Diversity: A Field Approach. NS One course. C-L: see Biology 344S

346A. Marine Conservation Policy - A Practicum. EI, SS Immersion in marine conservation biology and policy. Experiential learning in maintenance and loss of marine biodiversity; key concepts of social science and law for instituting policy; position papers and stakeholder negotiation focused on ecological, economic, cultural, and institutional complexity associated with priorities for public trust resources. Analyze values, judgments, and preferences inherent in personal and public decision-making processes and competing visions for management and governance of marine resources. Taught in Beaufort at Duke Marine Lab. Prerequisite: Public Policy 155D suggested, or instructor consent. Concurrent enrollment required in Environment 384A/Biology 384A. Instructor: Nowacek. One course. C-L: Public Policy 246A, Marine Sciences, Marine Science and Conservation

348. Global Environmental Politics. SS This course examines the international community's responses to various global environmental problems. Because many environmental problems cross national borders, solutions require some form of global governance such as state-led mechanisms in the form of international environmental regimes. The course will thus explore how and why states both succeed and fail to negotiate international governance mechanisms. The course will also examine why some international environmental regimes are more effective than others and why states choose to comply with environmental regimes. Instructor: Weithal. One course. C-L: Political Science 348, Public Policy 349

350S. Marine Science and Conservation Leadership. EI, NS, SS, STS Course will explore the complex interactions among science, policy and economics in the use of marine resources and the role individuals play in promoting marine conservation and environmental sustainability. Utilizing case studies ranging from fisheries to offshore energy, students will evaluate trade-offs systematically and learn to assess how different policy options affect the incentives of resource users. Serves as the capstone for the Marine Science and Conservation Leadership Certificate. Prerequisite: none. Instructor: Dunn. One course. C-L: Public Policy 280S, Marine Sciences, Marine Science and Conservation

359. Fundamentals of GIS and Geospatial Analysis. NS, QS Fundamental aspects of geographic information systems and satellite remote sensing for environmental applications. Concepts of geographic data development, cartography, image processing, and spatial analysis. Consent of instructor is required. Instructor: Harrell. One course. C-L: Earth and Ocean Sciences 359

360. Environmental Chemistry and Toxicology. NS, STS This class presents an overview of the fate and toxic effects of chemical pollutants in the environment. Topics include chemical characterization of pollutants, transfer of pollutants between and transformations within environmental compartments, toxicokinetics, toxic mechanisms of action, biological levels of organization, and approaches for assessing chemical hazards. Incorporates case studies focused on human health and ecosystem protection. Prerequisite: Biology 201L and Chemistry 201DL. Instructor: Ulrich, Di Giulio, Meyer. One course.

361LS. 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: Energy and the Environment, Marine Science and Conservation

362SA. Changing Oceans. NS, STS One course. C-L: see Earth and Ocean Sciences 364SA

363. Environmental Economics and Policy. QS, SS, STS One course. C-L: see Economics 339; also C-L: Energy and the Environment, Marine Science and Conservation

365-20. Engineering Sustainable Design and the Global Community: Structural Focus. QS, STS One course. C-L: see Civil and Environmental Engineering 315-20; also C-L: Public Policy 211-20, Human Rights Program-Franklin Humanities Institute 315-20

365-60. Engineering Sustainable Design and the Global Community: Environmental Focus. QS, STS One course. C-L: see Civil and Environmental Engineering 315-60; also C-L: Public Policy 211-60, Human Rights Program-Franklin Humanities Institute 315-60

365D. The Modern Regulatory State. CZ, EI, R, SS One course. C-L: see History 365D; also C-L: Public Policy 219D, Political Science 340D

366. Green Germany: World Leader in Environmental Policy. CCI, CZ, EI, SS, STS One course. C-L: see German 364; also C-L: History 250, Energy 364

367SA. The Economics of the Energiewende in Germany. EI, SS, STS One course. C-L: see German 362SA; also C-L: Economics 331SA

369LA. Biological Oceanography. NS, R One course. C-L: see Biology 369LA; also C-L: Earth and Ocean Sciences 273LA, Marine Sciences, Marine Science and Conservation

370A. 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: one year of calculus and one semester of physics, or permission of instructor. Instructor: Hench. One course. C-L: Earth and Ocean Sciences 370A, Marine Sciences, Marine Science and Conservation

373LA. Sensory Physiology and Behavior of Marine Animals. NS, R, W One course. C-L: see Biology 373LA; also C-L: Neuroscience 381LA, Marine Sciences

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. Biodiversity of Marine Invertebrates. NS, R One course. C-L: see Biology 377LA; also C-L: Earth and Ocean Sciences 377LA, Marine Sciences, Marine Science and Conservation

380. The Calculus of Sustainability - Lessons from Complex Societies. NS, QS Sustainability research asks to what extent our planet, with a finite environmental resource base, can accommodate the faster than exponentially growing human population. The concept of carrying capacity contains many resource limitations originating from available water, energy, and ecosystem services. The course covers the calculus behind these limitations beginning from models of population growth, proceeding to the 'Doomsday Equation' and human-biosphere interactions. Dynamical systems will be used to enlighten linkages between humans and the Earth's carrying capacity, renewable versus non-renewable resources, peak-oil, peak-water, and peak-grain. Prerequisite: (Mathematics 105L and 106L) or Mathematics 111L. Instructor: Katul. One course.

383LA. Marine Molecular Microbiology. NS Introduction to microbiology from a marine perspective. Topics include microbial phylogeny, evolution, symbiosis, biotechnology, genomics, and ecology. Laboratory will employ modern molecular techniques to investigate the ecology and evolution of prokaryotic and eukaryotic

microbes. Taught in Beaufort at Duke Marine Lab. Prerequisite: AP Biology, introductory biology, or permission of instructor. Instructor: Hunt. One course. C-L: Biology 380LA, Marine Sciences, Marine Science and Conservation

384A. Marine Conservation Biology - a Practicum. NS, STS Immersion in marine conservation biology basics for 21st Century society and ‘anthropocene’ epoch including two week-long current issue modules. Phenomena affecting maintenance and loss of biodiversity (climate change, habitat destruction); strategies for combating threats to biodiversity; exploration of this field’s interdisciplinary nature; introduction to key concepts of ecology relevant to conservation issues at the level of populations and ecosystems; unique capstone-position papers and stakeholder negotiation. Taught in Beaufort at Duke Marine Lab. Recommended prerequisite: AP Biology, Biology 202L or 203L, introductory ecology, or instructor consent. Concurrent enrollment required in Environment 346A/Public Policy 246A. Instructor: Nowacek. One course. C-L: Biology 384A, Marine Sciences, Marine Science and Conservation

390. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Instructor: Staff. One course.

390-1. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Consent of instructor required. Half credit course. Instructor: Staff. Half 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.

390S-1. Special Topics in Environmental Sciences and Policy. Content to be determined each semester. Half credit course. Instructor: Staff. Half course.

390SA. Special Topics in Environmental Sciences and Policy. Marine Lab version of Environment 390S. Student must be enrolled at Duke Marine Lab in Beaufort. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course.

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 students with consent of instructor and director of undergraduate studies. Instructor: Staff. One course. C-L: Marine Sciences

391-1. Independent Study. See Environment 391. Open to qualified students with consent of instructor. Half credit. Instructor: Staff. Half course.

391A. Independent Study. Marine Lab version of Environment 391. Taught in Beaufort at Duke Marine Lab. 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 students 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 students with consent of instructor and director of undergraduate studies. Instructor: Staff. Half course. C-L: Marine Sciences

393A. Research Independent Study. R Marine Lab version of Environment 393. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Marine Sciences

394. Research Independent Study. R See Environ 393. Open to qualified students by consent of director of undergraduate studies and supervising instructor. Instructor: Staff. One course.

394A. Research Independent Study. R Marine Lab version of Environment 394. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Marine Sciences, Marine Science and Conservation

445A. Climate Change in the Marine Environment. EI, NS, STS Exploration of climate change science focusing on marine ecosystems and inhabitants—specifically ocean acidification, warming and sea level rise. Factors causing climate change, and how those vary spatially, focusing on sensitive polar ecosystems and marine mammal populations. Critical examination of climate change modeling using EdGCM (research-grade Global Climate Model), focusing on how scientists use models, observations/theory to predict climate, and

assumptions/uncertainty implicit in modeling. Discussion of potential human impacts including consequences of sea level rise and potential increases in disease due to climate change. Taught in Beaufort at Duke Marine Lab. Instructor: Johnston. One course. C-L: Biology 445A, Public Policy 445A, Marine Sciences, Marine Science and Conservation

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: Klein. One course. C-L: Energy 452L

461. Ocean Engineering. One course. C-L: see Electrical and Computer Engineering 461; also C-L: Mechanical Engineering and Materials Science 426

464. Mathematics of Dynamical Systems Describing Complex Environmental Phenomena: A Modern Crystal Ball?. NS, QS Environmental problems require construction of and solutions to systems of equations for relations between rates and states of variables. Covers construction and use of differential equations and corollary analytical tools. Differential equations used to explain concepts as stability, resilience, and equilibria (e.g. climate, ecosystems, conservation efforts). Computer-aided software (MATHEMATICA and Matlab) used to solve analytically and numerically such equations. Case studies illustrate the mathematical tools derived in dynamical systems (e.g. bifurcations and catastrophe theory, boom-bust, crashes). Prerequisite: Mathematics 111L or equivalent and Physics 141L or equivalent. Instructor: Katul. One course.

470S. Capstone: Research in Human Rights. R, W One course. C-L: see Cultural Anthropology 470S; also C-L: History 488S, Human Rights Program-Franklin Humanities Institute 470S, Human Rights

476A. Data and Time Series Analysis in Marine Sciences. NS, QS This course is designed for students in marine and environmental science disciplines to learn data analysis skills, including analysis techniques and their implementation using MATLAB or R. Topics include: discrete sampling issues, data outlier and rejection tests, interpolation and gridding, error and propagation of uncertainty, coordinate rotations and principal axes, curve fits, regression, bootstrapping, filtering, spectral and harmonic analysis, spatial analyses. Other topics may be included or substituted depending on student interests. The course is structured as mix of weekly lectures and linked workshops applying methods to marine and environmental data sets. Taught in Beaufort at Duke Marine Lab. Instructor consent is required. Instructor: Hench. One course. C-L: Marine Sciences

495. Senior Capstone Course. R Interdisciplinary and in-depth study of contemporary environmental issues. Content to be determined each semester. Prerequisite: Environment 201. Consent of instructor required. Instructor: Reid. One course.

496. Advanced Research in Environmental Sciences and Policy. R Advanced research in Environmental Sciences and Policy leading to Graduation with Distinction. Weekly one-hour seminars to guide student's independent research towards thesis. Topics include background context through efficient library searches of literature, hypothesis testing, research design, data analysis, and proposal writing. Students write a proposal including a comprehensive literature review, methods description, and preliminary results demonstrating methods' feasibility. Student peer-review used to explore various topics. Students are expected to work with a faculty mentor conducting original research in a research independent study. Instructor: Reid. Half course.

497. Communicating Research in Environmental Sciences and Policy. Weekly one-hour workshop intended for students writing a senior thesis in Earth and Ocean Sciences, Environmental Sciences, or Environmental Sciences and Policy. Topics include writings styles of environmental sciences in natural and social sciences, presentation of data analysis and findings, written and visual communication of research findings. Using peer-review of participants writing, each student will communicate their knowledge and perspective to other, develop a depth of knowledge in their particular area while gaining knowledge in various environmental topics. Assessments will be based on peer evaluation of iterations of sections of thesis drafts and poster drafts. Instructor consent required. Instructor: Reid. Half course.

498S. Building a Sustainable Tomorrow. SS, STS Capstone for Certificate in Sustainability Engagement

open to senior undergraduates who have completed all other Certificate requirements. Interdisciplinary insights to shed light on major contemporary debates in sustainability and world's most pressing problems. Synthesis and integration of ideas, concepts, and themes from their academic coursework and experiential activities with each dimension of sustainability, enhancing their systems analysis of chosen theme. Classes include discussion, readings, and guest speakers on topics in sustainability. May include fieldwork and other learning experiences relevant to sustainability. Held in Spring semesters. Open only to Sustainability Engagement certificate students. Prerequisite: Sustainability Engagement 245/Environment 245. Instructor: Clark and Philipsen. One course. C-L: Sustainability Engagement 498S, Public Policy 473S

501. Environmental Toxicology. NS An introduction to the field of 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 an upper-level biology course, or consent of instructor. Instructor: Di Giulio/Meyer.

501A. Environmental Toxicology. NS An introduction to the field of 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. Taught in Beaufort at Duke Marine Lab. Prerequisite: organic chemistry and an upper-level biology course, or consent of instructor. Instructor: Meyer, Di Giulio.

503. Forest Ecosystems. NS 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.

504A. Marine Protected Area Monitoring and Management. EI, NS, SS An interdisciplinary course that addresses concepts, issues, and approaches relevant to marine protected areas (MPAs) and their impacts on marine ecosystems and coastal people. Course will address key topics on MPA design, implementation, management, monitoring, and evaluation. Attention will be given to sensitive marine ecosystems (e.g. coral reefs) and resource-dependent fishing and tourism communities. Using real world case studies, students will apply introduced concepts and quantitative approaches to questions on MPA monitoring and evaluating their impacts. Students will engage with the course material primarily through group discussions, problem sets, and lectures. Taught in Beaufort at Duke Marine Lab. Instructor: Gill. C-L: Marine Sciences, Marine Science and Conservation

505. Functional Ecology of Plants. NS This course is designed for graduate and undergraduate students with interest in plant functional ecology. We explore how (woody) plants function and respond to changing climate. We focus on plant functional traits (e.g., leaf properties, wood density, maximum height) and the main tradeoffs controlling plant form and function in various environments. Instructor: Palmroth, Domec. C-L: Biology 505

512A. Deep-Sea Science and Environmental Management. NS, R, STS Explores ecosystems in the deep sea, including fundamental aspects of geology, chemistry, and biodiversity; behavioral, physiological, and biochemical adaptations of organisms (primarily invertebrate, but may include microbial and vertebrate components) to deep-sea benthic and benthopelagic environments will be introduced. Students will gain an understanding of the ecosystem services of the deep sea; issues in deep-sea environmental management arising from exploitation of deep-sea resources will be discussed. Taught in Beaufort at Duke Marine Lab. Instructor: Van Dover. C-L: Marine Science and Conservation

513. Groundwater and the Environment. NS, STS C-L: see Earth and Ocean Sciences 513

517. 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: Poulsen. C-L: Biology 561, Latin American Studies

520. Resource & Environmental Economics I. SS Part 1 of a survey course in environmental and natural resource economics. Part 1 focuses on basic theory and methods of economic analysis of environmental

problems including benefit-cost analysis, non-market valuation, and instrument choice. Prerequisite: Introductory course in microeconomics and one semester of calculus. Instructor: Bennear or Smith. C-L: Economics 530, Public Policy 576, Energy 520, Marine Science and Conservation

520D. Resource and Environmental Economics and Policy. Discussion section for Environment 520. Instructor consent required. Instructor: Bennear or Smith. C-L: Economics 530D, Public Policy 575D

520L. Resource and Environmental Economics. The application of economic concepts to private- and public-sector decision making concerning natural and environmental resources. Intertemporal resource allocation, benefit-cost analysis, valuation of environmental goods and policy concepts. Prerequisite: introductory course in microeconomics. Instructor: Bennear or Smith. C-L: Economics 530L, Public Policy 575L, Marine Science and Conservation

521. Resource & Environmental Economics II. SS Part 2 of a survey course in environmental and natural resource economics. Part 2 focuses on basic theory and methods of economic analysis of natural resource problems including extraction of non-renewable resources over time, fisheries economics and forest economics. Prerequisite: Environment 520. Instructor: Bennear, Smith, or Vincent. Variable credit. C-L: Economics 531, Public Policy 584

524. Water Quality Health. C-L: see Earth and Ocean Sciences 524; also C-L: Global Health 534, Energy 524

528SA. Community-Based Marine Conservation in the Gulf of California. CCI, SS, STS Experiential education course on community-based conservation. Students learn first-hand about the challenges (accomplishments, failures, and promises) involved in its design and practice in developing countries of high biological diversity. Learn about the unique natural and political history, and social characteristics of the places where conservation takes place. Students link local context to broader perspectives through key readings and class discussions. Taught in Beaufort at Duke Marine Lab. Travel to biodiversity hotspots in the Gulf of California required. Consent of instructor required. Instructor: Basurto. C-L: Marine Sciences, Marine Science and Conservation

530. Remote Sensing in Coastal Environments. NS, QS One course. C-L: see Earth and Ocean Sciences 530; also C-L: Civil and Environmental Engineering 574

531L. Economic Valuation of the Environment. SS Quantitative course with focus on economic valuation of changes in environmental quality. Covers theoretical foundations of major nonmarket valuation methods and, through a series of problem sets, provides opportunities to develop skills applying those methods. Also covers a range of regression methods commonly employed in valuation studies. Prerequisite: Environment 520 or equivalent and Environment 710 or equivalent. Instructor: Vincent.

532. Evaluation of Public Expenditures. SS C-L: see Public Policy 596; also C-L: Economics 521

532D. Evaluation of Public Expenditures. SS C-L: see Public Policy 596D; also C-L: Economics 521D

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. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. C-L: Marine Sciences, Marine Science and Conservation

535. Air Quality Management. Types, sources, effects of air pollutants. Regulatory framework emphasizing the Clean Air Act Amendments of 1990 and federal, state, local agency implementation. Application of risk assessment, technology, market incentives to air management. Scientific, policy aspects of acid deposition, global climate change, indoor air, mobile sources control. Dispersion modeling, exposure assessment. Instructor: Vandenberg, Zhang.

536. Food, Agriculture and the Environment: Law and Policy. SS This class examines agriculture and food production through some of the laws and policies that promote environmental protection and consumer welfare. Agriculture is the largest single land use in the U.S., occupying approximately 50% of the land mass. The industrial-agricultural model that has come to dominate food production has brought about env degradation in many communities. In many areas of the country, including NC, local food markets represent one of the most exciting opportunities for env stewardship, econ growth, and community building. However, these opportunities will not be realized without attention to the legal and policy structures that confront sustainable

food production. Instructor: Nowlin.

537. Environmental Health and Epidemiology. NS, STS Introduction to environmental effects on human health, as well as ecological health. Focus on chronic effects of exposure to pollution on key health endpoints including cancer, neurological health, reproduction and development, cardiovascular and pulmonary health, 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: Di Giulio.

538. Global Environmental Health: Economics and Policy. SS, STS C-L: see Public Policy 582; also C-L: Global Health 538

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/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 ground waters, 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

542L. Environmental Aquatic Chemistry. C-L: see Civil and Environmental Engineering 561L

543S. Water Cooperation and Conflict. R, SS, STS C-L: see Public Policy 580S; also C-L: Global Health 533S, International Comparative Studies 580S

544S. Collective Action, Property Rights, and the Environment. CCI, EI, SS C-L: see Political Science 549S; also C-L: Energy and the Environment

548. Solid Waste Engineering. C-L: see 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 The purpose of the course is to improve your understanding of how land is used, the key factors shaping those uses, the environmental, social and cultural impacts of different land uses, and how land use could be more sustainable. The course covers a wide range of land use issues and topics, from agriculture and forestry to zoning, property rights and natural disasters. Students will examine historical uses, current trends, and likely future uses of land. The main focus of the course will be on land use principles and practices in the United States, but we will also explore examples from other parts of the world. Instructor: Salvesen. C-L: Public Policy 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. Taught in Beaufort at Duke Marine Lab. Instructor: Campbell. C-L: Marine Sciences, Marine Science and Conservation

552. Climate and Society. EI, NS C-L: see Earth and Ocean Sciences 550

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. Instructor: Addor.

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.

558L. Remote Sensing for Environmental Analysis. NS, QS, STS Environmental analysis using satellite remote sensing. Theoretical and technical underpinnings of remote sensing (corrections/pre-processing, image enhancement, analysis) with practical applications (land cover mapping, change detection e.g. deforestation mapping, forest health monitoring). Strong emphasis on hands-on processing and analysis. Will include variety of image types: multi-spectral, hyper-spectral, radar and others. Recommended prerequisite: familiarity with GIS. Instructor: Swenson.

559. Fundamentals of Geographic Information Systems and Geospatial Analysis. QS Fundamental aspects of geographic information systems and satellite remote sensing for environmental applications. Covers concepts of geographic data development, cartography, image processing, and spatial analysis. Gateway into more advanced training in geospatial analysis curriculum. Consent of instructor required. Instructor: Halpin/Harrell.

563. Cost-Benefit Analysis for Health and Environmental Policy. R, SS C-L: see Global Health 531; also C-L: Public Policy 607

564. Biogeochemistry. NS, STS C-L: see Biology 564

564D. Biogeochemistry. NS, STS C-L: see Biology 564D

565S. Stormwater Science: Pollution, Pavement, and Precipitation. NS C-L: see Biology 563S

566. Environmental Analytical Chemistry. C-L: see Civil and Environmental Engineering 565

568S. Integrated Assessment Modeling—Examining Strategies for Meeting Energy and Environmental Goals. NS, STS C-L: see Earth and Ocean Sciences 568S

569. Should I Eat Fish? Economics, Ecology and Health. Examines role that individual consumer can play in promoting marine conservation. Course considers array of issues that confront seafood consumers and tradeoffs that only an informed consumer can assess. In context of evaluating seafood students will learn to evaluate tradeoffs systematically, assess how different policy options affect incentives for users and polluters. This process allows students to place consumer initiatives in context of other approaches to marine conservation. Interdisciplinary approach but economic themes will inform course. Course intended for Master of Environmental Management students, but open to advanced undergraduates with permission. This course is intended for MEM students and is based on a Marine Conservation Leadership Certificate capstone course offered previously to undergraduates. Advanced undergraduates permitted pending space availability. Instructor: Smith.

570. Isotopes in Earth and Environmental Sciences. NS, QS, STS C-L: see Earth and Ocean Sciences 571; also C-L: Civil and Environmental Engineering 551

570LA-2. Marine Ecology of the Pacific Coast of California. NS, STS C-L: see Biology 570LA-2

571A. Sojourn in Singapore: Urban Tropical Ecology. CCI, NS, SS, STS The mix of human ecology, tropical diversity, disturbed habitats and invasive species in Singapore. How Singapore maintains and enhances the quality of life of its citizens while radically modifying its environment. Research on politics, management or biology. Travel to Singapore required. Taught in Beaufort at Duke Marine Lab. Consent of instructor required.

Instructor: Rittschof and Schultz. C-L: Biology 571A, Marine Sciences, Marine Science and Conservation

572. Economic Evaluation of Sustainable Development. EI, SS C-L: see Public Policy 574

573. Coastal and Marine Pollution. NS, STS Sources, fate, and effects of organic, inorganic, and particulate pollutants in the marine environment. Topics include oil spills, coastal eutrophication, marine debris, harmful algae, sewage contamination, dredging, and emerging contaminants. Methods for measuring pollution in the marine environment and consequences for human and ecological health will be discussed. Case studies of impacted marine environments will be highlighted. Short local field trips possible. Recommended prerequisite: introductory chemistry and biology, or consent of instructor. Instructor: Ferguson.

573A. Coastal and Marine Pollution. NS, STS Sources, fate, and effects of organic, inorganic, and particulate pollutants in the marine environment. Topics include oil spills, coastal eutrophication, marine debris, harmful algae, sewage contamination, dredging, and emerging contaminants. Methods for measuring pollution in the marine environment and consequences for human and ecological health will be discussed. Case studies of impacted marine environments will be highlighted. Short local field trips possible. Taught in Beaufort at Duke Marine Lab. Recommended prerequisite: introductory chemistry and biology, or consent of instructor. Instructor: Ferguson. C-L: Marine Sciences

575L. Biodiversity Science and Application. NS, R C-L: see Biology 565L

575S. Biodiversity Science and Application. NS C-L: see Biology 565S

577. Environmental Politics. SS Environmental policy formation and implementation in comparative perspective. Topics include interest groups, environmental movements and parties, public opinion, political systems and institutions. Case studies selected from the United States and other advanced industrialized countries and the developing world. Spring. Instructor: Albright or Mullin. C-L: Public Policy 577, International Comparative Studies 577, Energy and the Environment

579LA. Biological Oceanography. NS, R 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). Taught in Beaufort at Duke Marine Lab. Prerequisite: introductory biology. Instructor: Johnson. Variable credit. C-L: Biology 579LA, Earth and Ocean Sciences 579LA, Marine Sciences, Marine Science and Conservation

579S. Collective Action, Environment, and Development. SS C-L: see Public Policy 579S

581. Global Environmental Health Problems: Principles and Case Studies. NS, SS Many environmental problems occur both locally & globally. Having insights and experience from different parts of the world is important for students to gain problem-oriented training. This course will cover fundamental principles on physical & chemical processes related to major environmental problems. These principles will then be integrated to discussions of case studies addressing a specific set of problems. The case studies will involve the participation of invited guest instructors who are experts on specific topics/cases. Depending on preference of guest instructors, they can introduce a case study via online lecturing/chatting or providing a pre-made video. Online course. Instructor consent required. Instructor: Zhang. C-L: Global Health 581

583S. Energy and U.S. National Security. CCI, EI, SS, W C-L: see Public Policy 583S; also C-L: Political Science 663S, Energy and the Environment

585. Fisheries Biogeography and Ecology. NS Current status of the distribution and abundance of fisheries globally and current topics in fisheries ecology, explored through lecture and discussion of primary literature. Participation in leading discussions and mini literature review. Basic knowledge of ecology and oceanography. Instructor consent required. Instructor: Dunn. C-L: Marine Sciences, Marine Science and Conservation

585A. Fisheries Biogeography and Ecology. NS Current status of the distribution and abundance of fisheries globally and current topics in fisheries ecology, explored through lecture and discussion of primary literature. Participation in leading discussions and mini literature review. Basic knowledge of ecology and oceanography. Intended for master and doctoral students. Taught in Beaufort at Duke Marine Lab. Instructor: Staff.

590. Special Topics. Content to be determined each semester. May be repeated. Instructor: Staff. Variable credit.

590LA. Duke-Administered Study Away: Special Topics. Content to be determined each semester. May be repeated. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. C-L: Marine Science and Conservation

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. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. Variable credit. C-L: Marine Sciences

603. Air Quality: Management. NS, QS, W Management systems are discussed, including varied approaches used to address criteria air pollutants, air toxics, mobile sources and acid deposition. Course prepares students to understand systems approach to apply science and technical information to inform policy decisions affecting air quality; understand and be conversant in varied approaches to manage air quality to meet policy objectives; be familiar with major common air pollutants and air quality management approaches applied to each and why approaches vary. Instructor: Vandenberg.

604. Air Quality: Human Exposure and Health Effects. NS, STS Looks at how individuals and populations are exposed to air pollution and what adverse health effects the exposure will cause. Covers exposure analysis methods, toxicological and epidemiological studies that examine health effects of air pollution exposure. Students will be prepared to understand concept and major methodologies of analysis for air pollution; how toxicology is used to determine adverse effects of air pollution exposure and underlying biological mechanisms; collect evidence on air pollution health effects in supporting health risk assessment. Prerequisites: general biology, statistics. Instructor: Zhang. C-L: Global Health 634

610. Ecotoxicology. NS Overview of ecological and toxicological effects of chemicals on structure and function of ecosystems, primarily at population, community and ecosystem levels of biological organization. Topics include environmental fate and transport of contaminants, biomonitoring, biomarkers/bioindicators, evolution of resistance to pollution, and extrapolating from molecular interactions to ecosystems. Incorporates critical discussion of in-depth case studies to highlight application of ecotoxicological concepts to real-world scenarios. For graduate and advanced undergraduate students. Instructor: Raftery.

615A. Aquaculture and the Environment. The major environmental, social and economic drivers of increasing global aquaculture, with a focus on marine systems. Quantitative evaluation and comparison of the range of species for aquaculture, locations where operations occur, operational aspects including environmental impacts and management considerations. Investigation of alternative approaches and potential future areas for aquaculture expansion as well as social, economic and technical barriers to implementation. Taught in Beaufort at Duke Marine Lab. Instructor: Johnson.

621. Water Resources, Finance and Planning. NS, SS Introductory course to water in the built environment, with basic treatment of hydrology, treatment, regulation, and planning of water resources. Course will serve as a survey course for non-water specialists, and a bridge course from hydrology to policy, management, planning, and finance, or vice versa for policy students interested in bridging to hydrology. Emphasis will be on applications of basic techniques common in management contexts. Instructor: Doyle.

623L. Ecological Diversity and Climate Change. NS, QS Evaluates the science of biodiversity and climate change, including changes happening now, in the past, and what we can expect in the future. Topics include forest diebacks, intensifying drought, increased wildfire, insect and pathogen outbreaks, and poleward migrations of land and marine populations. Analytical tools used to quantify change include elements of basic distribution theory, data manipulation in R, and examples of simulation methods. Each lab implements one or more models, including regression, GLMs, and species distribution modeling. Prerequisites: calculus, statistics. Instructor: Clark.

624. Agriculture and Sustainability: Feeding the Growing Human Population Today for the Future. NS, STS Introduces agroecology through basic scientific knowledge of plant physiology and growth for crop production, crop diversity and breeding, and comparison of agricultural practices (industrial, subsistence, organic, sustainable). Covers resources needed for whole-plant growth, biomass output for human use including bioenergy, and impacts on ecosystems. Examines environmental sustainability through assessment of drawbacks and benefits of agricultural practices for human food and biofuel production. Applications include management plan for sustainable agroecosystems and forecast of crop agricultural practices in need of a future altered environment. Prerequisites: introductory Biology or Ecology. Instructor: Reid.

626. River Processes. Course focuses on river processes and how rivers change and how to analyze rivers. Course is a mixture of hydrology, geomorphology, and ecology. Focus is on quantitative analysis of processes using simple modeling approaches. Problems will be drawn from policy and river management applications such as river restoration, channel design, dam management, and floodplain regulation. Instructor: Doyle.

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: Science & Society 627, Biology 627

630. Transportation and Energy. SS, STS Examination of transportation-related energy use and its impact on the environment. Learn how technology, infrastructure, and policy, as well as personal and cultural preferences, interact to meet demands for personal mobility and freight movement. Cutting across these themes will be consideration of strategies to reduce transportation energy use and its environmental impacts, with an introduction to information resources and tools for evaluating both. Provides opportunities to hone problem solving and analytical skills, and challenges students to think critically and creatively about the trade-offs among complex transportation options. Instructor: Johnson. C-L: Energy 630, Energy and the Environment

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. Prerequisite: Environment 231 or Environment 711. Instructor consent required. Instructor: Johnson. C-L: Energy 631

632. Environmental Education and Interpretation. Course will provide students with foundational knowledge and practical communication skills drawn from five schools of environmental education (EE): natural resource interpretation, science education, European approaches to EE, placed-based learning, and nature connectedness. Through readings, program observations, practicums, and instructor- and peer-based evaluations, students learn to evaluate their audience, develop measurable goals for communication, and refine their presentation skills. Students will also be able to adapt presentations and programs based on the five school of EE addressed in class. Students successfully completing course will become NAI Certified Interpretive Guides. Instructor: Cagle.

633. Critical Readings in Environmental Epidemiology. NS, SS, STS Basic introduction to epidemiological methods, skills to understand and critique, and emerging issues in environmental epidemiology reported in relevant journals. Students will gain knowledge of study designs and analytical methods used in applied epidemiology, practice designing translational and environmental epidemiological studies, and understand the role of epidemiology in Risk Assessment. Course will include lectures, readings, class discussion, oral presentation and written assignments. Instructor: Pan. C-L: Global Health 635

634. Introduction to Ecosystem Services and Methods for Quantification. NS, SS An introduction to ecosystem services, which is increasingly recognized as a useful concept for decision-making, and provide an overview of the suite of methods that are used to quantify them. The course will also provide an overview of a suite of skills/courses needed for ecosystem services assessment and show how they contribute to quantifying ecosystem services. These skills include Structured Decision Making, Ecological Modeling, Bayesian Belief Networks, Multi-Criteria Decision Analysis, Monetary Valuation (non-market valuation methods), & Structural Equation Modeling. Prerequisites: ecology, microeconomics, Environment 520/521 or equivalent. Instructor: Olander.

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 the economy and environment. Will explore rationales for why markets for energy and related technologies have been subject to extensive government intervention. Course will analyze effects of policy responses, including energy price

regulation, the interface of energy, environmental, and technology policy, and policy motivated by energy security concerns. Prerequisites: Introductory Microeconomics (Economics 101 or equivalent) and college calculus. Instructor: Staff. C-L: Energy 635

637S. Population and Environmental Dynamics Influencing Health. NS, SS C-L: see Global Health 637S

638. Environmental Life Cycle Analysis & Decision. NS, R, STS Provides theoretical foundations of environmental life cycle assessment tools and methods used for products and global supply chains. Introduces various life cycle inventory and life cycle assessment tools used by the community of scientists and industry. Instructor consent required. Instructor: Golden. C-L: Energy 638

640. Climate Change Economics and Policy. This course explores the economic characteristics of the climate change problem, assesses national and international policy design and implementation issues, and surveys the economic tools necessary to evaluate climate change policies. Discussion-oriented requiring high degree of student participation. Course objectives are increased comprehension of economic aspects of climate change and ability to apply tools of economic analysis to climate policy and the responses of firms and households to it. Course designed for graduate and advanced undergraduate students. Instructor: Pizer. C-L: Public Policy 585

642. Air Pollution: From Sources to Health Effects. Both urban outdoor air pollution and household indoor air pollution contribute significantly to global burden of disease. Course covers fundamentals about how major air pollutants are generated and transported in the atmosphere and how these pollutants affect human health. Relevant exposure assessment, toxicology and epidemiology case studies are discussed. Prerequisites: general chemistry; introductory-level statistics. Instructor: Zhang. C-L: Global Health 630

646. Urban Ecology. NS, R, SS, W Addresses how to understand urban areas as ecological and socio-ecological systems and the distinction between the study of ecology in and of cities. Examines both through theoretical lens of socio-ecological systems, in which humans and their actions are a component of, rather than disturbance imposed on, ecological systems. Applies theoretical and methodological tools to global, regional, and local urban issues. Prerequisites: One ecology course and one environmental social sciences course. Instructor: Heffernan.

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.

658. Applied Qualitative Research Methods. R Broadly covers qualitative and mixed methods research design, analysis, and interpretation. Students gather a limited amount of their own data and produce a pilot research project throughout the semester. Students learn to use NVivo10, a qualitative research software program. Instructor: C. Clark.

665. Bayesian Inference for Environmental Models. NS C-L: see Biology 665; also C-L: Information Science + Studies

666. Aquatic Geochemistry. C-L: see Civil and Environmental Engineering 666

667. Chemical Transformation of Environmental Contaminants. C-L: see Civil and Environmental Engineering 667

678. Population Ecology for a Changing Planet. NS, STS Overview of the expanding field of population ecology, including the use of new bioinformatic tools to study topics such as the impacts of climate change on population dynamics, population growth and regulation, adaptive evolution, and emerging diseases. Lecture and discussion of case studies will evaluate current knowledge and productive research directions, highlighting analysis of observational and experimental data sets. Prerequisites: introductory statistics and calculus. Instructor: J. Clark. C-L: Biology 678

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.

684. Politics of the Urbanized Environment. Examines the politics of environmental management in urbanized areas. Students will gain understanding of political, economic and social constraints on local government decision-making; pathways by which local policy decisions shape environmental outcomes; tools to improve environmental outcomes and conditions for using the tools. Students will gain competencies in identifying opportunities for improved environmental outcomes, evaluating feasibility of environmental management strategies, and developing and communicating them appropriately. Course material will emphasize US cities with some attention to non-US urbanized environments. Course assumes familiarity with US government. Instructor: Mullin.

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 Nicholas School of the Environment. For a complete list of elective courses, visit <https://nicholas.duke.edu/academics/undergraduate-programs>.

For the AB 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 prerequisites to some upper-level courses in this major.

- Environment 102 (Introduction to Environmental Sciences and Policy)
- Biology 201L or 202L or 203L (Gateway to Biology)
- Chemistry 101L or 110L (Advanced General Chemistry), or equivalent
- Economics: Economics 101 (Economic Principles); Environment 155 (Principles of Economics and the Environment); or Political Science 145 (Introduction to Political Economy) or equivalent
- Mathematics 111L (Introductory Calculus) or equivalent (e.g., Mathematics 105L and 106L)
- Statistics: Statistical Science 101L, 102L, 111L, 130L, or 199L; or Biology 304; or Sociology 333; or equivalent

Major Requirements

- **Gateway Course:** Environment 201 (Integrating Environmental Sciences and Policy)
- **Topical Areas:** One course in each area, chosen from a list of approved courses:
 - Environmental Humanities
 - Environmental Sciences
 - Environmental Policy
- **Focus Area:** Students are required to choose a focus area and take three courses around that focus, at least one of which is a 500-level course. Focus areas will be chosen under the direction of the student's major advisor and will be approved by the director of undergraduate studies upon successful submission of a short essay outlining the focus area and justifying the chosen courses.
- **Capstone:** Environment 495 (Capstone Course). Participating in Graduation with Distinction (GWD) can fulfill this requirement.
- **Field Experience or Internship:** Students will complete a field experience or internship relevant to their major. 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.

For the BS 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.

- Environment 102 (Introduction to Environmental Sciences and Policy)
- Biology 201L or 202L or 203L (Gateway to Biology) or equivalent
- Chemistry 101DL (Advanced General Chemistry) and either Chemistry 210DL or 201DL or equivalents.

- Physics 141L, 151L, 161D, or 164L (Introductory Physics); or equivalent
- Mathematics 111L and 112L (Introductory Calculus), or equivalent
- Statistical Science 101L, 102L, 111L, 130L, or 199L; or Biology 304

Major Requirements

- **Gateway Course:** Environment 201 (Integrating Environmental Sciences and Policy)
- **Core Areas:** One course in each area, chosen from a list of approved courses:
 - Environmental Health
 - Ecology
 - Environmental Physical Sciences
 - Environmental Social Sciences
 - Environmental Tools/Skills
- **Focus Area:** Students are required to choose a focus area and take three courses around that focus, at least one of which is a 500-level course. One of these courses can overlap the core courses. Focus areas will be chosen under the direction of the student's major advisor and will be approved by the director of undergraduate studies upon successful submission of a short essay outlining the focus area and justifying the chosen courses.
- **Capstone:** Environment 495 (Capstone Course). Participating in Graduation with Distinction (GWD) can fulfill this requirement.
- **Field Experience or Internship:** Students will complete a field experience or internship relevant to their major. 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.

For the AB Degree with Concentration in Marine Science and Conservation (MSC)

The Environmental Sciences and Policy Program also offers an AB degree with concentration in marine science and conservation. The corequisite, gateway, and capstone requirements are the same as the AB degree in environmental science and policy. Students must choose at least one course in each of three topical areas (Environmental Humanities, Marine Conservation, and Marine Science) and must choose three courses in an area of specialization (Marine Science or Marine Conservation), including at least one independent study. Lists of courses satisfying the topical areas are maintained on the Duke Marine Lab website (<https://nicholas.duke.edu/marinelab/>). Courses satisfying the area of specialization will be chosen in consultation with a major advisor and/or the marine lab director of undergraduate studies. Students seeking an AB degree with a concentration in marine science and conservation are required to spend at least one semester at Duke Marine Lab.

For the BS Degree with Concentration in Marine Science and Conservation (MSC)

The Environmental Sciences and Policy Program also offers a BS degree with concentration in marine science and conservation. The corequisite, gateway, and capstone requirements are the same as the BS degree in environmental science and policy. Students must choose at least five courses in each of five core areas (Marine Ecology, Conservation, Organismal: Structure/Function, Marine Processes, and Marine Tools/Skills). In addition, students must specialize in an area by completing three courses in that area, including at least one independent study. Lists of courses satisfying the topical areas are maintained on the Duke Marine Lab website (<https://nicholas.duke.edu/marinelab/>). Courses satisfying the area of specialization will be chosen in consultation with a major advisor and/or the marine lab director of undergraduate studies. Students seeking a BS degree with a concentration in marine science and conservation are required to spend at least one semester at Duke Marine Lab.

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. Students with AP credit must select an additional environment course in place of Environment 102 to equal five courses.

Advising in Environmental Sciences and Policy

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.

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. Students are required to take one independent research study as part of the Graduation with Distinction process. Students will write a substantial paper describing their completed research, which is evaluated by the faculty advisor, and will 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 <https://sites.nicholas.duke.edu/undergrad/graduation-with-distinction>.

Ethics

Suzanne Shanahan, *Director of Undergraduate Studies*; Geoffrey Harpham, *Director of the Ethics & Society Certificate*

A certificate, but not a major, is available in this program.

The goal of the undergraduate Ethics & Society Certificate 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 policymakers, 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.

Students pursuing the Ethics & Society Certificate have the opportunity to pursue two different pathways. The first is a course based pathway consisting of six courses (including the Gateway and Capstone courses, which every certificate student has to take). The experiential pathway combines four courses with two experiential components: a faculty mentored independent research project and community-based field work.

In the standard course-based version, six courses are required for completion of the certificate program:

- Ethics 101D/Ethics 101 (Gateway - The Challenges of Living an Ethical Life)
- Ethics 497S (Capstone Seminar)
- Four additional courses from a list of approved ethics courses, which include courses in Philosophical Ethics, Cross-Cultural Ethical Traditions, Ethics in Historical Perspective, Ethics in Literature and the Arts, and Ethics of Contemporary Issues. Students must take one Philosophical Ethics course and one Cross-Cultural Ethical Traditions course. They must take one course in either Ethics in Historical Perspective or Ethics in Literature and the Arts. The final elective course may come from any of the five elective categories.

In the experiential version of the certificate, students take four courses and complete two experiences:

- Ethics 101D/Ethics 101 (Gateway - The Challenges of Living an Ethical Life) (introductory course). Students may complete no more than one experience before taking the gateway course.
- Ethics 497S (Capstone Seminar). The capstone cannot be taken until all other requirements are complete.
- Two ethics courses of the students' choosing from an approved list of courses.
- Two not-for-credit experiences are also required. The first must be a faculty-mentored research experience and the second must be a community-based field experience. One experience must be at least 150 hours in duration and the other must be at least 300 hours in duration.

The experiential track requires study formulated around one of six areas: human rights, global migration, rethinking regulation, ethics and environmental policy, moral attitudes and decision making, or religion and

public life. Students must receive pre-approval of two thematically related experiences. For details, please contact the director of the Ethics & Society Certificate.

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: <https://kenan.ethics.duke.edu/programs/ethics-society-certificate>.

Courses in Ethics (ETHICS)

89S. Special Topic: First-Year Seminar in Ethics. First-year seminar course. Topics vary each semester offered. Instructor: Staff. One course.

101. 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 auto-biographies, polemics and meditations, novels and political commentaries.

Introductory course for the Ethics & Society Certificate. Instructor: Staff. One course. C-L: Political Science 120

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, Philosophy 219D

111S. The Examined Life. EI Provides opportunity to ponder, critique, and reflectively engage diverse perspectives on persistent questions related to the concept of a life well-lived. Includes such topics as purpose, vision, direction, passion, creativity, courage, determination, accomplishment, success, failure, death, virtue, character, habit, friendship, and community. Readings, exercises, and discussions encourage students to examine how these topics intersect with their own lives and those of others. Priority given to first-year students. Consent of instructor is required. Instructor: Hartemink. One course.

123. Private Wealth and Public Giving: A Modern History. CCI, CZ, EI, SS One course. C-L: see History 123; also C-L: Public Policy 177, International Comparative Studies 123

129FS. Human Rights and World Politics. EI, SS Examines the role of human rights and global justice in world politics. We will consider questions such as whether human rights are universal, what role human rights and global justice should play in U.S. foreign policy, which strategies are most effective in promoting human rights and global justice, and which risk inciting backlash. The course will cover topics including civil and political rights; economic, social and cultural rights; genocide, torture, humanitarian intervention, and the international criminal court. Instructor: Duara. One course. C-L: International Comparative Studies 128FS, Political Science 176FS, Public Policy 181FS, Human Rights

140FS. On Suffering: How Science and Stories Shape Us. ALP, EI By studying written and oral storytelling (including news articles, research reports, case histories, speeches, etc.), this course explores arguments for, and critiques of, appealing to stories in the face of suffering—personal and environmental—and starts articulating theological and ethical implications of ‘being an engaged witness in the world.’ We will listen to historical and contemporary voices that have shaped our views of the world, explore characteristics of pseudoscientific movements that make us squirm, and dig into the apparent and real differences between scientific, experiential, and theological reasoning. Open only to students in the Focus Program. Department consent required. Instructor: Barfield. One course. C-L: Global Health 140FS, Science & Society 140FS, Sociology 140FS

150FS. Citizenship, Patriotism, & Identity. CZ, EI, SS This course introduces students to fundamental moral questions about nation states and individuals’ membership in them. Do people owe more to their compatriots than to foreigners? Is it desirable—or at least permissible—for countries to have and promote a national identity? What different forms can patriotism take, and in which (if any) of these forms is it a virtue? Should we all be “citizens of the world?” These questions will be explored primarily through readings in contemporary moral and political philosophy. Open only to students in the Focus Program. Instructor: MacMullen. One course. C-L: Public Policy 167FS, Political Science 150FS

160FS. Globalization and Corporate Citizenship. EI, SS Are corporations citizens? And if so who defines their rights and responsibilities? To whom are they obligated? This course will critically examine the origins and diffusion of increasingly prevalent notions of corporate citizenship and corporate social responsibility from

an anthropological perspective. Particular emphasis will be upon corporate environmental and conservation policies in East Africa and the United States. Open only to students in the Focus Program. Director of undergraduate studies consent required. Instructor: Philipsen. One course. C-L: History 127FS, Public Policy 187FS, Economics 112FS

170FS. Liberty and Equality: Ancient and Modern Perspectives. CCI, CZ, EI, SS One course. C-L: see Classical Studies 170FS; also C-L: Political Science 170FS

171FS. The Ethics of Democracy. ALP, CZ, EI Exploration of the ways in which, in an American context, social, political, or historical issues can become focused in moments of individual ethical decision, or indecision. In-depth probing through literary analysis and other methods of the ways in which novels and films approach characteristically American tensions surrounding issues of race, sex, inequality, religion, education, and patriotism. Open only to students in the Focus Program. Instructor consent required. Instructor: Harpham. One course. C-L: English 173FS

171S. The Ethics of Democracy. CZ, EI Exploration of the ways in which, in an American context, social, political, or historical issues can become focused in moments of individual ethical decision, or indecision. In-depth probing of the ways in which novels and films approach characteristically American tensions surrounding issues of race, sex, inequality, religion, education, and patriotism. Instructor: Harpham. One course. C-L: English 173S

187FS. American Democracy: Two Centuries of Creating Institutions to Achieve its Principles. CZ, SS One course. C-L: see Political Science 187FS

188FS. American Perspectives on Citizenship. EI, SS One course. C-L: see Political Science 188FS

189. What Now? The Duke Guide to Happiness, Purpose, and Well-Being. Integration and practice course to accompany What Now? full-credit seminars. Provides a space for synthesis of seminar-specific learning with program-wide facilitated conversations, community building, and activities. Course content will include regular weekly reflections and an integrative semester capstone project identifying key insights on individual students' semester experiences and deliberative next steps through Duke. Instructor consent required. Instructor: Ferney. Half course.

190FS. Special Topics in Ethics (Focus Program). Topics vary. Open only to students in the Focus program. Topics course. Department consent required. Instructor: Staff. One course.

190S. Special Topics in Ethics. Topics vary each semester. Instructor: Staff. One course.

194FS. Beyond Disagreement and Cozy Consensus. CCI, CZ, EI One course. C-L: see Philosophy 194FS

195S. Human Rights and Legal Redress: Seeking Justice through Human Rights. CCI, CZ, EI, SS In this course, students will analyze through case studies the issues that confront the implementation of human rights ethics down through the layers separated by geography and culture to local implementation and enforcement. They will acquire an understanding of the international, regional and local human rights conventions and structures which propose, cultivate and enforce the ethical norms of the international human rights regime. This class addresses questions including: in what respects do enforcement options differ from place to place? When, where and under what circumstances is the human rights apparatus most effective in providing redress for rights violations? And, what are the alternatives to the human rights approach to justice? Instructor: Duara. One course. C-L: Public Policy 209S

199FS. Refugees, Rights, and Resettlement. CCI, EI, SS One course. C-L: see Sociology 178FS; also C-L: Human Rights Program-Franklin Humanities Institute 178FS, Human Rights

204. Feminist Ethics. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 367

204S. Feminist Ethics. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 367S

205S. Composing Oneself: Stress, Identity, and Wellness. ALP, EI, SS, W One course. C-L: see Writing 205S; also C-L: Arts & Sciences IDEAS themes and University Course 205S

211S. Theories and Strategies of Social Change: Connections to the Pathways of Change Summer Program. EI, SS This course focuses on theories of change and is a forum for Pathways students to integrate their summer experiences. Instructor consent required. Instructor: Duara, Jowers, Katzenstein. Half course.

215. Resettling Refugees in Durham. This service-learning course partners students with locally resettled

refugee families to identify social problems in the community and work toward solutions for addressing them. Students will work one-on-one with refugees to complete coursework and/or projects for the service-learning component of this course. By working with refugees, Duke students develop a better awareness of global issues present at a local level. End products of this course vary by semester. Students have worked to help produce films, gallery exhibits, and other public pieces relaying the refugee experience. This course is part of the MASTERY/SuWA refugee mentorship program. Instructor: Shanahan. Half course.

216. Reimagine Medicine. The course extends the experiences, learning, and community established in the ReMed summer fellowship. Physicians and other healthcare practitioners, as well as faculty in the arts and humanities, will challenge students to examine historical, social, economic, and cultural determinants of health, and to imagine themselves contributing to improving the system for patients and practitioners. Students will support each other as they develop a personal statement and sample essays for medical school applications. Key learning will be expressed through original works of visual and performing art. Instructor consent required. Instructor: Ferney. Half course.

216S. Reimagine Medicine. The course extends the experiences, learning, and community established in the ReMed summer fellowship. Physicians and other healthcare practitioners, as well as faculty in the arts and humanities, will challenge students to examine historical, social, economic, and cultural determinants of health, and to imagine themselves contributing to improving the system for patients and practitioners. Students will support each other as they develop a personal statement and sample essays for medical school applications. Key learning will be expressed through original works of visual and performing art. Instructor consent required. Instructor: Ferney. Half course.

220. Christian Ethics and Modern Society. CZ, EI, W An introduction to Christian ideals of conduct, character, and community, and to modern disputes over their interpretation and application. Are Christian virtues and principles fundamentally at odds with the ethos of liberal democracy oriented toward rights, equality, and freedom? What do Christian beliefs and moral concepts imply about issues related to identity and pluralism? What is the relationship between religious convictions, morality, and law? Special emphasis on selected political and economic problems, sexuality and marriage, capital punishment, animals and the environment, abortion, and the role of religion in public life. Instructor: Rose. One course. C-L: Political Science 253, Religion 254

220S. Christian Ethics and Modern Society. CZ, EI, W An introduction to Christian ideals of conduct, character, and community, and to modern disputes over their interpretation and application. Are Christian virtues and principles fundamentally at odds with the ethos of liberal democracy oriented toward rights, equality, and freedom? What do Christian beliefs and moral concepts imply about issues related to identity and pluralism? What is the relationship between religious convictions, morality, and law? Special emphasis on selected political and economic problems, sexuality and marriage, capital punishment, animals and the environment, abortion, and the role of religion in public life. Instructor: Rose. One course. C-L: Political Science 253S, Religion 354S

221. Arab Society and Culture in Film. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 221; also C-L: Islamic Studies

235S. Muslim Philosophy and Theology, an introduction. CZ, EI One course. C-L: see Religion 374S; also C-L: Asian & Middle Eastern Studies 324S, Islamic Studies

238S. Activism & Christianity in Modern America. CCI, CZ, EI, W One course. C-L: see Religion 238S; also C-L: Political Science 244S, African & African American Studies 238S

240. Love and Loneliness: What's Happening to Relationships in the Twenty-First Century?. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 240; also C-L: International Comparative Studies 250, Sociology 240

250S. Governance and Healthcare Innovation. EI, SS, STS Examination of the role of regulation, business, and globalization in healthcare innovation. Class consists of three integrated parts. Part one covers basics of healthcare innovation: how medicines and vaccines “come to be” and key ethical concerns that arise in bringing them to the market. Part two traces how the current US regulatory system governing healthcare innovation developed. Part three maps ecology of private and quasi-public governance tools available to regulate potentially harmful behaviors in healthcare innovation. Concepts of regulatory capture, deliberative democracy,

and technocracy also be introduced. Instructor: Miller. One course. C-L: Global Health 310S

253S. Pursuit of Purpose: Exploring What to Be and Why. EI, SS Preparation course for students who plan to undertake a summer internship through the Kenan Purpose Program. Engages students in their own pursuit of a purpose-oriented life. Exploration of meaning, purpose, and vocation in historical and contemporary contexts. Introduces durable philosophical questions and key social, cultural, and historical forces that shape current definitions of a good life. Guided reflection on integrating big questions, contemporary context, and practical vocational discernment skills. Readings to be selected from literary, philosophical, sociological, and theological writings and present-day case studies. Instructor consent is required. Instructor: Ferney. One course.

255. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015. R, SS One course. C-L: see Political Science 255; also C-L: History 252, Public Policy 254, Markets and Management Studies

258. Moral Dilemmas in Philosophy and Literature. ALP, CZ, EI One course. C-L: see German 250; also C-L: Literature 250

259. News as a Moral Battleground. EI, R, SS, W One course. C-L: see Policy Journalism and Media Studies 371; also C-L: Public Policy 371, Documentary Studies 371, Human Rights Program-Franklin Humanities Institute 371, Documentary Studies, Human Rights

260S. Happiness and the Virtuous Life. CZ, EI, W Using texts from the virtue ethics tradition, seminar will take up questions regarding definitions of “happiness” and “virtue,” relation between happiness and practice of virtue, how both connect to human nature and friendships, and modern critiques of virtue-based ethics. Readings from Aristotle, Elizabeth Anscombe, Alasdair MacIntyre, Martha Nussbaum. Instructor: Rose. One course.

262S. Global Migration and Ethics. EI, SS One course. C-L: see Cultural Anthropology 216S; also C-L: International Comparative Studies 244S, Human Rights Program-Franklin Humanities Institute 216S, Human Rights

264S. Religion & Journalism. CZ, R One course. C-L: see Religion 264S; also C-L: Policy Journalism and Media Studies 264S

265. Applied and Environmental Ethics. CZ, EI, STS One course. C-L: see Philosophy 215; also C-L: Marine Science and Conservation

267S. Global Cold War. CCI, CZ, EI, W One course. C-L: see History 267S; also C-L: Russian 267S, Public Policy 267S, Sociology 267S, Slavic and Eurasian Studies 267S, Philosophy, Politics, and Economics

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: International Comparative Studies 271, Markets and Management Studies

271. Life Within Capitalism: A History of its Values, Measures and Struggles. CZ, EI One course. C-L: see Public Policy 249; also C-L: Economics 270, History 284, Political Science 252

274S. Aristotle and Neuroscience. CCI, EI, SS One course. C-L: see Classical Studies 374S; also C-L: Neuroscience 274S

275. Democracy: Ancient and Modern. CCI, CZ, EI, SS One course. C-L: see Classical Studies 275; also C-L: Political Science 211, History 234

276. Roman Political Thought and Its Modern Legacy. CCI, CZ, EI One course. C-L: see Classical Studies 278; also C-L: History 262, Political Science 278

277S. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI, W One course. C-L: see Education 277S; also C-L: Global Health 277S, Public Policy 274S, Russian 277S, Human Rights Program-Franklin Humanities Institute 277S, Human Rights

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, International Comparative Studies 280

285. Denial, Faith, Reason: Sustainability and Survival. EI One course. C-L: see Public Policy 284; also C-L: Economics 285, Environment 276, History 325, Sustainability Engagement 276

287. Religion and Science. CCI, CZ, STS One course. C-L: see Religion 287; also C-L: Neuroscience 237, Marine Science and Conservation

287S. Religion and Science. CCI, CZ, STS One course. C-L: see Religion 287S; also C-L: Neuroscience 237S

288S. Ethical Dimensions of Environmental Policy. CZ, EI, SS Uses case studies from different arenas of environmental policy (e.g., climate and clean air, water and waste, forests, oceans, energy) to surface normative assumptions often implicit in policy design and implementation. Links ethics to ethos (beliefs, aspirations, and spirit of a community or culture) to suggest that policies are not only pragmatic guidelines for decision-making and action, but also fundamental declarations concerning the character of human flourishing and the shape of the natural world, which is why environmental policies are often so contentious. Seeks to help students understand this aspect of environmental policy and to negotiate these deep-seated ethical conflicts. Instructor: Toole and Jowers. One course. C-L: Global Health 248S

290. Special Topics in Ethics. Topics vary. One course.

290S. Special Topics in Ethics. Topics vary by semester. Seminar version of Ethics 290. 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 written report containing significant analysis and interpretation of a previously approved topic. Instructor: Shanahan. One course.

301S. Business and Human Rights Advocacy Lab. EI, R, W An exploration of human rights advocacy from an ethical, political science and comparative perspective. Will focus on issues related to business and human rights. A core component of the course will include a human rights "lab" in which students work in groups on policy-oriented projects in collaboration with international NGOs. Permission of instructor required. Instructor: Katzenstein. One course. C-L: Political Science 341S, International Comparative Studies 317S, Public Policy 311S, Human Rights Program-Franklin Humanities Institute 301S, Markets and Management Studies, Human Rights

303D. Religion, Restrictions, and Violence. CCI, CZ, EI One course. C-L: see Religion 301D; also C-L: Jewish Studies 301D, Political Science 303D, Public Policy 313D, Asian & Middle Eastern Studies 301D

315S. Ethics and Philosophy of Sport. CZ, EI, W An examination of ethical issues and dilemmas of sport in the modern world. Topics to be discussed include amateurism, the NCAA and college athletics, performance enhancement, money in college and professional sport, gambling, the athlete as a role model, and the coach as sage. Inevitably, consideration of these issues will lead to a discussion of wider issues, such as the value of sport and the role of sport in the "good life". Students will write two short papers examining particular ethical dilemmas, and will write a longer term-ending paper which evaluates in depth one of the issues raised in the course of the semester. Instructor consent required. Instructor: Kennedy. One course.

316S. Self-Knowledge and the Pursuit of Wisdom. ALP, CCI, CZ, EI One course. C-L: see Classical Studies 316S

319. Ethics and Native American: American Indian Life and Literature. CCI, CZ, EI Pine Ridge Indian Reservation sits in the poorest county in the U.S. Unemployment runs over 80%. Health outcomes are dismal. In the Western Hemisphere, only Haiti has a lower life expectancy. Pine Ridge was also the site of the 1890 Wounded Knee Massacre, the effective end of the protracted struggle of the Indians of the Great Plains to preserve their cultures in the face of "manifest destiny." Pine Ridge is extreme, but its story is common. Drawing

principally on American Indian literature from the West—and on historical works and primary sources—this course explores the contemporary realities of Native American life and traces these realities back into the nineteenth century. Instructor: Toole. One course. C-L: Literature 319, History 317

320S. Narrative and Moral Crisis. ALP, CZ, EI It is often said that literature encourages ethical reflection, and even that it somehow fortifies our disposition to behave in ethical ways. This class will consider a different possibility, that literature, or narrative more generally, often represents or provokes circumstances of extreme moral uncertainty. Such uncertainty, sometimes focused in a moment of decision and sometimes arising from a clash of perspectives, can gather around characters, narrators, authors, and even readers. We will be focusing on a few works of literary and cinematic art, ranging from the Book of Genesis to Ian McEwan's Atonement, in which moral issues emerge with particular urgency and complexity. Instructor: Harpham. One course. C-L: English 319S

321S. Buddhist Ethics. CCI, CZ, EI, W One course. C-L: see Religion 321S; also C-L: Asian & Middle Eastern Studies 331S, Marine Science and Conservation

344. Global Health as an Ethical Enterprise. CZ, EI, SS One course. C-L: see Global Health 345

345S. Muslim Ethics and Islamic Law: Issues and Debates. CCI, CZ, EI One course. C-L: see Religion 388S; also C-L: Asian & Middle Eastern Studies 206S

351S. Adoption Ethics. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 351S

373S. Islamic Mysticism. CCI, CZ, EI One course. C-L: see Religion 373S; also C-L: International Comparative Studies 380S, Asian & Middle Eastern Studies 373S, History 380S, Islamic Studies

374S. Watchdog Reporting in Politics. EI, W One course. C-L: see Policy Journalism and Media Studies 374S; also C-L: Public Policy 357S, Political Science 374S

375. Reproductive Ethics. EI, SS, STS One course. C-L: see Gender, Sexuality, and Feminist Studies 375

388S. Refugee Policy and Practice (DukeImmerse). CCI, EI, QS, SS Uses current debates around refugee law and policy as the context in which to develop basic quantitative research design and analysis skills. Course may include data collection with resettled refugee locally and in Jordan and in Nepal. Only open to DukeImmerse students. Instructor consent required. Instructor: Shanahan. One course. C-L: International Comparative Studies 355S, Political Science 357S, Public Policy 382S

389S. Field Ethics (DukeImmerse). ALP, EI, R, SS, W An introduction to qualitative research design and analysis including interviewing, ethnography, focus groups as well as a variety of visual methods, including mapping and photo elicitation. Emphasis on the ethics of research design, implementation, and presentation and ethics of research with vulnerable populations. Students will collect refugee life stories as the basis of a documentary theater production they will write and perform as their final project. Course may include field research in Jordan and Nepal. Open only to DukeImmerse students. Instructor consent required. Instructor: Shanahan. One course. C-L: Sociology 389S

390. Special Topics in Ethics. Topics vary by semester. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Special Topics in Ethics. Topics differ by section. Instructor: Staff. One course.

390S. Special Topics in Ethics. Topics vary by semester. Instructor: Staff. One course.

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement. CZ, EI One course. C-L: see Education 401S; also C-L: Political Science 401S, Public Policy 401S

487S. Designing Ethics: Exploring the Integration of Ethics into Engineering Curricula. EI, STS Many engineering challenges contain thorny moral questions, yet ethical considerations are often secondary to the technical aspects of engineering curricula. In fact, nationwide ethics is rarely addressed in standard engineering disciplinary courses at Duke or elsewhere. This course seeks to provide a blueprint and testing ground for addressing this gap. Students will work to research best practices from the educational and private sectors. Incorporating those insights with a study of the landscape of Engineering design education at Duke, students will design interventions that may be deployed in Duke Engineering classes. Instructor consent required. Instructor: Ferney, Saterbak, Shanahan. One course.

488. Designing Interventions for the Prevention of Sexual Assault and Harassment. EI This

course's goals are to summarize the problems and practices in sexual harassment intervention and training by conducting a review of the literature; examine the potential role of courage and self-awareness, as well as the ways these characteristics could be developed in individuals and incorporated into interventions; and to develop designs that utilize these insights. Instructor consent required. Instructor: Anisman-Razin. One course.

489. Preventing Sexual Misconduct on University Campuses. This Bass Connections project's goals are to summarize the problems and practices in sexual harassment intervention and training by conducting a review of the literature; examine the potential role of courage and self-awareness, as well as the ways these characteristics could be developed in individuals and incorporated into interventions; and to develop designs that utilize these insights. Instructor consent required. Instructor: Anisman-Razin, Shanahan, Sitkin. One course.

490S. Capstone Research Seminar in Ethics. 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.

493. Research Independent Study. R Individual research in 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 is required. Instructor: Staff. One course.

497S. Capstone Seminar: Ethics & Society Certificate. EI, R, W This intensive senior seminar is the capstone for the Ethics & Society Certificate. The students choose a topic, read about and discuss that topic, and then write a book together on that topic, editing each other's chapters. Students bring together interdisciplinary insights from previous work in the certificate program and work collaboratively to produce their book. Instructor consent required. This course is only open to seniors pursuing the Ethics & Society Certificate. Instructor: Sinnott-Armstrong. One course.

510S. Adversarial Ethics. EI, SS One course. C-L: see Philosophy 510S; also C-L: Political Science 585S

555S. The Politics of Market Competition in a Global Economy. R, SS One course. C-L: see Political Science 555S; also C-L: Public Policy 555S, Markets and Management Studies

560S. Organized Compassion: History and Ethics of Humanitarianism. CZ, EI, SS Explores philosophical and theological conceptions of compassion, and the history and ethics of the ways in which compassion for distant strangers has been organized into humanitarian institutions, from 19th-century anti-slavery movements to the International Committee of the Red Cross to the current international humanitarian order of UN agencies and countless NGOs like Médecins Sans Frontières, Save the Children, Oxfam, Care, Catholic Relief Services, and so on. Drawing on history, it will introduce students to the current landscape of humanitarian organizations and, through case studies, to the ethical quandaries the institutions face in the contemporary world. Instructor: Toole. One course. C-L: Global Health 541S, Human Rights Program-Franklin Humanities Institute 560S, Human Rights

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 528, Human Rights Program-Franklin Humanities Institute 561, Human Rights

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 558S

565S. Attending to Persons in Pain. In this class, we aim to understand the roots of the various ways we attend to persons in pain today, and so to develop greater conceptual clarity and historical perspective on the

diverse frameworks in which we encounter persons in pain. At the same time, we seek to nurture a recognition that attending to persons in pain threatens modes of control over that person's reality and our own. Therefore, in this class we seek to foster an understanding that attending to persons in pain today, whatever the setting, is a fragile and fraught enterprise that nevertheless continually calls for creative and faithful responses. Instructor: McCarty. One course.

578S. Contemporary Theories of Democracy. EI, SS One course. C-L: see Political Science 578S

590. Special Topics in Ethics. Topics vary by semester. Instructor: Staff. One course.

590S. Special Topics in Ethics. Topics vary. Instructor: Staff. One course.

646S. Strategic Storytelling: Narratives for Development. ALP, CCI, EI, SS One course. C-L: see Public Policy 646S; also C-L: International Comparative Studies 646S, Human Rights

Ethics Courses Offered through Other Departments

African & African American Studies

243. The Civil Rights Movement

Art History

381D. Global Art Since 1945

Asian & Middle Eastern Studies

122. Islamic Civilization I

185. Islamic Civilization II

244. Israel/Palestine: Comparative Perspectives

275. Chinese Philosophy

331S. Buddhist Ethics

373S. Islamic Mysticism

Civic Engagement and Social Change

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement

Classical Studies

322. Jesus and the Gospels

571S. Ancient Political Philosophy

Cultural Anthropology

148. Israel/Palestine: Comparative Perspectives

256. Islamic Civilization I

257. Islamic Civilization II

Documentary Studies

268. Religion and Film

Economics

213. Follow the Ruble: Money in Russian Literature and Culture

361. Prisoner's Dilemma and Distributive Justice

361D. Prisoner's Dilemma and Distributive Justice

Education

101. Social and Philosophical Foundations of Education

240. Educational Psychology

243S. Children, Schools, and Society

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement

408S. Teaching Practices in Elementary Language Arts and Social Studies

430S. Women and the Professions

496S. Secondary School Issues: Pedagogy, Culture, and Methods

Environment

147. Israel/Palestine: Comparative Perspectives

Gender, Sexuality, and Feminist Studies

277D. Global Art Since 1945

German

370. The Devil's Pact: Faust and the Faust Tradition

History

106. Science and the Modern World: Introduction to the History of Science

210. Islamic Civilization I

211. Islamic Civilization II

251. Jewish History, 1492 to the Present

252. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015

312. Europe's Colonial Encounter, 1492-1992: Political Economy and International Thought

348. The Civil Rights Movement

Human Development

260. Psychosocial Aspects of Human Development

Human Rights Program-Franklin Humanities Institute

148. Israel/Palestine: Comparative Perspectives

262. Human Rights in Theory and Practice

331. Prisoner's Dilemma and Distributive Justice

348. The Civil Rights Movement

International Comparative Studies

118. Science and the Modern World: Introduction to the History of Science

219D. Global Art Since 1945

275S. Left, Right, and Center: Competing Political Ideals

312. Europe's Colonial Encounter, 1492-1992: Political Economy and International Thought

380S. Islamic Mysticism

Jewish Studies

145. The Old Testament/Hebrew Bible

148. Israel/Palestine: Comparative Perspectives

251. Jewish History, 1492 to the Present

Medieval and Renaissance Studies

268. Islamic Civilization I

269. Islamic Civilization II

Philosophy

123FS. Freedom and Responsibility

207. Political and Social Philosophy

217. Introduction to Ethical Theory

218. Medical Ethics

246. Prisoner's Dilemma and Distributive Justice

246D. Prisoner's Dilemma and Distributive Justice

262. Human Rights in Theory and Practice

263. Chinese Philosophy

571. Ancient Political Philosophy

584S. Modern Political Theory

Policy Journalism and Media Studies

372. Information, Technology, Ethics and Policy

Political Science

159. Israel/Palestine: Comparative Perspectives

175. Introduction to Political Philosophy

175D. Introduction to Political Philosophy

175FS. Freedom and Responsibility

255. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015

265S. Introduction to American Political Thought

268. Politics and Literature

272. Human Rights in Theory and Practice

275. Left, Right, and Center: Competing Political Ideals

275S. Left, Right, and Center: Competing Political Ideals

331. Prisoner's Dilemma and Distributive Justice

331D. Prisoner's Dilemma and Distributive Justice

388. Information, Technology, Ethics and Policy

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement

575S. Ancient Political Philosophy

578S. Contemporary Theories of Democracy

584S. Modern Political Theory

586S. Political Thought in the United States

Psychology

236. Psychosocial Aspects of Human Development

240. Educational Psychology

Public Policy

178. Israel/Palestine: Comparative Perspectives

231. Human Rights in Theory and Practice

243S. Children, Schools, and Society

254. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015

260S. Leadership, Policy, and Change

270S. Lead the Way Durham: Civic Engagement, Social Innovation, and Community Leadership in the Bull City

271S. Social Entrepreneurship in Action

372. Information, Technology, Ethics and Policy

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement

Religion

145. The Old Testament/Hebrew Bible

237. Religion in American Life

268. Religion and Film

321S. Buddhist Ethics

340. Jewish History, 1492 to the Present

351. Jesus and the Gospels

352. The Life and Letters of Paul

373S. Islamic Mysticism

375. Islamic Civilization I

376. Islamic Civilization II

388S. Muslim Ethics and Islamic Law: Issues and Debates

Russian

318. Follow the Ruble: Money in Russian Literature and Culture

Science & Society

118. Science and the Modern World: Introduction to the History of Science

Sociology

260. Psychosocial Aspects of Human Development

430S. Women and the Professions

Visual and Media Studies

233. Religion in American Life

382D. Global Art Since 1945

Evolutionary Anthropology

Professor Alberts, *Chair*; Associate Professor of the Practice Digby, *Director of Undergraduate Studies*; Professors Churchill, Drea, Hare, Kay, Nunn, and Schmitt; Associate Professor Boyer, Pontzer, and Tung; Assistant Professor Goldberg; Professors Emeriti Cartmill, Glander, and Pusey; Associate Professors of the Practice Digby and Williams; Research Professor Emeritus Wall; *Secondary Appointments*: Professors Alberts (Biology), Roth (Biology), Tomasello (Psychology), Wray (Biology), and Yoder (Biology); Adjunct Associate Professor Borths (Duke Lemur Center), Adjunct Instructor Holmes (School of Medicine); Senior Lecturing Fellows Doyle and Zeininger

A major and a minor are 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 cover a variety of research areas including primate behavior, ecology, cognition and genetics; primate and human disease ecology; human genetics, energetics, and physiology; paleoanthropology; and functional and comparative anatomy. Opportunities for independent research exist in departmental laboratories, including the Canine Cognition Center and the Primate Locomotion Lab. Additional research opportunities can be found at the Duke Lemur Center and the Lemur Center's Division of Fossil Primates.

Courses in Evolutionary Anthropology (EVANTH)

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: 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.

190. Topics in Evolutionary Anthropology. Topics in evolutionary anthropology. Course intended for non-majors. Topics vary by semester. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Biological Anthropology and Anatomy. Duke-Administered Study Abroad: Special Topics in Evolutionary Anthropology. One course.

190FS. Focus Program Special Topics. Special topics seminar open only to students in the Focus Program. Instructor: Staff. One course.

212FS. Social Structures in an Evolutionary Framework. NS, STS Intersection between social structure, social behavior, and evolution. Role of social and historical factors in promoting evolutionary change

and the evolutionary history of social structures themselves, with an emphasis on humans and other primates. Topics include: evolution in modern human societies, evolutionary demography, genetic signatures of social and cultural change, the genetics of socially relevant traits, and social environmental effects on health. Open only to students in the FOCUS program. Instructor: Tung. One course. C-L: Genome Sciences and Policy 212FS

215S. Genetics and Genomics of Human Variation. CCI, NS, STS One course. C-L: see Biology 260S

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: Boyer, Churchill or staff. One course.

221S. Becoming Human. NS, R Evolution of key features that make human's such unusual animals, including bipedalism, large brains, social complexity, language, the arts, and reliance on technology. Emphasis is on evidence from the prehistoric record but includes insights from genomics and living populations. 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.

231L. Anatomy of the Lower Extremities. NS Introduction to the functional anatomy of the lower extremities. Students locate, identify, and dissect all major muscular, nervous, vascular, bony, and soft tissue structures using cadaveric specimens. Students participate in the dissection. Instructor: Leversedge. 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: Staff. One course.

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 202L. Instructor: Staff. One course.

253. Primate Ecology. NS, R Ecological theory with an emphasis on primates. Primate diversity and biogeography, concept of the niche; dietary specializations, habitat use, predator-prey interactions, plant-animal interactions, community ecology, human ecology; methods used in primate ecology; the role of ecology in conservation. Periodic labs (held during lecture hour) include methods used to characterize forests, tests of niche differentiation and morphological adaptations to different habitats. Prerequisite: Evolutionary Anthropology 101 or Biology 202L. Instructor: 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 archeological and fossil evidence for the evolution of human subsistence behavior. Prerequisite: Evolutionary Anthropology 101 or Biology 202L. 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. Recommended prerequisite: Evolutionary Anthropology 101 or Psychology 102. Instructor: Hare. One course. C-L: Psychology 255, Neuroscience 260

285. Human Health in Evolutionary Perspective. NS, R, STS Covers evolutionary approaches to understand human health at a global scale. Integration of evolutionary thinking and medical science provides new insights to a wide array of medical issues including obesity, cancer, allergies, and mental illness. Evolutionary perspectives reveal why some pathogens are more harmful than others, shed light on the origins and spread of infectious diseases in humans, and help in controlling antibiotic resistance. Evolutionary

approaches provide insights as to why we age and provide solutions to alleviate human health problems that often differ from modern medical practice. Course will place these perspectives in the context of global health challenges. Instructor: Nunn. One course. C-L: Global Health 304

310. Primate Evolutionary Genetics. NS, R Genetic perspectives on primate evolution. Interpretation of molecular data in understanding primate origins, historical and present-day distributions, and natural selection. Topics include: the genetic signature of pathogen pressure; population differentiation and local adaptation to ecological differences; genetic signatures of admixture, including in the human lineage; molecular marker-based tests of kin-biased behavior and paternal care; primate behavioral genetics and genomics; phylogenetic methods to investigate the evolution of primate social structures; conservation genetics. Recommended prerequisite: Biology 201L, 202L, or 203L, or Evolutionary Anthropology 101. Instructor: Tung. One course. C-L: Biology 310

318. Human Evolutionary Genetics. NS, R An evolutionary perspective on human genetics and genomics, with an emphasis on current models and inference methods using medically important examples. The mechanisms of evolution shaping human genetic variation, as well as inference of evolutionary processes from genetic data. Topics include: population differences in disease risk; adaptation to local environments and pathogens; identifying regions of the genome underlying traits; models of neutral variation, migration, and genetic ancestry. Computational and quantitative skills will be emphasized throughout. Recommended prerequisite: Evolutionary Anthropology 101D, Biology 202, or equivalent; some probability and programming background helpful but not required. Instructor: Goldberg. One course. C-L: Biology 318

330. Human Physiology and Anatomy: An Evolutionary Perspective. NS Human physiology from a functional and evolutionary perspective. System-based and regional approach that differs from both a standard anatomy and physiology course by examining each system (musculoskeletal, digestive, cardiovascular, etc.) and regional units (liver, heart, lungs, etc.) from a functional standpoint, considering their anatomy and their physiological role together. This course further explores the evolutionary context of how and why our bodies function the way they do. Emphasis on human physiology. Recommended prerequisite: Evolutionary Anthropology 101 or introductory biology. Instructor: Pontzer and Ledogar. One course.

333L. The Human Body. NS Human gross anatomy seen from a functional and evolutionary perspective. Laboratory involving study of prosected cadavers and other anatomical preparations. Previous experience in anatomy (e.g., Primate Anatomy or Human Osteology) is recommended but not required. Instructor: Boyer 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 202L. Instructor: Churchill or Staff. One course.

336S. Dance Science: An Evolutionary Approach. ALP, NS, R Exploration of the origins of human dance through studies of non-human “dance” and entrainment, representations of dancing figures in the archaeological record, and evolutionary changes in the human body that allow for the extraordinary flexibility of human dance. Lab based studies of evolutionary changes in the human body. Learn about dance injuries and how the brain processes observed movement, as well as many other areas in which dance and science intersect. 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 101D or Biology 202L or 203L. 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. Recommended prerequisite: Evolutionary Anthropology 101D or Biology 202L or 203L. 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 and writing of formal research papers. Prerequisite: Evolutionary Anthropology 101 or Biology 202L. Instructor: Digby. One course.

347D. Behavioral Ecology and the Evolution of Animal Behavior. NS, R, STS, W One course. C-L: see Biology 267D

347D-1. Behavioral Ecology and the Evolution of Animal Behavior. NS, STS One course. C-L: see Biology 267D-1

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.

385D. Primate Disease Ecology and Global Health. NS, R, STS Covers concepts of disease ecology, with specific application to primates, human evolution, and global health. Explores the epidemiology and evolution of infectious diseases through the primary literature, focusing on infectious diseases of wild primates, humans, and other mammals. Students learn about the diversity of infectious diseases found in humans, and the basics of epidemiology, disease evolution and emergence, and primate behavioral ecology. Students also gain experience in thinking critically about scientific research, identifying interesting research questions, and communicating science to others. Prerequisite: Evolutionary Anthropology 101/101D or introductory-level biology. Instructor: Nunn. One course. C-L: Global Health 315D

385S. Primate Disease Ecology and Global Health. NS, R, STS, W Covers concepts of disease ecology, with specific application to primates, human evolution, and global health. Explores the epidemiology and evolution of infectious diseases through the primary literature, focusing on infectious diseases of wild primates, humans, and other mammals. Students learn about the diversity of infectious diseases found in humans, and the basics of epidemiology, disease evolution and emergence, and primate behavioral ecology. Students also gain experience in thinking critically about scientific research, identifying interesting research questions, and communicating science to others through a research project. Prerequisite: Evolutionary Anthropology 101/101D or introductory-level biology. Not open to students who have credit for Evolutionary Anthropology 385D. Instructor: Nunn. One course. C-L: Global Health 315S

390. Current Issues in Evolutionary Anthropology. Selected topics in methodology, theory, or area. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Biological Anthropology and Anatomy. Duke-Administered Study Abroad: Advanced Topics in Evolutionary Anthropology. One course.

390L. Current Topics in Evolutionary Anthropology. Same as Evolutionary Anthropology 390 except in laboratory format. Instructor: Staff. One course.

390S. Current Topics in Evolutionary Anthropology. 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. The area of study must be connected to discipline of Evolutionary Anthropology. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

393. Research Independent Study. R Individual research under the supervision of a faculty member resulting in a substantive paper or written report. Projects typically include background research, formulation of hypotheses and predictions, data collection, data analysis and interpretation of results. Area of study must be connected to discipline of Evolutionary Anthropology. 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.

490S. Advanced Current Topics in Evolutionary Anthropology. Current topics in Evolutionary Anthropology taught at the advanced level. Instructor: Staff. One course.

495S. Advanced Research in Evolutionary Anthropology. NS, R, W Advanced research in Evolutionary Anthropology topic, typically leading to Graduation with Distinction. Course includes a one-hour weekly seminar on topics such as hypothesis testing, writing proposals, research design, data analysis with a strong emphasis on writing. Students will complete the introduction (literature review) and methods of their thesis along with a tentative results. Students are also expected to work with a faculty mentor conducting original research equivalent to a research independent study. Instructor consent required. Instructor: Digby. One course.

510SL. Molecular Anthropology in Practice. NS, R, W Hands-on introduction to research in molecular anthropology and primate genomics. Engagement in collaborative research on the use and interpretation of molecular data to understand primate evolution. Topics include: molecular and analytical tools for generating and interpreting genomic data; methods for identifying the signature of natural selection; basic computational and statistical methods for data analysis; research culture and collaboration in the natural sciences; scientific writing and revision. Prerequisite: Biology 202L or Evolutionary Anthropology 310 or Evolutionary Anthropology 514. Instructor: Tung. One course.

520S. Reconstructing the Past: The Paleobiology and Paleoecology of Primates. NS,
R Interpretation of the paleobiology of extinct primates relies on indirect evidence linking morphology to particular attributes of a species' ecological niche—be it diet, mode of locomotion, body size, sensory ecology, social systems, etc. Reconstructions require understanding the functional attributes of the anatomical systems of living primates followed by an inference by analogy about the behavior of the extinct ones. We examine similarities and differences in the primates living on different continents through time as well as contested paleoecological scenarios related to primate origins and ape and human origins. Recommended prerequisite: 200-300 level course in paleontology, anatomy, or ecology. Instructor: Kay. One course.

522. The Hominin Fossil Record. NS Rigorous review of the fossil record of hominin evolution from the late Miocene to the end of the Pleistocene. Using primary literature and casts of key fossil specimens, students explore current controversies in the field of paleoanthropology. Prerequisite: Evolutionary Anthropology 101 and 220, or consent of instructor. Consent of instructor is required. Instructor: Churchill. 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.

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: Staff. 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.

561S. Evolution, Cognition, and Society. NS, STS Using primary literature in evolutionary anthropology

and cognitive science to discuss major societal events, behaviors, and issues. Topics include sex, prejudice, religion, music, abortion, illness, sexuality, global health, death, politics, economics and drugs. Emphasis on biological and cognitive perspectives to solving today's biggest personal, local and global problems. Topics will change each semester; course can be taken more than once. Prerequisite: at least one course in behavior, ecology, or cognition at the 200+ level. Instructor: Hare. One course. C-L: Psychology 561S

570S. Energetics in Human Evolution, Ecology, and Health. NS, R Examine the role of energy expenditure in human evolution and ecology, including: 1) growth, reproduction, and aging, 2) metabolically costly organs such as the brain, and 3) daily physical activity. Discuss methods for measuring energy expenditure. Investigate the effects of diet and exercise on daily energy expenditure in humans. Discuss the role of energy expenditure in modern cardiometabolic disease (e.g., obesity, heart disease, and diabetes). Students will complete and present an independent research project on a topic related to the course. Recommended prerequisite: Evolutionary Anthropology 330, Biology 329D/L, or Biology 321. Instructor: Pontzer, Herman. One course.

580S. Ethics in Evolutionary Anthropology. EI, NS, STS Ethical issues and controversies in the study of evolutionary anthropology including treatment of primates in research; appropriate use of human genetic data, skeletal remains, and fossils. Professional ethics will also be addressed (e.g., ethical behavior in grant and paper reviewing, plagiarism, intellectual property). Course will make use of films, interviews and discussion primary and popular literature. Instructor consent required. Instructor: Williams. 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 or Kay. One course.

585. Statistical Rethinking: Methods and Applications in Evolutionary Anthropology and Biology. NS, QS, R Application of modern statistical methods in evolutionary anthropology and biology, including their theoretical foundations and application to phylogenetics, comparative methods, morphometrics, etc. The goal is to move from the limitations of frequentist statistical tests (i.e., p-values) and toward a richer assessment of scientific hypotheses, including Bayesian approaches. We will use a flipped classroom to provide hands-on team-based learning in R. Recommended prerequisite: 200- or 300-level Evolutionary Anthropology or Biology course and introductory statistics. Instructor: Boyer and Nunn. One course.

588S. Macroevolution. NS One course. C-L: see Biology 588S

590L-1. Special Topics Laboratory. Special topics in methodology, theory, or area. Consent of instructor required. Instructor: Staff. One course.

590LS. Special Topics Laboratory. Special topics in methodology, theory, or area. Consent of instructor required. Instructor: Staff. One course.

590S. Special Topics. Special topics in methodology, theory, or area. Consent of instructor required. Instructor: Staff. One course.

652S. The Life and Work of Darwin. NS One course. C-L: see Biology 652S

The Major

For the AB 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 preapproved list of electives or with preapproval 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 BS 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 preapproved 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 preapproved 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 three area concentrations available: 1) anatomy and paleoanthropology; 2) behavior, ecology, and cognition; and 3) human biology. Concentrations require that three of the five courses in evolutionary anthropology (as required by the major) be taken in the area of concentration. Preapproved 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 GPA 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 209](#).

Focus Program

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 Program course offerings, please refer to the Focus Program website at <https://focus.duke.edu>.

Course in the Focus Program (FOCUS)

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 on [page 718](#).

Gender, Sexuality, and Feminist Studies

Professor Wald (English), *Director*; Professors Grosz and Rudy; Associate Professors Hasso, Weeks, and Wilson; Assistant Professors Lamm, Rosenberg, and Douglass; *Affiliated Faculty*: Professors Allison (Cultural Anthropology), DeFrantz (Dance), Deutsch (History), Edwards (History), Khanna (English), MacLean (History), McLarney (Asian & Middle Eastern Studies), Nelson (Cultural Anthropology), Piot (Cultural Anthropology), Wald (English), and Wiegman (literature); Associate Professors Olcott (History), Rojas (Asian & Middle Eastern Studies), and Sigal (History); Assistant Professors Hassan (Religious Studies), Lentz-Smith (History), and Namakkal (International Comparative Studies); *Adjunct Faculty*: Associate Professor Curtain (University of North Carolina) and Assistant Professor Gokariksel (University of North Carolina)

A major and a minor are available in this program.

Gender, Sexuality, and Feminist Studies is part of a historical educational enterprise inaugurated by social movement and dedicated to the study of gender, sexuality, and justice as 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 gender, sexuality, and feminist studies as an autonomous field. Today, scholars continue to explore the meaning and impact of gender and sexual identification as primary—though by no means transhistorical or universal—ways 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 Gender, Sexuality, and Feminist Studies or by other academic departments and programs. For a more detailed description of each course, contact the gender, sexuality, and feminist studies office or the appropriate department or program office.

Courses in Gender, Sexuality, and Feminist Studies (GSF)

80S. Special Topics in Writing. Various topics with diverse readings and intensive writing. Instructor: Staff. One course.

89S. First-Year Seminar in Gender Studies. New concepts and themes in gender and feminist studies. Topics may vary each semester. Instructor: Staff. One course.

101S. Gateway Seminar: Gender and Everyday Life. CCI, EI, SS, W What is gender? How does it impact your everyday life? Designed to introduce students to the study of gender, sexuality, and feminism, this course will explore these questions by focusing on settings in which gender shapes how we live, work, consume, see ourselves, forge identities, relate to others, navigate institutions, and make ethical decisions. Students' reflections on their own experiences and understanding of gender will be a consistent theme. How does gender define the social spaces we move through and inhabit? How does gender structure the various social institutions that shape our lives? In every part of the course, gender will be connected to race, sexuality, class, and nation. Instructor: Staff. One course.

115. Introduction to the History of Women, Gender, and Sexuality. CCI, CZ, EI, SS One course. C-L: see History 115; also C-L: Study of Sexualities 115

122. History of Latinxs in the United States. CCI, CZ, SS One course. C-L: see History 122; also C-L: Latin American Studies 122, International Comparative Studies 122, Latin American Studies, Latino/a Studies

in the Global South

160S. Gateway Seminar: The Global Sixties: Race, Revolution, Sexuality. ALP, CCI, CZ, R, W One course. C-L: see History 160S; also C-L: Study of Sexualities 160S

188S. Gateway Seminar: The Price of Sex: Gender and the Global Political Economy. CZ, EI, R, SS, W One course. C-L: see History 188S; also C-L: International Comparative Studies 188S

190A. Duke-Administered Study Abroad: Special Topics in Women's Studies. 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.

190S. Special Topics in Women's Studies. Seminar topics vary, focusing on interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

191FS. Intersections of the Sexual Brain. CCI, CZ, NS, STS One course. C-L: see Neuroscience 191FS; also C-L: Psychology 195FS, Study of Sexualities 191FS

195. Comparative Approaches to Global Issues. CCI, CZ, SS, W One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, History 103, Political Science 110, Sociology 195

198. LGBTQ/Queer Cinema and Cultural Production. ALP, SS One course. C-L: see Visual and Media Studies 199; also C-L: Literature 199

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 LGBTQ Studies. 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: Study of Sexualities 199S

205. Science, Technology, Ethics, and Masculinity in American Culture. CCI, CZ, EI, STS One course. C-L: see Science & Society 205

207. Sexuality, Bible, Church, and Controversy. Sexuality is an important element of human life, and religions typically have perspectives on sexuality and its ethics, yet all too often fail to discuss it. Course explores views and knowledges associated with Western Christianity on the topic, particularly with regard to typically controversial forms of sexuality such as "homosexuality." The goal is to equip students to be up to date on historical, biblical, conservative, liberationist, postcolonial, and scientific and psychiatric perspectives on the topics, as well as ways to deal constructively with conflict in communities. Instructor: Fulkerson. One course.

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 Religion 219S; also C-L: International Comparative Studies 365S, History 225S, Asian & Middle Eastern Studies 224S, Cultural Anthropology 224S, Human Rights Program-Franklin Humanities Institute 219S

211S. Gender and Slavery in the Americas. CCI, CZ, EI, W One course. C-L: see History 213S; also C-L: African & African American Studies 216S

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

213S. Feminist Art from the 1970s to the Present. ALP, CCI, W A survey of feminist art from the 1970s to the present and the scholarship that informs and responds to it. Students become familiar with various strategies feminist artists have deployed to create images of women that resist the entrenched assumption of their lesser value. Focuses particularly on how the work of women artists draws attention to the effects of visual representations on perceptions and lived experiences of gender, sexuality, race, and class. Students will acquire a subtle and capacious understanding of feminist art as a creative, intellectual, and political project that engages with visual culture from multiple angles. Instructor: Lamm. One course. C-L: Art History 213S, Human Rights Program-Franklin Humanities Institute 213S

214. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 143; also C-L: Visual and Media Studies 248, Literature 217, Jewish Studies 241, Islamic Studies

215. Cyborgs. CCI, SS, STS, W One course. C-L: see Cultural Anthropology 213; also C-L: International Comparative Studies 241, Policy Journalism and Media Studies

216. Gender and Socialism. CCI, CZ, EI, SS One course. C-L: see History 202; also C-L: International Comparative Studies 216

217. Gender and Culture. CCI, SS One course. C-L: see Cultural Anthropology 271; also C-L: International Comparative Studies 203, Study of Sexualities

220. Case Studies in Global Sexual and Reproductive Health. CCI, SS, STS, W One course. C-L: see Global Health 215

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. Gender and Philosophy. CZ, EI One course. C-L: see Philosophy 222

222S. Gender and Philosophy. 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

226S. Writing American Politics. CZ, EI, R, SS, W One course. C-L: see Documentary Studies 276S; also C-L: African & African American Studies 233S, History 360S

229S. Space-Body-Image. ALP, CCI Analyzes ways the production of space in architecture and urban theory also produce images of the ideal bodies supposed to inhabit them. Explores limits of the production of space from standpoint of feminist, queer, and critical race theory, as well as through current research in disability studies. Surveys efforts by contemporary artists, writers, and filmmakers to interrupt prevailing images of space and imagine new kinds of bodies to move within them. Instructor: Eng. One course. C-L: Visual and Media Studies 226S, Literature 229S

230. Women in the Economy. CCI, EI, R, SS One course. C-L: see Economics 348; also C-L: International Comparative Studies 348

231S. 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: International Comparative Studies 406S, Study of Sexualities 231S

232. Gender and Language. CCI, R, SS One course. C-L: see Russian 364; also C-L: Cultural Anthropology 232, International Comparative Studies 207, Linguistics 364

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: Study of Sexualities 235S, Psychology 316S

237. African American Women and History. CCI, CZ One course. C-L: see History 349; also C-L: African & African American Studies 310, Human Rights Program-Franklin Humanities Institute 310, Human Rights

239. Women, Gender, and Sexuality in U.S. History. CCI, CZ, EI, SS, W One course. C-L: see History 374

239D. Women, Gender, and Sexuality in U.S. History. CCI, CZ, EI, SS, W One course. C-L: see History 374D; also C-L: Human Rights Program-Franklin Humanities Institute 239D, Human Rights

241. Gender, Work, and Organizations. CCI, SS One course. C-L: see Sociology 229; also C-L: Markets

and Management Studies

245S. Women in Visual Arts. ALP, CZ One course. C-L: see Visual Arts 245S

248S. Book Publishing & Marketing: A Case Study of the Romance Fiction Industry. ALP, CCI, CZ, W One course. C-L: see History 248S; also C-L: English 284S

252S. Popular Fictions. ALP One course. C-L: see Literature 345S; also C-L: English 375S

258S. Women and Power in the Renaissance. CZ, EI, W One course. C-L: see History 258S; also C-L: Medieval and Renaissance Studies 248S, Romance Studies 258S

260. The Actress: Celebrity and the Woman. ALP, CCI, CZ One course. C-L: see Russian 383; also C-L: Theater Studies 323, International Comparative Studies 383

266. Gender and Sexuality in the Ancient World. ALP, CCI, CZ One course. C-L: see Classical Studies 266

269SA. Gender and Immigration between Europe and the Middle East. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 379SA

270. 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: Staff. One course. C-L: Public Policy 268

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, Global Health 225, History 221

276. Performance Art History and Theory. ALP, CCI, CZ, EI One course. C-L: see Art History 344; also C-L: Information Science + Studies 275, Literature 222, Theater Studies 235

277D. Global Art Since 1945. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 382D; also C-L: International Comparative Studies 219D, Ethics Elective

277S. Global Art Since 1945. ALP, CCI, CZ, EI One course. C-L: see Art History 381S; also C-L: International Comparative Studies 219S

278. Sex/Gender - Nature/Nurture: Intersections of Biology and Society. NS, STS Debates about sexuality, sex, and gender hinge on radically different ideas about relative effects of biological forces vs. social forces, or nature vs. nurture. Course changes terms of arguments about sexuality and gender and nature/nurture. Explores how nature/nurture emerged as scientific and popular debate. Evaluates new developments in science and cultural fields that are now reconsidering how biology and environments interact. Showcases debates about how sex and sexuality are formed through interplay of genetic information, hormones, material bodies, and social environments. Instructor: Wilson, Williams. One course. C-L: Cultural Anthropology 278, Neuroscience 278, Psychology 226, Study of Sexualities 278

279. Melodrama East and West. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 211; also C-L: Visual and Media Studies 223

281. European Art 1900-1945. ALP, CCI, CZ One course. C-L: see Art History 280; also C-L: Italian 384

290. Selected Topics in Women's Studies. Topics vary, focusing on interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

290A. Selected Topics in Women's Studies. Topics vary, focusing on interdisciplinary work arising from feminist scholarship. Study Abroad. Instructor: Staff. One course.

290S. Selected Topics in Women's Studies. Seminar version of GSF 290. Instructor: Staff. One course.

290SA. Selected Topics in Women's Studies. Topics vary, focusing on interdisciplinary work arising from feminist scholarship. Seminar version of 290A. Study Abroad. 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.

296S. Black Muslims: Race, Religion, & Culture. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 295S; also C-L: African & African American Studies 295S, Religion 295S, International Comparative Studies 222S, Human Rights Program-Franklin Humanities Institute 295S, Human Rights

298S. Global Humanitarianism. CCI, EI, R, SS One course. C-L: see International Comparative Studies 398S; also C-L: Cultural Anthropology 298S

299. Hip Hop and Religion. ALP, CCI, CZ, EI One course. C-L: see Religion 248; also C-L: African & African American Studies 248, English 299

301S. Theory Today: Introduction to the Study of Literature. ALP One course. C-L: see Literature 301S; also C-L: Cultural Anthropology 303S

306S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South. CCI, EI, R, SS One course. C-L: see Documentary Studies 362S; also C-L: African & African American Studies 245S, Human Rights Program-Franklin Humanities Institute 362S, Human Rights

315SA. New York Scenes. ALP, R One course. C-L: see English 315SA; also C-L: Theater Studies 218SA, Art History 318SA, African & African American Studies 318SA, Jewish Studies 315SA

320. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302; also C-L: Visual and Media Studies 324, Asian & Middle Eastern Studies 402, Information Science + Studies 302

320S. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302S; also C-L: Visual and Media Studies 349S, Asian & Middle Eastern Studies 402S, Information Science + Studies 302S

322S. Sex, Politics and Feminist Philosophy. CZ, EI One course. C-L: see Political Science 372S

323SA. Transnational Muslims in Germany: Politics of Migration, Religion, and Culture. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 380SA; also C-L: International Comparative Studies 278SA, Cultural Anthropology 382SA, Religion 382SA

325S. Understanding Mediation. ALP, CCI, CZ One course. C-L: see Literature 325S; also C-L: Visual and Media Studies 316S, English 480S, Theater Studies 249S, Documentary Studies 358S

333S. Bad Behavior. CZ, EI, SS, STS One course. C-L: see Literature 333S; also C-L: Sociology 330S

335S. Decolonization: Histories, Meanings, Struggles. CCI, CZ, EI, SS One course. C-L: see International Comparative Studies 335S; also C-L: History 289S

338S. Women and Visual Media Studies. ALP, CCI One course. C-L: see Visual and Media Studies 389S; also C-L: African & African American Studies 386S

339S. Women and Film: Directors of the Diaspora. ALP, CCI One course. C-L: see African & African American Studies 339S; also C-L: Visual and Media Studies 370S

350. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350; also C-L: Neuroscience 250, Latino/a Studies in the Global South 350, Romance Studies 350

350S. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350S; also C-L: Neuroscience 250S, Latino/a Studies in the Global South 350S, Romance Studies 350S

351S. Adoption Ethics. CCI, EI, SS Since the beginning of human time, orphans have often been adopted by strangers. However, there are dozens of ways in which adoption can take place. The politics and ethics

of these adoptions can tell us a lot about the values and priorities of both sending and receiving countries. Orphans are produced as a result of war, poverty, national politics, drug use, crime, and many other kinds of tragedy; adoptive parents are often produced by ideologies surrounding the nuclear family, or simply the sense of “wanting a child.” The class will track down the mechanics of various kinds of domestic and international adoptions, and follow threads of argument to discover more about who we are. Instructor: Rudy, Duara. One course. C-L: Study of Ethics 351S

352S. Sex Work: The Politics of Sexual Labor. CCI, SS Sex work from the perspective of the labor and the purchase. Controversies over questions of gender and power, consent and coercion, sexual practices and labor contracts, trafficking and migration. Cultural representations of sex workers and their clients. Legal regimes from abolition to regulation and decriminalization. Instructor: Weeks. One course. C-L: Study of Sexualities 295S, Literature 295S, Sociology 295S

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. C-L: Human Rights Program-Franklin Humanities Institute 360S

361. Money, Sex, Power. CCI, CZ, SS Feminist research on gender dynamics in markets, economies, and capitalism. Includes empirical studies (e.g., historical, cross-cultural, and sociological research) and theoretical approaches to political-economic critique. Covered topics may include the gender, racial and transnational divisions of labor, the relation between work and family, waged household labor, sex work, sweatshop labor. Instructor: Wilson. One course. C-L: Human Rights Program-Franklin Humanities Institute 361, Markets and Management Studies, Marxism and Society

362. Gender and Popular Culture. CCI, SS, W Same as GSF 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. C-L: International Comparative Studies 360S

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 & 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, International Comparative Studies 367

365S. Love, Marriage, Education: Theories About Women from Rousseau to Beauvoir. ALP, CCI One course. C-L: see Literature 365S; also C-L: Philosophy 274S, English 388S

366. Nature, Culture, and Gender. CZ, EI, NS 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: Rudy. One course.

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 GSF 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, Human Rights Program-Franklin Humanities Institute 368, Human Rights

369. Transnational Feminism. CCI, EI, R, SS Explore feminist projects and approaches that cross a variety of borders. Under what conditions is solidarity across difference and inequality possible? This seminar examines this and other questions using relevant theories, film, and scholarship. Topics include activism, human rights, development, capitalism, war/militarization, racism, embodiment, and health. Assigned readings and films largely focus on the Global South but situate the Global North within circuits and relationships. The professor guides each student in preparing an original research paper on a relevant topic of interest to the student. Instructor: Hasso. One course. C-L: International Comparative Studies 208, Global Health 208, History 249, Human Rights Program-Franklin Humanities Institute 369

369S. Transnational Feminism. CCI, EI, R, SS Explore feminist projects and approaches that cross a variety of borders. Under what conditions is solidarity across difference and inequality possible? This seminar examines this and other questions using relevant theories, film, and scholarship. Topics include activism, human rights, development, capitalism, war/militarization, racism, embodiment, and health. Assigned readings and films largely focus on the Global South but situate the Global North within circuits and relationships. The professor guides each student in preparing an original research paper on a relevant topic of interest to the student. One course. C-L: International Comparative Studies 208S, Global Health 208S, Human Rights Program-Franklin Humanities Institute 369S, History 249S

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

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, Study of Sexualities 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

374S. Global Men and Masculinities. CCI, SS, W Masculinities examined historically, theoretically and transnationally; attentive to sexual differences, racism, class stratifications, colonialism, and imperialism; draws from history, sociology, feminist geography, critical theory, and visual culture; interactive lectures and guest scholars. Each student guided to complete an oral history/interview research project with male-identified

persons. Instructor: Hasso. One course. C-L: International Comparative Studies 274S, Sociology 375S, History 229S, Literature 374S

375. Reproductive Ethics. EI, SS, STS This class examines the role that technology, globalization, late capitalism, ideas about health and ability, and advances in feminist theory play in human reproduction. It will investigate new frontiers of reproductive technology, and try to understand the many different ways of using and viewing interventions such as IVF, surrogacy, and embryo selection. We will examine popular ideas about “the perfect child,” and how the issue of abortion intersects and competes with the quest for healthier, able-bodied children. Instructor: Rudy. One course. C-L: Study of Ethics 375

376S. Black Feminist Theory. CCI, CZ, R, SS The course explores canonical and contemporary texts to consider how various theorists inform, challenge, and extend understandings of what constitutes the social and political realms. Topics for the course include, but are not limited to: life, death, violence, sociality, politics, and the Human. Instructor: Douglass. One course.

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 225S

386S. Politics of Sexuality. CCI, CZ, R, SS, W Explores intersections among sexual identity, desire, and behavior and political institutions, public policy, and concepts of citizenship. Readings and methods will be interdisciplinary and will examine politics of sexuality in diverse sociocultural, international, and historical contexts. Topics may include: social movements; laws, policing, and incarceration; medicalization and eugenics; militarism and geopolitics; immigration and human rights; welfare policies; nationalism and citizenship; and reproductive rights. Instructor: Rosenberg. One course. C-L: Study of Sexualities 386S, Human Rights Program-Franklin Humanities Institute 386S, Public Policy 383S, History 346S

387. Moral Panics, Spectacle, and Everyday Life: Social Anxieties and Minorities. ALP, CCI, CZ, EI One course. C-L: see African & African American Studies 387; also C-L: Literature 387

390. Special Topics in Women’s Studies. Topics vary, focusing on interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

390S. Special Topics in Women’s Studies. Topics vary, focusing on interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

401. Gender and the 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 315, Human Rights Program-Franklin Humanities Institute 401

402S. James Baldwin and Toni Morrison. ALP, CCI, CZ, EI One course. C-L: see Religion 399S; also C-L: English 380S, African & African American Studies 322S

412S. Capstone Seminar - Globalization: Asia and Asian America. CCI, CZ, R, SS, STS One course. C-L: see History 454S; also C-L: African & African American Studies 407S, International Comparative Studies 412S, Asian & Middle Eastern Studies 437S

415S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 415S; also C-L: Literature 415S, Cultural Anthropology 415S, Visual and Media Studies 416S, International Comparative Studies 415S

420S. De l’Horrible Danger de la Lecture / On the Terrible Danger of Reading. ALP, CCI, FL One

course. C-L: see French 420S

432S. Gender, Sex and Citizenship. CCI, EI, SS One course. C-L: see Cultural Anthropology 432S; also C-L: Study of Sexualities 432S, International Comparative Studies 428S, Human Rights Program-Franklin Humanities Institute 428S, Human Rights

438S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 438S; also C-L: Cultural Anthropology 438S, International Comparative Studies 407S, Study of Sexualities 438S, Visual and Media Studies 438S, Literature 438S, International Comparative Studies

439. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 439; also C-L: Cultural Anthropology 439, Literature 439, Visual and Media Studies 439

490. Advanced Topics in Women's Studies. Lecture version of GSF 490S. Instructor: Staff. One course.

490S. Advanced Topics in Women's Studies. Topics vary, focusing on advanced interdisciplinary work arising from feminist scholarship. Instructor: Staff. One course.

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.

494. Honors Independent Study. R See GSF 493. Open to seniors. Consent of instructor and program director required. Instructor: Staff. One course.

495S. Latino/as in the Global South Capstone - Global/Local Contexts. CCI, CZ, SS One course. C-L: see Latino/a Studies in the Global South 495S; also C-L: Cultural Anthropology 495S, Latin American Studies 495S, Romance Studies 495S

499S. 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.

501S. History of Sexuality. CCI, CZ, SS One course. C-L: see History 501S

502S. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 539S; also C-L: Cultural Anthropology 539S, Literature 539S, Visual and Media Studies 539S, Human Rights Program-Franklin Humanities Institute 539S, Human Rights

503S. Cartographies of Gender and Sexuality in Middle East. R, SS This interdisciplinary graduate seminar brings the field of Middle East gender and sexuality studies into productive collision with Western “new materialist” approaches to consider how they might inform each other; explores theories and practices related to archives and archival methodologies; and engages some of the latest scholarship on states, family, sex and sexuality. Students may use the final course assignment to develop a broadly relevant research proposal or paper using original sources, or to prepare for publication an essay or article that puts their intellectual interests in dialogue with the focus of the seminar. Consent of instructor is required. Instructor: Hasso. One course. C-L: International Comparative Studies 503S, Asian & Middle Eastern Studies 527S

505S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 515S; also C-L: Literature 515S, Visual and Media Studies 515S, International Comparative Studies 515S

509S. 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: African & African American Studies 515S

515S. Gender, Identity, and Public Policy. R, SS One course. C-L: see Public Policy 530S; also C-L: Political Science 521S

519S. Topics in Sexuality and Gender Studies. ALP, CCI One course. C-L: see Italian 585S

581S. Masculinities. CCI, CZ, R, SS One course. C-L: see Cultural Anthropology 540S

584S. Global History of Medicine. CCI, CZ, EI, STS One course. C-L: see History 548S; also C-L: Global Health 548S

590. Topics in Feminist Studies. Lecture version of GSF 590S. Instructor: Staff. One course.

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 Master's and Professional Schools students and for PhD 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.

611S. Film Feminisms. ALP, CCI, CZ One course. C-L: see Literature 611S

615S. The #Selfie. CZ, EI, R, STS One course. C-L: see Literature 615S; also C-L: Visual and Media Studies 615S, International Comparative Studies 615S

Gender, Sexuality, and Feminist Studies Courses across Disciplines

The following courses count toward a major or minor when taught by faculty affiliated with gender, sexuality, and feminist studies and/or approved by a gender, sexuality, and feminist studies faculty advisor. There are additional courses that count toward the major, and students should contact the Gender, Sexuality, and Feminist Studies office for additional information.

Art History

288. Dada and Surrealism

Cultural Anthropology

170. Advertising and Society: Global Perspective (DS4)

250. Muslim World: Transformations and Continuities

271. Gender and Culture

English

750. Studies in Renaissance Literature

History

374. Women, Gender, and Sexuality in U.S. History

800. Colloquia

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211. Social Inequality

International Comparative Studies

170. Muslim World: Transformations and Continuities

203. Gender and Culture

Jewish Studies

140. Judaism

271. Sex and Gender in the Hebrew Bible

Linguistics

170. Advertising and Society: Global Perspective (DS4)

Literature

316S. Film Theory

Medieval and Renaissance Studies

655. Early Christian Asceticism

Philosophy

222. Gender and Philosophy

503S. Contemporary Ethical Theories

Political Science

582S. Contemporary Ethical Theories

Psychology

220. The Psychology of Gender

Religion

140. Judaism

271. Sex and Gender in the Hebrew Bible

328. Buddhism and Sexuality

367. Women and Sexuality in the Christian Tradition

380. Muslim World: Transformations and Continuities

634. Early Christian Asceticism

Russian

512. Women and Russian Literature

Sociology

160. Advertising and Society: Global Perspective (DS4)

211. Social Inequality

218. Sex, Gender, and Society

225. Intimate Inequalities: The State of American Families

349. Sexuality and Society
355. Organizations and Management
Visual and Media Studies
170. Advertising and Society: Global Perspective (DS4)
298S. Film Theory

Courses in Study of Sexualities (SXL)

Courses in the study of sexualities introduce 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.

89S. First Year Seminar. One course.

115. Introduction to the History of Women, Gender, and Sexuality. CCI, CZ, EI, SS One course. C-L: see History 115; also C-L: Gender, Sexuality, and Feminist Studies 115

116. Sexual Pleasure in the Modern World. CCI, CZ, EI One course. C-L: see History 112

160S. Gateway Seminar: The Global Sixties: Race, Revolution, Sexuality. ALP, CCI, CZ, R, W One course. C-L: see History 160S; also C-L: Gender, Sexuality, and Feminist Studies 160S

190S. Seminars in Selected Topics. One course.

191FS. Intersections of the Sexual Brain. CCI, CZ, NS, STS One course. C-L: see Neuroscience 191FS; also C-L: Gender, Sexuality, and Feminist Studies 191FS, Psychology 195FS

199S. Introduction to LGBTQ Studies. CZ One course. C-L: see Gender, Sexuality, and Feminist Studies 202S

229. Sexuality and Society. CCI, EI, R, SS One course. C-L: see Sociology 349

231S. 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: International Comparative Studies 406S, Gender, Sexuality, and Feminist Studies 231S

235S. Clinical Issues for the LGBTQ Community. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 235S; also C-L: Psychology 316S

264S. Race, Gender, and Sexuality. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 364S; also C-L: African & African American Studies 242S

268. Gender, Sexuality, and Human Rights. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 368; also C-L: Human Rights Program-Franklin Humanities Institute 368, Human Rights

278. Sex/Gender - Nature/Nurture: Intersections of Biology and Society. NS, STS One course. C-L: see Gender, Sexuality, and Feminist Studies 278; also C-L: Cultural Anthropology 278, Neuroscience 278, Psychology 226

290. Selected Topics. One course.

290S. Seminars in Selected Topics. One course.

295S. Sex Work: The Politics of Sexual Labor. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 352S; also C-L: Literature 295S, Sociology 295S

310S. Freud and Sexuality. CCI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 372S; also C-L: Literature 260S, Psychology 322S

377. Global History of Sexuality. CCI, CZ, EI, SS One course. C-L: see History 377

386S. Politics of Sexuality. CCI, CZ, R, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 386S; also C-L: Human Rights Program-Franklin Humanities Institute 386S, Public Policy 383S, History 346S

432S. Gender, Sex and Citizenship. CCI, EI, SS One course. C-L: see Cultural Anthropology 432S; also C-L: Gender, Sexuality, and Feminist Studies 432S, International Comparative Studies 428S, Human Rights Program-Franklin Humanities Institute 428S, Human Rights

438S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 438S; also C-L: Cultural Anthropology 438S, International Comparative Studies 407S, Visual and Media Studies 438S, Gender, Sexuality, and Feminist Studies 438S, Literature 438S, International Comparative Studies

470S. Queer Theory. ALP, CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 370S; also C-L: Literature 475S, Marxism and Society

Study of Sexuality Courses Offered through Other Departments

Cultural Anthropology

271. Gender and Culture

Dance

368. Gender in Dance and Theatre

Gender, Sexuality, and Feminist Studies

212. Gender in Dance and Theatre

217. Gender and Culture

International Comparative Studies

203. Gender and Culture

Literature

365S. Love, Marriage, Education: Theories About Women from Rousseau to Beauvoir

Medieval and Renaissance Studies

655. Early Christian Asceticism

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

House Courses. Gender, Sexuality, and Feminist 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 gender, sexuality, and feminist studies, a student must take a minimum of ten courses. Gender, Sexuality, and Feminist Studies 199S (Thinking Gender: An Introduction to Feminist Theory) and a senior seminar (Gender, Sexuality, and Feminist 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 gender, sexuality, and feminist 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 Gender, Sexuality, and Feminist Studies serve as advisors for students majoring in gender, sexuality, and feminist studies. Majors are paired with faculty advisors on the basis of students' general areas of interest. Students majoring in gender, sexuality, and feminist studies are encouraged to seek out and work with any of the Gender, Sexuality, and Feminist Studies faculty in addition to their primary faculty advisor.

Departmental Graduation with Distinction

Qualified students earning a major in gender, sexuality, and feminist studies may be eligible for Graduation with Distinction. 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 Gender, Sexuality, and Feminist Studies Minor

For the minor, students complete five courses. Gender, Sexuality, and Feminist Studies 199S (Thinking Gender: An Introduction to Feminist Theory) 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 in Gender, Sexuality, and Feminist 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.

The Minor in Sexuality Studies

For the minor in sexuality studies students complete five courses: the required Sexuality Studies 199S (Introduction to the Study of Sexualities) and four electives listed as SXL. Of the four electives, one must be a seminar at the 300 level or above. One of the following can count as an elective, with permission of the director of undergraduate studies: (a) an independent study, including thesis writing or research, on a topic focused on sexuality studies; (b) a study abroad course with 50% or more focus on sexuality-studies themes; or (c) a relevant course offered by another unit (not cross-listed with SXL), with clear documentation of its intellectual value to the overall goals of the minor.

In addition to offering courses, and a major and minor representing a focus in gender, sexuality, and feminist studies, the program sponsors lectures, films, discussions, conferences, and work-study opportunities. Additional information on courses, the gender, sexuality, and feminist studies major or minor, and other opportunities in gender, sexuality, and feminist studies is available at the gender, sexuality, and feminist studies office, 210 East Duke Building, or on the website at <https://gendersexualityfeminist.duke.edu/>.

Genetics

See Science & Society on [page 750](#); see the University Program in Genetics and Genomics on [page 813](#); or see the genetics area of concentration in Biology on [page 209](#).

German Studies

Professor Engelstein, *Chair*; Assistant Professor Pourciau, *Director of Undergraduate Studies*; Associate Professor of the Practice Crane, *Director of the Language Program*; Professors Engelstein and Pfau; Associate Professors Gellen, Norberg, and Pickford; Assistant Professor Pourciau; Professors Emeriti Morton, Rasmussen, and Rolleston; Associate Professor of the Practice Crane; Professor of the Practice Emerita Walther; Lecturing Fellow Freytag; Adjunct Assistant Professor Madden; Adjunct Associate Professor of the Practice Wohlfeil; Instructors Dolan and Henry

A major and a minor are 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 [page 411](#).

Courses in German Studies (GERMAN)

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 introductory language course. Practice in spoken and written German (speaking, listening, reading, writing); introduction to German culture and society through film, music, literature, and other authentic materials. Communicative approach to language study focuses on learning to use German in meaningful contexts across a variety of real-life situations and genres. Instructor: Staff. One course.

102. First-Year German II. FL Second-semester introductory language course. Practice in spoken and written German (speaking, listening, reading, writing); introduction to German culture and society through film, music, literature, and other authentic materials. Communicative approach to language study focuses on learning to use German in meaningful contexts across a variety of real-life situations and genres. Instructor: Staff. One course.

111. Intensive First-Year German. FL Intensive, introductory course combines first two semesters of German language instruction. Introduction to language and culture of modern German-speaking world. Practice in spoken and written German (speaking, listening, reading, writing) across variety of everyday, real-life situations and genres. Course takes functional communicative approach focusing on development of interpersonal, interpretive, and presentational skills. No previous German language study required. Ideal for highly motivated students and those interested in refreshing knowledge of foundational grammar and vocabulary structures. Instructor: Freytag. 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 Intermediate-level German course continuing instruction begun in German 102. Focus on developing German language abilities and expanding cultural knowledge through topic-oriented syllabus on cultures of the German-speaking world. Comprehensive review of grammar, vocabulary building, with continued practice in speaking, reading, listening, and writing. Literary and nonliterary texts from a variety of media provide basis for discussion and cultural awareness. Recommended prerequisite: German 101-102, 111, or equivalent. Instructor: Staff. One course.

204. Intermediate German II. CZ, FL Intermediate-level German course continuing instruction begun in German 203. Practice in spoken and written German (speaking, listening, reading, writing); introduction to German culture and society through film, music, literature, and other authentic materials. Communicative approach to language study focuses on learning to use German in meaningful contexts across a variety of real-life situations and genres. 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.

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.

222SA. Capturing the City: Documentary Photography in Berlin. ALP, CCI One course. C-L: see Documentary Studies 171SA; also C-L: Visual Arts 171SA, Visual and Media Studies 171SA

262P. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney - Preceptorial in German. A preceptorial (discussion section), in German, to accompany the course on Romantic Fairy Tales from Grimm's to Disney (German 262). This non-credit preceptorial is designed for German majors, minors, and other students who are able to discuss the material in German. Requires concurrent enrollment in German 262. Prerequisite: German 204 or equivalent. Students who enroll in this preceptorial will be able to count German 262 towards the German major or minor as a course taught in German. Note: This preceptorial does not fulfill the Trinity College foreign language requirement. Further information available from the instructor. Instructor: Norberg or Henry.

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. Prerequisite: German 204 or equivalent. Not open to native speakers of German. 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 204 or equivalent. Not open to native speakers of German. Instructor: Gellen or 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:

German 204, 212, 212A, or equivalent. Fulfills major requirement for German 305S and German 306S. Instructor: Wohlfeil. Two courses.

319AS. 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.

323S. Dwarves, Dragon-Slayers, and Werewolves: Germanic Myths and Legends. ALP, CCI, CZ, FL Exploration of ancient Germanic fantasy worlds with their gods, giants, dwarves, dragon-slayers, werewolves, shapeshifters, and witches. Readings of short texts and excerpts from myths, epics, legends, fairy tales, riddles, and incantations. Where do the figures, beasts, creatures appear and what cultural concerns do they represent. Concluding look at the survival and continuation of the Germanic tradition in modern and contemporary fantasy, from Tolkien to The Game of Thrones. Instructor: Norberg. 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

331T. Voices in Philosophy: German. Half course. C-L: see Philosophy 331T

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: Staff. One course. C-L: Theater Studies 325S

335S. Modern German Theater and Drama. ALP, CCI, FL Introduction to some major works of theater and drama of German-speaking central Europe, especially as they attempt to address contemporary social issues. Emphasis primarily on 20th century theater and drama. Authors include Bertolt Brecht, Friedrich Dürrenmatt, Peter Weiss, Peter Handke, Elfriede Jelinek and others whose experiments with dramatic form have drawn international attention. Discussions will explore the relationships between texts and their various theatrical performances on the stage and screen, as well between dramatic form and social-historical context. Final project may include performance of scenes from different plays. Taught in German. Instructor: Walther. One course. C-L: Theater Studies 223S, International Comparative Studies

340S. Contemporary Culture through the German Media Landscape. CCI, CZ, FL This course examines contemporary cultural trends in German society through the lens of the German media landscape. Students will continue to develop their competencies in German at an advanced level by discussing and analyzing current issues and debates, with an emphasis on vocabulary building through oral and written response and analysis. Topics will vary based on current events, but may include politics, arts and entertainment, business, education, multiculturalism, Germany's role in Europe and the world, among others. Recommended prerequisite: German 303, 305, 306, or permission of instructor. Instructor: Freytag. One course.

350S. The Image of America in German Culture. ALP, CCI, FL An advanced German course about the image of America in twentieth- and twenty-first-century Germany. Popular and highbrow representations, in their historical, political, and social contexts. Topics include: American settler myths ("Cowboys & Indians," pioneers); American film genres (the Western, the road movie); American progress and modernity; American brands in German society (Disney, Ford, Coca-Cola, Hollywood); the critique of American media, consumerism, and hegemony. Materials include literature, film, TV shows, comics, newspaper and magazine articles, and advertising. Taught in German. Recommended prerequisite: German 305, 306, or equivalent. Instructor: Gellen. One course.

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

354SA. Contemporary Art in Berlin. ALP, CCI, FL Overview of the main locations, events and

protagonists of the contemporary Berlin art scene. Examination of art in its omnipresence in the urban environment; includes explorations of street art, art in public spaces, museums, private collections, galleries, studios and art academies. Taught only in the Duke-in-Berlin study abroad program. Instructor: Staff. One course.

358S. Sociolinguistic Landscapes: German Language, Society, and Identity. CCI, CZ, FL, SS Introduction to German sociolinguistics. Explores socio-cultural aspects of German language variation (spatial, chronological, social) and construction of social identities through language. Questions addressed: What is the German language, who are its speakers, and what do standard and non-standard varieties look like? How has German evolved, how does it continue to develop, and what factors impact its development? How do social variables (age, gender, social distance, etc.) relate to language use? Texts from linguistics, literature, film/music, and news media analyzed to understand impact of linguistic variation on human, personal experience in German-speaking world. Taught in German. Instructor: Crane. One course. C-L: Linguistics 358S

390S. Special Topics in German Literature and Culture. FL Focus on aspects of German literature and cultural studies. Topics vary. Taught in German. Prerequisites: German 305S or 306S, or equivalent. 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: 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

422S. Autonomy and Community: Politics in German Thought and Literature. ALP, CZ, FL How modern German thought and literature highlight the importance of community and the problems with collectivist ideologies. Enlightenment conceptions of individual autonomy and Romanticist conceptions of togetherness; Marxist ideas of classes and Freudian ideas of the mass; Nazi ideology of racial homogeneity and contemporary visions of multiculturalism. Instructor: Norberg. One course.

425S. German Underworlds. ALP, CCI, CZ, FL This course will investigate German theories about what lies beneath: is it hell or the subterranean foundations that keep our world from collapsing? A product of nature or culture? The origin of art or the death of all that is human? And should we go looking for it under mountains, or at the center of the modern city? We will take our examples from the German literature, film, and philosophy of the nineteenth and early twentieth centuries, and we will use them to pose questions about the role of unseen depths in the history of German thought. Instructor: Pourciau. One course.

430S. German Literature and Culture. ALP, CCI, FL Principal authors, genres, concepts, and works of German literature. Parallel consideration of major developments in German philosophy, music, visual arts. Emphasis on the Enlightenment to the present. Instructor: Gellen, Norberg, or Pickford. One course.

435S. German Politics and Society. 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.

443S. Captured! Stories of Entrapment in the 20th and 21st Centuries. ALP, FL Stories of self-seclusion and entrapment, from artist hermits to doomsday preppers. What are the social and psychological effects of enclosure, what creative potential does it hold, and why are we so drawn to these narratives? When do they lead to escape and liberation, and when do they end in scenes of explosive self-destruction? Stories by Franz Kafka, Ilse Aichinger, and Thomas Bernhard; films by Werner Herzog and Michael Haneke; theoretical texts by Schopenhauer and Freud; discussions of self-seclusion via social media in the contemporary world. Readings and discussions in German. Recommended prerequisite: German 320 or above, or equivalent. Instructor: Gellen. One course.

445S. The Uncanny German Canon from Goethe to Kafka. ALP, CCI, FL Investigation of classic uncanny German literature from the late eighteenth to early twentieth centuries. Uncanny elements from ghosts and Doppelgänger to artificial life persisted across the literary movements of Romanticism, Realism,

and Modernism. The course will explore this literature and also theories of the uncanny including Freud's psychoanalytic approach, Todorov's structuralist approach, and recent cultural-historical and post-colonial approaches. Authors may include: Goethe, Tieck, the Grimms, E.T.A. Hoffmann, Chamisso, Eichendorff, von Droste-Hülshoff, Storm, and Kafka. Prerequisite: German 306 or above or equivalent knowledge of German. Instructor: Engelstein. One course.

450S. Ethics and Literature: The Modern German Tradition. ALP, CZ, EI, FL We shall read literary texts (short stories, novellas, plays) from the nineteenth and twentieth centuries with the goal of understanding how literature might provide—or render problematic—moral insight. How does literature represent and question moral psychology and judgment, action, and responsibility? Do literary structures inhabit our moral self-understanding, for instance: character, will and choice, and narrative coherence? Taught entirely in German. Recommended prerequisite: advanced proficiency (one course beyond 305/306). Instructor: Pickford. 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: 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

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. 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.

190S-1. Special Topics in German Studies. Introduction to aspects of German culture and civilization. Topics vary by semester. Taught in English. Instructor: Staff. One course.

243. Modern European Short Fiction. ALP, CCI, CZ, EI One course. C-L: see Italian 220; also C-L: Literature 244, English 244, Jewish Studies 243, International Comparative Studies 212

250. Moral Dilemmas in Philosophy and Literature. ALP, CZ, EI An introductory course in moral philosophy and literature that first considers moral relativism, moral subjectivism, and moral objectivism before studying the three principal theories of ethics current today: consequentialism, deontology, and virtue ethics. Each of these approaches to ethics presents intuitively plausible accounts of right moral action that nonetheless entail fascinating dilemmas. We investigate some of these dilemmas through reading selected literary works alongside the different moral theories. A further question will therefore accompany our investigations: what is the relationship(s) between literature and moral philosophy in general? Instructor: Pickford. One course. C-L: Literature 250, Study of Ethics 258

261S. The Viking Age. ALP, CCI, EI The history of Viking raiding, trading, exploration, and settlement, with attention to the socioeconomic structure, political organization, and naval technology of medieval Scandinavian societies. Focus on topics such as Norse mythology, ritual, and runes, Icelandic sagas, gender roles and social hierarchies in a warrior society, clan-based justice, and the collision between “heroic” values and the new Christian ethic. Taught in English. Instructor: Norberg. One course. C-L: Medieval and Renaissance Studies 305S, History 256S

262. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms 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, English 287

262D. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms 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 or Henry. One course. C-L: English 287D, Literature 252D

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

270. Film Noir. ALP, CCI, EI One course. C-L: see Visual and Media Studies 282; also C-L: Literature 223

270S. Film Noir. ALP, CCI, EI One course. C-L: see Visual and Media Studies 282S; also C-L: Literature 223S

282S. Modernism and the Arts. ALP, CCI, CZ One course. C-L: see English 282S; also C-L: Art History 281S, Romance Studies 282S, Literature 282S

283S. Istanbul and Berlin. CCI, EI, SS One course. C-L: see Asian & Middle Eastern Studies 383S; also C-L: International Comparative Studies 356S, History 368S

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: Gellen. One course. C-L: Literature 344

286. German History Through Film. ALP, CZ, EI Interdisciplinary seminar at intersection of German Studies and History, taught by scholars from both disciplines. Explores ways in which films shape historical imaginations and are in themselves artifacts of history. Provides unique opportunity to learn about German past and present, and reflect on relationship between film and history. Instructor: Bonker and Gellen. One course. C-L: History 255, Visual and Media Studies 287, Literature 286

290-1. Special Topics in German Studies. Aspects of German culture and civilization. Topics vary. Taught in English. 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. Open only to all students by consent of instructor and director of undergraduate studies. Instructor: Staff. Half course.

320A. Environmental Policy in Europe: Duke in Berlin. CCI, SS One course. C-L: see Political Science 295A; also C-L: Public Policy 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

359A. Germany Today: A European Superpower? Duke-in-Berlin. CCI, FL, SS The political, military, and economic role of the reunified Germany within the European Union. Analysis of the political system of the Federal Republic of Germany and of the structure of the European Union. Taught by German faculty in the Duke-in-Berlin spring semester program. Instructor: Staff. One course. C-L: Political Science 296A, History 266A, International Comparative Studies

360D. What Is Beauty?. ALP, CCI, CZ, EI Exploration of Western theories of beauty from Plato to the present. What do we mean when we call something beautiful? Does beauty belong to an object or an observer's mind? Is art or nature the best example of beauty? The class also examines the intertwining of modern theories of beauty with theories of race; analyzes the gender and power dynamics of theories of beauty; and asks about the relationship of aesthetics to society, politics, and biology. Readings include authors such as Plato, Burke, G.E. Lessing, Kant, Schiller, Charles Darwin, George Eliot, Nietzsche, W.E.B. DuBois, Arthur Danto, Elaine Scarry, Alice Walker, and Semir Zeki. Taught in English. Instructor: Engelstein. One course. C-L: Art History 360D, Literature 362D, English 362D

362SA. The Economics of the Energiewende in Germany. EI, SS, STS Comprehensive overview of the Energiewende—Germany's effort to reshape its energy system, the industry, and building sectors into a nuclear-free, low-carbon economy. Application of a range of analytical methods—including economic assessment tools, legal analyses and political science—to shed light on different facets of the Energiewende, and to help understand the public and academic debates around it. The course thus offers different angles—looking at the economics of the Energiewende, as well as the technological, social, ethical, legal and political implications. Offered through the Duke-in-Berlin Program. Instructor: Staff. One course. C-L: Environment 367SA, Economics 331SA

364. Green Germany: World Leader in Environmental Policy. CCI, CZ, EI, SS, STS Exploration of Germany's leading global role in developing and implementing "green" technologies and environmental policies. Analyzes Germany's current and past policies on energy, agriculture, and pollution control. Examines polices in context by studying German ideas about nature, history of German environmentalism, and by looking at Green Germany in European and global perspective. Discusses extent ethics can or ought to influence debates about global climate change and its ramifications. Readings include scholarly studies, exemplary policies, and groundbreaking ecological texts. Instructor: Dolan. One course. C-L: History 250, Environment 366, Energy 364

365A. Art and Architecture of Berlin, Fifteenth to the Twentieth Century. ALP, CCI, CZ One course. C-L: see Art History 297A

366A. Frontier City Berlin: Facing History's Great Challenges. CCI, CZ This course deals with some of the great challenges and conflicts of the 20th and 21st century, such as capitalism vs. communism; authoritarian vs. democratic governance, and focuses on Berlin as a city at the forefront of historic struggles. In particular, it treats Berlin as the site of the first socialist revolution in a highly industrialized nation (1918/19); the rise of fascism amidst an advanced urban culture, the legacy of world war and totalitarian rule; the Cold War division of Berlin; the fall of communism and the crises of capitalism; and the search for an environmentally sustainable future. Offered in English in the Duke-in-Berlin summer program. Instructor: Philipsen, Norberg. One course. C-L: Public Policy 210A, History 334A, Political Science 260A

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 Grünwald 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: Gellen and Staff. 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: Gellen. One course. C-L: Literature 368, Jewish Studies 368, Religion 343

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: Staff. One course. C-L: Medieval and Renaissance Studies 345, Literature 240, Ethics Elective

372. Kafka and Cinema. ALP, CCI, STS Explores the link between Franz Kafka, the great modernist author, and cinema, the most significant modern technological art form. Social and cultural context (multi-

lingual and multi-ethnic Prague); Kafka's complex personal identity (German-speaker, Jew, patient, life-long bachelor); writing cinematically; Kafka's influence on twentieth- and twenty-first-century film, especially existentialism and the "kafkaesque"; translating between media/platforms as a concern of high modernism and our contemporary technological landscape. Includes works by Franz Kafka, Fritz Lang, Orson Welles, Steven Soderbergh, Jonathan Lethem, and the Coen Brothers. Taught entirely in English, no prerequisites. Evening meeting time is for film screenings. Instructor: Gellen. One course. C-L: Visual and Media Studies 371, Literature 377, Jewish Studies 372

376SA. Berlin Film City: Movies in the Metropolis. ALP, CCI A course about Berlin's rich and unparalleled cinema history. Screenings, readings, and visits to historical studios and cinemas, film museums, archives, and film academies. The course is structured around a series of iconic films about Berlin. Units on Weimar cinema, Nazi film, DEFA (East Germany's production studio), the New German Cinema of the 1970s and 80s, post-wall film, and the twenty-first century Berlin School. Students will engage in close analysis of films in their historical context and discuss how cinema engages with issues of national, political, religious, ethnic, gender and sexual identities. Offered in English in the Duke in Berlin summer program. Instructor: Gellen. One course. C-L: History 268SA, Visual and Media Studies 376SA

380. Marx, Nietzsche, Freud. CCI, CZ, SS A critical examination and assessment of the thought of Marx, Nietzsche, and Freud: revolutionary theory and practice; nihilism and the challenge of overcoming it; the hidden foundations of the self and of culture. Instructor: Pickford. One course. C-L: Philosophy 286, Literature 280, Political Science 378, Marxism and Society

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. Instructor: Pickford. 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, Schlöndorff, Fassbinder, Wenders, Bergman, Antonioni, Kurosawa, and Godard, among others. Instructor: Staff. One course. C-L: Theater Studies 372, Literature 218, Visual and Media Studies 283

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: Dolan. One course. C-L: Jewish Studies 369, Literature 369, History 261, Human Rights Program-Franklin Humanities Institute 387, Human Rights, International Comparative Studies

390-1. Special Topics in German Studies. Aspects of German culture and civilization. Topics vary. Taught in English. Instructor: Staff. One course.

390S-1. Special Topics in German Studies. Aspects of German culture and civilization. Topics vary. Taught in English. Instructor: Staff. One course.

390SA. Special Topics in German Literature and Culture. Focus on aspects of German literature and cultural studies. Topics vary. Offered only in the Duke-in-Berlin programs. Instructor: Staff. One course.

460S. World War I and the History of Art & Architecture: Germany and Beyond. ALP, CCI, CZ One course. C-L: see Art History 460S; also C-L: History 452S

490S. Special Topics in German Studies. Aspects of German culture and civilization. Topics vary. Instructor: Staff. 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: Staff. 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: Staff. One course.

510S. Old Norse: Introduction to the Language of Viking Scandinavia. ALP, CZ Introduction to the language of Viking Scandinavia, with primary goal of providing students with the linguistic tools needed to read the fascinating Norse literature in the original. Systematic presentation of grammar of Old Norse, and development of knowledge and skills needed to read and translate a considerable variety of Norse prose and, to a lesser degree, poetic texts. Also examines the relationship of Old Norse to other Germanic languages, as well as aspects of ancient Scandinavian culture and history. No previous knowledge of linguistics is expected or assumed. Knowledge of German is moderately helpful but not necessary. Taught in English. Instructor: Staff. One course. C-L: Linguistics 562S, Medieval and Renaissance Studies 609S

512S. Theories of the Image: The Image in Walter Benjamin. ALP One course. C-L: see Literature 612S; also C-L: Romance Studies 612S, Visual and Media Studies 612S

532S. Fin-de-siècle and Interwar Vienna: Politics, Society, and Culture. CCI, CZ, R, SS One course. C-L: see History 532S

535S. Comparative Modernisms. ALP, CCI, R One course. C-L: see Italian 532S; also C-L: Literature 532S

560. History of the German Language. Phonology, morphology, and syntax of German from the beginnings to the present. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 607, Linguistics 560

561S. Second Language Acquisition and Applied Linguistics. SS Introduction to the fields of second language acquisition and applied linguistics. Investigation of competing theories of language acquisition and learning, and various aspects of applied linguistics, including language and cognition, language and power, bilingualism, language and identity, and intercultural communication. Taught in English. Instructor: Crane. One course. C-L: Linguistics 561S

565S. Art and the Holocaust: Architecture, Art, and Cultural Politics during the Nazi Period. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 525S; also C-L: Jewish Studies 555S, History 531S

570. Frankfurt School Critical Theory. CZ, EI This course serves as an introduction to the “Frankfurt School” and Critical Theory with particular emphasis upon rationality, social psychology, and aesthetics. Through close readings of key texts by members of the school (Horkheimer, Benjamin, Adorno, Habermas) we will work toward an understanding of the analyses they developed and consider their validity. All readings and discussions are in English. Instructor: Pickford. One course. C-L: Philosophy 572, Political Science 570

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

580S. Music in Literature and Philosophy. ALP, CCI, R Readings in the philosophy of nineteenth- and early twentieth-century “classical” music and in literature as a source for and response to musical composition, performance, and listening experience. Taught in English. Instructor: Pfau. One course. C-L: English 580S, International Comparative Studies 527S

586S. Literary Guide to Italy. ALP, CCI, CZ One course. C-L: see Italian 586S; also C-L: Literature 542S

590S. Special Topics in German Studies. Special topics in German literature and cultural studies. Taught in English. Instructor: Staff. One course.

The Major

Students majoring in German develop language skills, become knowledgeable about the literature and culture of German-speaking areas, and acquire analytic and interpretive abilities. The combination of language skills with the ability to navigate across cultures is excellent preparation for a variety of professions in business, government, engineering, law, education, and academia. Double (second) majors are also encouraged and supported. Numerous opportunities are available, including Global Education programs, interdepartmental majors, Fulbright and German Academic Exchange Service (DAAD) scholarships, independent research and independent studies, and internships, both before and after graduation. Students interested in a major should consult the director of undergraduate studies.

Requirements. Ten one-credit departmental courses at the 200 level or above, including cross-listed courses and courses taught in the Duke-in-Berlin program. Direct enrollment classes taken in the Duke-in-Berlin program count as well. Half-credit courses may count toward the total number of credits required for graduation, however, they do not count toward the major. Eight out of ten of these courses must be taught in German; exceptions to this rule can be made at the discretion of the director of undergraduate studies.

Required courses include the Advanced German sequence, German 305S and/or 306S (and/or the equivalent taught in Berlin, German 303AS, German 312AS, or German 319AS), at least two courses taught in German on Duke's home campus numbered 320 or above, at least one of which must be a 400-level course.

The Minor

Requirements. Five one-credit departmental courses taught at the 200 level or above, including cross-listed courses and courses taught in the Duke-in-Berlin program. Direct enrollment classes taken in the Duke-in-Berlin program count as well. Four out of five of these courses must be taught in German.

Note: All Duke-in-Berlin courses taught in German at the 200 level or above, semester and summer, may count toward the major and minor as courses taught in German. Half-credit courses may count toward the total number of credits required for graduation; however, they do not count toward the minor.

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.

Global Development Engineering

A certificate, but not a major, is available in this program.

Global development engineering is focused on specific knowledge and skills related to planning, design, construction and operation of engineered systems in under resourced settings using appropriate technology to address issues of social justice and leveraging technological advances to benefit all of humanity, but especially marginalized populations. Duke's certificate in global development engineering seeks to prepare engineers and other international development professionals for careers in the field of sustainable international development partnering with marginalized or disadvantaged people groups to address both technical and more structural issues related to poverty, wealth inequality, health access, and economic empowerment. The curricular pathway through the certificate includes the following: a) an Introductory/Gateway Class (which must be completed no later than the fall of a student's junior year), b) demonstrated Global Competency (three classes total, with one class from Language and Culture; one from Ethics; and one from Economics OR Policy), c) Technological Depth (two course from one of the following tracks: Water, Energy, or Appropriate Technology), d) Required Experiential Component (putting education into practice), e) Design and Implementation Capstone. The total requirement is seven curricular courses plus one experiential/internship experience. See <https://cee.duke.edu/undergraduate/certificates/global-development-engineering-certificate>.

Global Health

Professor Clements, *Director of Undergraduate Studies*

A second major and a minor are available in this program.

Global health is an area of study, research, and practice that emphasizes achieving health equity for all people worldwide. Global health involves myriad disciplines, incorporates population-based approaches and individual level clinical care, promotes interdisciplinary collaboration, and emphasizes transnational health issues and determinants. The Program in Global Health incorporates knowledge from academic disciplines—within the sciences, social sciences and humanities—to best address the complexity of global health challenges.

Courses in Global Health (GLHLTH)

89S. First Year Seminar: 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.

101. Fundamentals of Global Health. CCI, EI, SS, STS Introduction to global health issues and challenges. Develop an understanding of key concepts, tools, and frameworks essential for continued study in global health. Focus on global disease burden, health determinants and disparities, health policy and actors, and challenges of global health interventions. Explore the importance of understanding and addressing global health through multidisciplinary frameworks of the natural sciences, social-behavioral sciences, humanities, and policy. Instructor: Staff. One course.

101D. Fundamentals of Global Health. CCI, EI, SS, STS Introduction to global health issues and challenges. Develop an understanding of key concepts, tools, and frameworks essential for continued study in global health. Focus on global disease burden, health determinants and disparities, health policy and actors, and challenges of global health interventions. Explore the importance of understanding and addressing global health through multidisciplinary frameworks of the natural sciences, social-behavioral sciences, humanities, and policy. Consists of lecture and learning labs, intensive small group discussion, and global health case analyses. Intended for undergraduates. Instructor: Staff. One course.

140FS. On Suffering: How Science and Stories Shape Us. ALP, EI One course. C-L: see Study of Ethics 140FS; also C-L: Science & Society 140FS, Sociology 140FS

142. History of Chinese Medicine. CCI, CZ, STS, W One course. C-L: see History 239; also C-L: Asian & Middle Eastern Studies 142

153. Climate, Coffee, and Coronavirus: Why Ecology Matters to Human Health. EI, NS, STS One course. C-L: see Biology 153; also C-L: Environment 153

154. AIDS and Other Emerging Diseases. NS, STS One course. C-L: see Biology 154; also C-L: International Comparative Studies 103, Global Health

174. Introduction to the History of Medicine. CZ, STS One course. C-L: see History 113

187FS. Effectively Addressing Modern Pandemics of Disease: What Did We Do Wrong to Get So Sick?. NS, STS This course will explore Western disease and its root causes. At the same time, students will investigate what modern medicine has done to address the issues, and will discuss the effectiveness and magnitude of that effort. For each case study, students will determine what might have gone wrong, how could it have been done differently, and what forces might be at play that have prevented effective action. The pharmaceutical paradigm that currently governs both modern medicine and biomedical research will be carefully examined. Students will be encouraged to envision and critically examine potential alternatives. Open only to students in the Focus Program. Instructor: Parker. One course.

188FS. A Global Perspective on Provider-Patient Communication. CCI, SS Explores the differing perspectives of patients and their health care providers; considers the role of implicit bias in the evolution of disparities in health care quality for racial and ethnic minorities; investigates the problem of health care communication across cultures; examines the ways in which charitable foundations in the United States and Europe might impose a Western model of health care communication on communities in developing countries; considers creative approaches to creating trust and effective communication between patients and the systems which provide health care. Intended only for focus students in global health cluster. Instructor: Prose. One course.

189FS. To Boldly Go! Global Health and the American Way of Engagement. CCI, CZ, EI, STS Course examines assumptions and language of Global Health in the US and ethical challenges of cross-cultural engagement. Title comes from Roddenberry's *Star Trek* (1966); course uses the series to think about technology, exploration, and encounter. We will use texts that examine how culture and power in the US have framed interactions with and control of people inside the US and in other countries, from people carrying contagious disease to women whose bodies represent a threat to a proposed social order. Students will analyze historical documents and images from popular culture and write close analyses identifying the underlying ethical and cultural frameworks in these documents. Instructor: Hall. One course. C-L: Science & Society 189FS

190FS. 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.

190S. Special Topics in Global Health. Content to be determined each semester. Instructor: Staff. One course.

196FS. Patient and Research Participant Activism and Advocacy. SS, STS, W One course. C-L: see Science & Society 196FS; also C-L: African & African American Studies 196FS, Psychology 196FS, Public Policy 196FS, Sociology 196FS, Cultural Anthropology 196FS, Science & Society

201FS. Confronting Global Health Challenges: What Would You Do? CCI, SS, STS Saving lives and improving health requires wise decision-making by local, national, and international health leaders and communities: policies, strategies, programs at the heart of success. This course will engage students in political, economic, cultural, psychosocial, human rights, equity considerations in five key areas of global health: universal healthcare, women's health, global pandemics, product-driven epidemics, and global warming health impacts. Students' critical analysis and decision-making skills will be developed through active learning teaching cases, role plays, debates, and simulations from actual situations faced by health leaders at all levels. Open only to students in the Focus Program. Instructor: Quick. One course.

203. History of Global Health. CCI, CZ, SS, STS One course. C-L: see History 203

205. Health and Healing in Africa. CCI, CZ, SS, STS One course. C-L: see History 205

208. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369; also C-L: International Comparative Studies 208, History 249, Human Rights Program-Franklin Humanities Institute 369

208S. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369S; also C-L: International Comparative Studies 208S, Human Rights Program-Franklin Humanities Institute 369S, History 249S

210. Global Health Ethics: Policy Choice as Value Conflict. EI, SS The primary foci of this course are: the ethics of engagement with marginalized/stigmatized populations; understanding the influence of power dynamics; and understanding the ways in which policies create structures that limit abilities. Students explore the roots of their personal value systems and those of others, in an effort to understand causes of conflict and ethical missteps in global health engagement. Involves reading texts and coming to class ready to engage in conversations and activities related to the learning objectives. Weekly 5-question quizzes help to ensure that students come to class prepared to engage with the material. Instructor: Whetten or Moe. One course. C-L: Public Policy 330, International Comparative Studies 397, Human Rights Program-Franklin Humanities Institute 330, Human Rights

212. Gender and Global Health. SS Examines interconnections among gender, poverty, and health. Adopts global perspective with focus on resource poor countries. Discusses frameworks for understanding health as well as in depth case studies of particular health areas. Instructor: Staff. One course. C-L: Sociology 212, Human Rights Program-Franklin Humanities Institute 212, Human Rights

215. Case Studies in Global Sexual and Reproductive Health. CCI, SS, STS, W Through the examination of weekly case studies, students will explore the complexity of working in the field of global sexual and reproductive health and the ways in which various health and social science disciplines can be integrated in the development of effective health programs. Session topics will include family planning, maternity care, gender-based violence, abortion, and HIV/AIDS. Using examples from the US and low-and middle-income

countries, students will identify key focus areas in sexual and reproductive health, technical and programmatic challenges and successful interventions. Recommended prerequisite: Global Health 212. Instructor: Huchko. One course. C-L: Gender, Sexuality, and Feminist Studies 220

216S. Performing Sexual Health: The Duke Sex Ed Squad. ALP, CCI One course. C-L: see Dance 215S; also C-L: Theater Studies 279S

220S. Anthropology and Global Health. EI, SS, STS Investigates connections between anthropology and global health. Readings based on ethnographic research conducted globally. Topics include cross-cultural experiences of epidemics, ethical implications of globalizing clinical trials, moral and political dimensions of health and humanitarian interventions, connections between nationalism and population policy, overlaps between traditional healing systems and public health programs, how gender ideologies shape reproductive health, and questions of identity, power, and ethics amidst global rollout of HIV therapies. Instructor: Staff. One course. C-L: Cultural Anthropology 218S, Human Rights Program-Franklin Humanities Institute 220S, Human Rights

225. Food, Farming, and Feminism. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 275; also C-L: Environment 209, History 221

230L. Global Women's Health Technologies. STS One course. C-L: see Biomedical Engineering 230L

235. Drugs, Chemicals, and Health: Histories of Substances in Economies, Environments, and Bodies. CCI, CZ, R, SS, STS One course. C-L: see History 235; also C-L: International Comparative Studies 237

241. Global Bioethics. CZ, EI One course. C-L: see Philosophy 281; also C-L: International Comparative Studies 282

248S. Ethical Dimensions of Environmental Policy. CZ, EI, SS One course. C-L: see Study of Ethics 288S

257. From Madness to Mental Disorders: Sociology of Mental Health. CCI, EI, SS One course. C-L: see Sociology 257

258D. Race, Genomics, and Society. EI, NS, SS, STS One course. C-L: see African & African American Studies 261D; also C-L: Science & Society 258D, Cultural Anthropology 261D, Biology 261D, Visual and Media Studies 274D

261. The Psychology of Health Behavior Change. SS One course. C-L: see Psychology 211; also C-L: International Comparative Studies 211

270T-1. Voices in Global Health: Arabic Tutorial. Through practical and theoretical discussions around case studies, personal narratives, documentaries and recorded interviews in the Arabic language, students examine how language and culture impact health beliefs and behaviors. Explore underlying reasons for different beliefs and behaviors with the goal of creating culturally appropriate interventions. Meet weekly for 75 minutes. Prerequisite: Arabic 305 or equivalent. Instructor consent required. Instructor: Staff. Half course. C-L: Asian & Middle Eastern Studies 270T-1

270T-3. Voices in Global Health: French Tutorial. Through practical and theoretical discussions around case studies, personal narratives, documentaries and recorded interviews in the French language, students will examine how language and culture impact health beliefs and behaviors. Explore underlying reasons for different beliefs and behaviors with the goal of creating culturally appropriate interventions. Tutorials meet weekly for 75 minutes. Prerequisite: French 204 or equivalent or concurrent enrollment in French 204. Instructor consent required. Instructor: Staff. Half course. C-L: French 270T-3

270T-4. Voices in Global Health: Hindi Tutorial. Explores underlying reasons for different beliefs and behaviors with the goal of creating culturally appropriate interventions. Through practical and theoretical discussions around case studies, personal narratives, documentaries and interviews, students examine how language and culture impact health beliefs and behaviors. Meets weekly for 75 minutes. Instructor: Staff. Half course. C-L: Asian & Middle Eastern Studies 270T-4, Hindi 270T-4

270T-5. Voices in Global Health: Mandarin Tutorial. Through practical and theoretical discussions around case studies, personal narratives, documentaries and recorded interviews in the Chinese language,

students examine how language and culture impact health beliefs and behaviors. Explore underlying reasons for different beliefs and behaviors with the goal of creating culturally appropriate interventions. Meet weekly for 75 minutes. Prerequisite: Chinese 305 or equivalent. Instructor consent required. Instructor: Staff. Half course. C-L: Asian & Middle Eastern Studies 270T-5

270T-6. Voices in Global Health: Spanish Tutorial. Through practical and theoretical discussions around case studies, personal narratives, documentaries and recorded interviews in the Spanish language, students will examine how language and culture impact health beliefs and behaviors. Explore underlying reasons for different beliefs and behaviors with the goal of creating culturally appropriate interventions. Tutorials meet weekly for 75 minutes. Prerequisite: Spanish 204 or equivalent or concurrent enrollment in Spanish 204. Instructor consent required. Instructor: Staff. Half course. C-L: Spanish 270T-1

270T-7. Voices in Global Health: Swahili Tutorial. Through practical and theoretical discussions around case studies, personal narratives, documentaries and recorded interviews in the Swahili language, students examine how language and culture impact health beliefs and behaviors. Explore underlying reasons for different beliefs and behaviors with the goal of creating culturally appropriate interventions. Meet weekly for 75 minutes. Instructor consent required. Instructor: Staff. Half course.

273S. Entrepreneurial Problem Solving in Global Health. SS One course. C-L: see Innovation and Entrepreneurship 263S

275S. Leadership and the Changing Landscape of Health Care. EI, SS, W One course. C-L: see Education 275S

277S. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI, W One course. C-L: see Education 277S; also C-L: Public Policy 274S, Russian 277S, Study of Ethics 277S, Human Rights Program-Franklin Humanities Institute 277S, Human Rights

290S. Special Topics in Global Health. Content to be determined each semester. Instructor: Staff. One course.

302. Global Narratives of Living with HIV/AIDS. ALP, CCI, SS How do we learn about the global experience of people living with HIV/AIDS? Read biographies, narratives, poetry, and blogs written by HIV+ persons, their families, friends, doctors, and caregivers. Listen to stories told in film documentaries and on the internet. Study interdisciplinary theories of identity and sexuality, illness narratives, narrative medicine, and doctor-patient communication. Reflect on the different meanings of the AIDS experience for men and women, young and old, in Brazil, Botswana, China, Haiti, Russia, South Africa, and rural and urban USA. Apply this new framework to investigate and analyze HIV/AIDS programs. Prior global health coursework recommended. Instructor: Stewart. One course. C-L: International Comparative Studies 295, Human Rights Program-Franklin Humanities Institute 302, Human Rights, Science & Society

303. Global Health Systems. CCI, SS, STS Introduces global health systems in three modules--Globalization, Health, and Systems--then draws these three topics together to situate the concept and practice of "global health" within the contemporary context of health systems in various countries around the world. Emphasizes systems theory and systems thinking, drawing on a wide range of disciplines. Instructor: Toole. One course.

304. Human Health in Evolutionary Perspective. NS, R, STS One course. C-L: see Evolutionary Anthropology 285

305. Global Health: Social Determinants. SS, STS This course will introduce students to the major social factors that affect public health. We will cover a wide range of topics from the health impact of global income inequality, gender, access to education, to the role of specific work place policies, among other topics. Each lecture will introduce a social variable (such as race or gender), discuss its theoretical underpinnings, and then link it to the current empirical evidence to health outcomes. The strengths and weaknesses of the empirical evidence will be discussed. Implications for intervention strategies and policy implications will be discussed with a focus on applicability to lower and middle income country settings. Instructor: Staff. One course.

306. Global Health Policy: Transforming Evidence into Action. EI, SS, STS In-depth examination of how to close the gap between evidence and practical policy making as a way to improve global health. How global health policies are shaped; identifying key actors and their power; understanding/influencing the

processes that drive large scale change in global health; exploring ways in which health issues reach the top of the agenda; analyzing how decisions are made by policy makers; implementing policies from the “top down” and “bottom up.” The interplay between the different worlds of research and policy. Practical tools for becoming a policy broker, skilled in transforming evidence to action. Real world case studies. Case-based competition. Instructor: Staff. One course. C-L: Public Policy 324

308A. Oceans in Human and Environmental Health. CCI, NS, STS One course. C-L: see Environment 308A; also C-L: Biology 308A

309A. Oceans in Human and Environmental Health. NS, STS One course. C-L: see Environment 309A; also C-L: Biology 309A, Marine Sciences

310S. Governance and Healthcare Innovation. EI, SS, STS One course. C-L: see Study of Ethics 250S

312. War and Public Health in Africa. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 312; also C-L: Public Policy 333, Cultural Anthropology 312, Human Rights Program-Franklin Humanities Institute 312, Human Rights

315D. Primate Disease Ecology and Global Health. NS, R, STS One course. C-L: see Evolutionary Anthropology 385D

315S. Primate Disease Ecology and Global Health. NS, R, STS, W One course. C-L: see Evolutionary Anthropology 385S

320. Planetary Health: Ecosystems, Human Health and Policy. NS, SS, STS One course. C-L: see Environment 320

321-1. Medical Anthropology. CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 424-1; also C-L: International Comparative Studies 424-1

323. Trauma and Global Mental Health in Haiti. ALP, CCI, CZ Haiti as a case study in global mental health approaches to traumatic stress. Explores the genesis of the diagnostic rubric of posttraumatic stress disorder (PTSD) and its relationship to local cultural contexts. Assesses critical and globalized approaches to adversity and shock reactions, with an emphasis on pioneering multi-site critical methodologies. Explores how global mental health practices have been analyzed and applied to Haiti by Haitian and non-Haitian practitioners. Fiction and prose by Edwidge Danticat will serve to bring historical and contemporary risks, ramifications, and co-morbidities of traumatic stress in Haiti into focus. Instructor: Jenson. One course. C-L: Romance Studies 220

325S. Global Displacement: Voix Francophones. CCI, CZ, EI, FL, SS One course. C-L: see French 325S; also C-L: International Comparative Studies 332S, Human Rights Program-Franklin Humanities Institute 325S, Human Rights

326. Health, Culture, and the Latino Community. CCI, FL One course. C-L: see Spanish 306; also C-L: Latino/a Studies in the Global South 306, Cultural Anthropology 306, Human Rights

326A. Language, Culture, and Health in Costa Rica. CCI, FL One course. C-L: see Spanish 306A

335. Economics of Global Health. SS, STS One course. C-L: see Economics 335

340. Social Determinants of US Health Disparities. SS One course. C-L: see Sociology 361; also C-L: Human Rights

341. Ethics of Global Infectious Disease Control. CCI, EI, SS Examination of the role of ethical decision-making when controlling infectious disease epidemics. Applies classic public health ethics of balancing individual liberty vs. public good to the new global health context of emerging infectious diseases such as HIV/AIDS, Ebola, and SARS, plus re-emerging infectious diseases such as multidrug-resistant TB, polio, and cholera. Explores questions of resource allocation, mandatory or voluntary prevention measures, and ethical obligations of health care workers vs. responsibilities of individuals in the context of new global public health. Prior global health coursework recommended. Instructor: Stewart. One course. C-L: International Comparative Studies 299, Science & Society 341, Human Rights Program-Franklin Humanities Institute 341, Human Rights

345. Global Health as an Ethical Enterprise. CZ, EI, SS Introduces the challenges of living an ethical life when conceived as an expression of compassion for distant strangers. Considers the organization of compassion into the multi-billion dollar political-economic enterprise of global health. Explores tensions

between global health as an ethical enterprise and the political-economic realities of the high-income countries and multinational organizations that fund global health and support a vast development industry populated by thousands of non-governmental organizations, pharmaceutical and chemical corporations, and countless organizations dedicated to the advancement of medicine and health science. Fulfils global health ethics requirement. Instructor: Toole. One course. C-L: Study of Ethics 344

353. Life and Death: Global Perspectives. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 341; also C-L: International Comparative Studies 353, Sociology 351

362. Understanding the Causes and Spread of Human Disease: Global Health Epidemiology. QS, SS, STS How do we identify the causes and spread of diseases, such as Novel Coronavirus 2019 or Ebola? How do we estimate the effects of poverty, genetics, and other factors, on the risk of non-communicable diseases? Students will learn how to answer these questions, and others, using concepts and methods from the field of epidemiology. Each week we will tackle a distinct global health problem by reading relevant scientific articles. We will then learn methods to study these global health issues, including how to design observational and experimental studies to identify disease risk factors. A prior quantitative course is not required; however, an interest in empirical data analysis is recommended. Instructor: Egger. One course.

363. Fundamentals of Global Mental Health. R, SS Examines global mental health from perspectives of culture, public health, epidemiology, human rights, policy, and intervention. Readings focus on peer-reviewed research literature highlighting topics such as the prevalence of mental health disorders worldwide, the role of culture in mental health, and the interventions backed by strong evidence for prevention and treatment. Students will discuss and critique study methodologies and explore the needs for future research in this emerging field. Designed for students with prior research methods and psychology coursework. Instructor: Puffer. One course. C-L: Psychology 323, Cultural Anthropology 323

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: Staff. One course. C-L: Psychology 309

373. Global Health Ethics in Research. EI, SS Introduces ethical and human rights concepts in Global Health and current issues in health ethics. Explores how to understand and engage in ethical health service, intervention, research and education. Requires students analyze and critique ethical choices of individuals, policy-makers and health workers. Explores standards of care, access to care, best outcomes vs. distributed justice. Focuses on ethics related to infectious diseases; obesity, alcohol and tobacco; and environmental health. Instructor: Ariely. One course.

383SA. Global Health in Context: Sri Lanka. CCI, SS, STS A study abroad course based in Galle, Sri Lanka, this program combines students and instructors from three universities: Duke; Academic Medical Centre, University of Amsterdam; University of Ruhuna, Sri Lanka. Students engage on problems and solutions related to health and health disparities in a global context through study of health systems, burden of disease and epidemiological studies. Classroom studies and teamwork will be combined with academic excursions in Sri Lanka to learn from local public health experts, practitioners, community members and leaders. Analysis of readings on Maternal/Child Health, Emerging Infectious Diseases, Health of Vulnerable Workers, and Aging. Department consent required. Prerequisite: Global Health 101. Instructor: Ostbye. One course.

390. 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.

390A. Duke-Administered Study Abroad: 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.

390L. Special Topics with Lab 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.

390L-1. Special Topics with Lab 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.

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 undergraduate studies in global health. 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 product. Open only to qualified students by consent of instructor and director of undergraduate studies in global health. Instructor: Staff. Half course.

391-2. Independent Study in Global Health. Individual non-research directed study in field of special interest on previously approved topic, under supervision of faculty member, resulting in an academic product. Open only to qualified students by consent of instructor and director of undergraduate studies in global health. Half-course, S/U grading basis. Instructor: Staff. Variable credit.

392. Student Research Training in Global Health. The DGHI Student Research Training Program is an intensive experiential learning program that engages second and third year undergraduate students in the development, implementation and assessment of a community-based project. Students will work in Honduras, India, Kenya, and North Carolina, US on issues ranging from infant mortality to health care mapping to access to care for migrant populations and HIV/AIDS and substance abuse issues. Students will work directly with a faculty director and a community partner. Instructor consent required. Instructor: Staff. One course.

393. 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 of undergraduate studies in global health. Instructor: Staff. One course.

393-1. 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 of undergraduate studies in global health. Instructor: Staff. Half course.

395. Connections in Global Health: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing global health issues. Teams may also include postdoctoral fellows, visiting global health fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. One course.

395-1. Connections in Global Health: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing global health issues. Teams may also include postdoctoral fellows, visiting global health fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires substantive paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. Half course.

396. Connections in Global Health: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to

pressing global health issues. Teams may also include postdoctoral fellows, visiting global health fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires final paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. One course.

396-1. Connections in Global Health: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing global health issues. Teams may also include postdoctoral fellows, visiting global health fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an on-going research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires final paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. Half course.

460S. Capstone Seminar: The Black Death and Medieval Society. CCI, CZ, EI, R One course. C-L: see History 460S; also C-L: Medieval and Renaissance Studies 429S

481. Living, Dying, Healing in Russia. CCI, EI, SS One course. C-L: see Russian 481; also C-L: Cultural Anthropology 481

495S. Graduation with Distinction in Global Health Thesis Preparation Course. Accompanies the writing of a research-focused thesis in Global Health. Covers advanced research design, manuscript writing, interpretation of results, and oral presentation. Provides information on the thesis writing process and provides feedback on student projects. Students are expected to work closely with their faculty mentor on their project. Restricted to students enrolled concurrently in a research independent study and seeking Graduate with Distinction. May be open to Program II students whose thesis topic is directly related to global health and with permission of the instructor. Instructor: Staff. One course.

495S-1. Graduation with Distinction in Global Health Thesis Preparation Course. Accompanies the writing of a research-focused thesis in Global Health. Provides information on the thesis writing process and feedback on student projects. Covers basics of research design (identifying appropriate research questions and related analyses), interpretation of results, writing skills and strategies, and oral presentation. Students are expected to work closely with their faculty mentor on their project. Restricted to students enrolled concurrently in a research independent study and seeking Graduate with Distinction. May be open to Program II students if thesis topic is directly related to global health and with permission of the instructor. Departmental consent required. Instructor: Staff. Half course.

496S. Graduation with Distinction in Global Health 2. Accompanies the writing of a research-focused thesis in Global Health. Provides information on the thesis writing process and feedback on student projects. Covers basics of research design (identifying appropriate research questions and related analyses), interpretation of results, writing skills and strategies, and oral presentation. Students are expected to work closely with their faculty mentor on their project. Restricted to students enrolled concurrently in a research independent study and seeking Graduate with Distinction. May be open to Program II students if thesis topic is directly related to global health and with permission of the instructor. Departmental consent required. Instructor: Staff. Half course.

499. Global Health Capstone. R, SS Capstone Course for students in Global Health Major. Group analysis of a current global health problem/issue. Project involves background research, data acquisition, analysis, writing, and presentation of a substantial research paper/report at an advanced level. Consent of program director required. Instructor: Staff. One course.

531. Cost-Benefit Analysis for Health and Environmental Policy. 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 607, Environment 563

533S. Water Cooperation and Conflict. **R, SS, STS** One course. C-L: see Public Policy 580S; also C-L: Environment 543S, International Comparative Studies 580S

534. Water Quality Health. One course. C-L: see Earth and Ocean Sciences 524; also C-L: Environment 524, Energy 524

538. Global Environmental Health: Economics and Policy. **SS, STS** One course. C-L: see Public Policy 582; also C-L: Environment 538

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 638

541S. Organized Compassion: History and Ethics of Humanitarianism. **CZ, EI, SS** One course. C-L: see Study of Ethics 560S; also C-L: Human Rights Program-Franklin Humanities Institute 560S, Human Rights

548S. Global History of Medicine. **CCI, CZ, EI, STS** One course. C-L: see History 548S; also C-L: Gender, Sexuality, and Feminist Studies 584S

549S. Histories of Science and Technology. **CCI, CZ, SS, STS** One course. C-L: see History 549S; also C-L: Science & Society 549S, Energy and the Environment

550. Topics in Population, Health, and Policy. **SS, STS** One course. C-L: see Public Policy 633; also C-L: Sociology 534

560. Program Management and Research Administration in Global Health. **SS** Using case examples of international health delivery interventions and research programs, this course examines the historical, social, and political effects on the application of program management and research administration skills which include: accounting/finance/budget, project management, operations and performance management, organizational relationships and structure, interpersonal and group interactions, communications (oral, writing; social and digital media), monitoring and evaluation, business and applied research ethics. Instructor: Moe. One course.

570S. Introduction to mHealth Technologies in Low- and Middle-Income Countries. **R, SS, STS** Mobile phones are catalyzing the delivery of health services and information in low- and middle-income countries. Due to global pervasiveness of mobile phones, this mobile health (mHealth) revolution has become a centerpiece in efforts to achieve the sustainable development goals, especially universal healthcare. This course will provide an introduction to mHealth and follow the mHealth lifecycle—from design to deployment—with a strong focus on developing sustainable applications that can be integrated within national health systems in developing countries. Students will be introduced to concepts such as user centered design, system architecture, business models, and mobile data privacy. Instructor: Vasudevan. One course.

571. Global Maternal and Child Health. **SS** Provides solid foundation in global perspectives on maternal and child health research, practice, and policy. Utilize case analysis to examine critical health challenges facing women, children, providers, and policymakers in some of the world's most vulnerable communities. Course designed for graduate and advanced undergraduate students. Instructor: Staff. One course.

573D. One Health: From Philosophy to Practice. **NS, SS, STS** Interdisciplinary course introducing construct of One Health as increasingly important to a holistic understanding of prevention of disease and maintenance of health. Includes discussion of bidirectional impact of animal health on human health, impact of earth's changing ecology on health. Learning objectives include 1) to describe how different disciplines contribute to the practice of One Health, 2) to creatively design interdisciplinary interventions to improve Global Health using a One Health model. Course will include weekly 2-hour multi-campus seminar off-site at NC Biotechnology Center with on-campus discussion section using case studies to supplement the seminar. Instructor: Pan, Woods. One course.

581. Global Environmental Health Problems: Principles and Case Studies. **NS, SS** One course. C-L: see Environment 581

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 of undergraduate studies in global health. Instructor: Staff. One course.

630. Air Pollution: From Sources to Health Effects. One course. C-L: see Environment 642

634. Air Quality: Human Exposure and Health Effects. NS, STS C-L: see Environment 604

635. Critical Readings in Environmental Epidemiology. NS, SS, STS One course. C-L: see Environment 633

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 infections. Instructor: Pan. One course. C-L: Environment 637S

641. Non-Communicable Diseases in Low- & Middle-Income Countries: Trends, Causes and Prevention Strategy. NS, SS, STS Course will provide an overview of the recent (mid-20th century to the present) trends in non-communicable disease epidemiology. Focus on four major non-communicable disease categories as separate modules: cardiovascular, oncologic, diabetic and pulmonary diseases. Case studies used to highlight selected geographic differences. By using lectures, assigned readings and classroom discussion the course aims to provide the student with a firm understanding of the shifting disease burden and the landscape of stakeholders and interventions to prevent the same. Instructor: Bloomfield. One course.

642S. Designing Innovation for Global Health: From Philanthropy to People. EI, SS, STS One course. C-L: see Public Policy 642S

660. Global Mental Health. CCI, NS, R, SS, STS Examination of global mental health from perspectives of culture, public health, epidemiology, human rights, policy, and intervention. Disciplines include cross-cultural psychiatry, medical anthropology, public mental health, and economics. Topics include ethics, stigma, cross-cultural classification of mental health, ethnopsychology, trauma, violence, disasters, and displacement. Populations include children, ethnic minorities, refugees, survivors of complex emergencies, and persons with chronic disease. Course highlights mixed-methods approaches to research and intervention evaluation. Designed for graduate students & advanced undergraduates. Prior research methods course recommended. Instructor: Staff. One course. C-L: Psychology 611, Cultural Anthropology 611, Human Rights Program-Franklin Humanities Institute 660, Human Rights

670. Global Nutrition. EI, NS This class examines global nutrition trends and problems focusing on both the US and developing countries. Topics include basic principles of nutrition, research methods for dietary assessment, and the epidemiological trends, physiological consequences, and behavioral outcomes of both overnutrition (e.g., obesity) and undernutrition (e.g., malnutrition). Emphasis will be placed on intervention approaches to improve these outcomes (e.g., supplementation and fortification, community-based programs, and nutrition policy). Students will gain a better understanding of basic nutrition, global trends, and best practices for improving nutritional status. For graduate or advanced undergraduates. Instructor: Steinberg. One course.

671. Global Health and Health Systems in Africa. SS This course is designed to prepare students to work in, or pursue study of, the complex institutional environment of global health and health systems in Africa. The course braids together four topical strands: (1) the social, political, and economic context of the African continent; (2) African conceptions of the “public” and of “health” (3) the origins and evolution of African health systems; and (4) the impact on African health systems of transitions in global health governance. The course pursues these topics through case studies and team projects focused on issues of global health and health systems in representative African countries. Instructor: Toole. One course. C-L: Public Policy 636

672. Health in the African Diaspora. CCI, EI, SS, STS One course. C-L: see African & African American Studies 660; also C-L: Cultural Anthropology 660

673S. Global Surgical Care. SS, STS Lack of access to surgical care threatens the health of people throughout the world's poorest regions, and impacts all areas of health care. This seminar will address issues surrounding the delivery of surgical and anesthesia care in low- and middle income countries for students and clinical trainees in global health. This course will focus on surgical care delivery and management; workforce, training, and education; and economics and finance. The content of this course will be based on the Lancet Commission on Global Surgery report and support materials. The format will be a weekly seminar, readings, and case studies. Instructor: Rice. One course.

690. 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. Variable credit.

The Major

The mission of the global health major is to educate the next generation of scholars and leaders whose efforts will improve health and help achieve health equity for all people worldwide. Accordingly, the global health major teaches students to approach global health challenges using both disciplinary and interdisciplinary perspectives. The global health major is offered only as part of a double major program of study, meaning students must complete the global health major requirements along with the requirements of any other undergraduate major at Duke. The global health major is composed of five components—core, foundations, electives, experiential learning, and a senior seminar. Students must complete eleven courses and an experiential learning requirement, in addition to their comajor requirements, as outlined below.

Three Core Courses

- **Gateway:** Global Health 101 (Fundamentals of Global Health)
- **Ethics:** Choose from:
 - Global Health 210 (Global Health Ethics)
 - Global Health 341 (Ethics of Infectious Disease Control)
 - Global Health 373 (Global Health Service, Research, & Ethics)
 - Global Health 241 (Global Bioethics)
- **Methods:** Global Health 371/Psychology 309 (Research Methods in Global Health)

Three Foundations Courses

One course from three of the four foundations. See globalhealth.duke.edu for eligible courses.

- Arts and Humanities in Global Health
- Global Health Systems and Policy
- Natural Science in Global Health
- Social Sciences in Global Health

One Statistics Course

- A course listed/cross-listed in the Department of Statistical Science or
- Biology 204, Economics 208D, Evolutionary Anthropology 381, Mathematics 230, Political Science 471L, Psychology 201L, Sociology 333

Three Elective Courses

Each major must complete three elective courses from a predetermined list. See globalhealth.duke.edu for additional information. Electives must meet the following requirements:

- any 200-level course with a Global Health offering (either owned or cross-listed);
- any course listed as a Foundation course (see above);
- only one 1.0-credit independent study or Bass Connections course (Global Health 391, 393, 395, or 396) is allowed per student; and
- a maximum of 2.0 credits of preapproved study abroad or transfer credit courses are allowed per student.

Courses from the above categories will be allowed to count as electives, with the constraint that courses cannot be double-counted within the major.

Experiential Learning

An experiential learning activity must address and/or engage a global health question, context or challenge. Students may fulfill the requirement through DGHI Student Research Training (SRT) program, an internship, a civic engagement experience such as those offered by DukeEngage, or a faculty-mentored independent global health research project. The experiential learning activity must be preceded by the Ethics core course, be preapproved, and be completed prior to the spring semester of senior year. See globalhealth.duke.edu for more details on requirements and eligible experiences.

Senior Seminar

Global Health 499, Global Health Capstone. Students are expected to have completed Fundamentals of Global Health, Global Health Ethics, Global Health Research Methods and experiential learning prior to enrolling in a capstone course.

Graduation with Distinction

The Graduation with Distinction program recognizes students who successfully complete a substantive written project evaluated by a committee of three faculty members. Students majoring in global health may pursue the following tracks leading to Graduation with Distinction:

- Graduation with distinction in global health
- Graduation with distinction in global health and the non-global health major through a double honors thesis
- Graduation with distinction in the non-global health major

Students interested in graduating with distinction in global health are encouraged to pursue a double honors thesis, in order to integrate what they have learned in the two majors. Students must complete their thesis under the mentorship of a Duke Global Health Institute (DGHI) faculty member or affiliate who has experience guiding undergraduate student research. Students who meet the eligibility requirements must submit an application form by the last day of Drop/Add of the fall semester of their senior year.

The Minor

Students pursuing a minor in global health must complete the following five course requirements:

- **Gateway:** Global Health 101 (Fundamentals of Global Health)
- **Ethics:** Choose from:
 - Global Health 210 (Global Health Ethics)
 - Global Health 341 (Ethics of Infectious Disease Control)
 - Global Health 373 (Global Health Service, Research, Ethics)
 - Global Health 241 (Global Bioethics)
- **Three electives in Global Health.** Students must complete three global health courses. Cross-listed courses are acceptable, but courses taken Satisfactory/Unsatisfactory and Advanced Placement credits do not count toward the minor. Electives must meet the following requirements:
 - course must include a Global Health offering (either owned or cross-listed);
 - only one 1.0-credit independent study or Bass Connection course (Global Health 391, 393, 395, or 396) is allowed per student; and
 - a maximum of 2.0 credits of preapproved study abroad or transfer credit courses are allowed per student.

Greek

For courses in Greek, see Classical Studies on [page 244](#).

Health, Wellness, and Physical Education

For courses in health, wellness, and physical education, see [page 601](#).

Hebrew

For courses in Hebrew, see Asian & Middle Eastern Studies on [page 201](#).

Hindi

For courses in Hindi, see Asian & Middle Eastern Studies on [page 202](#).

History

Professor Ramaswamy, *Chair*; Professor Hacohen, *Director of Undergraduate Studies*; Professors Balleisen, Deutsch, Duara, L. Dubois, Edwards, French, Gaspar, Glymph, Hacohen, Humphreys, MacLean, Martin, M. Miller, Olcott, Partner, Ramaswamy, Robisheaux, and Sigal; Associate Professors Barr, Bonker, Ewald, Huston, Krylova, Lentz-Smith, Malegam, Mazumdar, Neuschel, Peck, Thorne, and Stern; Assistant Professors Barnes, Chappel, Hepler-Smith, Marquez, and Mestyan; Professors Emeriti Chafe, English, Herrup, Koonz, Kuniholm, Mauskopf, Nathans, Reddy, Roland, Shatzmiller, and Wood; Visiting Associate Professor Kaiwar; Visiting Assistant Professors K. Dubois and Freeman

A major and a minor are 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. History graduates are prominent in all fields of economy, society, and culture.

Courses in History (HISTORY)

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

101. Introduction to Global History. CCI, CZ, W Explore problems in the history of globalization. Learn how contemporary problems and opportunities of globalization reflect long-term processes marked by patterns, interruptions, and continuities even within radical change. Asia, Europe and Africa have been interconnected since the Bronze Age. Trade, microbes, political power and religions formed then, as today, the principal matrix in which interdependence and conflict developed. In what ways is the environmental and climate crisis today different from that of the Little Ice Age? Can technology continue to allow humans to ‘conquer’ nature so we that may keep expanding resources on an exhausted earth? What alternatives exist globally? Instructor: Duara and Martin. One course.

103. Comparative Approaches to Global Issues. CCI, CZ, SS, W One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, Political Science 110, Sociology 195, Gender, Sexuality, and Feminist Studies 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 & African American Studies 134, Medieval and Renaissance Studies 105, Marxism and Society

106. Science and the Modern World: Introduction to the History of Science. CCI, CZ, STS This course surveys the history of science from the sixteenth century through the present day. It addresses science not just as a body of knowledge and methods but as a cultural activity that has shaped and been shaped by modern global history. Topics will range across physical sciences, life sciences, earth and environmental sciences, and social sciences. This course takes a global perspective, with emphasis on parallels, differences, and interconnections among ways of knowing nature in different places and times, as well as the role of specific materials, environments, technologies, and practical problems in the development of modern science. Instructor: Hepler-Smith. One course. C-L: Science & Society 118, International Comparative Studies 118,

International Comparative Studies, Energy and the Environment, Ethics Elective, Science & Society

107D. Introduction to the History of Economic and Business Cultures. CZ, EI, SS Offers students a comparative introduction to economic cultures and business practices in different historical contexts. Examines diverse concepts of ethics in business dealings, market transactions, and economic policies. By exploring differences over time and space, students will better understand what is particular to our own practices. Particularly useful for students planning to concentrate in Economic and Business Cultures as History majors. Instructor: Partner. One course. C-L: Economics 111D, Markets and Management Studies

108. History of Rock: Rhythm & Blues and Rock & Roll to Indie Rock and Hip-Hop. ALP, CZ One course. C-L: see Music 143; also C-L: African & African American Studies 139

109. Introduction to the History of Human Rights and Social Movements. CCI, CZ, EI, SS Explores the history of human rights and conceptions of human rights in different historical contexts. Considers a range of social movements, including environmental, civil rights, women's rights, and sexual liberation movements. Particularly useful for students planning to concentrate in Human Rights and Social Movements as History majors. Instructor: MacLean. One course.

110. Introduction to the History of Law and Governance. CZ, EI, SS Offers students a comparative introduction to legal cultures and governance practices in different parts historical contexts. Examines law and governance as an attempt to both foster and enforce ethical norms. Course themes include representations and justifications of rule; policy making; the legal and political construction of property, insiders and outsiders, legal procedure and constructions of justice. By exploring differences over time and space, students will better understand what is particular to our own practices. Particularly useful for students planning to concentrate in Law and Governance as History majors. Instructor: Huston. One course. C-L: Public Policy 161

112. Sexual Pleasure in the Modern World. CCI, CZ, EI Interdisciplinary study of ways societies around the globe have understood sexual pleasure. Investigates ethics of the manners in which people have explored sexual pleasure and ways that such pleasure relates to creation of the modern person. Emphasizes effects of colonialism and development of race in relation to sexuality. Includes an extensive discussion of pornography, sexual fantasy, orgasm and virtual sex, asking how sexual pleasure relates to histories of danger and violence. Instructor: Sigal. One course. C-L: Study of Sexualities 116

113. Introduction to the History of Medicine. CZ, STS Covers the history of western medicine from Ancient Greece to the 21st century. Students will engage with primary and secondary sources that expose the varied understandings of health, disease causation, and treatment that have prevailed over time. As an introductory course with no prerequisites, this class welcomes all students with an interest in history, health, and disease, while assuming no prior medical or scientific knowledge. It illuminates the trajectory of western medicine from the humors of Hippocrates to the genetic medicine of today. Instructor: Humphreys. One course. C-L: Global Health 174

114. Intro to the History of Modern Warfare. CZ, EI, SS The course covers the history of warfare since the end of the eighteenth century. Our explorations focus on the nature and aims of European and US pursuits of war and the practices, languages, and experiences of its participants. We will pay special attention to the different ways in which militaries and civilian populations became the subjects and objects of warfare in the modern age. Instructor: Bonker. One course. C-L: Public Policy 160

115. Introduction to the History of Women, Gender, and Sexuality. CCI, CZ, EI, SS Comparative introduction to historical contingencies of sex roles, gender identities, and sexual practices. Explores ethical understandings of sexual practices, sex-defined labor roles, and legal codes (e.g., sex-specific labor laws, citizenship restrictions, marriage and nationality laws, etc.). Examines differences over time and space to better understand what is particular to our own practices and expectations. Particularly useful for students planning to concentrate in Women, Gender, and Sexuality as History majors. Instructor: Krylova. One course. C-L: Gender, Sexuality, and Feminist Studies 115, Study of Sexualities 115

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. C-L: Medieval and Renaissance Studies 125

120. A History of American Democracy: Everything You Need to Know about US History in

One Semester. CCI, CZ This course explores the sweep of US history, from the colonial period to the present, through the complicated, conflicted topic of democracy. It takes a broad view of democracy, which includes different people's hopes for their own lives and their visions of the social order as well as public policy, governing institutions, and political participation. In this course, we approach democracy as a moving target, not a well-defined destination. Not only did conceptions of democracy change over time, but Americans also disagreed—often violently—over its meaning. We are still living with the implications today. Instructor: Edwards. One course.

121. 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: Staff. One course. C-L: Latin American Studies 121, International Comparative Studies 121

122. History of Latinxs in the United States. CCI, CZ, SS This introductory course will cover the social, cultural, and political histories of Latino/as in the United States from 1848 to the present including the Treaty of Guadalupe Hidalgo, the Great Depression, WWI/WWII, the creation of Latino/a civil rights organizations, and the civil wars and free trade agreements of the 1980s and 1990s that have spurned so much of contemporary migration. Themes include colonialism and conquest, sexuality and gender, race and ethnicity, transnationalism and migration, social inequality and practices of resistance. This class will highlight the diversity of the Latino/a experience—focusing on the history of Afro-Latino/as, queer Latino/as, and undocumented Latino/as. Instructor: Marquez. One course. C-L: Latin American Studies 122, Gender, Sexuality, and Feminist Studies 122, International Comparative Studies 122, Latin American Studies, Latino/a Studies in the Global South

123. Private Wealth and Public Giving: A Modern History. CCI, CZ, EI, SS Surveys the entangled relationship between private wealth and public giving over the past few centuries of capitalist modernity in Asia, Europe, and the United States. Explores how the entrepreneurial impulse to make money has also been shadowed by the ethical imperative to give it away. Analysis of the circumstances and contexts in which the apparent altruism of givers is also motivated by self-interest. The major topics include study of religious giving; the historical roots of philanthropy in the age of imperialism; the evolution of ideas of “Trusteeship” and “creative capitalism;” gender and philanthropy; and “celebrity” philanthropy. Instructor: Ramamswamy. One course. C-L: Public Policy 177, Study of Ethics 123, International Comparative Studies 123

124. History of the Present. CCI, CZ, R Examines the history of the past forty years, focusing on the United States in a global context. Themes might include: globalization, inequality, the rise of the alt-right, climate change, the internet, and the emergence of finance and consulting. Prepares students to think historically about their own world, and gives them the opportunity to use historical methods to think about the forces shaping their lives, their families, and their potential careers. Draws on a wide variety of sources and genres: alongside more traditional academic readings, students might be exposed to digital storytelling, journalism, television, and video games. Instructor: Chappel and Marquez. One course. C-L: Public Policy 123

125S. The Documentary Experience: A Video Approach. ALP, R, SS One course. C-L: see Documentary Studies 105S; also C-L: Cultural Anthropology 106S, Political Science 105S, Public Policy 170S, Visual and Media Studies 106S, Policy Journalism and Media Studies

126S. Introduction to Oral History. CZ, R One course. C-L: see Documentary Studies 110S

127FS. Globalization and Corporate Citizenship. EI, SS One course. C-L: see Study of Ethics 160FS; also C-L: Public Policy 187FS, Economics 112FS

128. War and Society in the Middle Ages and Renaissance. ALP, CCI, CZ An introduction to war and society from about 500 to 1600 in western Europe. This course looks at the sources of conflict and the ways warrior identity and violence generally were culturally supported. The course will emphasize reading in primary sources, including documents and literature. Instructor: Neuschel. One course. C-L: Medieval and Renaissance Studies 128

129. Introduction to African Studies (DS3 or DS4). ALP, CCI, CZ One course. C-L: see African & African American Studies 103; also C-L: Cultural Anthropology 105, Political Science 108, International Comparative Studies 110

130D. 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.

135. Silk Roads and China, Ancient and Medieval Transformations. CCI, CZ The Silk Roads are the oldest and longest routes of cultural communication and economic exchange connecting Asia, Europe and Africa. In use since the days of Alexander the Great, the Roads and its rail networks now extend from China to England, connecting 70 countries and forming a vital system. This course introduces the ancient to early modern histories, cultures, and religions of the Silk Roads anchored in four themes: Alexander's empire; life in medieval cities of Chang'an, Baghdad and Constantinople; Silk Roads religions and the interactions of Buddhism, Christianity, Judaism and Islam; and the Mongol empire visited through the travels of Marco Polo. Instructor: Mazumdar. One course. C-L: Asian & Middle Eastern Studies 207, Medieval and Renaissance Studies 135, Religion 181

140S. Empires in Modern European History. CCI, CZ, SS An introduction to political theories of imperialism and a comparative historical analysis of several European empires. Explores questions of nationalism, race, religious pluralism, state formation, globalization, and international governance. Readings drawn from history, sociology, anthropology, and political science. Instructor: Staff. One course. C-L: Political Science 140S, Sociology 148S, Cultural Anthropology 140S

150S. Birth of the West: Thinking about the Greek Origins of Western Civilization. ALP, CCI, CZ One course. C-L: see Classical Studies 171S

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. C-L: International Comparative Studies 152S

156S. Gateway Seminar: Cold War America. CZ, EI, R, SS, W A gateway seminar designed to introduce undergraduates to historical analysis, research, and writing through study of one of the most gripping and hotly debated periods of modern history: the early Cold War contest between the US and the USSR. The course will examine both foreign relations and domestic life, with a focus on the searing impact of a politics of fear. We will explore areas ranging from the dropping of the atomic bomb to McCarthyism, from the crippling of the civil rights movement and the purge of gays from government employment to the devastating 1950s interventions in Iran, Guatemala, and Vietnam. Instructor: MacLean. One course. C-L: Human Rights Program-Franklin Humanities Institute 156S, Human Rights

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. C-L: International Comparative Studies 157S

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: Staff. One course. C-L: Islamic Studies

159S. Gateway Seminar: What Did Your Grandparents Do? A Global Exploration of Individual Life Histories. CCI, CZ, R This course will focus on the stories of individuals and their experiences of the great historical events of the 20th century. Students will read from a wide variety of oral histories, memoirs, biographies and primary source materials such as diaries and letters, with an emphasis on the lives of relatively unknown figures such as farmers, merchants and housewives. The goal will be to both understand and connect imaginatively with the life experiences of the people who lived history rather than those who made it. Students will also explore the diverse stories of their own families and related networks. Instructor: Partner. One course.

C-L: Documentary Studies 159S

160S. Gateway Seminar: The Global Sixties: Race, Revolution, Sexuality. ALP, CCI, CZ, R, W The 1960s in global context, focusing particularly on Europe, Latin America, and the United States. The rise of mass movements dedicated to racial, economic, and sexual justice, against the backdrop of Cold War and decolonization. The mobilization of music, film, and the body in the service of revolution, with attention also to the global backlash and the rise of a new conservatism. Course materials include memoirs, speeches, political treatises, and cultural artifacts from the period. Instructor: Chappel. One course. C-L: Gender, Sexuality, and Feminist Studies 160S, Study of Sexualities 160S

161S. Gateway Seminar: How to Do History. EI, R, SS Examines innovative approaches to researching and writing history. Addresses key methodological issues, including techniques historians use to interpret the past and the political stakes. Topics include critical approaches to race, gender and colonialism. How do historians construct their objects of study? What count as primary sources? How do we read them critically? How do historians formulate analytic questions and arguments? What narrative techniques do they use? What are the stages of a research project? Emphasis on primary research and writing in second half of course. Students conduct original research in archives of their choice; workshop; and write research papers. Instructor: Staff. One course.

162S. Gateway Seminar: Asia in Global History. CCI, CZ, SS The goal of the course is to first explore the most important networks and flows that connected the Asian region to the Eurasian world since the ancient Silk Route and the spread of Buddhism through the new dynamics of the Early Modern World—16th to 18th centuries. The second part of the course probes the new dynamics that integrated Asian societies through Western capitalism and imperial forces in the 19th and 20th centuries. It will also cover the ‘rise of Asia’ in the current era of globalization. Instructor: Duara. One course.

163S. Gateway Seminar: Gandhi, King, Mandela. CCI, CZ, EI, R, SS Focuses on the words and actions of Mahatma Gandhi, Martin Luther King, Jr., and Nelson Mandela, in order to understand the politics and ethics of non-violent civil disobedience across the world; considers local and global forces that shaped the lives and histories of these men; traces both arc and archive of disobedient actions by these men to ask why the twentieth century has been prone to such acts of dissidence; explores the role of photography, film, art, and the internet in shaping our contemporary memories of these leaders; and offers opportunity to write a research paper that will consider whether civil disobedience is a “dangerous” idea. Instructor: Ramaswamy. One course. C-L: African & African American Studies 163S, Asian & Middle Eastern Studies 177S, International Comparative Studies 163S

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. C-L: International Comparative Studies 164S

166S. Gateway Seminar - Anarchism and its Discontents. CCI, CZ, EI, R Introduction to the 19th century philosophical foundations of anarchist thought and to the history of the major anarchist movements in the 20th century in Russia, Italy and Spain. The first part of the course is an intensive investigation of the thought of Michael Bakunin, Pierre-Joseph Proudhon, Leo Tolstoy and Peter Kropotkin suing selections from their own writings. The next unit focuses on the movements they inspired in Russia and Western Europe. The last unit concerns the more contemporary manifestations of anarchism in the U.S. under the influence of Murray Bookchin. Students will write a major paper due at the end of the course. Instructor: Miller. One course. C-L: International Comparative Studies 166S

167S. Gateway Seminar: Nationalism: Ideology, Technology, Globalization. CCI, CZ, SS What is a nation? What is a nation state? Is the nation state still a useful unit of government today? The goal of this seminar is to teach you theoretical and methodological tools and historical examples to critically think about nationalism in globalization. Readings include primary sources, classic theories on nationalism, fresh arguments from sociology and anthropology. The historical and contemporary case studies include American, Middle

Eastern, South Asian, and European examples. Instructor: Mestyan. One course. C-L: Cultural Anthropology 167S, Sociology 167S

171S. Gateway Seminar: History of Intimacy: Family, Friendship, Romance. CCI, CZ, R, W Examines how changing definitions of friendship, family structure, childhood, romantic love, gender roles, and sexual orientation shaped identity formation, social conflict, and cultural production through time. Course materials include letters, diaries, autobiographies, novels, government documents, and films, in addition to academic articles and books. Students produce final projects based in original research and significant secondary reading. Time period and geographical focus varies with instructor. Instructor: Staff. One course.

172S. Gateway Seminar: History of Calypso. CCI, CZ This course explores the origins, development and the historical, social, political, economic, and cultural significance of the musical form called Calypso which emerged in the Caribbean during the era of colonization & plantation slavery by the 19th century. The aspirations of Caribbean peoples are expressed and captured in calypso within and outside the Caribbean wherever they formed new communities of immigrants. Some of the themes to be examined in the course include Caribbean politics, international affairs, empire, colonialism, imperialism, race, gender, migration, carnival, movies, World War I and II and calypso abroad in the United States and United Kingdom. Instructor: Gaspar. One course.

173S. Gateway Seminar: We All Want to Change the World: Writing the History of Good Intentions. CZ, EI, R, W Introduces students to skills of critical research and historiography with an emphasis on writing and research design. Students devise a research project to investigate either an international or transnational historical episode that sought to address a major problem but led to unintended consequences. Examples might include an immigration policy, a military campaign, a humanitarian aid program, or an economic development project. We will spend first few weeks discussing secondary works of similar topics. Students will choose research topic in consultation with instructor. Instructor: Olcott. One course. C-L: International Comparative Studies 173S

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.

175S. Gateway Seminar - The United States and the World. CCI, CZ, EI, R, SS Research and discussion seminar examining the place of America in the wider world, and ethical underpinnings of American expansion. Explores how Americans have viewed and defined themselves in relation to numerous “others.” Investigates how and why a sense of mission has driven cultural, political, and geographic expansion. Instructor: Lentz-Smith. One course.

176S. Gateway Seminar: The European Union: History and Prospects. CCI, CZ, EI, R, SS The European Union in global context, focusing on its history while also considering its future prospects. Examines the roots of the EU in the post-World War II period, as well as its rapid expansion since the end of the Cold War. Adopts an integrated approach, weaving together cultural, military, and economic affairs. Course materials include memoirs, speeches, literature, film, as well as academic literature from history and political science. Instructor: Chappel. One course. C-L: Public Policy 176S

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.

178S. Gateway Seminar: History of Imprisonment. CCI, CZ, EI Course centers the United States within a broader geographic examination of the history of prisons. Looks at how states have used penal spaces as tools of punishment; considers consequences of the shifting terrain of people positioned outside of “normalized” society and what it means to be criminally “othered.” Interrogates consequences of the ideological shift of the penitentiary from a reformatory endeavor to one of punishment and explores ramifications of the changed moral

imperative of the penitentiary on the racial composition of penal spaces. Instructor: Staff. One course.

179S. Gateway Seminar: Capitalism & Its Critics. CZ, EI, R, W Surveys major advocates, critics, and reformers of capitalism, from Adam Smith, Charles Dickens, and Karl Marx to contemporary champions and opponents of “free market” reform. Instructor: Huston. One course. C-L: International Comparative Studies 179S

180S. Gateway Seminar - Story-Telling, Truth-Telling and History. ALP, CCI, CZ, EI, R The borders between history and fiction. History theory and the methods of historical inquiry. Researching and writing history and fiction. Authorial voice and audience. Myth, legend, history. Examples of history and fiction drawn from ancient, medieval, and early modern eras (Western Europe), with thematic emphases on war, violence, religion, and societal crisis. Instructor: Dubois. 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.

182S. Gateway Seminar: American Slavery and Freedom: The Rise and Destruction of Slavery in the US. ALP, CCI, CZ, R, W This seminar explores the profound ways in which the rise of racial slavery shaped the history of the US, the most powerful slaveholding society in the western world. The course focuses on the role of race, gender, and gender relations in the establishment, organization, and maintenance of slavery in the American South and the intersection of these issues with questions of citizenship, labor, and sexuality. Course materials include letters, diaries, memoirs, fiction, legal documents, visual archives, and secondary sources. This course aims to help students develop a historical understanding of the past and skills in critical inquiry, research, and writing. Instructor: Glymph. One course. C-L: African & African American Studies 182S

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 & African American Studies 133S, International Comparative Studies 183S, Human Rights Program-Franklin Humanities Institute 183S, Public Policy 175S, Human Rights

184S. Gateway Seminar: China at War. CZ, W Investigates China’s experiences in multiple wars between 1894 and 1953. Places events in their historical context through comparative analysis of revolutions in China, Korea, and Japan, which set the stage for twentieth-century conflicts in East Asia. Introduces students to historiography through examination of what we know about historical events as well as interpretation of those events in historical scholarship. Readings include secondary and primary sources. Instructor: Barnes. One course. C-L: Asian & Middle Eastern Studies 137S

185S. Gateway Seminar: Disease in the Premodern World. CCI, CZ Using primary sources students will explore the impact, management and changing definitions of disease in various pre-modern societies. We look at disease in the context of encounters, environmental change and state formation between 100 and 1700CE. Not just understood as a biological phenomenon, disease can also work as signifying system, creating status hierarchies and highlighting particular social and political anxieties. Through the study of five or six historical epidemics, students will learn how to create historical resources out of medical sources. Instructor: Malegam. One course.

186S. Gateway Seminar: Living Through the Great War. CCI, CZ, R, W Course examines experiences of participants in World War I, known as the Great War: why did they go to war willingly at first, and how did they come to terms with its absurdity and horror? Examines what the war means to us, 100 years later. Read letters, poetry, novels and memoirs and see films made by participants in the war and from later eras. Serves as an introduction to historical research and writing. Includes a variety of research and writing tasks, both formal and informal, which enable students to engage with the work of others and articulate a position with regard to historical interpretations. Instructor: Neuschel. One course.

187S. Political Culture in Africa. CCI, CZ, R, W This course examines the history of political institutions

in Africa. Beginning with pre-colonial political formations in a variety of African contexts, ranging from small-scale societies to large multi-ethnic states, it then examine the question of how European colonialism impacted existing African political culture and introduced or transformed institutions of governance, before moving to consider the political history of post-colonial Africa. Instructor: Staff. One course.

188S. Gateway Seminar: The Price of Sex: Gender and the Global Political Economy. CZ, EI, R, SS, W Explores how sex and gender have shaped economic policies and opportunities in different settings, particularly in the modern era (19th, 20th, and 21st centuries). Will focus on public policies and normative practices at the local, national, and international levels. As a gateway seminar for the history major, will focus on developing an understanding of historiography and methodology culminating in a prospectus for a future research project. Instructor: Olcott. One course. C-L: Gender, Sexuality, and Feminist Studies 188S, International Comparative Studies 188S

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

190A. Duke-Administered Study Abroad: Special Topics in History. Topics differ by section. Instructor: Staff. One course.

190FS. Topics in Focus Program. Open only to students in the Focus Program. Current list of courses available in the Focus program brochure and online. Instructor: Staff. One course.

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

190SA. Duke-Administered Study Abroad: Special Topics in History. Seminar version of History 190A. Topics differ by section. Instructor: Staff. One course.

191L. Independent Study: Digital India Lab. A digital humanities course for pursuing projects related to South Asia; students pursue any digital project of their choice related to Indian history, culture, literature, religion and politics; topics to be approved by instructor; no prerequisites, although having taken a South Asia course on campus recommended. Instructor: Freeman/Ramaswamy. Half course.

201. Globalization and History. CCI, CZ, SS Examination of globalization issues in a historical perspective. Reviews phenomena, institutions, e.g. empires, states, religion, corporation, and international agencies, and policies which enabled exchange of commodities, people, and cultures. Explores empirical evidence on growth and development for different world regions and historians' and social scientists' interpretations. Examines benefit of maintaining fine balance between quantitative evidence and historical analysis in assessing waning international integration of societies, markets, and cultures from first wave of European expansion to the present. Instructor: Zanalda. One course. C-L: Public Policy 236

202. Gender and Socialism. CCI, CZ, EI, SS History of socialist feminism as a global political movement and philosophical-theoretical tradition with a special focus on its divergent national trajectories and conflict-ridden relationship with liberal feminism and socialist and communist movements and governments in Europe, Russia, China and US since the nineteenth century; offers an overview of European, Russian, Chinese and US history of the last two centuries; includes exploration of principles and aspirations that informed socialist theory of modern society, social justice, family, motherhood, parenthood, sexual difference, gender equality as well as public policies and legislation instituted or informed by the socialist tradition. Instructor: Krylova. One course. C-L: Gender, Sexuality, and Feminist Studies 216, International Comparative Studies 216

203. History of Global Health. CCI, CZ, SS, STS The course begins with the development of ancient medicine in Europe & China, and continues into the rise of biomedicine (e.g. laboratory science & microbiology) in the 19th and 20th centuries. Particular diseases illustrate important themes, such as the role of warfare in medical developments, the creation of international policy to control disease, and how non-Western societies intersected biomedicine. We trace global circulations of people and commodities to show how international agencies, charities and governing bodies have spread both disease and the means to fight it. Medicine has always been a global undertaking, and its history prepares us to address emerging health crises. Instructor: Humphreys. One course. C-L: Global Health 203

204. Modern Africa. CCI, CZ, SS Focuses on African history in twentieth century. Explores history of European colonialism, African nationalism, and the roots of contemporary African issues ranging from conflict and governance to social and cultural effects of economic transformations, pandemic diseases and environmental degradation. Instructor: Staff. One course. C-L: African & African American Studies 210, International Comparative Studies 268

205. Health and Healing in Africa. CCI, CZ, SS, STS Examines how various communities in Africa have experienced, perceived, and treated maladies from the precolonial era to the present time. Places illness and therapy in specific historical contexts. Topics include hunger and famine; “old world” diseases such as small pox; disease and colonial conquest (c1880-1920); colonial regimes and health; and viruses that have emerged in Africa since c1975. Instructor: Ewald. One course. C-L: Global Health 205

206. East Africa and the World. CCI, CZ, R, W One course. C-L: see African & African American Studies 319; also C-L: International Comparative Studies 316

207. Humanitarianism in Africa. CCI, CZ, EI Focuses on the historical impact on Africa of international humanitarian movements. Includes anti-slavery movement, missionary Christianity, Congo Reform Association, environmentalism, development, disaster aid, fight against HIV/AIDS. Instructor: Staff. One course. C-L: African & African American Studies 271, Human Rights Program-Franklin Humanities Institute 207, Islamic Studies, Human Rights

208. South Africa: Past and Present. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 214; also C-L: Political Science 221, Public Policy 214, Human Rights, International Comparative Studies

209S. Islam in Asia. CCI, CZ, SS One course. C-L: see Russian 370S; also C-L: Religion 378S, International Comparative Studies 370S, 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, Asian & Middle Eastern Studies 122, Ethics Elective, Information Science + Studies, Islamic Studies

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, Asian & Middle Eastern Studies 185, International Comparative Studies, Ethics Elective, Islamic Studies

212. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ, EI, R One course. C-L: see Asian & Middle Eastern Studies 186; also C-L: Religion 228, Slavic and Eurasian Studies 287, Islamic Studies

213S. Gender and Slavery in the Americas. CCI, CZ, EI, W Atlantic slave systems were gendered systems. Across lines of nation and empire, African-descended women and their reproductive labor were crucial to the formation of New World slave systems and the racial ideology that underwrote them. The study of gender is therefore critical in understanding slavery in the Americas. This course analyzes slave systems in North America, Latin America, and the Caribbean. Our aim will be to explore major points of emphasis in the histories of gender and slavery in these diverse locales. For their final project, students will have the opportunity to engage an area of this historiography more deeply in the form of a paper on a topic of their choosing. Instructor: Staff. One course. C-L: African & African American Studies 216S, Gender, Sexuality, and Feminist Studies 211S

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: Mestyan. One course. C-L: Jewish Studies 258, Asian & Middle Eastern Studies 127, Islamic Studies, International Comparative Studies

215S. Shamanism and Spirit Possession. CCI, CZ, EI, R, SS One course. C-L: see Religion 213S; also C-L: Cultural Anthropology 214S, International Comparative Studies 256S

216S. Between Moscow, Beijing and Delhi: Narratives of Europe and Asia. CCI, CZ, R, SS One course. C-L: see Slavic and Eurasian Studies 373S; also C-L: International Comparative Studies 373S, Islamic Studies

217S. Nigeria: A Modern History. CCI, CZ One course. C-L: see African & African American Studies 285S; also C-L: International Comparative Studies 242S

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. Concludes with discussion of globalization of Indian labor, food, and Bollywood. Time frame from 1500 to present. Instructor: Staff. One course. C-L: Asian & Middle Eastern Studies 357, International Comparative Studies 218

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 inscriptional evidence on the diversity of Indic peoples and their complex social, religious, and caste integration into the major states and empires of pre-modern 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, Asian & Middle Eastern Studies 157S

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 136

221. Food, Farming, and Feminism. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 275; also C-L: Environment 209, Global Health 225

222. Environment and Global Capitalism in Latin America. CZ, R, SS, W Global capitalism relies on the ever increasing extraction and displacement of natural resources around the world. The discovery and subsequent colonization of Latin America by European powers meant the massive circulation of organisms (from germs to human beings) and natural resources (organic and mineral) across continents with lasting consequences for humans, animals and landscapes. Focusing on Latin America, this course analyzes the environmental history of global capitalism. Our aim will be to explore what happens when massive amounts of natural resources are relocated from one place to another. Instructor: Goldin. One course. C-L: Latin American Studies 222, Environment 223, Latin American Studies

223. Survey of Modern China 1800-Present. CCI, CZ The course introduces the broad political and social changes of the last two hundred years in China beginning with the Qing imperial era and the last emperors, to the Opium Wars, the turning point of the Taiping Rebellion, the Republican Revolution and Communist Revolution; with focus and introduction to critical thought on imperialism, nationalism and ethnicity, revolution and social change using primary documents, secondary readings and films. Instructor: Barnes. One course. C-L: Asian & Middle Eastern Studies 234

224A. 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: Gender, Sexuality, and Feminist Studies 209S, International Comparative Studies 365S, Asian & Middle Eastern Studies 224S, Cultural Anthropology 224S, Human Rights Program-Franklin Humanities Institute 219S

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 167, 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 169, International Comparative Studies

228. Chinatowns: A Cultural History. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 335; also C-L: International Comparative Studies 336

229S. Global Men and Masculinities. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 374S; also C-L: International Comparative Studies 274S, Sociology 375S, Literature 374S

230. Greek History. CCI, CZ One course. C-L: see Classical Studies 283

231. Ancient Athletics. ALP, CCI, CZ One course. C-L: see Classical Studies 262

233. Roman History. CCI, CZ One course. C-L: see Classical Studies 284

234. Democracy: Ancient and Modern. CCI, CZ, EI, SS One course. C-L: see Classical Studies 275; also C-L: Political Science 211, Study of Ethics 275

235. Drugs, Chemicals, and Health: Histories of Substances in Economies, Environments, and Bodies. CCI, CZ, R, SS, STS This course asks how we might think historically about synthetic chemicals, natural alternatives, and the benefits and hazards they pose to human health, society, and environments. Combining cultural, political, and economic history with interdisciplinary environmental history and science & technology studies, we will follow historical “biographies” and “genealogies” of drugs and chemicals through economies, environments, and bodies, from cellular to planetary scales, comparing and connecting different global settings (including North Carolina). Focal substances may include aluminum, antiretrovirals, DDT, gold, indigo, mercury, nicotine, quinine, and opioids. Instructor: Hepler-Smith. One course. C-L: Global Health 235, International Comparative Studies 237

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; also C-L: Medieval and Renaissance Studies 343, Cultural Anthropology 383

237A. Cities and City Life in Italy. ALP, CCI, CZ One course. C-L: see Italian 383A; also C-L: Medieval and Renaissance Studies 343A, Cultural Anthropology 383A

238A. Rome: History of the City. ALP, CCI, CZ One course. C-L: see Classical Studies 340A; also C-L: Art History 209A

238S. History of Political Nonviolence. CCI, CZ In this seminar, we will investigate cases of peaceful resolutions of intractable conflicts during the 20th century as alternatives to tactics of warfare and counter-terrorism. The focus will include the dissolution of the Soviet Union and its Eastern European subordinate states; the end of British rule in India, the transition from the apartheid regime in South Africa; the plebiscite ending the Pinochet dictatorship in Chile; the accords ending the violence in Ireland; and the successful nonviolent strategies of the civil rights movement in the U.S. Instructor: Miller. One course. C-L: Public Policy 248S, Human Rights Program-Franklin Humanities Institute 238S, Human Rights

239. History of Chinese Medicine. CCI, CZ, STS, W This course introduces students to the history of medicine through the study of medical practices and beliefs in China. Paying close attention to socio-historical context, we will explore how those beliefs formed, how the practices have changed over time, and in particular how the introduction of Western medicine and then scientific biomedicine forced fundamental changes in Chinese medicine over the course of the twentieth century. This course also introduces students to the discipline of History, and students will work in close consultation with the professor to produce a unique research paper. History majors should take a Gateway Seminar first, but there are no official prerequisites. Instructor: Barnes. One course. C-L: Asian & Middle Eastern Studies 142, Global Health 142

239FS. Turkey: Muslim and Modern. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 279FS; also C-L: Asian & Middle Eastern Studies 179FS, Islamic Studies

239S. Turkey: Muslim and Modern. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 279S; also C-L: Asian & Middle Eastern Studies 179S

240. Greek and Roman Law. CCI, CZ One course. C-L: see Classical Studies 308; also C-L: Political Science 381

242S. Human Rights in the Americas. CCI, CZ, W One course. C-L: see Cultural Anthropology 245S; also C-L: Latin American Studies 246S, Human Rights Program-Franklin Humanities Institute 245S, International Comparative Studies, Human Rights

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, English 254

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

247. British Isles in the Middle Ages. CCI, CZ, EI, W From the fifth through the fourteenth centuries. Instructor: Morrow. One course. C-L: Medieval and Renaissance Studies 272

248. History and Culture of Iran. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 123; also C-L: Religion 283

248S. Book Publishing & Marketing: A Case Study of the Romance Fiction Industry. ALP, CCI, CZ, W A case study of the US romance fiction industry and its global reach. The romance novel is the most popular form of fiction in the world. Its industry is powered by women, produces a product consumed by women, and exports to global audiences. Includes: its history, role in popular American culture, and rise to dominate the fiction market; how creative projects become commercial products; dramatic shifts in the book industry over three centuries, including the ebook- and self-publishing revolutions; how notions of gender and sexuality have shaped the aggressive and ingenious marketing of romance fiction from its origins; representations of race in romance fiction. Instructor: Dubois. One course. C-L: Gender, Sexuality, and Feminist Studies 248S, English 284S

249. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369; also C-L: International Comparative Studies 208, Global Health 208, Human Rights Program-Franklin Humanities Institute 369

249S. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369S; also C-L: International Comparative Studies 208S, Global Health 208S, Human Rights Program-Franklin Humanities Institute 369S

250. Green Germany: World Leader in Environmental Policy. CCI, CZ, EI, SS, STS One course. C-L: see German 364; also C-L: Environment 366, Energy 364

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, International Comparative Studies 253, Ethics Elective

252. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-

2015. R, SS One course. C-L: see Political Science 255; also C-L: Public Policy 254, Study of Ethics 255, Ethics Elective, Markets and Management Studies

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

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

255. German History Through Film. ALP, CZ, EI One course. C-L: see German 286; also C-L: Visual and Media Studies 287, Literature 286

256S. The Viking Age. ALP, CCI, EI One course. C-L: see German 261S; also C-L: Medieval and Renaissance Studies 305S

257. Religion, Reform, and Violence in Early Modern 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. Instructor: Neuschel or Robisheaux. One course. C-L: Medieval and Renaissance Studies 281, International Comparative Studies

258S. Women and Power in the Renaissance. CZ, EI, W Explores the intellectual, social, and political history of women in Renaissance Europe. Despite the overwhelmingly patriarchal nature of early modern society, many women wrote treatises, dialogues, and poetry in which they argued for a broader role for women. Students will examine these primary texts (some by famous figures, others by much less well-known writers) within the context of a burgeoning social history that has provided a more nuanced view of gender relations and power in this period. Instructor: Martin. One course. C-L: Medieval and Renaissance Studies 248S, Gender, Sexuality, and Feminist Studies 258S, Romance Studies 258S

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, Science & Society 260

260D. 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 287D

261. Germany Confronts Nazism and the Holocaust. ALP, CCI, CZ, EI One course. C-L: see German 387; also C-L: Jewish Studies 369, Literature 369, Human Rights Program-Franklin Humanities Institute 387, Human Rights

262. Roman Political Thought and Its Modern Legacy. CCI, CZ, EI One course. C-L: see Classical Studies 278; also C-L: Study of Ethics 276, Political Science 278

263. The Political History of Modern Architecture: From Revolution through Neoliberalism. ALP, CCI, CZ One course. C-L: see Art History 284; also C-L: Political Science 263, Public Policy 287

264. Latin American Wars of Independence. CCI, CZ, SS This course covers the conspiracies, uprisings, and wars that led to the independence of Haiti and the Latin American colonies of Spain and Portugal between 1780 and the 1898 withdrawal of Spain from Cuba. It focuses on the key military and political leaders of anti-colonial struggles conducted on a continental scale from the islands of the Caribbean to the Andean highlands and beyond. Military strategy and political tactics were decisively shaped by modern debates about the meaning of freedom in terms of slavery and national self-determination. No prior knowledge of Latin America and the Caribbean required. Instructor: French. One course. C-L: African & African American Studies 264, International Comparative Studies 232, Political Science 257, Latin American Studies

265S. Religion and Politics in Post-Revolutionary Iran. CCI, CZ, EI One course. C-L: see Religion 377S; also C-L: Asian & Middle Eastern Studies 288S, Political Science 379S

266A. Germany Today: A European Superpower? Duke-in-Berlin. CCI, FL, SS One course. C-L: see German 359A; also C-L: Political Science 296A, International Comparative Studies

266D. Soccer Politics. CCI, CZ, EI, SS One course. C-L: see Romance Studies 362D; also C-L: International Comparative Studies 204D

267S. Global Cold War. CCI, CZ, EI, W Traditional narratives of the Cold War focus on a bi-polar series of conflicts that pit the United States against the Soviet Union in a good-versus-evil battle for global political and military supremacy. This course destabilizes this account of a process that affected every continent on earth – and even reached into space – over the period of more than half a century. It explores the Cold War from East-West, North-South, global, and interstellar perspectives. In addition to political and military issues, the course will also discuss the Cold War in social, cultural, intellectual, and economic spheres. Instructor: Nealy. One course. C-L: Russian 267S, Public Policy 267S, Sociology 267S, Slavic and Eurasian Studies 267S, Study of Ethics 267S, Philosophy, Politics, and Economics

268SA. Berlin Film City: Movies in the Metropolis. ALP, CCI One course. C-L: see German 376SA; also C-L: Visual and Media Studies 376SA

269. Tudor/Stuart Britain. CZ, R, W Introduction to the history and culture of sixteenth and seventeenth century England; the Reformation, Colonization, and the Civil war. Changes in legal cultural ideas of identity and authority. Instructor: Stem. One course. C-L: Medieval and Renaissance Studies 275

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: Staff. One course.

272. Genocide and Human Rights. CCI, CZ, EI, R, SS Analyzes the phenomenon of genocide from an interdisciplinary perspective, exploring the ways that violence intersected with gender, race, and religion. Combines the history of genocide with the history of humanitarianism, international law, and human rights, seeking to understand their successes and failures. Case studies cover the twentieth century up to the present and may include mass violence in Armenia, the Congo, the Holocaust, Nigeria/Biafra, Cambodia, Rwanda, and Sudan. An interdisciplinary approach will be used, seeking to investigate genocide and human rights from the heights of international law to the depths of the human heart, using tools of political science, literature, and history. Instructor: Sharman. One course. C-L: Public Policy 345, Human Rights Program-Franklin Humanities Institute 272, Human Rights

273S-1. The Spanish Civil War in History and Literature. ALP, CZ, EI, FL One course. C-L: see Spanish 373S; also C-L: Human Rights Program-Franklin Humanities Institute 373S

275. The Russian Empire. 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: Miller. One course. C-L: Russian 276, 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: Miller. One course. C-L: International Comparative Studies 289S

279. The Foundations of Modern Terrorism. CCI, CZ An exploration into the problems associated with terrorism in the modern era. The subject will be treated historically, chronologically and thematically, with emphasis on the 19th and 20th centuries. We shall also be examining three main geographic areas -- Europe, Russia and the U. S. Comparisons will therefore be made of the different genres of terrorisms that have functioned in these and other localities, including Latin America and Africa. We conclude with the road to 9/11. Instructor: Miller. One course. C-L: International Comparative Studies 276, 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: Miller. One course. C-L: Russian 381, Visual and Media Studies 253, 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

283S. Turkish History through the Novels of Orhan Pamuk. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 296S; also C-L: Literature 276S, International Comparative Studies 345S, Islamic Studies

284. Life Within Capitalism: A History of its Values, Measures and Struggles. CZ, EI One course. C-L: see Public Policy 249; also C-L: Study of Ethics 271, Economics 270, Political Science 252

285D. Western Warfare Since 1789. CCI, CZ, EI, SS, STS 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: Bönker. 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: Chappel. 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: Bönker, Krylova, or Lentz-Smith. One course. C-L: International Comparative Studies 287

289S. Decolonization: Histories, Meanings, Struggles. CCI, CZ, EI, SS One course. C-L: see International Comparative Studies 335S; also C-L: Gender, Sexuality, and Feminist Studies 335S

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

294. Jews and Muslims, Judaism and Islam. CCI, CZ, EI One course. C-L: see Jewish Studies 256; also C-L: Medieval and Renaissance Studies 357, Religion 212, Asian & Middle Eastern Studies 216, Islamic Studies

295. World War II and French Film. CCI, CZ, EI, FL One course. C-L: see French 413; also C-L: Visual and Media Studies 310

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. Instructor: Staff. One course. C-L: Jewish Studies 342, Religion 342, Political Science 262, Human Rights Program-Franklin Humanities Institute 297, Human Rights

299. Women and Popular Culture in U.S. History. CCI, CZ, EI, SS This course examines representations of women in popular culture in the United States. We will focus on the dramatic changes in the characteristics attributed to women over time; the multiple, often conflicting ideas about women that circulated at particular moments; and the influence of race, class, and sexuality in shaping popular conceptions about women. We will then consider what popular culture reveals about women's lives: how it reflected and obscured the actual conditions of women's lives; how it constrained women; and how women also used popular conceptions for their own ends. The course uses a variety of materials, including plays, novels, movies, images, and music. Instructor: Edwards. One course.

301S. Influential Scientists and Policy Leaders in Science Policy. SS, STS, W One course. C-L: see Science & Society 238S; also C-L: Public Policy 233S

302. Rise of Modern Science: Early Science through Newton. CZ, STS, W The development of science and medicine with attention to cultural and social influences upon science. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 289

303. Rise of Modern Science: Newton to Einstein. CZ, STS, W See History 302. Instructor: Staff. One course. C-L: Science & Society 303

304. Rise of Modern Science: Twentieth Century. CZ, STS, W See History 302. Instructor: Staff. One course.

305. History of International Financial and Monetary Crises. CZ, EI, SS One course. C-L: see Economics 305; also C-L: International Comparative Studies 305

306. Introduction to Economic History. CCI, CZ, SS One course. C-L: see Economics 302; also C-L: International Comparative Studies 303

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

308S. Adam Smith and the System of Natural Liberty. SS, STS One course. C-L: see Economics 312S; also C-L: Philosophy 312S

309. Alexander Hamilton and His World. CCI, CZ Using the musical “Hamilton” as a starting point and a foil, this course examines Alexander Hamilton’s life, work, and impact in the context of his rapidly changing world. The course addresses some of the central issues tied to Hamilton’s life and career in both the Caribbean and the English colonies of North America: class and social mobility, the origins and character of the American Revolution, gender relations and ideas in the new republic, plantation slavery and controversies about it, the problems of unity and nation-building, the development of a US economy and financial system, party competition and democratic mobilization, the United States’ relationship to world powers. Instructor: Huston. One course.

309S. The History of Modern Macroeconomics from Keynes to the Present. SS, W One course. C-L: see Economics 314S

310. The International Economy, 1850-Present: From Globalization to Globalization. CCI, CZ, SS One course. C-L: see Economics 304; also C-L: International Comparative Studies 304

311S. Men, Women, and Sports: Topics in US Sports History. CCI, CZ, R, SS, W Examines the way sports have been tied to and expressed ideals of manhood and womanhood, race, class, and nation. Topics will vary but include boxing, Title IX, football, Olympics, baseball, etc. Instructor: Deutsch. One course.

312. Europe’s Colonial Encounter, 1492-1992: Political Economy and International Thought. CCI, CZ, EI, SS, W The impact of colonial expansion on European economic development, political culture, international thought, 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: Bartlett. One course. C-L: International Comparative Studies 312, Ethics Elective

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 & African American Studies 226

313D. 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 HBO television series, “The Wire”. Juxtaposes social and political contexts to which each text refers, paying particular attention to 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 & African American Studies 226D, International Comparative Studies 313D

314S. US Latin@ Histories. CCI, EI, SS, W Content will vary, reflecting the diverse origins and experience of Latin@s in the US. Topics include geopolitics, media depictions, self-depictions, government policies, population flows, community formation and markets. Instructor: Deutsch. One course. C-L: Latino/a Studies in the Global South 314S

315S. The Emergence of the Atlantic Basin. CCI, CZ 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.

316S. The Atlantic Slave Trade. CCI, CZ, R The development of the slave trade from the fifteenth century to its abolition in the nineteenth century; organization and mechanics, impact on Europe, Africa, and the Americas. Instructor: Gaspar. One course. C-L: African & African American Studies 217S, International Comparative Studies 209S, Latin American Studies

317. Ethics and Native American: American Indian Life and Literature. CCI, CZ, EI One course.

C-L: see Study of Ethics 319; also C-L: Literature 319

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 & African American Studies 218, Medieval and Renaissance Studies 255, International Comparative Studies, Latin American Studies

319. War, Slavery, and Revolution in the Caribbean, 1700-1800. CCI, CZ The development of Caribbean society and economy in the contexts of slavery, empire, international rivalry, and democratic revolution. Instructor: Gaspar. One course. C-L: African & African American Studies 219, International Comparative Studies 263, Human Rights Program-Franklin Humanities Institute 219, Latin American Studies, Human Rights

320S. Slave Society in Colonial Anglo-America: The West Indies, South Carolina, and Virginia. CCI, CZ, R The development of slave-based societies and the production of staple crops for export. Instructor: Gaspar. One course. C-L: African & African American Studies 215S, International Comparative 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: L. Dubois or Gaspar. One course. C-L: African & African American Studies 240, Romance Studies 321, Cultural Anthropology 322, International Comparative Studies 319

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: Goldin. One course. C-L: Latin American Studies 223, Latin American Studies

325. Denial, Faith, Reason: Sustainability and Survival. EI One course. C-L: see Public Policy 284; also C-L: Study of Ethics 285, Economics 285, Environment 276, Sustainability Engagement 276

326. Colonial Latin America. 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 326, 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 & African American Studies 209, Portuguese 260, Human Rights Program-Franklin Humanities Institute 327, Latin American Studies, Human Rights

328. Global Brazil. CCI, CZ, SS Analysis of Brazilian history and culture from 1500 to the present in transnational context, with an emphasis on themes like slavery and race, regional cleavages, authoritarian rule, social inequality, and innovative attempts to expand democracy. Facilitates broad-based knowledge of a country of increasing global economic and diplomatic clout. Close examination of primary sources, including texts, images, music, and film. Instructor: French. One course. C-L: African & African American Studies 213, Latin American Studies 328, Human Rights Program-Franklin Humanities Institute 328, Human Rights

329. Latin America Since Independence. CCI, CZ A survey of nineteenth- and twentieth-century economic, social, and cultural change. Instructor: French or Olcott. One course. C-L: International Comparative Studies 329, Latin American Studies

331A. The Economic and Political History of the European Union. CCI, CZ, FL, SS One course. C-L: see French 351A; also C-L: Political Science 325A, Public Policy 351A, Economics 330A

331S. Illiberal Nondemocracies: Focus on Eastern Europe and Asia. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 388S; also C-L: International Comparative Studies 346S, Political Science 301S, Public Policy 317S

333S. Social Engineering and Social Movements in Eastern Europe and Asia. CCI, CZ, EI, SS One

course. C-L: see Slavic and Eurasian Studies 375S; also C-L: Political Science 359S, Public Policy 282S

334A. Frontier City Berlin: Facing History's Great Challenges. CCI, CZ One course. C-L: see German 366A; also C-L: Public Policy 210A, Political Science 260A

334S. The University as a Culture: A Survivor's Guide. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 347S; also C-L: Education 347S, Sociology 324S, Public Policy 350S, Human Rights Program-Franklin Humanities Institute 347S, Human Rights

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: Staff. One course.

336. North America to 1760. CCI, CZ, SS Early oceanic explorations, European invasion of North America, the evolution of race slavery, and the responses of the native American peoples. Instructor: Staff. One course. C-L: International Comparative Studies

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.

339S. Race in Durham. CCI, R, SS One course. C-L: see African & African American Studies 341S; also C-L: Cultural Anthropology 332S, Human Rights Program-Franklin Humanities Institute 336S, Human Rights

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. C-L: African & African American Studies 342

340T. Memory Bandits: Human Rights, Duke's History and a Plan to Expand History-Telling. ALP, CCI, EI, R, SS One course. C-L: see Cultural Anthropology 347T; also C-L: Public Policy 340T, Human Rights Program-Franklin Humanities Institute 346T, Human Rights

341S. Africa before Colonialism. CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 317S; also C-L: International Comparative Studies 221S

342. The Making of Modern America: The United States from 1898 to 1945. CCI, CZ, EI, SS Transformations in society, politics, foreign relations, and arts and literature between Spanish-American War and World War II. Course pays particular attention to domestic politics in the Progressive Era; the Great Migration and the "New Negro: the Jazz Age and the "Modern Woman;" the Great Depression; and the World Wars. Instructor: Deutsch or Lentz-Smith. One course.

343. History of Modern America: The United States from 1930 to present. CZ, SS United States history since the Great Depression, with emphasis on the shaping influence of the New Deal and war. Examines transformations of everyday life and culture and the movements for social change they generated, including the labor, civil rights, and women's movements, and explores the nation's dominant role on the world stage and the impact of a global economy. Instructor: MacLean. One course. C-L: Human Rights Program-Franklin Humanities Institute 343, Public Policy 342, Human Rights

344. History of U.S. Social Movements. 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. C-L: Public Policy 344, Human Rights Program-Franklin Humanities Institute 344, Human Rights

345. North American Environmental History. CCI, 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 278, International Comparative Studies 340

346S. Politics of Sexuality. CCI, CZ, R, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 386S; also C-L: Study of Sexualities 386S, Human Rights Program-Franklin Humanities Institute 386S, Public Policy 383S

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. Instructor: Staff. One course. C-L: African & African American Studies 207, International Comparative Studies, Documentary Studies

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: Lentz-Smith. One course. C-L: African & African American Studies 243, Human Rights Program-Franklin Humanities Institute 348, Ethics Elective, Human Rights

349. 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: African & African American Studies 310, Gender, Sexuality, and Feminist Studies 237, Human Rights Program-Franklin Humanities Institute 310, Human Rights

350S. The Connection between Human Rights, Memory and How Societies Create Memorials. ALP, EI One course. C-L: see Cultural Anthropology 346S; also C-L: Public Policy 347S, Human Rights Program-Franklin Humanities Institute 346S, Human Rights

351S. Islam in the Americas. CCI, CZ, SS, W One course. C-L: see Religion 384S; also C-L: African & African American Studies 274S, Asian & Middle Eastern Studies 230S, Human Rights Program-Franklin Humanities Institute 374S, Islamic Studies, Human Rights

352. Immigrant Dreams, U.S. Realities: Immigration Policy History. CCI, CZ, EI, SS Immigrants and immigration policy in the United States from 1850 to the present, with focus on origins and power of immigrant exclusion during three waves of migration: Northern European and Asian migrations between 1850 and 1880, Eastern European, Latin American, and Asian migrations, 1880-1920, and Latin American, African, and Asian migrations, post 1965. Immigrant roles in shaping policy debates, citizenship rights, labor movements, and American culture, past and present. Instructor: Peck. One course. C-L: Public Policy 220, Human Rights Program-Franklin Humanities Institute 352, Human Rights

353A. From Transition to Indignation: Social Movements in Spain 1977-2013. CCI, EI, FL, SS One course. C-L: see Spanish 342A; also C-L: Sociology 346A

354S. Native American Women in History, Society, and Art. CCI, CZ This course will explore the images and realities of Native American women in the history of North America from the pre-Columbian period through the present-day United States. We will concentrate on particular topics including: contrasting ideas of kinship, society, and gender egalitarianism; ways in which gender provided a language for the colonialism of European empires and the US nation-state; experiences of Native women as mediators of cultural exchange and as victims of cross-cultural conflict; and the role of gender in the creation of hierarchies of identity, race, and power. Instructor: Barr. One course.

355. American Indian History to 1815. CCI, CZ Examines images and realities of North American Indian

cultures and history from the pre-Columbian period, through the period of European-Indian contact in the 16th, 17th, & 18th centuries, to the first imperial expansion of the new U.S. nation in the 1810s. Constructions of cultural identity; diplomacy and warfare between Indian nations and European invaders; trade, exchange networks, and Indian political economies; dynamics of cultural change, stability, and transformation as American Indians responded to and resisted Euro-American attempts at religious and cultural conversion, and political and economic conquest. Instructor: Barr. One course.

356S. Documenting Black Power: Writing the History of the African American Freedom Struggle. ALP, CCI, CZ One course. C-L: see Documentary Studies 320S; also C-L: African & African American Studies 231S, Human Rights Program-Franklin Humanities Institute 320S, Human Rights

357S. The Insurgent South: Movements for Social Change. CZ, SS Social movements in the South from Reconstruction to the present. Includes Populism, Women's Suffrage, the Interracial Movement, labor, civil rights, post-1960s conservatism, environmental justice, and LGBTQ activism. Attention to public policy positions espoused by social movement organizations and activists. Instructor: MacLean. One course. C-L: Public Policy 232S

358. The South in Black and White. ALP, CCI, CZ One course. C-L: see Documentary Studies 326; also C-L: African & African American Studies 230, Human Rights Program-Franklin Humanities Institute 326, Human Rights

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

359. Violent Jihad in the Twentieth Century - A Global History. CCI, CZ This course focuses on the history of Muslim groups and social movements which are often regarded as politically fundamentalists or radical in the twentieth-century Middle East. We shall critically survey the intellectual origins of radical ideologies, the social history of the "Muslim Brotherhood" in Egypt and Syria, the politics of Saudi Arabia, the rise of Hizbullah, the question of the caliphate, the interaction between foreign intervention and the approval of violence as a legitimate means in politics, a history of al-Qaeda, and finally of what we know about ISIS. Instructor: Mestyan. One course. C-L: Asian & Middle Eastern Studies 359, Political Science 382, Public Policy 359, International Comparative Studies 361

360S. Writing American Politics. CZ, EI, R, SS, W One course. C-L: see Documentary Studies 276S; also C-L: African & African American Studies 233S, Gender, Sexuality, and Feminist Studies 226S

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 polities; 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.

363. History of Capitalism in the United States. EI, SS, W Surveys history of various forms of capitalism in the United States, with focus on changing labor systems and labor relations, banking and finance, business enterprise and strategies, agriculture, government economic policy (including regulatory policy), and intellectual history of capitalism and its reformers. Instructor: Huston. One course. C-L: Marxism and Society

364D. American Business History. CCI, CZ, R, W The historical development of business in the United States during the nineteenth and twentieth centuries. Instructor: Staff. One course. C-L: Economics 222D, Markets and Management Studies

365. Inventing Sickness: The Science and Practice of Medicine in Ancient Greece. CZ, EI, SS, STS One course. C-L: see Classical Studies 366

365D. The Modern Regulatory State. CZ, EI, R, SS Interdisciplinary inquiry into the origins/evolution of modern regulatory institutions in Western Europe and North America, along with the more recent rise of global

regulatory bodies. Examines conceptual frameworks from across the social sciences, and considers the ethical dimensions of current debates over regulatory purposes, strategies, and policies in areas such as finance and the environment. Instructor: Staff. One course. C-L: Public Policy 219D, Environment 365D, Political Science 340D

367. The History of the Book. ALP, CZ, R One course. C-L: see Classical Studies 360; also C-L: Medieval and Renaissance Studies 346, Information Science + Studies 360

368S. Istanbul and Berlin. CCI, EI, SS One course. C-L: see Asian & Middle Eastern Studies 383S; also C-L: German 283S, International Comparative Studies 356S

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. C-L: Science & Society 369

370. Aztecs and Mayans. ALP, CCI, CZ, EI Within modern imaginaries, Aztecs and Mayans become seen as those who engaged in brutal sacrifice and cannibalism atop their great temples. In order to question this pornographic assumption, this course examines the sources--art available at the Nasher Museum and many visual sources and written texts from the times of the Classic Maya civilization through today. We will collectively think about the ways in which these peoples have lived their lives and responded to the challenges of colonialism and globalization. Students should expect a hands on course as they will examine everything from ancient pottery to weapons, paintings, photographs, films, and written documents. Instructor: Sigal. One course.

371. Feast and Famine: Food in Global History. CCI, CZ, SS, STS Surveys history of food in global history, beginning with paleolithic and ending with modern era. Focuses on food quality and quantity as a factor in determining health, including problems of global health disparities, food insecurity, and obesity. Topics include the impact of food exchanges across continents and cultures, discovery of vitamins and vitamin deficiencies, growth and impact of food industries, and the rise of diseases of plenty, such as type 2 diabetes. Instructors: Humphreys. One course. C-L: Science & Society 371

372. France and Africa: The Politics and Culture of (Post-)Coloniality. CCI, CZ One course. C-L: see African & African American Studies 380; also C-L: Romance Studies 380, International Comparative Studies 364

373. American Indian History Since 1806. CCI, CZ Examines images and realities of North American Indian cultures and history from early 19th century through present day. Focus on American Indian responses to Anglo-American nation building and encroachment, radical decline of Indian populations over the 19th century and complex survival strategies initiated by American Indians in the face of decimation, Anglo-American attempts at religious and cultural conversion; and Indian response and resistance, and demographic and political revitalization of Indian peoples in the 20th century. Instructor: Barr. One course.

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: Gender, Sexuality, and Feminist Studies 239, Gender, Sexuality, & Feminist 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. C-L: Gender, Sexuality, and Feminist Studies 239D, Human Rights Program-Franklin Humanities Institute 239D, Human Rights

375. United States Foreign Policy I: From World War II to Vietnam War. CCI, CZ, EI, SS One course. C-L: see Public Policy 205

376. United States Foreign Policy II: From Vietnam War to the Present. CCI, CZ, SS One course.
C-L: see Public Policy 206

377. Global History of Sexuality. CCI, CZ, EI, SS Studies human sexual behavior, classification, and regulation around the world from roughly 2000 BCE to present. Investigates moral and ethical norms regarding sex and sexuality within a wide variety of cultural and historical contexts, including ancient Near East, Greek and Roman empires, Byzantine Empire, China/Japan, pre-Columbian America, early modern Europe, colonial America/Africa/India, Victorian England, and modern US, Europe, Latin America, Asia, and Africa. Emphasizes constructed nature of sexuality, diversity of sexual behaviors across time and space, and effects of colonialism and globalization on local understandings of sexuality. Instructor: Sigal. One course. C-L: Study of Sexualities 377

378SA. Politics and Culture Between Europe and the Middle East. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 381SA; also C-L: Public Policy 386SA, International Comparative Studies 225SA

379S. Geopolitics and Culture: Islamic States from the Ottomans to ISIS. ALP, CCI, CZ One course.
C-L: see Asian & Middle Eastern Studies 208S; also C-L: International Comparative Studies 217S, Public Policy 213S

380S. Islamic Mysticism. CCI, CZ, EI One course. C-L: see Religion 373S; also C-L: International Comparative Studies 380S, Asian & Middle Eastern Studies 373S, Study of Ethics 373S, Islamic Studies

381S. Veterans Oral History Project. CCI, SS One course. C-L: see Documentary Studies 317S; also C-L: Human Rights Program-Franklin Humanities Institute 317S, Human Rights

382S. Digital Durham. ALP, R, STS, W One course. C-L: see Information Science + Studies 356S; also C-L: Visual and Media Studies 358S, Education 356S

383. Engineering the Global Middle East. CCI, CZ, EI, SS, STS This class is a global techno-environmental history, with a special emphasis on the modern Middle East. We will interrogate the many ways in which the transformation of nature and transfer of technologies has rearranged political relations within and between states in the last two hundred years. We shall survey the social history of technology, of engineering, infrastructural developments, urbanization, and energy resources. Students in this course will learn how to do research through the lenses of environmental history and science and technology studies using the methods of microhistory. Instructor: Mestyan. One course. C-L: Energy 383, Energy and the Environment

384. The People's Republic of China, 1949-Present. CCI, CZ, SS This course begins its examination of the People's Republic of China (PRC) and the Communist Party of China (CPC) through multifaceted analyses of the first Party Chairman, Mao Zedong 毛澤東/毛泽东. We will first allow ourselves to be seduced by the richly detailed accounts of this fascinating man. We will then take a step back to observe that, in order to understand Mao, we must understand the society and culture in which he lived. This movement from Mao to the masses gives shape to the fundamental question of this class: what is the relationship between the individual and the social collective? Students are encouraged, but not required, to take History 223 as prerequisite. Instructor: Barnes. One course.

385S. White People: In Anthropological Perspective. CCI, CZ, R, SS One course. C-L: see African & African American Studies 347S; also C-L: Cultural Anthropology 305S, Human Rights Program-Franklin Humanities Institute 305S, Human Rights

386S. Apartheid South Africa and the Struggles for Democracy. CCI, CZ, EI, R, SS One course. C-L: see African & African American Studies 316S; also C-L: Public Policy 327S, Political Science 337S, Human Rights Program-Franklin Humanities Institute 316S, Human Rights

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

388S. The Scientific Revolution. CZ, STS, W One course. C-L: see Philosophy 380S; also C-L: Science & Society 380S

389S. Family Rights/Human Rights. CCI, CZ, EI, SS Explores relationship between state, family formation, and individuals. Surveys regulation of sexuality, reproduction, adoption, immigration, and incarceration with focus mainly on U.S. and past 200 years. Instructor consent required. Instructor: Deutsch.

One course. C-L: Public Policy 346S, Human Rights Program-Franklin Humanities Institute 389S, Latino/a Studies in the Global South, Human Rights

390. Topics in History Lecture. Individual courses in this series may be taught more than once or on a one-time basis only. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Special Topics in History. 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-01. Duke in Madrid: Special Topics in History. Instructor: Staff. One course.

390A-02. Duke in China: Special Topics in History. Instructor: Staff. One course.

390A-03. Duke in France: Special Topics in History. Instructor: Staff. One course.

390A-04. Duke in Andes: Special Topics in History. Instructor: Staff. One course.

390A-05. Duke in Italy: Special Topics in History. Instructor: Staff. One course.

390A-06. Duke in Russia: Special Topics in History. Instructor: Staff. One course.

390A-07. Duke in Australia: Special Topics in History. Instructor: Staff. One course.

390A-08. Duke in Berlin: Special Topics in History. Instructor: Staff. One course.

390A-09. Duke in Oxford: Special Topics on History. Instructor: Staff. Two courses.

390A-10. Duke in Istanbul: Special Topics in History. Instructor: Staff. One course.

390A-11. Duke in Vienna: Special Topics in History. Instructor: Staff. One course.

390A-12. Duke in Venice: Special Topics on History. Instructor: Staff. One course.

390A-13. Duke in South Africa: Special Topics in History. Instructor: Staff. One course.

390A-14. Duke in Turkey: Special Topics. One course.

390AS. Study Abroad: Seminar on Historical Topics. Register for country by the section designated in the Official Schedule of Courses. Instructor: Staff. One course.

390S. Topics in History Seminar. Instructor: Staff. One course.

390S-1. Topics in Digital History and Humanities. Digital History and Digital Humanities in theory and practice. Students plan, research and develop new technology projects which present archival material and historical interpretations to scholars and the general public through research papers, websites, and museum exhibits. The course meets weekly to discuss readings in American history, southern history, and digital history/humanities. Students explore archival material in the Rubenstein Library, learn how to use digital tools for humanities projects, develop principles of effective digital project management, create cross-disciplinary collaborations and learn about the ethics for creating research projects in the humanities. Instructor: Abel/Szabo. One course. C-L: Information Science + Studies 390S-1, Visual and Media Studies 390S-1

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. R 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.

394. Research Independent Study. R Spring semester research independent study. See History 393. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

395S. Post-1945 America. CCI, CZ, R, W After providing an orientation to post-1945 US history, this course will guide students in the production of original individual research papers that aim for publishable quality. Students will choose topics according to their own interests that make use of the rich collections of primary sources in Duke's Rubenstein Library. Sample areas for more defined projects include the history of advertising, the civil rights and Black Power movements, labor organizing, women's history, alternative publishing, LGBTQ history, aspects of US relations with the wider world, environmentalism, economic thought, and the impact of globalization, particularly on North Carolina and the South. Some prior college coursework in 20th century US history desirable but not required. Instructor: MacLean. One course. C-L: Public Policy 360S

396S. Racial Justice in the 20th Century US and South Africa. CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 346S; also C-L: International Comparative Studies 351S, Political Science 336S, Public Policy 326S, Human Rights Program-Franklin Humanities Institute 349S, Human Rights

397S. Istanbul: City of Two Continents. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 283S; also C-L: Cultural Anthropology 283S, International Comparative Studies 249S, Islamic Studies

398S. Human Rights and Documentary: Aesthetics, Ethics, History. ALP, CZ One course. C-L: see Documentary Studies 366S; also C-L: Public Policy 388S, Visual Arts 366S, Visual and Media Studies 368S, Human Rights Program-Franklin Humanities Institute 366S, Human Rights

399A. Duke Summer Program: Oxford. CCI, SS Two courses. C-L: see Political Science 282A; also C-L: International Comparative Studies

403S. Politics and Obligations of Memory. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 403S; also C-L: International Comparative Studies 403S, Human Rights Program-Franklin Humanities Institute 403S, Human Rights

404. Women and the Law in U.S. History. CCI, CZ, EI, SS This course not only explores the legal status of women in the United States, but also considers broader questions about both the history of women history and the dynamics of law. Challenging the usual narrative, which emphasizes the acquisition of rights over time, the course focuses on the women's changing relationship to the law over time and consider the various ways that women used and even reshaped the law, even in periods when they could not claim rights in their own names. We will use legal records from the colonial period to the present, along with a variety of other sources and readings. Instructor: Edwards. One course.

405. What Machiavelli Really Says. ALP, CZ, EI, R One course. C-L: see Italian 483; also C-L: Literature 483, Political Science 483, Medieval and Renaissance Studies 473

407. Soviet and Post-Soviet Economic History. CCI, CZ, W One course. C-L: see Economics 407; also C-L: Russian 407

411S. Historicizing Whiteness. CCI, CZ, EI, R, SS One course. C-L: see Public Policy 411S; also C-L: Human Rights Program-Franklin Humanities Institute 411S, Human Rights

414S. Research in Human Rights. CCI, EI, R, SS One course. C-L: see Public Policy 414S; also C-L: Cultural Anthropology 414S

417S. Critical Interventions in Middle East Studies and Policy. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 479S; also C-L: Public Policy 417S, International Comparative Studies 408S, Literature 417S, International Comparative Studies

420. Biography, Life Writing, Autofiction. ALP, CCI, CZ, FL, R One course. C-L: see French 411; also C-L: Literature 420

444. Islamic Awakening: Revival and Reform. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 325; also C-L: Religion 372, Islamic Studies

448S. Archiving and Visualizing Asia: Politics and Poetics of Knowledge Production. CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 476S; also C-L: International Comparative Studies 411S,

Literature 476S, Visual and Media Studies 476S, Documentary Studies 476S

450S. South African Life Histories. CCI, CZ, R, W One course. C-L: see African & African American Studies 406S; also C-L: Political Science 406S, Human Rights Program-Franklin Humanities Institute 406S, Public Policy 406S, Cultural Anthropology 406S

452S. World War I and the History of Art & Architecture: Germany and Beyond. ALP, CCI, CZ One course. C-L: see Art History 460S; also C-L: German 460S

454S. Capstone Seminar - Globalization: Asia and Asian America. CCI, CZ, R, SS,

STS "Globalization": a shorthand for describing the period of extraordinary change that we are living through, our lives, and our worlds as defined by global connections, from the internet technologies and rapid mass communication to issues of mobilization for social justice. This course focuses on two main themes: global moments of common struggle against racism in Asian, Asian American, and African American contexts, and global manufacture and the ways in which the microprocessor chip technology has come to bind Asia, Africa, and America, with a special focus on women and Asian Americans in the IT sector. Instructor: Mazumdar. One course. C-L: African & African American Studies 407S, International Comparative Studies 412S, Gender, Sexuality, and Feminist Studies 412S, Asian & Middle Eastern Studies 437S

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.

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, Global Health 460S

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, W 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, W 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, Latino/a Studies in the Global South

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 perspective 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 experimentations, 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

468S. Capstone Seminar: Literature & Terrorism. ALP, CCI, CZ, EI, R Explores the manner in which terrorism has been depicted in literature. Emphasis on novels written primarily by Russian writers in the 19th and early 20th centuries when that country experienced waves of political violence unmatched elsewhere in the Western world and writers sought to grapple with the meaning of the violence in vivid and imaginative ways. Readings include: "The Secret Agent" by Joseph Conrad, "The Devils" by Fedor Dostoevsky, "Mother" by Maxim Gorky, and "Petersburg" by Andrei Belyi. Instructor: Miller. One course. C-L: Slavic and Eurasian Studies 468S

470S. Capstone Seminar: Leadership in American History. CZ, EI, R Focuses on political, social, business and artistic leaders in American history and problems that have called for leadership. Instructor consent required. Instructor: Wilson. One course.

471S. Capstone Seminar: Latin American Left Turns: A New Politics for the 21st Century?. CCI, CZ, R, SS, W Examination of issues surrounding the upsurge of leftist governments elected by the popular vote in the wake of the perceived failures of neoliberalism and the Washington consensus of 1989. Looks at ways Washington has had to come to terms with an unexpected revival on the left that threatens U.S. hegemony while offering an alternative path to achieve national development, distribution of wealth, and recognition of diversity and pluralism. Students will examine these issues from multiple viewpoints and develop projects based on choosing specific research foci within the general enterprise of what these government share in common and how they differ. Instructor: French. One course. C-L: Latin American Studies 471S, Political Science 497S

472S. Capstone Seminar: Russia in World War II. CCI, CZ, R, SS Nowhere else was World War II as bloody and destructive as it was in Eastern Europe, and of all nations it was the Soviet Union that paid the highest price for victory. The scale of death and destruction is hard to comprehend even today. How Soviet society, its economy and military prepared for the upcoming war, mobilized and persevered during the conflict, and ended up storming Berlin in 1945 is explored in this course. Questions of socialist economy at war, technological innovation, and gender dimensions of modern war and warfare form core topics of the course. Instructor: Krylova. One course.

473. Two Koreas: History, Society and Culture. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 372; also C-L: Cultural Anthropology 473

474S. Capstone Seminar - Madness and Society in Historical Perspective. CCI, R, SS Mental illness and psychiatric treatment from antiquity to the present with special concentration on the nineteenth and twentieth centuries in Europe, America, and Russia. Not open to students who have taken History 265. Instructor: Miller. One course.

476S. Capstone Seminar: American Militarism. CZ, EI, R, SS, W Explores the debate over U.S. militarism in past and present. Fears of an American militarism have haunted public debate and policy-making, shaping the nation's pursuits of war, military force, and global empire. Focusing on moments of intense debate,

we will pay close attention to how the term militarism functioned as an indispensable part of the U.S. political lexicon since the 1890s. Instructor: Bonker. One course.

478S. Capstone Seminar: Race and Power in World History. CCI, CZ, R, SS, W Explores how ideas and practices defined by “racial difference” have driven world history. Much of what we know, or think we know, about race is derived from our particular history and experience in the United States. But American ideas about race, and American history of racial hierarchy, represent one of many configurations of race around the world. By thinking about race comparatively, and by focusing on how race has worked in a variety of historical and geographical contexts, we will be able to assess the importance of race in creating the world we live in. Instructor: Staff. One course.

479S. Capstone Seminar: Russia’s Path to Capitalism. CCI, CZ, R, SS, W History of the end of the Soviet Union as interplay between Russia’s economic legacy, a sequence of economic and political reforms under Gorbachev, and international forces; includes exploration of principles and aspirations that informed Soviet socialist economy in theory and practice; differences between ‘planned economy,’ one associates with the Soviet Union and ‘regulated economy,’ one finds in the West; traces the restructuring of the Soviet economic system into its present-day capitalism with a particular focus on reform paths not taken. Instructor: Krylova. One course.

480S. Capstone Seminars in Classical Studies. ALP, CCI, CZ, R, W One course. C-L: see Classical Studies 480S; also C-L: Political Science 480S

481S. Capstone Seminar: The Age of Jim Crow: Racial Segregation from Plessy (1896) to Brown (1954). CZ, EI, R, W 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: Staff. One course. C-L: African & African American Studies 409S

482S. Capstone Seminar: Post-Civil Rights America: The Search for Social Justice, 1968-Present. CZ, EI, R, W 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: Staff. One course. C-L: African & African American Studies 408S

483S. Capstone Seminar: History of Torture. CZ, EI, R, W This class offers a history of torture in the western world, from the Renaissance to the present. Students explore the topic primarily within the framework of legal history, from the institution of legal judicial torture in the late Middle Ages, through its formal abolition in the eighteenth and nineteenth centuries, down to its reemergence as an instrument of combat in wars in the twentieth and twenty-first centuries. Instructor: Martin. One course.

484S. Capstone Seminar: African Americans and the World. CCI, CZ, R, SS, W Research seminar centered on exploration of white supremacy and black civil rights movements in the context of American empire. Readings of primary and secondary sources focus on ideas about race and ethnicity, arguments over citizenship and subjectivity, and arrangements of political and economic power. Archival research required. Students will produce an original work rooted in the fields of African American history and the United States and the World. Instructor: Lentz-Smith. One course. C-L: African & African American Studies 451S

488S. Capstone: Research in Human Rights. R, W One course. C-L: see Cultural Anthropology 470S; also C-L: Environment 470S, Human Rights Program-Franklin Humanities Institute 470S, Human Rights

490. Special Topics in History. Topics vary each semester. Instructor: Staff. One course.

490S. Seminars in Special Topics. Topics may vary. 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.

501S. History of Sexuality. CCI, CZ, SS Explore history of sexuality around the globe, covering diverse time periods and regions. Examine methods and theories used in the study of sexuality, with attention to topics such as fertility, kinship, marriage, heterosexuality, homosexuality, birth control, sexology, and community formation. Instructor: Sigal. One course. C-L: Gender, Sexuality, and Feminist Studies 501S

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.

503. Research Methods in Japanese (B). CCI, SS One course. C-L: see Japanese 650; also C-L: Sociology 664

504S. East Asia's Twentieth Century. CCI, CZ, R Historiographical review of twentieth-century East Asian history. Through weekly readings, study influential historical analyses of the period. Compare and evaluate historical approaches and key debates. Review methodologies of historical research on modern East Asia. Work with primary source materials in East Asian history. Research paper required. Instructor: Barnes or Partner. One course. C-L: Asian & Middle Eastern Studies 504S

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: Staff. One course. C-L: African & African American Studies 515S, Gender, Sexuality, and Feminist Studies 509S

506S. Religion, Conflict and Holy War in the Pre-Modern West: Sects and Violence. CCI, CZ, EI, SS, W Violence as a cultural phenomenon in the pre-modern world. How did enactment of violence, objectification by violence and immunity from violence produce social, political and religious identities? Topics: the dialectic of violence and peacemaking in the Christian tradition; aesthetics, performance and emotions in violent confrontations; the role of violence in state and community formation; religious groups as mediators and fomenters of conflict; violence in millenarian movements. Readings combine primary sources, secondary sources and theory. Students of anthropology, law and political studies will find topics of interest. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 556S

507S. Asian Studies: Critical Introduction to Knowledge Fields and Methodologies. CCI, CZ, SS Examination of fundamental methodologies and historiography central to knowledge production about Asia in the Social Sciences, Humanities and Environmental Studies. An overview of nineteenth and twentieth century European discourses of Orientalism and Eurocentrism; the evolution of "Area Studies" models of inquiry and the bifurcations of Asian Studies; the impact of Cold War politics on the development of the field of Asian Studies in the United States; globalization, the environment and East Asia. Instructor: Mazumdar. One course.

509S. United States Policy in the Middle East. CCI, SS One course. C-L: see Public Policy 503S; also C-L: International Comparative Studies

510S. The History of Neoliberalism in the US. CZ, EI, SS A readings course to introduce graduate students and advanced undergraduates to the historical literature on one of the most important developments of our times: the rise and spread of neoliberalism (or as it is sometimes called by critics, "free-market fundamentalism") and to guide students in applying this scholarship to their own areas of interest. Instructor: Maclean. One course.

511S. The Margins of Justice: Law and Minorities in the Middle Ages. CCI, CZ, SS A study of how law impacted minorities in the Middle Ages: outlaws, Jews, homosexuals, foreigners, disabled and poor. Surveys how socially disadvantaged persons navigated royal authority in France and England after 1100. While most reading is secondary sources, we use literature, saints' lives, charters and law codes to reconstruct medieval conceptions of justice, to ask what is law, and to reconstruct state formation through experiences of people usually relegated to the margins. For graduate students and motivated senior undergraduates. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 561S

513S. Race, Class, and Gender in the University. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 502S; also C-L: Sociology 502S

514S. Culture and Environment in Modern Chinese History. CCI, CZ, EI, SS, STS Examination of the changing patterns through which the physical environment and culture are mutually formed in late imperial and modern China. Culture includes creation of cosmological and social ideas as well as long term practices of settlement and utilization of the environment. In what ways did cultures represent limits to environmental exploitation? Special attention to how communities and the state respond to environmental disasters and explore the feedback loops for protection and prevention. Explores the importance of long-term understanding for the current environmental crisis in China. Instructor: Duara. One course. C-L: Asian & Middle Eastern Studies 531S

516. The Roman Republic. CCI, CZ, R One course. C-L: see Classical Studies 532

518S. Merchants, Coolies, Prostitutes: The Treaty Ports of Nineteenth Century East Asia. CCI, R, SS The course will examine the treaty ports of East Asia – Shanghai, Tianjin, Yokohama, Nagasaki and others – from the perspective of both foreign and local residents. Students will review available English-language sources, and carry out a research project on a city of their choice. Instructor: Partner. One course.

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

520S. Microhistory. CCI, CZ, R, SS, W Examines methods of micro-historical analysis, focusing on distinctive practices that define this popular form of history writing, including how to reduce the scale of analysis; interpreting clues as a "scientific paradigm"; treating culture as action; using historical contexts and theories; identifying historical actors; and crafting historical narratives. For advanced undergraduates, graduate students from any field interested in micro-analysis, historical theory and method and story-telling. Requirements include short essays and major research paper based on primary sources from any field or period of history. Instructor: Robisheaux. One course. C-L: Medieval and Renaissance Studies 576S

522S. Jerusalem after Rome. CCI, CZ, R, W In this discussion seminar, we trace the history of how a city became sacred to three religions, the impact of the Crusades on the demography and built environment of Jerusalem and the memory of medieval Jerusalem today. For students interested in history, literature, religious and social conflict, architecture and archaeology. One research paper, one literature review, and regular reading responses. Reading load is moderate to heavy. Instructor: Malegam. One course. C-L: Medieval and Renaissance Studies 552S

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

524S. Sovereignty and Monarchy in the Arab World. CCI, CZ, R, SS, W This course focuses on the history of sovereignty in Arab monarchies in the twentieth century. Sovereignty is a fundamental legal, philosophical, political, geographical, and even cultural concept. The readings critically explore the idea of sovereignty as a historically changing and context-dependent concept. What is sovereignty? What types of sovereignties can we distinguish? How have new Arab nation-states claimed sovereign status within the global order? How is sovereignty related to the ability to govern? In addition to the history of ideas and law, we explore the local perception of sovereignty in monarchies, and the symbolism and material culture of the Arab kingdoms. Instructor: Mestyan. One course.

526S. Columbus: A Global History. CCI, CZ, R, W This seminar returns to the global framework of Columbus's encounters with what would come to be called the New World. Students will study medieval conceptions of the world in maps, cosmographies, and travel literature as well as developments in China and

the Americas before 1492. Our central focus will be texts by Columbus and his contemporaries: Peter Martyr d'Anghiera, Amerigo Vespucci, Martin Waldseemüller, Bartolomé de las Casas, Peri Reis, Mehmed el-Su'udi, and Jacopo ha-Kohen. Attention will be given to slavery, colonization, evangelization, prophecy, apocalypticism, and resistance. We will also explore the economic and intellectual consequences of Columbus's voyages across time. Instructor: Martin. One course.

528S. Greek History: Fifth through First Centuries BC. CZ One course. C-L: see Classical Studies 528S

530S. Camera Asia. ALP, CCI, CZ, EI, R One course. C-L: see Art History 535S; also C-L: International Comparative Studies 531S

531S. Art and the Holocaust: Architecture, Art, and Cultural Politics during the Nazi Period. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 525S; also C-L: German 565S, Jewish Studies 555S

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

535S. The Russian Intelligentsia and the Origins of the Revolution. CZ, R Origin and dynamics of the Russian revolutionary movement, the intelligentsia, and the emergence of the labor movement. Instructor: M. Miller. One course. C-L: Russian 515S, International Comparative Studies

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: 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, International Comparative Studies 537S

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

541S. Intellectual History and Political Theory. CCI, CZ, EI, SS Overview of current and historical approaches to intellectual history and the history of political thought, elucidating their theoretical foundations. Discussion of the major problems involved in the study of texts, ideas and culture and the vocabulary used by historians and political theorists. Readings in the classics of the field from Huizinga, Lovejoy, Febvre and Strauss to Skinner, Pocock and Bourdieu. Focus on joint projects of historians and political theorists. Instructor: Hacohen. One course. C-L: Political Science 573S

542S. Atlantic Constellations: Migration, Exile, Second Slavery. ALP, CCI, CZ, FL One course. C-L: see Spanish 539S; also C-L: International Comparative Studies 539S

543S. Piracy 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. C-L: International Comparative Studies 543S

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 528, Human Rights Program-Franklin Humanities Institute 561, Human Rights

548S. Global History of Medicine. CCI, CZ, EI, STS The study of medicine as an object of critical analysis is a rapidly growing and exciting subfield in both history and anthropology. In English-language scholarship, the biggest conceptual leaps appear in works that analyze post-colonial spaces in Africa, Asia and the Americas, and engage with—and critique—the methodological and theoretical tools of postcolonialism, poststructuralism, governmentality, subaltern studies, Science and Technology Studies (STS), and sociology of scientific knowledge (SSK). We will read and discuss recent and renowned works. Instructor: Barnes. One course. C-L: Gender, Sexuality, and Feminist Studies 584S, Global Health 548S

549S. Histories of Science and Technology. CCI, CZ, SS, STS This course introduces students to methods in the history of science and technology, with attention to global and interdisciplinary perspectives. In addition to various historical approaches, readings may also include work in ethnography, feminist theory, postcolonial studies, Science & Technology Studies (STS), environmental studies, and other related fields. Particular emphasis will be placed on understandings of materials and material agency, as well as situating a range of themes central to modern science and technology—such as quantification, innovation, infrastructure, and information—within broader historical contexts. Instructor: Hepler-Smith. One course. C-L: Science & Society 549S, Global Health 549S, Energy and the Environment

550S. Life Stories: How to Write Them, What They Mean. CCI, CZ, R, SS, W How does a historian construct the narrative of a life? What gives a life meaning? How do we understand and connect imaginatively to the life experiences of the people who lived history rather than those who made it? What are the pitfalls of reconstructed experience—e.g. selective memory, ideological bias, and narrative over-simplification? How do we use the power of narrative responsibly? This course focuses on the lives and historical experiences of individuals. The emphasis of the class will be on the lives of relatively unknown figures such as farmers, merchants and housewives. Instructor: Partner. One course.

553S. Urban Histories in Global, Comparative, and Historical Perspective. CCI, CZ This course examines the origins and growth of cities, and the role urban life has played shaping politics, culture, and society in both local and global contexts. Specific topics and subjects vary; please consult course synopsis for more detail and information. Instructor: Thorne. One course.

554S. Contemporary Dance History. ALP, CCI, CZ, W One course. C-L: see Dance 665S; also C-L: International Comparative Studies 509S

556S. The Global Cold War. CCI, CZ, SS One course. C-L: see Public Policy 556S; also C-L: Political Science 542S

557. Cultural Memory. ALP, CCI, R, W One course. C-L: see French 557; also C-L: Literature 557

561S. Global Africa. CCI, EI, SS One course. C-L: see Cultural Anthropology 561S; also C-L: African & African American Studies 510S, Political Science 527S, International Comparative Studies 510S

562S. Courts, Wars, Legacies of Wars. R, SS One course. C-L: see Political Science 661S

564S. Toleration, Freedom of Conscience, and Religious Liberty. CCI, CZ, EI, R One course. C-L: see Classical Studies 564S; also C-L: Political Science 588S, Religion 564S

567S. American Grand Strategy. CZ, R, SS, W One course. C-L: see Political Science 562S; also C-L: Public Policy 501S

572S. Anthropology and History. SS One course. C-L: see Cultural Anthropology 501S; also C-L: Romance Studies 521S

577S. Historical and Philosophical Perspectives on Science. CZ, STS One course. C-L: see Philosophy 541S; also C-L: Literature 521S, Gender, Sexuality, and Feminist Studies 541S, Science & Society

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. Seminars in advanced topics designed for graduate students and advanced undergraduates. Topics vary by semester. Instructor: Staff. One course.

601S. Introduction to Jewish Studies. One course. C-L: see Jewish Studies 601S; also C-L: Religion 613S

610S. Africa, Cuba, Brazil: Great Powers of the Black Atlantic. CCI, CZ, SS One course. C-L: see African & African American Studies 610S; also C-L: Cultural Anthropology 610S, Romance Studies 522S

611. Biography, Life Writing, Autofiction. ALP, CCI, CZ, FL, R One course. C-L: see French 611; also C-L: Literature 609

627. Soviet and Post-Soviet Economic History. CCI, CZ, SS, W One course. C-L: see Economics 627; also C-L: Russian 627

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 seven 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 toward meeting the area or concentration requirements below. AP courses will not count toward the major for students matriculating after Fall 2017. The ten courses may include courses cross-listed as history courses regardless of the department through which the student enrolls. However, the number of the cross-listed courses allowed toward the major may change, and students are urged to consult the History department website for updates as they declare their major.

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. The senior thesis seminar (History 495S and 4965S) substitutes for the capstone seminar for those students enrolled.

Geographic Areas are as follows (see department website for individual courses in each area):

- Africa and 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):

- Race and Ethnicity
- Economic and Business Cultures
- 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 four or five) in any field of history may count as one of the ten required courses for the history major. This AP credit does not count toward meeting the area or concentration requirements for the major. AP courses will not count toward the major for students matriculating after Fall 2017.
- **Transfer Credit:** Up to one course taken at other universities or in an approved study abroad program that receive transfer credit may count toward 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 most graduate programs require a reading knowledge of one or more foreign languages.
- **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 a 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

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 & Sciences, and approved by the Committee on Courses of the Arts and Sciences Council. House courses carry a 0.5 course credit. In the Pratt School of Engineering, house courses cannot be used to meet degree requirements. In Trinity College, no more than 2.0 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 Satisfactory/Unsatisfactory basis. Further details are available in 011 Allen Building.

House Course (HOUSECS)

59. House Course. Special topics course. Information about specific offerings each term available prior to the start of classes at the following website: <https://trinity.duke.edu/house-courses/courses>. Satisfactory/Unsatisfactory grading only. Instructor: Staff. Half course.

Human Development

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 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 website at <https://sites.duke.edu/centerforaging/education-and-training/research-training-in-aging-and-human-development/the-undergraduate-program-in-human-development/>. 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.

Courses in Human Development (HUMANDEV)

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. Reserved for first- year and sophomore students only. Consent required for juniors and seniors. Instructor: Staff. One course. C-L: Sociology 224

260. Psychosocial Aspects of Human Development. 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: Staff. One course. C-L: Psychology 236, Sociology 260, Ethics Elective

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: Staff. 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

Neuroscience

340S. Educational Neuroscience

Psychology

340S. Educational Neuroscience

435S. The Role of Race and Culture on Development

474S. Biological Psychology of Human Development

Human Rights

Professor Kirk, *Director*; Professor Weinthal, *Chair, Certificate Committee*

A certificate, but not a major, is available in this program.

The goal of the undergraduate certificate in human rights is to provide students with an opportunity to pursue a rigorous interdisciplinary study of human rights. We will help cultivate life-long learners and engaged citizens who have a deep and nuanced understanding of human rights. This course of study requires foundational study in human rights history, theory, and policy issues, with particular attention to how the intellectual debates around rights translate into action in an increasingly globalized, interconnected world. Human rights cannot be isolated into one or even a few disciplines and its study must draw on the concepts and lived experience of scholars, practitioners, journalists and communities struggling to defend their rights.

Including a Gateway, Introduction to Human Rights, and a final Capstone in Human Rights, students will take a total of six undergraduate courses. Students will be encouraged to seek rights-related DukeEngage placements, internship and volunteer experiences, and to include study abroad courses as part of their certificate plan, so long as these courses have received prior approval from Duke and the Certificate Director. These elements will enrich a student's experience in the Capstone.

The certificate includes 1) a structured and interdisciplinary set of courses; 2) analytical, empirical, and applied elements; 3) education in the history and current practice of human rights in the United States and abroad; 4) exposure to key thinkers and debates about and within human rights, including the critique of human rights; 5) skills development in research and writing; 6) the application of knowledge toward real-world solutions; and 7) in-depth mentored research with faculty working in human rights.

Sequencing is a critical element in the study of human rights. Students are encouraged to enroll as soon as possible but no later than the end of Drop/Add in the fall of their junior year. Enrollment takes place after a student prepares a declaration of interest submitted to the Certificate Director. This declaration must include a written statement of no more than 250 words; identification of the four courses that will be the electives chosen to complete the certificate; and a potential research project for the Capstone. Students will be assigned an adviser who will help plan a coherent pathway.

Certificate Requirements

Six courses are required for completion of the human rights certificate.

1. A required Gateway, Introduction to Human Rights. This course gives priority to first-year students and sophomores, ideally building a cohort with other students also interested in human rights.
2. Four electives. A course can count toward the human rights certificate if it contains a preponderance of readings or other materials of inquiry that reference human and civil rights history, concepts, theory, practice, discourse, advocacy or a combination of these elements. A course may have a thematic focus on human rights, including in areas of civil rights and social justice; it may have a regional focus, examining rights in a specific location; or a disciplinary focus, as in how a specific type of study, like biology or literature, approaches a rights question. Prior to registration each semester, the DHRC@FHI will prepare a list of pre-approved courses in consultation with the Faculty Advisory Board. Students

- are required to take courses from at least two disciplines. No more than two of the four courses may come from the same home department.
3. Students may petition for a course to count toward the certificate by submitting a syllabus and rationale for the relevance to the Director of the certificate, specifying how it meets the criteria listed above. This would include courses taken outside Duke, including study abroad. We encourage students to search out study abroad courses that would count toward the human rights certificate.
 4. A capstone seminar, Capstone in Human Rights. This course is offered to students in their senior year who have completed the Gateway and are enrolled in the human rights certificate program. A primary learning objective of this course is to connect the intellectual themes and scholarly knowledge they develop in the Gateway, electives and any rights-related experiences (through DukeEngage or internships and volunteer placements). The capstone requires students to critically re-visit themes introduced in the gateway course. The capstone culminates with a final project that requires students to choose a subject and produce research. Students may work in teams toward a final project but each student's work will be evaluated separately and at a high standard.
 5. All human rights certificate students are required to present their work to their peers in a mini-conference or other forum. Students are encouraged to present their work in other public for or in benefit of an individual or group engaged in rights work. This could be through performance or web-based pieces, videos, op-ed columns, published essays, public exhibits, or other media. Where appropriate, students' projects can link or be combined with departmental honors projects.

Courses in Human Rights (RIGHTS)

Special Topics Courses

89S. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

190. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

190S. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

290. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructors consent may be required. Instructor: Staff. One course.

290S. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

390. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

390S. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

490. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

490S. Special Topics in Human Rights. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

Introduction to Human Rights

104. Introduction to Human Rights: Gateway for the Human Rights Certificate. ALP, CCI, CZ, EI One course. C-L: see Cultural Anthropology 104; also C-L: Public Policy 162, International Comparative Studies 113

Capstone to Human Rights

470S. Capstone: Research in Human Rights. R, W One course. C-L: see Cultural Anthropology 470S; also C-L: Environment 470S, History 488S

Duke Immerse Rights and Identities

245S. Human Rights in the Americas. CCI, CZ, W One course. C-L: see Cultural Anthropology 245S; also C-L: Latin American Studies 246S, History 242S, International Comparative Studies

389S. Family Rights/Human Rights. CCI, CZ, EI, SS One course. C-L: see History 389S; also C-L: Public Policy 346S, Latino/a Studies in the Global South

Duke Immerse Policy and Society

235S. Comparative Urban Politics and Policymaking. CCI, EI, SS One course. C-L: see Political Science 235S; also C-L: Public Policy 285S, International Comparative Studies 213S, African & African American Studies 234S

236S. Advanced Research Seminar in Urban Politics and Policymaking. CCI, R, SS, W One course. C-L: see Political Science 236S; also C-L: African & African American Studies 237S

319S. US Comparative State Politics. CCI, SS One course. C-L: see Political Science 319S

Duke Immerse Global Refugee Crisis

216S. Global Migration and Ethics. EI, SS One course. C-L: see Cultural Anthropology 216S; also C-L: Study of Ethics 262S, International Comparative Studies 244S

Other Courses

111FS. Pursuit of Equality: Rethinking Schools - Lens of Social Justice. CCI, EI, SS One course. C-L: see Education 111FS

112FS. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI One course. C-L: see Education 112FS; also C-L: Public Policy 183FS, Russian 121FS, Science & Society 112FS

113FS. Enterprising Leadership and Civic Engagement. EI, SS One course. C-L: see Education 113FS; also C-L: Cultural Anthropology 113FS

130. World Music: Aesthetic and Anthropological Approaches. ALP, CCI, CZ One course. C-L: see Music 130; also C-L: Cultural Anthropology 131, International Comparative Studies, Documentary Studies

148. Israel/Palestine: Comparative Perspectives. CCI, EI, SS One course. C-L: see Cultural Anthropology 148; also C-L: Asian & Middle Eastern Studies 244, Environment 147, Jewish Studies 148, Public Policy 178, Political Science 159, Islamic Studies, Ethics Electives

156S. Gateway Seminar: Cold War America. CZ, EI, R, SS, W One course. C-L: see History 156S

178FS. Refugees, Rights, and Resettlement. CCI, EI, SS One course. C-L: see Sociology 178FS; also C-L: Study of Ethics 199FS

183S. 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, African & African American Studies 133S, International Comparative Studies 183S, Public Policy 175S

201. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS One course. C-L: see Education 201; also C-L: Public Policy 203, Political Science 213

201S. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS One course. C-L: see Education 201S; also C-L: Public Policy 206S, Political Science 213S

204FS. Documenting the Middle East: Community and Oral History. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 204FS; also C-L: Documentary Studies 204FS

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

207. Humanitarianism in Africa. CCI, CZ, EI One course. C-L: see History 207; also C-L: African & African American Studies 271, Islamic Studies

208. The Anthropology of Race. CCI, EI, SS One course. C-L: see Cultural Anthropology 208; also C-L: African & African American Studies 251, International Comparative Studies 239

211. Social Inequality. CCI, SS One course. C-L: see Sociology 211; also C-L: Gender, Sexuality, & Feminist

Studies

- 212. Gender and Global Health.** SS One course. C-L: see Global Health 212; also C-L: Sociology 212
- 213. United States Environmental Policy.** EI, SS, STS, W One course. C-L: see Environment 212; also C-L: Public Policy 275, Energy and the Environment, Marine Science and Conservation
- 213S. Feminist Art from the 1970s to the Present.** ALP, CCI, W One course. C-L: see Gender, Sexuality, and Feminist Studies 213S; also C-L: Art History 213S
- 214S. Ethical Challenges in Environmental Conservation.** EI, SS, W One course. C-L: see Environment 214S; also C-L: Marine Science and Conservation
- 215. Sociology of Racism in America.** CCI, EI, R, SS One course. C-L: see Sociology 215; also C-L: African & African American Studies 246, Latino/a Studies in the Global South 316, Marxism and Society
- 218S. Conflict Analysis in Africa (Case Studies).** CCI, CZ, SS One course. C-L: see African & African American Studies 310S; also C-L: Cultural Anthropology 310S, Public Policy 218S
- 219. War, Slavery, and Revolution in the Caribbean, 1700-1800.** CCI, CZ One course. C-L: see History 319; also C-L: African & African American Studies 219, International Comparative Studies 263, Latin American Studies
- 219S. Muslim Women Across the Ages.** CCI, CZ, SS, W One course. C-L: see Religion 219S; also C-L: Gender, Sexuality, and Feminist Studies 209S, International Comparative Studies 365S, History 225S, Asian & Middle Eastern Studies 224S, Cultural Anthropology 224S
- 220S. Anthropology and Global Health.** EI, SS, STS One course. C-L: see Global Health 220S; also C-L: Cultural Anthropology 218S
- 221. Race, Power, and Identity: From Ali to Kaepernick.** CCI, EI, R, SS One course. C-L: see Education 220; also C-L: African & African American Studies 232, Sociology 202
- 229S. 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: Public Policy 279S, Political Science 367S, International Comparative Studies 229S, Marine Science and Conservation, Islamic Studies
- 238S. History of Political Nonviolence.** CCI, CZ One course. C-L: see History 238S; also C-L: Public Policy 248S
- 239D. Women, Gender, and Sexuality in U.S. History.** CCI, CZ, EI, SS, W One course. C-L: see History 374D; also C-L: Gender, Sexuality, and Feminist Studies 239D
- 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: Cultural Anthropology 246S, African & African American Studies 236S
- 249. Martin Luther King and the Prophetic Tradition.** CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 317; also C-L: Religion 234, African & African American Studies 249, Public Policy 253
- 254. Cultures and Politics of the America Borderlands.** CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 254; also C-L: Latino/a Studies in the Global South 254, International Comparative Studies 254, Latino/a Studies in the Global South
- 259S. Student Activism, Storytelling, and Community Change.** ALP, EI, W One course. C-L: see Education 259S; also C-L: Writing 259S
- 262. Human Rights in Theory and Practice.** CCI, CZ, EI, SS One course. C-L: see Political Science 272; also C-L: Public Policy 231, Philosophy 262, International Comparative Studies 272, Documentary Studies, Ethics Elective, Global Health
- 271S. Public Policy Video.** ALP, CCI, SS One course. C-L: see Documentary Studies 271S; also C-L: Public Policy 375S, Visual and Media Studies 377S
- 272. Genocide and Human Rights.** CCI, CZ, EI, R, SS One course. C-L: see History 272; also C-L: Public Policy 345
- 277S. Medical Ethics, Aging, and End of Life Care in the US.** ALP, CCI, EI, W One course. C-L: see Education 277S; also C-L: Global Health 277S, Public Policy 274S, Russian 277S, Study of Ethics 277S

279. Gandhi: Image and Reflection. CCI, CZ, EI One course. C-L: see Religion 279; also C-L: Asian & Middle Eastern Studies 158

280S. Religion and Peace: Case Studies in Activism and Reconciliation. CCI, CZ, EI One course. C-L: see Religion 280S

283SL. Death, Burial, and Justice in the Americas. EI, SS One course. C-L: see International Comparative Studies 283SL; also C-L: Cultural Anthropology 285SL, African & African American Studies 283SL, Latin American Studies 283SL, Latin American Studies

288. Acts of Engagement. CCI, EI One course. C-L: see Religion 288

295S. Black Muslims: Race, Religion, & Culture. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 295S; also C-L: African & African American Studies 295S, Religion 295S, International Comparative Studies 222S, Gender, Sexuality, and Feminist Studies 296S

297. The Holocaust. CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Jewish Studies 342, Religion 342, Political Science 262

301S. Business and Human Rights Advocacy Lab. EI, R, W One course. C-L: see Study of Ethics 301S; also C-L: Political Science 341S, International Comparative Studies 317S, Public Policy 311S, Markets and Management Studies

302. Global Narratives of Living with HIV/AIDS. ALP, CCI, SS One course. C-L: see Global Health 302; also C-L: International Comparative Studies 295, Science & Society

303S. De/Re/Segregation in Education: A Case of Back to the Future?. CCI, EI, SS One course. C-L: see Education 303S; also C-L: Public Policy 340S

305S. White People: In Anthropological Perspective. CCI, CZ, R, SS One course. C-L: see African & African American Studies 347S; also C-L: Cultural Anthropology 305S, History 385S

308S. 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, Jewish Studies 269S

309. Chinese Im/migration: Chinese Migrant Labor and Immigration to the US. ALP, CCI, EI, SS One course. C-L: see Asian & Middle Eastern Studies 309

310. African American Women and History. CCI, CZ One course. C-L: see History 349; also C-L: African & African American Studies 310, Gender, Sexuality, and Feminist Studies 237

312. War and Public Health in Africa. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 312; also C-L: Public Policy 333, Cultural Anthropology 312, Global Health 312

313S. Social Movements in Age of Globalization. CCI, CZ, EI, R, SS One course. C-L: see Literature 332S; also C-L: Sociology 323S, Political Science 313S

315-20. Engineering Sustainable Design and the Global Community: Structural Focus. QS, STS One course. C-L: see Civil and Environmental Engineering 315-20; also C-L: Environment 365-20, Public Policy 211-20

315-60. Engineering Sustainable Design and the Global Community: Environmental Focus. QS, STS One course. C-L: see Civil and Environmental Engineering 315-60; also C-L: Environment 365-60, Public Policy 211-60

316S. Apartheid South Africa and the Struggles for Democracy. CCI, CZ, EI, R, SS One course. C-L: see African & African American Studies 316S; also C-L: History 386S, Public Policy 327S, Political Science 337S

317S. Veterans Oral History Project. CCI, SS One course. C-L: see Documentary Studies 317S; also C-L: History 381S

320S. Documenting Black Power: Writing the History of the African American Freedom Struggle. ALP, CCI, CZ One course. C-L: see Documentary Studies 320S; also C-L: African & African American Studies 231S, History 356S

321S. Refugee Lives: Violence, Culture and Identity. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 320S; also C-L: Documentary Studies 321S

323S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: African & African American Studies 247S, International Comparative Studies 320S, Latin American Studies 320S, Information Science + Studies 323S, Visual and Media Studies 323S, Asian & Middle Eastern Studies 318S

325S. Global Displacement: Voix Francophones. CCI, CZ, EI, FL, SS One course. C-L: see French 325S; also C-L: International Comparative Studies 332S, Global Health 325S

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

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

328. Global Brazil. CCI, CZ, SS One course. C-L: see History 328; also C-L: African & African American Studies 213, Latin American Studies 328

329S. Politics in Violence. R, SS, W One course. C-L: see Political Science 329S; also C-L: International Comparative Studies 329S

330. Global Health Ethics: Policy Choice as Value Conflict. EI, SS One course. C-L: see Global Health 210; also C-L: Public Policy 330, International Comparative Studies 397

331. Prisoner's Dilemma and Distributive Justice. EI, SS One course. C-L: see Political Science 331; also C-L: Economics 361, Philosophy 246, Ethics Elective, Information Science + Studies

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, CZ, EI, SS One course. C-L: see Documentary Studies 332S; also C-L: Cultural Anthropology 236S, Visual and Media Studies 341S, Latino/a Studies in the Global South 332S, Latino/a Studies in the Global South

334S. Energy Futures and Environmental Justice. CCI, SS, STS One course. C-L: see Cultural Anthropology 345S; also C-L: Environment 343S

335. Free Speech: France-USA. ALP, CCI, CZ, EI, FL One course. C-L: see French 335; also C-L: Policy Journalism and Media Studies 335

336S. Race in Durham. CCI, R, SS One course. C-L: see African & African American Studies 341S; also C-L: Cultural Anthropology 332S, History 339S

339. Displacements: Migration and Human Trafficking. ALP, CCI, EI, R, SS One course. C-L: see African & African American Studies 343; also C-L: Latin American Studies 343, Cultural Anthropology 342, Sociology 343

341. Ethics of Global Infectious Disease Control. CCI, EI, SS One course. C-L: see Global Health 341; also C-L: International Comparative Studies 299, Science & Society 341

342S. 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, Public Policy 380S, International Comparative Studies 342S

343. History of Modern America: The United States from 1930 to present. CZ, SS One course. C-L: see History 343; also C-L: Public Policy 342

344. History of U.S. Social Movements. CCI, CZ, EI, SS One course. C-L: see History 344; also C-L: Public Policy 344

345. African Americans, Mass Incarceration and Citizenship. ALP, CCI, CZ, EI, R One course. C-L: see African & African American Studies 345; also C-L: Literature 343

346S. The Connection between Human Rights, Memory and How Societies Create Memorials. ALP, EI One course. C-L: see Cultural Anthropology 346S; also C-L: History 350S, Public Policy 347S

346T. Memory Bandits: Human Rights, Duke's History and a Plan to Expand History-Telling. ALP, CCI, EI, R, SS One course. C-L: see Cultural Anthropology 347T; also C-L: History 340T, Public Policy 340T

347S. The University as a Culture: A Survivor's Guide. CCI, CZ, EI, SS One course. C-L: see Cultural

Anthropology 347S; also C-L: Education 347S, History 334S, Sociology 324S, Public Policy 350S

348. The Civil Rights Movement. CCI, CZ, EI, SS One course. C-L: see History 348; also C-L: African & African American Studies 243, Ethics Elective

349S. Racial Justice in the 20th Century US and South Africa. CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 346S; also C-L: International Comparative Studies 351S, History 396S, Political Science 336S, Public Policy 326S

350S. Documenting Black Experiences. ALP, CCI, CZ One course. C-L: see Documentary Studies 350S; also C-L: African & African American Studies 225S, Visual and Media Studies 213S, Cultural Anthropology 262S, Public Policy 387S, International Comparative Studies 368S

352. Immigrant Dreams, U.S. Realities: Immigration Policy History. CCI, CZ, EI, SS One course. C-L: see History 352; also C-L: Public Policy 220

360S. Feminist Activism: Social Movements. CCI, CZ, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 360S

361. Money, Sex, Power. CCI, CZ, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 361; also C-L: Markets and Management Studies, Marxism and Society

362S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South. CCI, EI, R, SS One course. C-L: see Documentary Studies 362S; also C-L: Gender, Sexuality, and Feminist Studies 306S, African & African American Studies 245S

363. International Human Rights in World Politics. EI, SS One course. C-L: see Political Science 363

368. Gender, Sexuality, and Human Rights. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 368; also C-L: Study of Sexualities 268

369. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369; also C-L: International Comparative Studies 208, Global Health 208, History 249

369S. Transnational Feminism. CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369S; also C-L: International Comparative Studies 208S, Global Health 208S, History 249S

371. News as a Moral Battleground. EI, R, SS, W One course. C-L: see Policy Journalism and Media Studies 371; also C-L: Public Policy 371, Study of Ethics 259, Documentary Studies 371, Documentary Studies

373S. The Spanish Civil War in History and Literature. ALP, CZ, EI, FL One course. C-L: see Spanish 373S; also C-L: History 273S-1

374S. Islam in the Americas. CCI, CZ, SS, W One course. C-L: see Religion 384S; also C-L: History 351S, African & African American Studies 274S, Asian & Middle Eastern Studies 230S, Islamic Studies

384. Inequality in Western Political Thought. CCI, CZ, EI, SS One course. C-L: see Political Science 384

386S. Politics of Sexuality. CCI, CZ, R, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 386S; also C-L: Study of Sexualities 386S, Public Policy 383S, History 346S

387. Germany Confronts Nazism and the Holocaust. ALP, CCI, CZ, EI One course. C-L: see German 387; also C-L: Jewish Studies 369, Literature 369, History 261

395. Language and Society. CCI, SS One course. C-L: see English 395; also C-L: Linguistics 451, Slavic and Eurasian Studies 385, Cultural Anthropology 212, International Comparative Studies 395

396S. Language in Immigrant America. ALP, CCI, R One course. C-L: see English 396S; also C-L: Cultural Anthropology 397S, Linguistics 396S, Slavic and Eurasian Studies 396S, International Comparative Studies 396S

401. Gender and the Law. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 401; also C-L: Literature 430, Public Policy 315

403S. Politics and Obligations of Memory. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 403S; also C-L: History 403S, International Comparative Studies 403S

406S. South African Life Histories. CCI, CZ, R, W One course. C-L: see African & African American Studies 406S; also C-L: History 450S, Political Science 406S, Public Policy 406S, Cultural Anthropology 406S

409S. Identity and Linguistic Rights in the Spanish Speaking Americas. CCI, CZ, EI, FL One course. C-L: see Spanish 409S; also C-L: Linguistics 409S

411S. Historicizing Whiteness. CCI, CZ, EI, R, SS One course. C-L: see Public Policy 411S; also C-L: History 411S

428S. Gender, Sex and Citizenship. CCI, EI, SS One course. C-L: see Cultural Anthropology 432S; also C-L: Study of Sexualities 432S, Gender, Sexuality, and Feminist Studies 432S, International Comparative Studies 428S

431S. The Spanish Civil War: History, Literature, and Popular Culture. ALP, CZ, EI, FL, R One course. C-L: see Spanish 431S

432S. Popular Culture and Political Repression in Spain and Latin America. ALP, CCI, FL One course. C-L: see Spanish 432S; also C-L: International Comparative Studies, Latin American Studies

527S. Islam and Human Rights. CCI, CZ, EI, R, SS One course. C-L: see Religion 527S

539S. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 539S; also C-L: Cultural Anthropology 539S, Gender, Sexuality, and Feminist Studies 502S, Literature 539S, Visual and Media Studies 539S

560S. Organized Compassion: History and Ethics of Humanitarianism. CZ, EI, SS One course. C-L: see Study of Ethics 560S; also C-L: Global Health 541S

561. History of Poverty in the United States. CCI, CZ, SS One course. C-L: see Study of Ethics 561; also C-L: History 546, Public Policy 528

603. The Palestinian-Israeli Conflict in Literature and Film. One course. C-L: see Asian & Middle Eastern Studies 603; also C-L: Jewish Studies 683

642S. Global Inequality Research Seminar. ALP, CCI, R, SS One course. C-L: see Public Policy 645S; also C-L: African & African American Studies 642S, Economics 541S, Sociology 642S, Political Science 642S

660. Global Mental Health. CCI, NS, R, SS, STS One course. C-L: see Global Health 660; also C-L: Psychology 611, Cultural Anthropology 611

Elective Courses

Special Courses: Duke Immerse Programs

Duke Immerse Rights and Identities

Cultural Anthropology

245S. Human Rights in the Americas

History

242S. Human Rights in the Americas

389S. Family Rights/Human Rights

Latin American Studies

246S. Human Rights in the Americas

Public Policy

346S. Family Rights/Human Rights

Duke Immerse Policy and Society

African & African American Studies

237S. Advanced Research Seminar in Urban Politics and Policymaking

Political Science

236S. Advanced Research Seminar in Urban Politics and Policymaking

319S. US Comparative State Politics

Duke Immerse Global Refugee Crisis

Cultural Anthropology

216S. Global Migration and Ethics

International Comparative Studies

244S. Global Migration and Ethics

Study of Ethics

262S. Global Migration and Ethics

Other Courses

African & African American Studies

- 133S. Gateway Seminar: Civil Rights and Asian Americans
- 209. Afro-Brazilian Culture and History
- 213. Global Brazil
- 214. South Africa: Past and Present
- 219. War, Slavery, and Revolution in the Caribbean, 1700-1800
- 225S. Documenting Black Experiences
- 230. The South in Black and White
- 231S. Documenting Black Power: Writing the History of the African American Freedom Struggle
- 232. Race, Power, and Identity: From Ali to Kaepernick
- 236S. Civil/Human Rights Activism: In the Spirit of Pauli Murray
- 243. The Civil Rights Movement
- 245S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South
- 246. Sociology of Racism in America
- 247S. Social Movements and Social Media
- 249. Martin Luther King and the Prophetic Tradition
- 251. The Anthropology of Race
- 257. Introduction to Racial and Ethnic Minorities in American Politics
- 271. Humanitarianism in Africa
- 274S. Islam in the Americas
- 283SL. Death, Burial, and Justice in the Americas
- 295S. Black Muslims: Race, Religion, & Culture
- 310. African American Women and History
- 310S. Conflict Analysis in Africa (Case Studies)
- 312. War and Public Health in Africa
- 316S. Apartheid South Africa and the Struggles for Democracy
- 341S. Race in Durham
- 343. Displacements: Migration and Human Trafficking
- 345. African Americans, Mass Incarceration and Citizenship
- 346S. Racial Justice in the 20th Century US and South Africa
- 347S. White People: In Anthropological Perspective
- 642S. Global Inequality Research Seminar

Asian & Middle Eastern Studies

- 158. Gandhi: Image and Reflection
- 187S. Gateway Seminar: Civil Rights and Asian Americans
- 204FS. Documenting the Middle East: Community and Oral History
- 230S. Islam in the Americas
- 244. Israel/Palestine: Comparative Perspectives
- 295S. Black Muslims: Race, Religion, & Culture
- 309. Chinese Im/migration: Chinese Migrant Labor and Immigration to the US
- 317. Martin Luther King and the Prophetic Tradition
- 320S. Refugee Lives: Violence, Culture and Identity
- 539S. Queer China
- 603. The Palestinian-Israeli Conflict in Literature and Film

Civic Engagement and Social Change

- 201S. Introduction to Engaged Citizenship and Social Change (Gateway Course)

Cultural Anthropology

- 113FS. Enterprising Leadership and Civic Engagement
- 131. World Music: Aesthetic and Anthropological Approaches
- 148. Israel/Palestine: Comparative Perspectives
- 208. The Anthropology of Race
- 212. Language and Society
- 218S. Anthropology and Global Health
- 236S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change
- 238S. Politics of Food: Land, Labor, Health, and Economics
- 246S. Civil/Human Rights Activism: In the Spirit of Pauli Murray
- 262S. Documenting Black Experiences
- 285SL. Death, Burial, and Justice in the Americas
- 305S. White People: In Anthropological Perspective
- 306. Health, Culture, and the Latino Community
- 310S. Conflict Analysis in Africa (Case Studies)
- 312. War and Public Health in Africa
- 332S. Race in Durham
- 342. Displacements: Migration and Human Trafficking
- 345S. Energy Futures and Environmental Justice
- 346S. The Connection between Human Rights, Memory and How Societies Create Memorials
- 347S. The University as a Culture: A Survivor's Guide
- 347T. Memory Bandits: Human Rights, Duke's History and a Plan to Expand History-Telling
- 397S. Language in Immigrant America

403S. Politics and Obligations of Memory

432S. Gender, Sex and Citizenship

539S. Queer China

611. Global Mental Health

Documentary Studies

204FS. Documenting the Middle East: Community and Oral History

248S. Environmental Conservation and Documentary Photography

271S. Public Policy Video

317S. Veterans Oral History Project

320S. Documenting Black Power: Writing the History of the African American Freedom Struggle

321S. Refugee Lives: Violence, Culture and Identity

326. The South in Black and White

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

341S. Politics of Food: Land, Labor, Health, and Economics

347S. Civil/Human Rights Activism: In the Spirit of Pauli Murray

350S. Documenting Black Experiences

362S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South

366S. Human Rights and Documentary: Aesthetics, Ethics, History

371. News as a Moral Battleground

Economics

361. Prisoner's Dilemma and Distributive Justice

541S. Global Inequality Research Seminar

Education

111FS. Pursuit of Equality: Rethinking Schools - Lens of Social Justice

112FS. Medical Ethics, Aging, and End of Life Care in the US

113FS. Enterprising Leadership and Civic Engagement

201S. Introduction to Engaged Citizenship and Social Change (Gateway Course)

220. Race, Power, and Identity: From Ali to Kaepernick

259S. Student Activism, Storytelling, and Community Change

277S. Medical Ethics, Aging, and End of Life Care in the US

303S. De/Re/Segregation in Education: A Case of Back to the Future?

347S. The University as a Culture: A Survivor's Guide

English

395. Language and Society

396S. Language in Immigrant America

Environment

147. Israel/Palestine: Comparative Perspectives

216S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

222S. Environmental Conservation and Documentary Photography

343S. Energy Futures and Environmental Justice

French

325S. Global Displacement: Voix Francophones

335. Free Speech: France-USA

Gender, Sexuality, and Feminist Studies

237. African American Women and History

239D. Women, Gender, and Sexuality in U.S. History

296S. Black Muslims: Race, Religion, & Culture

306S. Activism, Women, and Danger: Documenting Race, Gender and Activism in the American South

368. Gender, Sexuality, and Human Rights

432S. Gender, Sex and Citizenship

502S. Queer China

German

387. Germany Confronts Nazism and the Holocaust

Global Health

210. Global Health Ethics: Policy Choice as Value Conflict

212. Gender and Global Health

220S. Anthropology and Global Health

277S. Medical Ethics, Aging, and End of Life Care in the US

302. Global Narratives of Living with HIV/AIDS

312. War and Public Health in Africa

325S. Global Displacement: Voix Francophones

326. Health, Culture, and the Latino Community

340. Social Determinants of US Health Disparities

341. Ethics of Global Infectious Disease Control

541S. Organized Compassion: History and Ethics of Humanitarianism

660. Global Mental Health

History

156S. Gateway Seminar: Cold War America

183S. Gateway Seminar: Civil Rights and Asian Americans

207. Humanitarianism in Africa

208. South Africa: Past and Present
 238S. History of Political Nonviolence
 261. Germany Confronts Nazism and the Holocaust
 272. Genocide and Human Rights
 297. The Holocaust
 319. War, Slavery, and Revolution in the Caribbean, 1700-1800
 327. Afro-Brazilian Culture and History
 328. Global Brazil
 334S. The University as a Culture: A Survivor's Guide
 339S. Race in Durham
 340T. Memory Bandits: Human Rights, Duke's History and a Plan to Expand History-Telling
 343. History of Modern America: The United States from 1930 to present
 344. History of U.S. Social Movements
 348. The Civil Rights Movement
 349. African American Women and History
 350S. The Connection between Human Rights, Memory and How Societies Create Memorials
 351S. Islam in the Americas
 352. Immigrant Dreams, U.S. Realities: Immigration Policy History
 356S. Documenting Black Power: Writing the History of the African American Freedom Struggle
 358. The South in Black and White
 374D. Women, Gender, and Sexuality in U.S. History
 381S. Veterans Oral History Project
 385S. White People: In Anthropological Perspective
 386S. Apartheid South Africa and the Struggles for Democracy
 396S. Racial Justice in the 20th Century US and South Africa
 398S. Human Rights and Documentary: Aesthetics, Ethics, History
 403S. Politics and Obligations of Memory
 411S. Historicizing Whiteness
 546. History of Poverty in the United States
Information Science + Studies
 323S. Social Movements and Social Media
International Comparative Studies
 128FS. Human Rights and World Politics
 183S. Gateway Seminar: Civil Rights and Asian Americans
 222S. Black Muslims: Race, Religion, & Culture
 229S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
 239. The Anthropology of Race
 263. War, Slavery, and Revolution in the Caribbean, 1700-1800
 272. Human Rights in Theory and Practice
 283SL. Death, Burial, and Justice in the Americas
 295. Global Narratives of Living with HIV/AIDS
 299. Ethics of Global Infectious Disease Control
 317S. Business and Human Rights Advocacy Lab
 320S. Social Movements and Social Media
 329S. Politics in Violence
 332S. Global Displacement: Voix Francophones
 342S. Politics of Food: Land, Labor, Health, and Economics
 351S. Racial Justice in the 20th Century US and South Africa
 368S. Documenting Black Experiences
 395. Language and Society
 396S. Language in Immigrant America
 397. Global Health Ethics: Policy Choice as Value Conflict
 403S. Politics and Obligations of Memory
 428S. Gender, Sex and Citizenship
 646S. Strategic Storytelling: Narratives for Development
Jewish Studies
 148. Israel/Palestine: Comparative Perspectives
 269S. Fragmented Memories: Polish and Polish Jewish Culture Through Film
 342. The Holocaust
 369. Germany Confronts Nazism and the Holocaust
 683. The Palestinian-Israeli Conflict in Literature and Film
Latin American Studies
 283SL. Death, Burial, and Justice in the Americas
 320S. Social Movements and Social Media
 328. Global Brazil
 343. Displacements: Migration and Human Trafficking
Latino/a Studies in the Global South
 306. Health, Culture, and the Latino Community
 316. Sociology of Racism in America
 332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

Linguistics

- 396S. Language in Immigrant America
- 409S. Identity and Linguistic Rights in the Spanish Speaking Americas
- 451. Language and Society

Literature

- 320S. Social Movements and Social Media
- 332S. Social Movements in Age of Globalization
- 343. African Americans, Mass Incarceration and Citizenship
- 369. Germany Confronts Nazism and the Holocaust
- 539S. Queer China

Molecular Genetics & Microbiology

- 120FS. Ethical Implications of Genetic and Genomic Research

Music

- 130. World Music: Aesthetic and Anthropological Approaches

Philosophy

- 246. Prisoner's Dilemma and Distributive Justice
- 262. Human Rights in Theory and Practice

Policy Journalism and Media Studies

- 335. Free Speech: France-USA
- 371. News as a Moral Battleground

Polish

- 308S. Fragmented Memories: Polish and Polish Jewish Culture Through Film

Political Science

- 159. Israel/Palestine: Comparative Perspectives
- 176FS. Human Rights and World Politics
- 205. Introduction to Racial and Ethnic Minorities in American Politics
- 213S. Introduction to Engaged Citizenship and Social Change (Gateway Course)
- 221. South Africa: Past and Present
- 262. The Holocaust
- 272. Human Rights in Theory and Practice
- 313S. Social Movements in Age of Globalization
- 329S. Politics in Violence
- 331. Prisoner's Dilemma and Distributive Justice
- 336S. Racial Justice in the 20th Century US and South Africa
- 337S. Apartheid South Africa and the Struggles for Democracy
- 341S. Business and Human Rights Advocacy Lab
- 363. International Human Rights in World Politics
- 367S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
- 642S. Global Inequality Research Seminar
- 682S. Legal Analysis for Development Governance

Portuguese

- 260. Afro-Brazilian Culture and History

Psychology

- 611. Global Mental Health

Public Policy

- 178. Israel/Palestine: Comparative Perspectives
- 181FS. Human Rights and World Politics
- 183FS. Medical Ethics, Aging, and End of Life Care in the US
- 186FS. Ethical Implications of Genetic and Genomic Research
- 206S. Introduction to Engaged Citizenship and Social Change (Gateway Course)
- 214. South Africa: Past and Present
- 218S. Conflict Analysis in Africa (Case Studies)
- 220. Immigrant Dreams, U.S. Realities: Immigration Policy History
- 231. Human Rights in Theory and Practice
- 248S. History of Political Nonviolence
- 253. Martin Luther King and the Prophetic Tradition
- 274S. Medical Ethics, Aging, and End of Life Care in the US
- 279S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
- 311S. Business and Human Rights Advocacy Lab
- 326S. Racial Justice in the 20th Century US and South Africa
- 327S. Apartheid South Africa and the Struggles for Democracy
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- 345. Genocide and Human Rights
- 347S. The Connection between Human Rights, Memory and How Societies Create Memorials
- 350S. The University as a Culture: A Survivor's Guide

- 371. News as a Moral Battleground
- 375S. Public Policy Video
- 380S. Politics of Food: Land, Labor, Health, and Economics
- 387S. Documenting Black Experiences
- 388S. Human Rights and Documentary: Aesthetics, Ethics, History
- 411S. Historicizing Whiteness
- 528. History of Poverty in the United States
- 645S. Global Inequality Research Seminar
- 646S. Strategic Storytelling: Narratives for Development
- 647S. Legal Analysis for Development Governance
- 761. Human Rights and Conflict

Religion

- 234. Martin Luther King and the Prophetic Tradition
- 269S. Fragmented Memories: Polish and Polish Jewish Culture Through Film
- 279. Gandhi: Image and Reflection
- 295S. Black Muslims: Race, Religion, & Culture
- 342. The Holocaust
- 384S. Islam in the Americas

Russian

- 121FS. Medical Ethics, Aging, and End of Life Care in the US
- 277S. Medical Ethics, Aging, and End of Life Care in the US

Science & Society

- 112FS. Medical Ethics, Aging, and End of Life Care in the US
- 341. Ethics of Global Infectious Disease Control

Slavic and Eurasian Studies

- 385. Language and Society
- 396S. Language in Immigrant America

Sociology

- 178FS. Refugees, Rights, and Resettlement
- 202. Race, Power, and Identity: From Ali to Kaepernick
- 211. Social Inequality
- 212. Gender and Global Health
- 215. Sociology of Racism in America
- 323S. Social Movements in Age of Globalization
- 324S. The University as a Culture: A Survivor's Guide
- 343. Displacements: Migration and Human Trafficking
- 361. Social Determinants of US Health Disparities
- 642S. Global Inequality Research Seminar

Spanish

- 306. Health, Culture, and the Latino Community
- 409S. Identity and Linguistic Rights in the Spanish Speaking Americas
- 432S. Popular Culture and Political Repression in Spain and Latin America

Study of Ethics

- 129FS. Human Rights and World Politics
- 199FS. Refugees, Rights, and Resettlement
- 259. News as a Moral Battleground
- 277S. Medical Ethics, Aging, and End of Life Care in the US
- 301S. Business and Human Rights Advocacy Lab
- 560S. Organized Compassion: History and Ethics of Humanitarianism
- 561. History of Poverty in the United States
- 646S. Strategic Storytelling: Narratives for Development

Study of Sexualities

- 268. Gender, Sexuality, and Human Rights
- 432S. Gender, Sex and Citizenship

Visual Arts

- 366S. Human Rights and Documentary: Aesthetics, Ethics, History

Visual and Media Studies

- 213S. Documenting Black Experiences
- 323S. Social Movements and Social Media
- 341S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change
- 368S. Human Rights and Documentary: Aesthetics, Ethics, History
- 377S. Public Policy Video
- 539S. Queer China

Information Science + Studies

Research Professor Szabo (Art, Art History & Visual Studies), *Program Director and Curriculum Director*

A certificate, but not a major, is available in this program.

The Information Science + Studies (ISS) Program offers students an interdisciplinary approach to study the nature of information and its impact on art, culture, science, business, society, policy, and the environment. ISS 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; virtual reality, virtual worlds and games, issues of security, privacy, and property; and the history of science and technology. More information is available online at <https://iss.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 ISS certificate requires six courses:

- Information Science + Studies 110 (Information, Society, and Culture) or Computer Science 92L (Technical and Social Analysis of Information and the Internet)
- For non-computer science and non-engineering majors, Information Science + Studies 240L (Fundamentals of Web-based Multimedia Communications). For engineering and computer science majors, Engineering 206 or Computer Science 290
- Three electives selected from a list of ISS-approved courses
- Information Science + 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 ISS 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 ISS courses on a first-come/first-served basis, with ISS certificate students having preference.

Courses in Information Science + Studies (ISS)

89S. Special Topics in Information Science + Studies. Topics vary by semester. Instructor: Staff. One course.

101L. Technical and Social Analysis of Information and the Internet. EI, QS, STS One course. C-L: see Computer Science 92L; also C-L: Policy Journalism and Media Studies

110. Information, Society & Culture: Bass Connections Gateway. CZ, STS Information, Society, and Culture across disciplines. How all aspects of information theory and practice, including computational and mathematical and those from social sciences and the humanities are transforming research, reframing intellectual questions in research and its application, and having an impact on interactions within societies, cultures, ideologies, economics, politics. Modules presented by faculty from all areas and schools, contrasting and comparative perspectives in research-driven modules focused on interdisciplinary project questions and ideas. Lecture/section activities. Course Gateway for the Bass Connections theme in Information, Society and Culture. Instructor: Staff. One course. C-L: Philosophy 110, Computer Science 110, Public Policy 110

112. The Googlization of Knowledge: Information, Ethics, and Technology. EI, R, SS, STS Google has altered the way we see the world and ourselves. Its biases, valuing popularity over accuracy, affect how we value information and navigate news and ideas. This course examines information from different angles within the context of social justice, open access to information, and how the Internet and Google affect our lives. Themes include knowledge as a public good, Internet policies, data and visual literacies, social media, and artificial intelligence. Hands-on work researching how technology affects the access, understanding, and reliability of information in students' lives. Analysis, discussions, and reflection assignments with ongoing application to team-based projects. Instructor: Staff. One course. C-L: Policy Journalism and Media Studies 112

125L. Foundations of Game Design. Exploration of the theory and practice of game design with a focus on critical play, game decomposition, and iterative design. Students explore a range of non-digital games to discover how design elements combine to form meaningful systems of play. Readings, discussion, and hands-on

design exercises prepare students as they design, develop, and document meaningful games in a collaborative environment. Programming experience is not required. Instructor: Miller. One course. C-L: Visual and Media Studies 125L

135. Experimental Sculpture and Installation Art. ALP One course. C-L: see Visual and Media Studies 135; also C-L: Dance 135

190. Special Topics in Information Science + Studies. Topics vary by semester. Instructor: Staff. One course.

190S. Special Topics in ISS: Introductory Seminar. Topics vary per semester. Instructor: Staff. One course.

198. Experimental Interface Design. ALP, STS One course. C-L: see Visual Arts 198

209. 3D Modeling and Animation. ALP One course. C-L: see Visual Arts 209

211. Animated Film: A History and Aesthetic. ALP, STS One course. C-L: see Visual Arts 328

212S. Global Digital Media: Critical and Comparative Approaches to Information Technologies.

ALP, CCI, R, SS, STS Responding to recent trends in digital-media related fields, this course draws upon critical concepts and comparative approaches that deal with contemporary information and communication technologies (ICTs) across national and disciplinary boundaries. This course will develop Media Studies and Science & Technology Studies inspired analyses that connect the medium-specific and aesthetic qualities of digital media with historical and socioeconomic factors shaping their production, circulation, and reception. It examines how digital media reproduce or complicate physical and social boundaries, and how concepts of race, gender, and class are embedded in the operation of digital technologies. Instructor: Staff. One course. C-L: Visual and Media Studies 210S

214S. Media Theory. STS One course. C-L: see Literature 317S; also C-L: Visual and Media Studies 328S

240A. Fundamentals of Web-Based Multimedia Communications. ALP, R Same as ISS 240. Offered through the Duke-In-Venice Program. Instructor: Szabo. One course. C-L: Visual and Media Studies 288A

240L. Fundamentals of Web-Based Multimedia Communications. ALP, R Laboratory version of Information Science + Studies 240. 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 408. Instructor: Staff. One course. C-L: Visual and Media Studies 288L

240S. Fundamentals of Web-Based Multimedia Communications. 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 408. Instructor: Staff. One course. C-L: Visual and Media Studies 288S

241L. Web Project Design and Development. QS Follow-on to ISS 240/240L. 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 consent required. Instructor: Staff. One course. C-L: Visual and Media Studies 257L

242. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240; also C-L: Literature 249, Visual and Media Studies 214, International Comparative Studies 265, Political Science 248

242S. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240S; also C-L: Literature 249S, Political Science 248S, International Comparative

Studies 265S, Cultural Anthropology 440S, Visual and Media Studies 214S

250. Building Global Audiences. STS One course. C-L: see Innovation and Entrepreneurship 250; also C-L: Visual and Media Studies 249

255. Humanities Text Mining and Meaning. ALP, R, SS, STS The digital text has led to new forms of research and is receiving increasing attention from artificial intelligence (AI). The application of machine learning to text, known as text mining, presents unique intellectual challenges that require major contributions from the humanities. This course introduces students to the interdisciplinary domain of text mining through a humanities-based media-theoretic framework. Students will first learn text data prep skills and practices fundamental to meaningful analysis. The semester will later introduce unsupervised machine learning and topic modeling, and culminate in a group project. Not recommended for advanced CS students. Instructor: Herron. One course.

262. The 21st Century Student: Open Knowledge and Education Innovation. SS, STS One course. C-L: see Innovation and Entrepreneurship 262; also C-L: Education 262

268. Media History: Old and New. ALP, SS, STS, W One course. C-L: see Visual and Media Studies 266

270S. Constructing Immersive Virtual Worlds. STS Theory, practice, and creation of 3D virtual worlds. Hands-on design and development of online collaborative simulation environments. Introduction to graphics workflow for creating virtual world media assets. Critical exploration of state-of-the-art virtual world technologies; 3D graphics, chat, voice, video, and mixed reality systems. Topics include: history/culture of virtual worlds, identity and avatars; behavioral norms; self-organizing cultures; user-generated content, virtual world economies; architectural scalability. Instructor: Wendell. One course. C-L: Visual and Media Studies 270S

275. Performance Art History and Theory. ALP, CCI, CZ, EI One course. C-L: see Art History 344; also C-L: Literature 222, Theater Studies 235, Gender, Sexuality, and Feminist Studies 276

279S. Visual Cultures of Medicine. ALP, STS One course. C-L: see Visual and Media Studies 346S

285S. Religion and Technology. CCI, CZ, R, SS, STS One course. C-L: see Religion 285S

290. Special Topics in Information Science + Studies. Topics vary by semester. Instructor: Staff. One course.

291. ISS 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.

291-1. Independent Study. Half-Credit Independent Study in Information Science + Studies. Instructor: Szabo. Half course.

292. ISS 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 is required. Instructor: Staff. One course.

293. ISS 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: Policy Journalism and Media Studies

302. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302; also C-L: Gender, Sexuality, and Feminist Studies 320, Visual and Media Studies 324, Asian & Middle Eastern Studies 402

302S. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 302S; also C-L: Gender, Sexuality, and Feminist Studies 320S, Visual and Media Studies 349S, Asian & Middle Eastern Studies 402S

305L. Virtual Museums: Theories and Methods of Twenty-First-Century Museums. ALP, R, STS One course. C-L: see Visual and Media Studies 332L; also C-L: Classical Studies 240L

307. Idealistic Nature: The Literature, Philosophy, and Cognition of Ecology. ALP, CZ, EI We are dependent on our environment for survival. But what is “the environment”? This course explores the roots of our understanding of nature and how this understanding is implicated in our social and ethical, as well as ecological, relationships. We consider the debate over the start of the anthropocene—when does human activity begin to substantially affect our planet?—within the context of the long intellectual history of Western conceptions of “man” and “nature.” We start with ancient, medieval, and Renaissance notions of the cosmos; then trace the emergence of mechanistic views of the universe; and end by focusing on representations of nature in documentaries such as *Planet Earth*. Instructor: Giugni. One course. C-L: Medieval and Renaissance Studies 347, English 355, Visual and Media Studies 347

315. Mapping History with Geographic Information Systems. CZ, STS Beginner/intermediate Geographic Information System (GIS) course designed to help students learn how to investigate history spatially. Emphasizes perspectives, procedures, and tools that are relevant to applications of GIS in Art History and Humanistic disciplines. Designed as a hybrid lecture/lab format in which direct instruction is supplemented by hands on learning labs using ArcGIS software and real-world spatial data. The main skills students will gain are: integration of spatial and tabular data, geoprocessing, data visualization, creating features, editing features, vector and raster integration, spatial analysis, georeferencing. Instructor: Triplett. One course. C-L: Visual and Media Studies 304, Art History 315

320. Introduction to Programming and User Interface Design in Unity 3D. STS Practical concepts and exercises with the C# programming language. Basic concepts of algorithms and data structures. Discussion of basic computer graphics concepts. Introduction to the Unity3D game engine. Importing various model formats into Unity3D. User interface design in Unity3D. Advanced scripting using C# for Unity3D. Unity3D common pitfalls and tips for optimizations. Usage of the MiddleVR virtual reality library. Weekly homework and final project. No prior coding experience is assumed. Instructor: Zielinski. One course. C-L: Visual and Media Studies 326

320S. Introduction to Programming and User Interface Design in Unity 3D. STS Practical concepts and exercises with the C# programming language. Basic concepts of algorithms and data structures. Discussion of basic computer graphics concepts. Introduction to the Unity3D game engine. Importing various model formats into Unity3D. User interface design in Unity3D. Advanced scripting using C# for Unity3D. Unity3D common pitfalls and tips for optimizations. Usage of the MiddleVR virtual reality library. Weekly homework and final project. No prior coding experience is assumed. Instructor: Zielinski. One course. C-L: Visual and Media Studies 326S

323S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: African & African American Studies 247S, International Comparative Studies 320S, Latin American Studies 320S, Visual and Media Studies 323S, Human Rights Program-Franklin Humanities Institute 323S, Asian & Middle Eastern Studies 318S, Human Rights

351S. Digital Storytelling and Interactive Narrative. ALP, STS, W Digital storytelling methodologies, theory, and practice. In-depth analysis of digital storytelling in various media forms and modes of production. Cultural impact of new media narratives. Exploration of digital storytelling affordances and approaches: text, video, audio, design, animation, and interactivity. Critical analysis of existing media and remediation of older media forms. Experimentation with non-linear, spatial, ludic, and hypermedia approaches. Questions of authorship, agency, authority, and collaboration in blogs, games, fan fiction, adaptations. Hands-on experience developing digital narratives and creating digital critiques. Analytical paper and regular crits. Instructor: Staff. One course. C-L: Visual and Media Studies 357S, Literature 352S

351SA. Digital Storytelling. ALP, STS, W Digital storytelling methodologies, theory, and practice. In-depth analysis of digital storytelling in various media forms and modes of production. Cultural impact of new media narratives. Exploration of digital storytelling affordances: text, video, audio, design, animation, and interactivity. Hands-on experience developing digital narratives and creating digital critiques. Course taught in Venice, Italy. No specific digital media authoring experience required. Instructor: Szabo. One course. C-L: Visual and Media Studies 357SA, Literature 352SA

354S. Web Design and Narrative: Artists, Documentarians, Art Historians, and Entrepreneurs.

ALP, R One course. C-L: see Documentary Studies 354S; also C-L: Visual and Media Studies 364S, Visual Arts 364S

355S. Computer Game Design and Development. **ALP** 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: Staff. One course. C-L: Visual and Media Studies 355S

356S. Digital Durham. **ALP, R, STS, W** Representing Durham past and present with digital media. Digitize historical and cultural materials, research in archives and public records and present information through various forms including web pages, databases, maps, video and other media. Analysis of social impact of new representations of place and space. Instructor: Abel. One course. C-L: Visual and Media Studies 358S, Education 356S, History 382S

360. The History of the Book. **ALP, CZ, R** One course. C-L: see Classical Studies 360; also C-L: Medieval and Renaissance Studies 346, History 367

366L. Theories and Practices of Data Visualization. **R, STS** One course. C-L: see Visual and Media Studies 366L

376. Performance and Technology: Composition Workshop. **ALP, STS** One course. C-L: see Dance 308; also C-L: Theater Studies 364, Electrical and Computer Engineering 364

380S. Visualizing Cities: Representing Urban Landscapes, Cultures, and Environments. **ALP, CZ, R, STS** Visualizing cities in theory and practice. Exploring digital and visual representation of landscapes, structures, environments, history, culture, architecture, events, and populations. Change over time, cultural heritage, possible futures, and alternate pasts from historical, cultural, documentary, and scientific evidence and archives. The idea of the city as a conceptual category and metaphor. Ubiquitous computing in urban environments as a medium for interaction. Global cities and diaspora. Visual imagery and written accounts. Use of mapping, imaging, 3D, augmented reality, games. Individual and group research and production of visualizing cities projects. Instructor: Szabo. One course. C-L: Visual and Media Studies 380S

380SA. Digital Cities and the Cartographic Imagination. **CZ, R, STS** Digital Cities in theory and practice. Exploring digital representation of history, culture, architecture, events, and populations. Change over time, prospective modeling of possible futures and alternate pasts. Ubiquitous computing in urban environments. Global cities and diaspora. Use of mapping, imaging, 3D, augmented reality, games. Individual and group digital city projects. Taught in Duke in Venice Program. Instructor: Szabo. One course. C-L: Visual and Media Studies 380SA

390. Special Topics in Information Science + 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.

390A. Duke Administered Study Abroad: Special Topics in Information Science + Studies. Topics differ each semester. Instructor: Staff. One course.

390S. Special Topics in Information Science + Studies. Seminar version of ISS 390. Instructor: Staff. One course.

390S-1. Topics in Digital History and Humanities. One course. C-L: see History 390S-1; also C-L: Visual and Media Studies 390S-1

390SA. Special Topics in Information Science + Studies. Seminar version of Information Science + Studies 390. Instructor: Staff. One course. Instructor: Staff. One course.

390T. Special Topics in Information Science + Studies: Tutorial. 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.

391. Bass Connections in Information Science and Culture: Independent Study Project. Bass Connections Information Science and Culture related, individual non-research directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member affiliated with Bass Connections, resulting in an academic and/or artistic product. Consent of both the 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 and/or artistic product. Instructor consent required. Instructor: Staff. One course.

395T. Syrian Refugee Crisis, Photojournalism, and Social Media Tutorial. ALP, QS This is a research-project-centered tutorial that will build on a Summer 2017 Data+ project (<https://bigdata.duke.edu/projects/visualizing-suffering-tracking-photojournalism-and-syrian-refugee-crisis>). Constructing their own research questions, students will analyze the AP database photographic images of the Syrian Refugee Crisis and how they are distributed via media outlets. This tutorial will help students think through questions surrounding the links between visual and textual interpretation, copyrights problems, and ethics. The data analysis component of the project will ask students to learn how to use image search software and to apply statistical analysis tools. Instructor consent required. Instructor: Guigni. One course.

396. Graphic Design in Multimedia: Theory and Practice. ALP One course. C-L: see Visual Arts 223

425. Intellectual Property and Innovation: Law, Policy & Entrepreneurship. EI, SS, STS One course. C-L: see Markets and Management Studies 425; also C-L: Sociology 425, Economics 295, Public Policy 425

435S. Chinese Media and Popular Culture: Politics, Ideology, and Social Change. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 435S; also C-L: Political Science 435S, International Comparative Studies, Policy Journalism and Media Studies

436. Experimental Sculpture and Installation Art. ALP One course. C-L: see Visual and Media Studies 434; also C-L: Dance 435

490. Special Topics in Information Science + 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 + Studies. Seminar version of Information Science + Studies 490. One course.

490S-1. Special Topics in Information Science + 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. Primarily for Information Science + Studies certificate students. Instructor consent required. Instructor: Staff. One course.

491. ISS 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. ISS 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 graduate studies is required. Instructor: Staff. One course.

495S. Research Capstone. R, SS Course limited to ISS 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.

496. Experiential Research Capstone. R Students plan, research, and create new technology projects designed to facilitate interdisciplinary collaborative research, synthesizing and building upon their co-curricular experiences 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 of research. Course limited to ISS students who are enrolled in the experiential certificate program. Instructor consent required. 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

535. Chinese Media and Pop Culture. **ALP, CCI, R** One course. C-L: see Asian & Middle Eastern Studies 535; also C-L: Policy Journalism and Media Studies

540S. Technology and New Media: Academic Practice. **SS, STS** How information technology and new media transform knowledge production in academic practice through hands-on work. Critique of emergent digital culture as it impacts higher education; assessing impact of integrating such tools into scholarly work and pedagogical practice. Modular instruction with guest specialists assisting with information technology tools and media authorship theory. Topics may include: web development, information visualization, time-based media, databases, animations, virtual worlds and others. Theoretical readings; hands-on collaboration; ongoing application to individual student projects. Knowledge of basic web development, personal computer access recommended. Instructor: Szabo. One course. C-L: Art History 536S, Visual and Media Studies 562S

544L. Introduction to Digital Archaeology. **CZ, R, STS** One course. C-L: see Classical Studies 544L; also C-L: Art History 547L

550SL. Digital Publishing: Concepts and Practice. **CZ, R, STS** Seminar cultivating theoretical, critical, and historical understanding of scholarly publishing through study of contemporary digital publishing and related issues in the digital humanities. Themes include markers of authorship and authority; contextual influences on interpretation; theories of audience. Hands-on work researching and building an openly accessible, web-based scholarly resource. Guest lecturers providing insight into current legal, technical, and ethical issues in digital publishing. Theoretical readings; analysis, critique, and reflection assignments; team-based discussion and collaboration; ongoing application to individual student projects. Instructors: Janiak, Milewicz. One course. C-L: Philosophy 550SL

551SL. Advanced Digital Art History: New Representational Technologies. **ALP, CZ, STS** One course. C-L: see Art History 551SL

552. Creative Industries and the Urban Environment. **SS** One course. C-L: see Visual and Media Studies 542

555S. Physical Computing. **QS, STS** One course. C-L: see Visual Arts 564S; also C-L: Computational Media, Arts & Cultures 564S

560S. Debates in the Digital Humanities: Multi-Disciplinary Theory and Practice. **ALP, STS** Digital humanities theory and criticism. Debates around nature of digital humanities, relationship to other disciplines and approaches. Multimodal modes of knowledge production in the digital era for humanists. Global DH, postcolonial DH, DH versus new media studies. Authoring and critiquing born digital projects and applications. 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, apps, simulations, and games. Independent digital projects plus critical papers. Graduate focus on personal research applications. Instructor: Szabo. One course. C-L: Visual and Media Studies 550S

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

575S. Generative Media Authorship - Music, Text & Image. **ALP** One course. C-L: see Visual Arts 575S; also C-L: Music 575S, Computational Media, Arts & Cultures 575S

580S. Historical and Cultural Visualization Proseminar 1. **ALP, STS** One course. C-L: see Art History 580S; also C-L: Computational Media, Arts & Cultures 580S

581S. Historical and Cultural Visualization Proseminar 2. **ALP, STS** One course. C-L: see Art History

581S; also C-L: Computational Media, Arts & Cultures 581S

590. Special Topics in Information Science + 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.

590S. Special Topics in Information Science + 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.

591. 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 graduate studies is required. Instructor: Staff. Variable credit.

591-1. Independent Study. Half-credit independent study in Information Science + Studies. 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 graduate studies is required. Instructor: Staff.

592. 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 graduate studies is required. Instructor: Staff. Variable credit.

613S. Computational Media Studio in Advanced Digital Practice. ALP, STS One course. C-L: see Historical and Cultural Visualization 613S; also C-L: Computational Media, Arts & Cultures 613S

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

630S. Phenomenology and Media. ALP, CCI, CZ, R, STS One course. C-L: see Literature 630S; also C-L: Art History 630S, Visual and Media Studies 630S

632S. Whitehead, Bergson, James. ALP, CCI, CZ, EI One course. C-L: see Literature 632S; also C-L: Art History 632S, Visual and Media Studies 632S

640. The History and Future of Higher Education. CCI, CZ, SS, STS Examination of the long history, from Socrates forward, of debates on meaning, purpose, and access to higher education, with special emphasis on the role of humanistic, critical thinking as foundational to all aspects of higher education. Primary focus on Western tradition of postsecondary education, plus a look at different international and alternative models, including apprenticeship, vocational and skills training, monastic training, community-based learning, lifelong learning, and online peer-to-peer open learning. Instructor consent required. Instructor: Staff. One course.

650S. Computational Media, Arts & Cultures Proseminar. ALP, R, SS, STS One course. C-L: see Computational Media, Arts & Cultures 650S; also C-L: Literature 621S, Art History 537S, Visual and Media Studies 561S, Policy Journalism and Media

660S. Digital Places and Spaces: Mirror, Hybrid, and Virtual Worlds. ALP, SS, STS History, theory, criticism, practice of creating digital places and spaces with maps, virtual worlds, and games. Links to "old," analog media. Virtual environment and world-building and historical narrative, museum, mapping, and architectural practices. Project-based seminar course w/ critical readings, historical and contemporary examples, world-building. Class exhibitions, critiques, and ongoing virtual showcase. Projects might include: web and multimedia, GPS and handheld data and media capture, 2D & 3D mapping, screen-based sims and game-engine based development, sensors and biometrics, and multimodal, haptic interfaces. Instructor: Szabo. One course. C-L: Visual and Media Studies 660S

662S. Mapping Culture: Geographies of Space, Mind, and Power. ALP, CZ, STS History and practice of mapping as cultural practice and technique of world-building and historical and cultural representation. Emphasis on interplay of cartographic imagination, lived experience, historical and narrative power. Readings in mapping history, critical cartography, psycho-geography, art maps, cognitive mapping, network maps, and spatial theory as well as contemporary approaches and critiques to maps, culture, politics. Exploration of map-based visualizations as narrative/argumentative devices. Hands-on work with geographical information

systems, digital mapping tools, data viz, and digital storytelling systems. Theory/practice seminar culminating in a final research project. Instructor: Szabo. One course. C-L: Visual and Media Studies 662S

666S. (Neosentience) Body as Electrochemical Computer. ALP, NS, R, STS One course. C-L: see Visual Arts 510S

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: Staff. One course. C-L: Literature 623, Philosophy 570, Science & Society

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

691. Independent Study. Individual directed study in a field of special interest on a previously approved topic, under the supervision of a faculty member. Consent of the instructor is required. Instructor: Staff. Variable credit.

695T. Advanced Tutorial - Information Science + Studies. **ALP, SS** Advanced undergraduate and graduate tutorial under the supervision of a faculty member or members for two or more students working on related projects. Consent of instructor required. Instructor: Staff. One course.

Other Courses

Asian & Middle Eastern Studies

122. Islamic Civilization I

240S. Games and Culture: Gateway to the Study of Games

Biology

665. Bayesian Inference for Environmental Models

Computer Science

94. Programming and Problem Solving

201. Data Structures and Algorithms

308. Advanced Software Design and Implementation

316. Introduction to Database Systems

342S. Technical and Social Analysis of Information and the Internet

356. Computer Network Architecture

370D. Introduction to Artificial Intelligence

555. Probability for Electrical and Computer Engineers

Cultural Anthropology

256. Islamic Civilization I

419S. Global Environmentalism and the Politics of Nature

440S. Games and Culture: Gateway to the Study of Games

Documentary Studies

135S. Introduction to Audio Documentary

209S. Digital Documentary Photography: Education, Childhood, and Growth

310S. The Short Audio Documentary

367S. Video Journalism

Economics

208D. Introduction to Econometrics

361. Prisoner's Dilemma and Distributive Justice

361D. Prisoner's Dilemma and Distributive Justice

Education

209S. Digital Documentary Photography: Education, Childhood, and Growth

Electrical and Computer Engineering

350L. Digital Systems

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

665. Bayesian Inference for Environmental Models

History

210. Islamic Civilization I

Human Rights Program-Franklin Humanities Institute

331. Prisoner's Dilemma and Distributive Justice

International Comparative Studies

265S. Games and Culture: Gateway to the Study of Games

Linguistics

208. Philosophy of Mind

250. Symbolic Logic

Literature

249S. Games and Culture: Gateway to the Study of Games

622. Science Studies

Mathematics

230. Probability

305S. Number Theory

342D. Statistics

Mechanical Engineering and Materials Science

442. Introduction to Robotics and Automation

Medieval and Renaissance Studies

268. Islamic Civilization I

Music

273S. Introduction to Electronic Music Composition

274S. Computer Music

Philosophy

210. Knowledge and Certainty

212. Philosophy of Mind

246. Prisoner's Dilemma and Distributive Justice

246D. Prisoner's Dilemma and Distributive Justice

250. Symbolic Logic

538S. Problems in the Philosophy and Policy of Genomics

Physics

271L. Electronics

Policy Journalism and Media Studies

365S. Video Journalism

372. Information, Technology, Ethics and Policy

Political Science

248S. Games and Culture: Gateway to the Study of Games

331. Prisoner's Dilemma and Distributive Justice

331D. Prisoner's Dilemma and Distributive Justice

388. Information, Technology, Ethics and Policy

619. Media and Social Change

Public Policy

365S. Video Journalism

372. Information, Technology, Ethics and Policy

674. Media and Democracy

676. Media and Social Change

Religion

375. Islamic Civilization I

Russian

516. Media and Social Change

Statistical Science

101L. Data Analysis and Statistical Inference

101LA. Data Analysis and Statistical Inference

102L. Introductory Biostatistics

102LA. Introduction to Biostatistics

111L. Probability and Statistical Inference

130L. Probability and Statistics in Engineering

230. Probability

250D. Statistics

Theater Studies

370S. Moving Image Practice

Visual Arts

206. Digital Imaging

212S. Digital Documentary Photography: Education, Childhood, and Growth

326S. Film Animation Production

Visual and Media Studies

206. Digital Imaging

212S. Digital Documentary Photography: Education, Childhood, and Growth

- 214S. Games and Culture: Gateway to the Study of Games
261S. Moving Image Practice
271S. Film Animation Production
302. Philosophy of Mind
305S. Video Journalism
563. Media and Democracy

Innovation and Entrepreneurship

A certificate, but not a major, is available in this program.

The goal of the undergraduate certificate in Innovation and Entrepreneurship is to provide students with a pathway to pursue a rigorous cross-disciplinary study of innovation and entrepreneurship that will be complementary to any major and enable students to be innovative and entrepreneurial in their pursuit of knowledge in service to society. The certificate requires an in-depth course of study examining the theories of innovation and entrepreneurship, coupled with hands-on practice in both areas. Innovation and entrepreneurship are, by their very nature, areas of cross-disciplinary inquiry, so the certificate will also draw on theory, contexts, and methods from across the disciplines.

The certificate builds on the already-existing emphasis of knowledge in service to society that is taking place within students' majors and co-curricular activities, to further enhance students' abilities to explore the complex problems being faced by our world and to develop innovative methods to address those problems. Cultivating such an innovative and entrepreneurial spirit will involve students developing the capacities of creativity, technical competencies, courage and resilience, reflection, and collaboration, acquired through a comprehensive undertaking of research, inquiry, experimentation, and experiential learning.

In this experiential certificate, students take four courses in the subject areas outlined below, as well as complete two experiences and create an e-portfolio. The certificate program elements are:

1. Four course areas:
 - Gateway: Innovation, Ideation, and Design
 - Keystone: Strategies for Innovation and Entrepreneurship
 - Elective: Further Exploration in Innovation and/or Entrepreneurship
 - Capstone: Ideas into Action
2. Two thematically-related experiential learning activities. One of the experiences must be at least 300 hours, and the other must be at least 150 hours.
3. Publicly facing e-portfolio

Sequencing is an important feature of the certificate. Students are required to apply to the certificate by the end of the add/drop period in the fall of their junior year. Successful application to the program includes four components: a) identification of the four courses and two thematically-related experiences the student plans to undertake; b) written essay outlining the logic and rationale for the pathway the student selected; c) written essay justifying the student's desire to pursue the certificate; and d) review, advisory input, and approval of the student's application by the Innovation and Entrepreneurship Certificate Admissions Committee. More information and course listings can be found on the website: <https://entrepreneurship.duke.edu/education/certificates/certificate-in-innovation-and-entrepreneurship/>.

Courses in Innovation and Entrepreneurship (I&E)

89S. Special Topics. Selected special topics in innovation and entrepreneurship. Instructor: Staff. One course.

140. Create, Innovate, Act: Creativity, Innovation, and Social Action. ALP One course. C-L: see Visual and Media Studies 140

171. Business Anthropology: Anthropologists in the Workplace. CCI, SS One course. C-L: see Cultural Anthropology 171; also C-L: African & African American Studies 171, International Comparative Studies 171, Sociology 171

190SA. Duke Administered Study Abroad: Special Topics in Innovation and Entrepreneurship. Topics differ by section. Instructor: Staff. One course.

217SA. The Economics of Art (The Chicago Scene). ALP, CCI One course. C-L: see Theater Studies 217SA; also C-L: Visual and Media Studies 221SA, Dance 279SA, Music 217SA, Markets and Management Studies

242S. Multimedia Documentary: Editing, Production, and Publication. ALP One course. C-L: see Documentary Studies 360S; also C-L: Visual Arts 357S, Visual and Media Studies 348S

243S. The Art of Improvising. ALP One course. C-L: see Theater Studies 242S

250. Building Global Audiences. STS Marketing and publicity are so important to audience building that, 20 years ago, expanding beyond local audiences usually couldn't be accomplished without huge advertising budgets. However, thanks to the Internet, you can build a global audience from your dorm room. This class explores how. Learn about social media, search engine optimization, virality, content marketing, growth hacking, and other digital audience building strategies. They're difficult to learn and time consuming to execute, so expect to struggle. We'll learn as much from our failures as we will from our successes as we discover what it takes to cultivate global awareness for an idea without ever leaving Durham. Instructor: Dinin. One course. C-L: Information Science + Studies 250, Visual and Media Studies 249

252. Learning to Fail. SS Most people spend their lives afraid of failing. Yet, many of the world's most successful people failed numerous times on their paths toward success. The underlying question of this class is if failing is as antithetical to learning as we're taught to believe. To explore this question, we will test ways of using failure as a strategy for learning. We will experiment with failure to learn how it can make us better as we develop our skills as innovators, specifically focusing on the earliest stage of creativity: ideation. We will use failure through experimentation as a technique for problem definition and needs discovery which, in turn, will help us validate the quality of our ideas. Instructor: Dinin, Gould. One course.

253. Social Marketing: From Literary Celebrities to Instagram Influencers. SS, STS Typical Duke students spend hours each day using social media. You've surely heard the platforms described as "revolutionary," and you've also heard them described as "time wasters." What you probably haven't thought about is how similar they are to previous "revolutionary" communications technologies like novels, newspapers, and even language itself. This course explores ways in which studying the masters of previous "social" media technologies—the Shakespeares, Whitmans, and Eliots of the world—can help us understand how influencers on digital social media leverage the same platforms you use every day to market themselves, build their brands, and grow their audiences. Instructor: Dinin. One course. C-L: English 253

261. Social Innovation. EI, SS This course will provide an introduction to the field of social innovation. Through readings, classroom discussion, experiential learning, and individual and team assignments, the course will provide students with concepts and frameworks for understanding and practicing effective social innovation. The course develops a theory of innovation and describes examples of persons and organizations demonstrating innovative approaches. We will look at how to innovate effectively and the attributes and skills that cultivate such innovation. We will also explore the limitations of social innovation and consider critical arguments that the field must address. Department consent required. Instructor: Nash. One course. C-L: Public Policy 256

262. The 21st Century Student: Open Knowledge and Education Innovation. SS, STS The term "open source" is frequently used to denote software source code that is freely available, modifiable, and shareable. However, the term has much wider applicability and relevance. The core values of open source--open knowledge and access to information, collaboration and community, transparency and meritocracy, inclusion and diversity, and iterative creation and adaptability--have profound implications for 21st century learning. In this learner-centered, project-based course, students will research the intersection of open source concepts, technology, and education innovation and share their knowledge across public-facing open-access media. Instructor: Chernik. One course. C-L: Education 262, Information Science + Studies 262

263S. Entrepreneurial Problem Solving in Global Health. SS Global health, both international and local, has a long way to go to support healthy lives. In this class, students will have the opportunity to gain understanding of how the Entrepreneurial method can help to improve health. Students will learn about the victories and the challenges, and in the end, will be better able to be successful in their future endeavors. Students will be challenged, and will have to work, but in the end, they will be proud of their accomplishments and newfound knowledge. Instructor: Clements. One course. C-L: Global Health 273S

271A. Building and Sustaining a Successful Enterprise. SS In this Duke in Silicon Valley course, students will develop an understanding of the resources, skills, and planning required to launch a new product or service. Through lectures, case studies, and visiting talks, the course addresses critical factors such as: ideation, competition and competitive advantage, financing requirements, corporate culture, product

positioning, customer identification, and market segmentation. Director of undergraduate studies consent required. Instructor: Staff. One course. C-L: Economics 281A, Markets and Management Studies

272S. Documentary and Policy: How Documentary Influences Policy. ALP One course. C-L: see Documentary Studies 272S; also C-L: Visual and Media Studies 386S, Public Policy 228S

281. Basics of Technology Commercialization. This course covers assessment, development, and translation for a range of technical areas, such as pharmaceuticals, computer science, energy, and medical devices. The course is organized around the basic elements of taking technology from conception to development and commercialization, including understanding technology, developing a plan to get to market, and assessing the potential market. Combines lecture, case assignments, and discussion of real technology development opportunities. Instructor: Staff. One course.

282. Overview of Artificial Intelligence (AI). QS, STS Introduces students to the world of Artificial Intelligence (AI), focusing on the applications and current capabilities of AI approaches. The course will discuss how AI is being used to revolutionize many industries and also the context and challenges associated with AI systems. The course will include basic theory behind AI topics including search algorithms, Markov Decision Processes (MDPs), game theory, and machine learning. Students will additionally build practical knowledge and understanding through basic programming exercises in these areas. Instructor: Staff. One course.

290. Special Topics. Selected topics in innovation and entrepreneurship. Instructor: Staff. One course.

295S. Arts Entrepreneurship. One course. C-L: see Music 295S; also C-L: Dance 201S, Visual and Media Studies 295S, Theater Studies 312S, Documentary Studies 295S, Visual Arts 295S

302. Fieldwork Methods: Cultural Analysis and Interpretation. EI, R, SS, W One course. C-L: see Cultural Anthropology 302

310S. Non-Profit Cultural Institutions. EI, SS One course. C-L: see Theater Studies 310S; also C-L: Economics 247S, Visual and Media Studies 329S, Public Policy 318S, Dance 208S

311S. Legal Issues for the Performing Arts. EI, SS One course. C-L: see Theater Studies 311S; also C-L: Public Policy 363S, Economics 223S, Dance 379S

315A. Language and Culture of Entrepreneurship in Latin America. CCI, CZ, FL Two courses. C-L: see Spanish 315A

316SA. stARTup Project. ALP, R One course. C-L: see Theater Studies 316SA; also C-L: Visual and Media Studies 315SA, Dance 307SA, Music 316SA, Markets and Management Studies

352. Strategies for Innovation and Entrepreneurship. SS Course covers component elements of developing skills needed to launch a venture. Starting at the point of need identification, course covers lean methodology; innovation and entrepreneurship strategy; creating needed financing and resource structures; effectively marketing/communicating innovation and its associated benefits; leading, managing, and working effectively within teams; creating a positive and ethical work culture; and evaluating success. Materials for class discussion are case studies and readings. Instructor: Amato. One course.

359A. Introduction to Global Los Angeles: An Interdisciplinary Survey (Service-Learning). ALP, CCI, EI One course. C-L: see Visual and Media Studies 359A; also C-L: Literature 230A, Documentary Studies 359A

373. Intellectual Property: Law, Policy, and Practice. EI, SS, STS One course. C-L: see Public Policy 373; also C-L: Markets and Management Studies, Policy Journalism and Media Studies

375. The Economics of Entrepreneurship. SS One course. C-L: see Economics 375

390. Advanced Special Topics. Selected advanced topics in innovation and entrepreneurship. Instructor consent required. Instructor: Staff. One course.

390S. Advanced Special Topics Seminar. Selected advanced topics in innovation and entrepreneurship. Instructor consent required. Instructor: Staff. One course.

391. Independent Study in Innovation and Entrepreneurship. 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 in Innovation and Entrepreneurship. **R** Individual research 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.

395. New Ventures 2: Strategy Development. Student teams develop core elements of a strategy for a technology or business idea; detail will be suitable for a business plan document for a company seeking initial investment; strategy will serve as a foundation for a first operating plan for company. Instructor consent required. Instructor: Fjeld. One course. C-L: Markets and Management Studies 395, Markets and Management Studies

396. New Ventures 3: Operating Plan. Students develop full operating plans for a new venture, including a finance plan; detail will be suitable for a business plan document for a company seeking initial investment; plan should be fundable upon completion; teams follow a structured process in doing their analysis and making recommendations; students work with faculty advisors and business mentors. Students should have completed Markets and Management Studies 395. Instructor consent required. Instructor: Fjeld. One course. C-L: Markets and Management Studies 396, Markets and Management Studies

447. Philosophical and Conceptual Problems of Entrepreneurship. **SS** One course. C-L: see Philosophy 447; also C-L: Economics 346

499. Innovation and Entrepreneurship Capstone: Ideas into Action. **SS** In this course, students bring together interdisciplinary insights from their work throughout the Innovation & Entrepreneurship Certificate program to shed light on innovation and entrepreneurship and the roles they play in addressing the world's most pressing problems. The class will incorporate rich discussion, selected readings, and guest speakers addressing topics in innovation and entrepreneurship. Students will focus on applying what they have learned through the certificate curriculum to develop an innovation and entrepreneurship capstone project. Director of undergraduate studies consent required. Instructor: Dinin. One course.

499D. Innovation and Entrepreneurship Capstone: Ideas into Action. **SS** In this course, students bring together interdisciplinary insights from their work throughout the Innovation & Entrepreneurship Certificate program to shed light on innovation and entrepreneurship and the roles they play in addressing the world's most pressing problems. The class will incorporate rich discussion, selected readings, and guest speakers addressing topics in innovation and entrepreneurship. Students will focus on applying what they have learned through the certificate curriculum to develop an innovation and entrepreneurship capstone project. Director of undergraduate studies consent required. Instructor: Dinin. One course.

510. Social Innovation Practicum. In the Social Innovation Practicum, students will engage with social entrepreneurs and other practitioners to learn about and support the design, development, validation, assessment, and scaling up of innovative, sustainable approaches to addressing critical social and environmental problems in Durham and around the world. Working in multidisciplinary teams, students will gather and analyze data, develop recommendations, formulate implementation plans, and provide other capacity-building support to clients that may include domestic and international social entrepreneurs, social enterprises, funders, public sector innovators and policy makers, and corporate social impact managers. Instructor: Bloom, Nash. One course. C-L: Public Policy 511

590. Special Topics in Innovation & Entrepreneurship. Selected topics in innovation and entrepreneurship. Consent of instructor is required. Instructor: Staff. One course.

International Comparative Studies

Professor Ching, *Director*; Associate Professor of the Practice Mathers, *Associate Director, Director of Undergraduate Studies, and Coordinator of the Distinction Program*; Associate Professor of the Practice Rosenblatt; Assistant Professors of the Practice Harris and Namakkal; *Program Committee*: A diverse community of faculty from across Trinity Arts & Sciences

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 global and 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 multidimensional study of a particular part of the world is complemented by an examination of transnational dynamics through core and comparative coursework in global studies. Well over 75 percent of ICS majors complete some of their coursework in study away 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 global courses. The most up-to-date listings of approved global and region courses is always available on the [ICS website](#) under “Courses.”

Courses in International Comparative Studies (ICS)

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

103. AIDS and Other Emerging Diseases. NS, STS One course. C-L: see Biology 154; also C-L: Global Health 154, Global Health

104. Anthropology and Film. SS One course. C-L: see Cultural Anthropology 130; also C-L: Visual and Media Studies 130, Documentary Studies

105S. Migration and Human Rights in Korea: Local and Global Perspectives. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 178S; also C-L: Religion 180S

106. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 201; also C-L: African & African American Studies 104, Literature 243, Spanish 160

106S. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 201S; also C-L: Literature 243S, Spanish 160S, African & African American Studies 104S

108. Religions of Asia. CCI, CZ, EI One course. C-L: see Religion 175; also C-L: Asian & Middle Eastern Studies 115

110. Introduction to African Studies (DS3 or DS4). ALP, CCI, CZ One course. C-L: see African & African American Studies 103; also C-L: Cultural Anthropology 105, History 129, Political Science 108

111. Traditions in Documentary Studies. ALP, CCI One course. C-L: see Documentary Studies 101; also C-L: Visual and Media Studies 103

113. Introduction to Human Rights: Gateway for the Human Rights Certificate. ALP, CCI, CZ, EI One course. C-L: see Cultural Anthropology 104; also C-L: Public Policy 162, Human Rights Program-Franklin Humanities Institute 104, Human Rights

118. Science and the Modern World: Introduction to the History of Science. CCI, CZ, STS One course. C-L: see History 106; also C-L: Science & Society 118, Energy and the Environment, Ethics Elective, Science & Society

121. Introduction to Contemporary Latin America. CCI, CZ One course. C-L: see History 121; also C-L: Latin American Studies 121

122. History of Latinxs in the United States. CCI, CZ, SS One course. C-L: see History 122; also C-L: Latin American Studies 122, Gender, Sexuality, and Feminist Studies 122, Latin American Studies, Latino/a Studies in the Global South

123. Private Wealth and Public Giving: A Modern History. CCI, CZ, EI, SS One course. C-L: see History 123; also C-L: Public Policy 177, Study of Ethics 123

128FS. Human Rights and World Politics. EI, SS One course. C-L: see Study of Ethics 129FS; also C-L:

Political Science 176FS, Public Policy 181FS, Human Rights

144. Introduction to East Asian Cultures: Narrating East Asia through Word and Image. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 107

152S. Gateway Seminar: History at Sea. CCI, CZ, R, SS, W One course. C-L: see History 152S

153FS. Borderline Humans: How Walls (and Bridges) Define Us. CCI, CZ, EI, SS One course. C-L: see Documentary Studies 153FS; also C-L: Cultural Anthropology 153FS

157S. Gateway Seminar: Empires in Historical Perspective. CCI, CZ, EI, R, SS One course. C-L: see History 157S

160. Islam. CCI, CZ, EI One course. C-L: see Religion 160; also C-L: Asian & Middle Eastern Studies 160, Islamic Studies

163S. Gateway Seminar: Gandhi, King, Mandela. CCI, CZ, EI, R, SS One course. C-L: see History 163S; also C-L: African & African American Studies 163S, Asian & Middle Eastern Studies 177S

164S. Gateway Seminar - Antisemitism: Ethnicity, Race, Religion, Culture. CCI, CZ, EI, R, SS One course. C-L: see History 164S

166S. Gateway Seminar - Anarchism and its Discontents. CCI, CZ, EI, R One course. C-L: see History 166S

169. Advertising and Society: Global Perspective (DS4). CCI, SS One course. C-L: see Cultural Anthropology 170; also C-L: Sociology 160, Linguistics 170, Visual and Media Studies 170

170. Muslim World: Transformations and Continuities. CCI, SS One course. C-L: see Cultural Anthropology 250; also C-L: Religion 380, Gender, Sexuality, & Feminist Studies

171. Business Anthropology: Anthropologists in the Workplace. CCI, SS One course. C-L: see Cultural Anthropology 171; also C-L: African & African American Studies 171, Innovation and Entrepreneurship 171, Sociology 171

173S. Gateway Seminar: We All Want to Change the World: Writing the History of Good Intentions. CZ, EI, R, W One course. C-L: see History 173S

179S. Gateway Seminar: Capitalism & Its Critics. CZ, EI, R, W One course. C-L: see History 179S

183S. 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, African & African American Studies 133S, Human Rights Program-Franklin Humanities Institute 183S, Public Policy 175S, Human Rights

188S. Gateway Seminar: The Price of Sex: Gender and the Global Political Economy. CZ, EI, R, SS, W One course. C-L: see History 188S; also C-L: Gender, Sexuality, and Feminist Studies 188S

190A. Duke-Administered Study Abroad: Special Topics in International Comparative Studies. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Program Selected Topics in International Comparative Studies. Topics vary from semester to semester, focusing either on specific world regions or particular comparative/global issues. Open only to students in the FOCUS Program. 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, W 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: Harris, Mathers, Namakkal, or Rosenblatt. One course. C-L: Cultural Anthropology 195, History 103, Political Science 110, Sociology 195, Gender, Sexuality, and Feminist Studies 195, Marxism and Society

- 203. Gender and Culture.** CCI, SS One course. C-L: see Cultural Anthropology 271; also C-L: Gender, Sexuality, and Feminist Studies 217, Study of Sexualities, Gender, Sexuality, & Feminist Studies
- 204D. Soccer Politics.** CCI, CZ, EI, SS One course. C-L: see Romance Studies 362D; also C-L: History 266D
- 205. Understanding the Middle East.** CCI, SS One course. C-L: see Asian & Middle Eastern Studies 105
- 206. Pigging Out: The Cultural Politics of Food.** CCI, EI, SS One course. C-L: see African & 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, Gender, Sexuality, and Feminist Studies 232, Linguistics 364
- 208. Transnational Feminism.** CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369; also C-L: Global Health 208, History 249, Human Rights Program-Franklin Humanities Institute 369
- 208S. Transnational Feminism.** CCI, EI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 369S; also C-L: Global Health 208S, Human Rights Program-Franklin Humanities Institute 369S, History 249S
- 209S. The Atlantic Slave Trade.** CCI, CZ, R One course. C-L: see History 316S; also C-L: African & 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
- 211. The Psychology of Health Behavior Change.** SS One course. C-L: see Psychology 211; also C-L: Global Health 261
- 212. Modern European Short Fiction.** ALP, CCI, CZ, EI One course. C-L: see Italian 220; also C-L: German 243, Literature 244, English 244, Jewish Studies 243
- 213S. Comparative Urban Politics and Policymaking.** CCI, EI, SS One course. C-L: see Political Science 235S; also C-L: Public Policy 285S, Human Rights Program-Franklin Humanities Institute 235S, African & African American Studies 234S
- 214. Dance and Religion in Asia and Africa.** ALP, CCI, CZ One course. C-L: see Dance 367; also C-L: Religion 244, African & African American Studies 222
- 215. Gender in Dance and Theatre.** ALP, CCI, CZ One course. C-L: see Dance 368; also C-L: Gender, Sexuality, and Feminist Studies 212, Theater Studies 236
- 216. Gender and Socialism.** CCI, CZ, EI, SS One course. C-L: see History 202; also C-L: Gender, Sexuality, and Feminist Studies 216
- 217S. Geopolitics and Culture: Islamic States from the Ottomans to ISIS.** ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 208S; also C-L: Public Policy 213S, History 379S
- 218. Modern & Global India.** CCI, CZ, EI, SS, W One course. C-L: see History 218; also C-L: Asian & Middle Eastern Studies 357
- 219D. Global Art Since 1945.** ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 382D; also C-L: Gender, Sexuality, and Feminist Studies 277D, Ethics Elective
- 219S. Global Art Since 1945.** ALP, CCI, CZ, EI One course. C-L: see Art History 381S; also C-L: Gender, Sexuality, and Feminist Studies 277S
- 221S. Africa before Colonialism.** CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 317S; also C-L: History 341S
- 222S. Black Muslims: Race, Religion, & Culture.** CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 295S; also C-L: African & African American Studies 295S, Religion 295S, Gender, Sexuality, and Feminist Studies 296S, Human Rights Program-Franklin Humanities Institute 295S, Human Rights
- 223. African Art: From Royal Court to Contemporary Marketplace.** ALP, CCI, CZ One course. C-L: see Art History 345; also C-L: African & African American Studies 348

- 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
- 225SA. Politics and Culture Between Europe and the Middle East.** CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 381SA; also C-L: Public Policy 386SA, History 378SA
- 226. The Black Atlantic.** ALP, CCI, CZ One course. C-L: see Art History 383; also C-L: African & African American Studies 329
- 227S. Performance and Social Change.** ALP, EI One course. C-L: see Dance 207S; also C-L: Theater Studies 204S
- 228FS. The Politics of Language.** SS One course. C-L: see Slavic and Eurasian Studies 215FS; also C-L: Political Science 185FS, Linguistics 213FS
- 229S. 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: Public Policy 279S, Political Science 367S, Human Rights Program-Franklin Humanities Institute 229S, Islamic Studies, Marine Science and Conservation, Human Rights
- 230. Stimulants and Society.** CCI, SS, STS One course. C-L: see Cultural Anthropology 225
- 231D. Modern Architecture.** ALP, CCI, CZ One course. C-L: see Art History 285D
- 232. Latin American Wars of Independence.** CCI, CZ, SS One course. C-L: see History 264; also C-L: African & African American Studies 264, Political Science 257, Latin American Studies
- 233S. Civil Society and Civic Engagement in the Arab World: Theories and Practices.** CCI, CZ, EI, SS, W One course. C-L: see Asian & Middle Eastern Studies 420S
- 237. Europe in the Twentieth Century.** CCI, CZ One course. C-L: see History 286
- 237. Drugs, Chemicals, and Health: Histories of Substances in Economies, Environments, and Bodies.** CCI, CZ, R, SS, STS One course. C-L: see History 235; also C-L: Global Health 235
- 239. The Anthropology of Race.** CCI, EI, SS One course. C-L: see Cultural Anthropology 208; also C-L: African & African American Studies 251, Human Rights Program-Franklin Humanities Institute 208, Human Rights
- 240. What Is Europe?.** ALP, CCI, CZ, R One course. C-L: see Italian 201; also C-L: Literature 273
- 241. Cyborgs.** CCI, SS, STS, W One course. C-L: see Cultural Anthropology 213; also C-L: Gender, Sexuality, and Feminist Studies 215
- 242S. Nigeria: A Modern History.** CCI, CZ One course. C-L: see African & African American Studies 285S; also C-L: History 217S
- 243. Dance and Dance Theater of Asia.** ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Theater Studies 233, Religion 241, Asian & Middle Eastern Studies 246
- 244S. Global Migration and Ethics.** EI, SS One course. C-L: see Cultural Anthropology 216S; also C-L: Study of Ethics 262S, Human Rights Program-Franklin Humanities Institute 216S, Human Rights
- 245S. Photography in Context.** ALP, R One course. C-L: see Documentary Studies 245S; also C-L: Visual Arts 254S, Visual and Media Studies 252S
- 246S. Sound in Social Life.** ALP, CCI, STS One course. C-L: see Cultural Anthropology 222S; also C-L: Music 239S
- 246SA. Sound in Social Life.** ALP, CCI, SS, STS One course. C-L: see Cultural Anthropology 222SA; also C-L: Music 239SA
- 249S. Istanbul: City of Two Continents.** CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 283S; also C-L: Cultural Anthropology 283S, History 397S, Islamic Studies
- 250. Love and Loneliness: What's Happening to Relationships in the Twenty-First Century?.** CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 240; also C-L: Sociology 240, Study of Ethics 240
- 252D. Are Things Getting Better? The Question of Progress in World Affairs.** R, SS, W One course.

C-L: see Political Science 234D; also C-L: Public Policy 233D

253. Jewish History, 1492 to the Present. CCI, CZ, EI, SS One course. C-L: see History 251; also C-L: Jewish Studies 251, Religion 340

254. Cultures and Politics of the America Borderlands. CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 254; also C-L: Latino/a Studies in the Global South 254, Human Rights Program-Franklin Humanities Institute 254, Latino/a Studies in the Global South

256S. Shamanism and Spirit Possession. CCI, CZ, EI, R, SS One course. C-L: see Religion 213S; also C-L: Cultural Anthropology 214S, History 215S

259. African Music: Sound, History, Culture, Politics. ALP, CCI, EI, SS, STS One course. C-L: see Music 236; also C-L: Cultural Anthropology 235

260S. Global Stories, Local Issues. CCI, EI, R, SS One course. C-L: see Cultural Anthropology 223S; also C-L: Documentary Studies 223S

262. Spies Like Us: Screening Cold War Espionage. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 270; also C-L: Literature 225, Visual and Media Studies 258

263. War, Slavery, and Revolution in the Caribbean, 1700-1800. CCI, CZ One course. C-L: see History 319; also C-L: African & African American Studies 219, Human Rights Program-Franklin Humanities Institute 219, Latin American Studies, Human Rights

264. Graphic Asia: Visual Storytelling and Global Asian/American Networks. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 436; also C-L: Visual and Media Studies 239

265. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240; also C-L: Information Science + Studies 242, Literature 249, Visual and Media Studies 214, Political Science 248

265S. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240S; also C-L: Literature 249S, Political Science 248S, Cultural Anthropology 440S, Visual and Media Studies 214S, Information Science + Studies 242S, Information Science + Studies

266. Ritual, Performance, and Religion. ALP, CCI, CZ One course. C-L: see Religion 284; also C-L: Cultural Anthropology 284, Dance 284, Visual and Media Studies 285

268. Modern Africa. CCI, CZ, SS One course. C-L: see History 204; also C-L: African & African American Studies 210

271. Business Ethics: The Debate Over Corporate Social Responsibility. EI, SS One course. C-L: see Philosophy 270; also C-L: Study of Ethics 270

272. Human Rights in Theory and Practice. CCI, CZ, EI, SS One course. C-L: see Political Science 272; also C-L: Public Policy 231, Philosophy 262, Human Rights Program-Franklin Humanities Institute 262, Human Rights

274S. Global Men and Masculinities. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 374S; also C-L: Sociology 375S, History 229S, Literature 374S

275. Left, Right, and Center: Competing Political Ideals. CCI, EI, SS One course. C-L: see Political Science 275

275S. Left, Right, and Center: Competing Political Ideals. CCI, EI, SS One course. C-L: see Political Science 275S; also C-L: Ethics Elective

276. The Foundations of Modern Terrorism. CCI, CZ One course. C-L: see History 279

278SA. Transnational Muslims in Germany: Politics of Migration, Religion, and Culture. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 380SA; also C-L: Gender, Sexuality, and Feminist Studies 323SA, Cultural Anthropology 382SA, Religion 382SA

280. Taboo Markets. EI, SS One course. C-L: see Study of Ethics 280; also C-L: Sociology 340

282. Global Bioethics. CZ, EI One course. C-L: see Philosophy 281; also C-L: Global Health 241

283SL. Death, Burial, and Justice in the Americas. EI, SS This interdisciplinary course explores the phenomenon of necroviolence: attacks on the dignity, integrity, and memory of the dead. Cases come from the United States, Latin America, and Canada. Topics include the rights of the dead, cultural attitudes towards the dead, and the “ambiguous loss” experienced by loved ones of the disappeared. We also explore the activism of family members, volunteer cemetery reclamation groups, and forensic scientists who exhume mass graves to identify bodies. Students will interact with guest speakers, spend time in a local African American cemetery with ties to Duke, and do community work and research on behalf of the marginalized dead. Instructor: Rosenblatt. One course. C-L: Cultural Anthropology 285SL, African & African American Studies 283SL, Latin American Studies 283SL, Human Rights Program-Franklin Humanities Institute 283SL, Latin American Studies, Human Rights

287. History of the World Wars. CZ, EI, R, STS One course. C-L: see History 287

288S. 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: Literature 216S, Visual and Media Studies 284S

289S. Nationalism and Exile. CCI, CZ, R One course. C-L: see History 278S

290. Selected Topics in International Comparative Studies. Topics vary from semester to semester, focusing either on specific world regions or particular comparative/global issues. Instructor: Staff. One course.

290FS. Selected Topics: International Comparative Studies Program (Focus). Topics vary, focusing either on specific world regions or particular comparative/global issues. Open only to students in the Focus Program. Instructor: Staff. One course.

290S. Selected Topics in International Comparative Studies. Seminar version of International Comparative Studies 290. Instructor: Staff. One course.

294. Religion and Race. CCI, CZ, SS One course. C-L: see Religion 276; also C-L: African & African American Studies 276

295. Global Narratives of Living with HIV/AIDS. ALP, CCI, SS One course. C-L: see Global Health 302; also C-L: Human Rights Program-Franklin Humanities Institute 302, Science & Society, Human Rights

299. Ethics of Global Infectious Disease Control. CCI, EI, SS One course. C-L: see Global Health 341; also C-L: Science & Society 341, Human Rights Program-Franklin Humanities Institute 341, Human Rights

302. Global Chinese Cities through Literature and Film. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 233; also C-L: Visual and Media Studies 237

303. Introduction to Economic History. CCI, CZ, SS One course. C-L: see Economics 302; also C-L: History 306

304. The International Economy, 1850-Present: From Globalization to Globalization. CCI, CZ, SS One course. C-L: see Economics 304; also C-L: History 310

305. History of International Financial and Monetary Crises. CZ, EI, SS One course. C-L: see Economics 305; also C-L: History 305

306. Africa and Arabia: Cultures, Communities, and Connections. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 304; also C-L: African & African American Studies 306

307S. Political Economy of Financial Crises. SS One course. C-L: see Political Science 315S; also C-L: Markets and Management Studies

308. Development and Africa. CCI, CZ, SS One course. C-L: see African & African American Studies 307; also C-L: Cultural Anthropology 307, Public Policy 207

309S. Dancing States of Mind: The Self, Social and Political Practice of Dance. ALP, R One course. C-L: see Dance 309S; also C-L: Theater Studies 309S, Cultural Anthropology 311S

311S. Poetic Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 311S; also C-L: Visual and Media Studies 354S

312. Europe's Colonial Encounter, 1492-1992: Political Economy and International Thought. CCI, CZ, EI, SS, W One course. C-L: see History 312; also C-L: Ethics Elective

313D. Crime and the City from Dickens to The Wire. ALP, CCI, EI, SS One course. C-L: see History 313D; also C-L: African & African American Studies 226D

314S. ICS Theories and Methods: Doing Global Research. CCI, R, SS, W Introduces students to interdisciplinary research methods and theories to conduct global research. Students build on concepts foundational to global studies by reading about and practicing variety of research methods including archival and oral history, interviews, mapping, textual analysis and ethnography. Texts, discussions, and projects focus on theoretical frameworks engaging politics of research, approaching global research “from below,” reaching underrepresented populations and social groups, exploring connections between power and knowledge. Course examines how interdisciplinary research can expand traditional fields of research. Instructor: Mathers, Namakkal, or Rosenblatt. One course.

315S. History of Modern Dance, 1880-1950. ALP, CCI One course. C-L: see Dance 315S

316. East Africa and the World. CCI, CZ, R, W One course. C-L: see African & African American Studies 319; also C-L: History 206

317S. Business and Human Rights Advocacy Lab. EI, R, W One course. C-L: see Study of Ethics 301S; also C-L: Political Science 341S, Public Policy 311S, Human Rights Program-Franklin Humanities Institute 301S, Markets and Management Studies, Human Rights

318. Visualizing the Caribbean. ALP, CCI, R, SS One course. C-L: see African & African American Studies 321; also C-L: Cultural Anthropology 368, Latin American Studies 321

319. The Modern Caribbean after Emancipation. CCI, CZ One course. C-L: see History 321; also C-L: African & African American Studies 240, Romance Studies 321, Cultural Anthropology 322

320S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: African & African American Studies 247S, Latin American Studies 320S, Information Science + Studies 323S, Visual and Media Studies 323S, Human Rights Program-Franklin Humanities Institute 323S, Asian & Middle Eastern Studies 318S, Human Rights

322. Ethnic Conflict. CCI, R, SS One course. C-L: see Political Science 227; also C-L: Public Policy 239

323. Mystical Literature. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 322; also C-L: Religion 263

324. International Law and International Institutions. CCI, R, SS, W One course. C-L: see Political Science 321

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

326. Colonial Latin America. CCI, CZ One course. C-L: see History 326

328. Anthropology of Money. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 350; also C-L: Economics 309, Public Policy 306, African & African American Studies 211

329. Latin America Since Independence. CCI, CZ One course. C-L: see History 329

329S. Politics in Violence. R, SS, W One course. C-L: see Political Science 329S; also C-L: Human Rights Program-Franklin Humanities Institute 329S, Human Rights

330S. Narratives of Migration. ALP, CCI, R One course. C-L: see English 397S; also C-L: Linguistics 397S, Cultural Anthropology 330S

331S. Islamic Media. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 329S; also C-L: Religion 379S, Visual and Media Studies 342S

332S. Global Displacement: Voix Francophones. CCI, CZ, EI, FL, SS One course. C-L: see French 325S; also C-L: Global Health 325S, Human Rights Program-Franklin Humanities Institute 325S, Human Rights

333S. Storyworlds: The Art, Technology, and Pleasure of Narrative. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 432S; also C-L: Visual and Media Studies 384S

334. Globalization of Democracy. CCI, SS One course. C-L: see Political Science 353

335S. Decolonization: Histories, Meanings, Struggles. CCI, CZ, EI, SS This course explores decolonization as an historical event, a category of theoretical analysis, and a series of contemporary social movements. Course material will introduce students to the history of decolonization as both idea and event, putting global anti-colonial movements of the twentieth century into conversation with contemporary struggles for the decolonization of occupied land, institutions, and epistemologies. This interdisciplinary course draws on work in history, geography, anthropology, women's studies, and postcolonial and decolonial Studies. Students will also read and research manifestos, memoirs, archival documents, documentary films, oral histories, and museum exhibits. Instructor: Namakkal. One course. C-L: History 289S, Gender, Sexuality, and Feminist Studies 335S

336. Chinatowns: A Cultural History. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 335; also C-L: History 228

337. Hollywood and Africa: Case Studies in Filmic Representation. ALP, CCI, W One course. C-L: see African & African American Studies 337; also C-L: Cultural Anthropology 336

338SL. Revolution on Screen: Filming Conflict in the Middle East. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 281SL; also C-L: Visual and Media Studies 225SL

339. Latin American Literature in Translation. ALP, CCI One course. C-L: see Literature 375; also C-L: Spanish 361

340. North American Environmental History. CZ, EI, STS One course. C-L: see History 345; also C-L: Public Policy 278

342S. 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, Public Policy 380S, Human Rights Program-Franklin Humanities Institute 342S, Human Rights

344S. Our Culinary Cultures. ALP, CCI, W One course. C-L: see Documentary Studies 344S; also C-L: Cultural Anthropology 258S

345S. Turkish History through the Novels of Orhan Pamuk. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 296S; also C-L: Literature 276S, History 283S, Islamic Studies

346S. Illiberal Nondemocracies: Focus on Eastern Europe and Asia. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 388S; also C-L: History 331S, Political Science 301S, Public Policy 317S

348. Women in the Economy. CCI, EI, R, SS One course. C-L: see Economics 348; also C-L: Gender, Sexuality, and Feminist Studies 230

350. International Political Economy. CCI, R, SS One course. C-L: see Public Policy 222; also C-L: Political Science 350

351S. Racial Justice in the 20th Century US and South Africa. CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 346S; also C-L: History 396S, Political Science 336S, Public Policy 326S, Human Rights Program-Franklin Humanities Institute 349S, Human Rights

352. History of Photography, 1839 to the Present. ALP, CCI, CZ One course. C-L: see Visual and Media Studies 303; also C-L: Documentary Studies 303

353. Life and Death: Global Perspectives. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 341; also C-L: Global Health 353, Sociology 351

354. Political Economy of Latin America. CCI, SS One course. C-L: see Political Science 349; also C-L: Latin American Studies 349

355S. Refugee Policy and Practice (DukeImmerse). CCI, EI, QS, SS One course. C-L: see Study of Ethics 388S; also C-L: Political Science 357S, Public Policy 382S

356S. Istanbul and Berlin. CCI, EI, SS One course. C-L: see Asian & Middle Eastern Studies 383S; also C-L: German 283S, History 368S

357S. Globalization and Theater. ALP, CCI, CZ, EI One course. C-L: see Theater Studies 338S; also C-L: Asian & Middle Eastern Studies 338S

359S. The US Border and its Borderlands. CCI, CZ, EI, SS, W One course. C-L: see Public Policy 216S; also C-L: Political Science 343S

360S. Interpreting Bodies: Identity and Beyond. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 363S

361. Violent Jihad in the Twentieth Century - A Global History. CCI, CZ One course. C-L: see History 359; also C-L: Asian & Middle Eastern Studies 359, Political Science 382, Public Policy 359

362A. Religion, Security and Global Citizenship in the Arab World. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 326A; also C-L: Religion 371A, Political Science 395A, Public Policy 339A

363A. Globalization and Deglobalization. FL, SS One course. C-L: see French 350A; also C-L: Political Science 320A, Economics 320A, Public Policy 356A

364. France and Africa: The Politics and Culture of (Post-)Coloniality. CCI, CZ One course. C-L: see African & African American Studies 380; also C-L: Romance Studies 380, History 372

365S. Muslim Women Across the Ages. CCI, CZ, SS, W One course. C-L: see Religion 219S; also C-L: Gender, Sexuality, and Feminist Studies 209S, History 225S, Asian & Middle Eastern Studies 224S, Cultural Anthropology 224S, Human Rights Program-Franklin Humanities Institute 219S

367. Gender and Political Theory. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 365; also C-L: Political Science 383

368S. Documenting Black Experiences. ALP, CCI, CZ One course. C-L: see Documentary Studies 350S; also C-L: African & African American Studies 225S, Visual and Media Studies 213S, Cultural Anthropology 262S, Public Policy 387S, Human Rights Program-Franklin Humanities Institute 350S, Human Rights

369. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360; also C-L: Literature 361, Asian & Middle Eastern Studies 360, Sociology 360

369S. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360S; also C-L: Literature 361S, Public Policy 358S, Asian & Middle Eastern Studies 360S, Sociology 360S

370S. Islam in Asia. CCI, CZ, SS One course. C-L: see Russian 370S; also C-L: History 209S, Religion 378S, Islamic Studies

373S. Between Moscow, Beijing and Delhi: Narratives of Europe and Asia. CCI, CZ, R, SS One course. C-L: see Slavic and Eurasian Studies 373S; also C-L: History 216S

377. Contemporary Novel. ALP One course. C-L: see English 377; also C-L: Literature 351

377S. Contemporary Novel. ALP One course. C-L: see English 377S; also C-L: Literature 351S

379. Emerging Markets: Finance, Trade, Institutions and the World Economy. CCI, CZ, EI, SS One course. C-L: see Economics 379

380S. Islamic Mysticism. CCI, CZ, EI One course. C-L: see Religion 373S; also C-L: Asian & Middle Eastern Studies 373S, Study of Ethics 373S, History 380S, Ethics Elective, Islamic Studies

383. The Actress: Celebrity and the Woman. ALP, CCI, CZ One course. C-L: see Russian 383; also C-L: Gender, Sexuality, and Feminist Studies 260, Theater Studies 323

389. Buddhism and Sexuality. CCI, CZ, EI One course. C-L: see Religion 328; also C-L: Asian & Middle Eastern Studies 286

390. Selected Topics in International Comparative Studies. Topics vary from semester to semester, focusing either on specific world regions or particular comparative/global issues. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in International Comparative Studies. Topics differ by section. Instructor: Staff. One course.

390S. Selected Topics in International Comparative Studies. Topics vary from semester to semester, focusing either on specific world regions or particular comparative/global issues. Instructor: Staff. One course.

390SA. Duke-Administered Study Abroad: Advanced Special Topics in International

Comparative Studies. 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.

395. Language and Society. CCI, SS One course. C-L: see English 395; also C-L: Linguistics 451, Slavic and Eurasian Studies 385, Cultural Anthropology 212, Human Rights Program-Franklin Humanities Institute 395, Human Rights

396S. Language in Immigrant America. ALP, CCI, R One course. C-L: see English 396S; also C-L: Cultural Anthropology 397S, Linguistics 396S, Slavic and Eurasian Studies 396S, Human Rights Program-Franklin Humanities Institute 396S, Human Rights

397. Global Health Ethics: Policy Choice as Value Conflict. EI, SS One course. C-L: see Global Health 210; also C-L: Public Policy 330, Human Rights Program-Franklin Humanities Institute 330, Human Rights

398S. Global Humanitarianism. CCI, EI, R, SS This course explores humanitarianism as both a global phenomenon and a western model for engaging with the world. It examines the cultural and political conditions that make it possible for some people to be saviors and others to require saving. It focuses on the ways humanitarian interventions are increasingly as much about alleviating poverty and supporting political change, as about responding to crises caused by health epidemics, conflict or war, and environmental disasters. We will pay close attention to the impacts of humanitarian interventions good and bad, while critically exploring how local agendas and conditions shape and respond to these programs. Instructor: Mathers. One course. C-L: Cultural Anthropology 298S, Gender, Sexuality, and Feminist Studies 298S

399. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399; also C-L: Cultural Anthropology 399, Public Policy 223, Markets and Management Studies

403S. Politics and Obligations of Memory. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 403S; also C-L: History 403S, Human Rights Program-Franklin Humanities Institute 403S, Human Rights

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

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: Gender, Sexuality, and Feminist Studies 231S, Study of Sexualities 231S

407S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 438S; also C-L: Cultural Anthropology 438S, Study of Sexualities 438S, Visual and Media Studies 438S, Gender, Sexuality, and Feminist Studies 438S, Literature 438S

408S. Critical Interventions in Middle East Studies and Policy. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 479S; also C-L: Public Policy 417S, History 417S, Literature 417S

409. Surviving Globalization: The Global South and the Development Imagination. CCI, EI,

SS One course. C-L: see African & African American Studies 409; also C-L: Cultural Anthropology 409, Sociology 409, Latin American Studies 409

410S. Trauma and Space in Asia. **ALP, CCI, CZ** One course. C-L: see Asian & Middle Eastern Studies 410S; also C-L: Cultural Anthropology 366S

411S. Archiving and Visualizing Asia: Politics and Poetics of Knowledge Production. **CCI, CZ, R** One course. C-L: see Asian & Middle Eastern Studies 476S; also C-L: Literature 476S, Visual and Media Studies 476S, History 448S, Documentary Studies 476S

412S. Capstone Seminar - Globalization: Asia and Asian America. **CCI, CZ, R, SS, STS** One course. C-L: see History 454S; also C-L: African & African American Studies 407S, Gender, Sexuality, and Feminist Studies 412S, Asian & Middle Eastern Studies 437S

413S. France-Asia: Cultural Transfers and Translations in a Globalized Context. **ALP, CCI, CZ, FL, W** One course. C-L: see French 426S; also C-L: Asian & Middle Eastern Studies 426S, Literature 426S

415S. Interethnic Intimacies: Production and Consumption. **ALP, CCI, CZ, EI** One course. C-L: see Asian & Middle Eastern Studies 415S; also C-L: Literature 415S, Cultural Anthropology 415S, Visual and Media Studies 416S, Gender, Sexuality, and Feminist Studies 415S

417S. The Middle East: From Facebook to Film. **CCI, CZ, SS** One course. C-L: see Cultural Anthropology 417S; also C-L: Asian & Middle Eastern Studies 215S, Visual and Media Studies 417S, Islamic Studies

418S. The Global Caribbean. **CCI, EI, R, SS** One course. C-L: see African & African American Studies 450S; also C-L: Cultural Anthropology 450S, Sociology 450S, Latin American Studies 450S

419S. Meaning, Mattering, and Black Being-in-the-World: Towards a Critical Theory of Race and Value. **CCI, CZ, W** This course interrogates the ways scholars in the social sciences and humanities have conceptualized and theorized value, and the curious absence of race/racism from this discourse. Drawing from scholarship in the fields of history, anthropology, African diaspora studies, and (ethno)musicology, students will develop a better understanding of the interrelationship between race and value and the distinct ways that race has been one of the most pervasive “value regimes” in the making of the modern world. Topics include the transatlantic slave trade and plantation societies in the Americas; intersections of race with science and technology; and black radical politics and expressive culture. Instructor: Harris. One course. C-L: African & African American Studies 419S, Cultural Anthropology 418S

423S. City Stories, Eastern Europe: Prague, Warsaw, Budapest, Sarajevo. **CCI, CZ, SS** One course. C-L: see Slavic and Eurasian Studies 423S; also C-L: Visual and Media Studies 423S

424-1. Medical Anthropology. **CCI, EI, SS, STS** One course. C-L: see Cultural Anthropology 424-1; also C-L: Global Health 321-1

428S. Gender, Sex and Citizenship. **CCI, EI, SS** One course. C-L: see Cultural Anthropology 432S; also C-L: Study of Sexualities 432S, Gender, Sexuality, and Feminist Studies 432S, Human Rights Program-Franklin Humanities Institute 428S, Human Rights

432S. Cultures of New Media. **ALP, SS, STS** One course. C-L: see Cultural Anthropology 434S; also C-L: Literature 412S, Visual and Media Studies 412S, Asian & Middle Eastern Studies 425S

452. Economic Growth. **CCI, R, SS** One course. C-L: see Economics 452

459S. Photography in the Americas: War, Tourism, Art, and Protest. **ALP, CCI, CZ, FL** One course. C-L: see Spanish 433S; also C-L: Art History 433S, Visual and Media Studies 433S, Latin American Studies

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

465S. Global Cities. **CCI, EI, SS** One course. C-L: see African & African American Studies 465S; also C-L: Cultural Anthropology 465S

479S. Screening Europe. **ALP, CCI, CZ** One course. C-L: see French 489S; also C-L: Literature 489S, Visual and Media Studies 489S

489S. Capstone: Global Studies Seminar. **CCI, CZ, R, SS, W** Interdisciplinary seminar for senior

ICS majors; uses scholarship, literature and film to revisit critical global and transnational studies concepts and themes from ICS 195 at a level appropriate for seniors; writing-intensive, with assignments to facilitate analytical thinking; individual reflection on classroom, study away, and work experiences; library research; and engagement with the university intellectual and creative environment. Prerequisite: International Comparative Studies 195/History 103/Political Science 178/Religion 195/Sociology 195. Open to senior International Comparative Studies majors only. Instructor: Harris, Mathers, Namakkal, or Rosenblatt. 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: Harris, Mathers, Namakkal, or Rosenblatt. 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: Mathers, Namakkal, or Rosenblatt. One course.

503S. Cartographies of Gender and Sexuality in Middle East. R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 503S; also C-L: Asian & Middle Eastern Studies 527S

504S. Moments in Black (Radical) Theory: From Ferguson to Rhodes Must Fall to Silent Sam. CCI, EI, SS One course. C-L: see African & African American Studies 503S; also C-L: Religion 503S, Cultural Anthropology 503S, Political Science 589S

505S. Race in Comparative Perspective. CCI, SS One course. C-L: see Political Science 505S

506. Politics of United States Foreign Policy. EI, R, SS One course. C-L: see Public Policy 506; also C-L: Political Science 547

509S. Contemporary Dance History. ALP, CCI, CZ, W One course. C-L: see Dance 665S; also C-L: History 554S

510S. Global Africa. CCI, EI, SS One course. C-L: see Cultural Anthropology 561S; also C-L: African & African American Studies 510S, History 561S, Political Science 527S

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

513. 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

514S. Assisting Development. R, SS, W One course. C-L: see Public Policy 515S; also C-L: Political Science 546S

515S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 515S; also C-L: Literature 515S, Visual and Media Studies 515S, Gender, Sexuality, and Feminist Studies 505S

521S. International Environmental Regimes. EI, SS, STS One course. C-L: see Political Science 545S; also C-L: Public Policy 581S

525S. Culture, Power, History. CCI, SS One course. C-L: see Cultural Anthropology 525S

527S. Music in Literature and Philosophy. ALP, CCI, R One course. C-L: see German 580S; also C-L: English 580S

529S. Race and Ethnicity. CCI, EI, SS One course. C-L: see Public Policy 529S; also C-L: African & African

American Studies 551S

531S. Camera Asia. ALP, CCI, CZ, EI, R One course. C-L: see Art History 535S; also C-L: History 530S

537S. Post War Europe, 1945-1968: Politics, Society, and Culture. CCI, CZ, EI, SS, STS One course. C-L: see History 537S; also C-L: Political Science 515S

539S. Atlantic Constellations: Migration, Exile, Second Slavery. ALP, CCI, CZ, FL One course. C-L: see Spanish 539S; also C-L: History 542S

541S. Jews and the End of Theory. CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 541S; also C-L: Jewish Studies 541S, Literature 580S

543S. Piracy and European Imperial Expansion in the Atlantic Basin, 1492-1730. CCI, CZ, R, SS One course. C-L: see History 543S

561. 9/11: Causes, Response & Strategy. EI, SS, W One course. C-L: see Public Policy 561; also C-L: Political Science 544

577. Environmental Politics. SS One course. C-L: see Environment 577; also C-L: Public Policy 577

580S. Water Cooperation and Conflict. R, SS, STS One course. C-L: see Public Policy 580S; also C-L: Global Health 533S, Environment 543S

590. Special Topics in International Comparative Studies. Topics vary from semester to semester, focusing either on specific world regions or particular comparative/global issues. Instructor: Staff. One course.

590S. Topics in International Comparative Studies. Topics vary, focusing on either specific global regions or particular comparative/transnational issues. Instructor: Staff. Variable credit.

598. Economic Growth and Development Policy. SS, STS, W One course. C-L: see Public Policy 598

605. East Asian Cultural Studies. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 605; also C-L: Cultural Anthropology 605, Literature 571

613S. Third Cinema. ALP, CCI, EI, SS, STS One course. C-L: see Literature 613S; also C-L: African & African American Studies 530S, Latin American Studies 613S, Visual and Media Studies 611S

615S. The #Selfie. CZ, EI, R, STS One course. C-L: see Literature 615S; also C-L: Visual and Media Studies 615S, Gender, Sexuality, and Feminist Studies 615S

646S. Strategic Storytelling: Narratives for Development. ALP, CCI, EI, SS One course. C-L: see Public Policy 646S; also C-L: Study of Ethics 646S, Human Rights

647. Surviving Globalization: The Global South and the Development Imagination. CCI, EI, SS One course. C-L: see African & African American Studies 646; also C-L: Sociology 647

664S. Leaders, Nations, and War. CCI, R, SS, W One course. C-L: see Political Science 664S

The Major

The ICS major is divided into four categories: (1) Core courses are taught by ICS faculty members and include the required gateway course (taken in first or second year), the required capstone seminar (taken in senior year), and for students in excellent academic standing who wish to complete a lengthy supervised research project, the two-semester senior year honors thesis sequence. (2) Region courses focus on a particular geographic area of the world. (3) Global courses focus on global and transnational studies. (4) Foreign language courses build expertise in one language related to a student's region focus. Region, Global, and foreign language courses are offered by faculty members in many of Duke'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 advisor each semester, to assure they are on track toward fulfilling major requirements.

Major Requirements: Ten courses (Core, Region, and Global) 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 corequisite courses in one language, initiated at any level. Region and Global courses may not be below the 100 level. The ICS gateway course fulfills one of the 100-level requirements and the ICS capstone seminar 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. Rising juniors or seniors who decide to major in ICS may petition the director of undergraduate studies to take the course in exceptional circumstances, although course enrollment is capped at forty-nine and wait lists are honored. The course is cross-listed in DukeHub by the departments of cultural anthropology, sociology, history, religion, political science, and gender, sexuality, and feminist studies (the course number under which a student enrolls is irrelevant). ICS 195 is a prerequisite for ICS 489S, the ICS capstone seminar.
- **Region Concentration (four 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 DukeHub, although they will have such a number if they also meet ICS Global 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 director of undergraduate studies 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 ones, and recognizes dramatic variety within these regions.
 - **Interdisciplinarity:** The four Region courses chosen must come from at least two disciplinary or interdisciplinary departmental homes. The disciplinary home is determined by the originating departmental sponsor of the course. Approved ICS Region courses are listed according to the disciplinary home/number on the ICS website. However, a given ICS student may enroll in an approved Region course under any cross-list department/number.
 - **Study Away Courses in a Foreign Language:** Content courses offered in an advanced level of a non-English language at a study-away institution may count toward a major's Region concentration if they meet region criteria.
- **Global Courses (4):** ICS majors complete four courses chosen from a robust list of ICS-approved Global courses that is available on the ICS website. Global courses are typically assigned an ICS number in DukeHub, but are listed and organized according to the original disciplinary or interdisciplinary department home/number on the ICS website.
 - **Criteria for Global 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 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 Global courses chosen must come from at least two disciplinary or interdisciplinary departmental homes. The disciplinary home is determined by the originating departmental sponsor of the course. Approved ICS Global courses are listed according to the originating disciplinary home/number on the ICS website. However, a given ICS student may enroll under any cross-list department/number of an approved Global course.
- **Foreign Language Corequisite (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 preuniversity language courses, knowledge, or exams cannot be counted toward this corequisite. Language courses used to fulfill the corequisite may 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 corequisite. Language courses can be found in their sponsoring departments and will not be listed by ICS numbers in DukeHub.
 - **Double Counting:** One advanced language course may double count in the appropriate Region or Global category if its content meets ICS Region or Global criteria and other thresholds (see FAQs on the ICS website), 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.
 - **Notes:** Although the foreign language corequisite 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. See "Major Requirements" on the ICS website for additional notes on the ICS foreign language corequisite.
- **Capstone Seminar:** International Comparative Studies 489S (Capstone Seminar in International Comparative Studies). 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. International Comparative Studies 195 is a prerequisite for International Comparative Studies 489S. ICS seniors who produce capstone seminar research projects of exceptional quality are nominated for the ICS Capstone Research Prize by their faculty member. Winners receive a book prize, are listed in the Duke Commencement Program, and are recognized in the ICS Diploma Program and Ceremony.

ICS Advising & ICS Curricular Plan: After a student has formally declared an ICS major, the director of undergraduate studies will assign the student an ICS faculty advisor. Each major is required to complete an ICS Curricular Plan (forms are available on the ICS website). In order to assure that each student's curricular plan is accurate and up-to-date and each ICS major is on track for timely completion of the major, each ICS major is responsible for meeting with their ICS faculty advisor every semester before registration. Students who are studying away often communicate with their ICS advisor through email or Skype. This requirement to update a curricular plan every term also holds true for ICS AB2 majors and ICS majors who plan to study away the following semester, unless they have completed all ICS requirements and such completion is reflected on an updated, accurate, and approved curricular plan that is on file with the program. Because of the interdisciplinary nature of the ICS major, having an accurate and up-to-date curricular plan on file is the single most important administrative aspect for a successful senior clearance before commencement.

Study Away: ICS students are strongly encouraged to study away for a semester, and a large majority of ICS majors complete some part of their coursework in study away programs. Students considering or planning to major in ICS are expected to complete the required gateway course, ICS 195, before a study away semester. Up to four full credit study away or transfer courses that meet ICS Region, Global, 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 advisor before leaving for a study away program. The ICS gateway, capstone, and thesis courses must be taken at Duke and may not be substituted with transfer or study away courses. No matter the number it is assigned by the university registrar, ICS considers any study away course determined to meet Region or Global criteria to be at the intermediate level, or between 200 and 399, for the purposes of fulfilling the requirements of the major. Further

important information on study away 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. For more information, visit the Undergraduate Research Support Office website at <https://undergradueresearch.duke.edu/>. In addition, rising seniors accepted into the ICS Distinction Program may apply for a summer travel grant to advance language learning and/or to conduct field research, funded by the Scott Lee Stephenson Memorial Fund. The author of an exceptional distinction project is recognized with the ICS Distinguished Thesis Award. Additionally, up to four Capstone Research (Book) Prizes are awarded to seniors who produce superb research in an ICS capstone seminar.

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 global and transnationalism focus of the ICS Program.

Structure: A two-semester seminar sequence (International Comparative Studies 495S and International Comparative Studies 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 seventy to one hundred pages on a topic relevant to ICS's focus in global and transnational studies. 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 final project in electronic form. The completed project is submitted for evaluation to the ICS Distinction Committee by mid-April of the senior year.

Coursework: Successful completion of International Comparative Studies 495S in fall term fulfills the major requirement for International Comparative Studies 489S, the senior capstone course. Students must complete eleven non-Foreign Language courses to graduate with distinction in the major instead of the standard ten.

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 eleven 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 the week after spring break. The application includes a project proposal (about five pages) and initial bibliography (one to two 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 a research paper (on any topic). The ICS Distinction Program Coordinator, Professor Mathers, 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 and participation in the Honors sequence, 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: The ICS Program does not typically allow students to pursue double honors (i.e., complete a single interdisciplinary thesis for two different departments), but individual and rare exceptions may be granted.

Further details on deadlines, schedules, and expectations for Graduation with Distinction in ICS are available on the ICS website.

Islamic Studies

Professor Omid Safi, *Director*

Undergraduate courses in Islamic studies are coordinated by the Duke Islamic Studies Center (DISC). These courses are designed to educate students about Islam and Muslim cultures, beliefs, and practices so they are

prepared upon graduation to engage Muslim communities knowledgeably and productively in their professional careers or prepared to pursue graduate study.

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 Middle East and Islam Focus cluster with the Duke Middle East Studies Center; and promotes cross-cultural exchange regarding Islam and Muslim communities.

Courses in Islamic Studies

African & African American Studies

- 271. Humanitarianism in Africa
- 274S. Islam in the Americas
- 575. Justice, Law, and Commerce in Islam

Arabic

- 501S. Translation as a Research Tool in Arabic and Islamic Studies

Asian & Middle Eastern Studies

- 122. Islamic Civilization I
- 125. Egypt: Mother of the World
- 127. The Modern Middle East
- 143. Contemporary Israeli Cinema
- 160. Islam
- 179FS. Turkey: Muslim and Modern
- 185. Islamic Civilization II
- 186. The Turks: From Ottoman Empire to European Union
- 215S. The Middle East: From Facebook to Film
- 216. Jews and Muslims, Judaism and Islam
- 220S. From Al-Qaeda to ISIS: Understanding Terrorism, its Roots, Responses, and Ramifications
- 221. Arab Society and Culture in Film
- 230S. Islam in the Americas
- 244. Israel/Palestine: Comparative Perspectives
- 283S. Istanbul: City of Two Continents
- 296S. Turkish History through the Novels of Orhan Pamuk
- 322. Mystical Literature
- 324S. Muslim Philosophy and Theology, an introduction
- 325. Islamic Awakening: Revival and Reform
- 330S. Middle East Women Writers
- 373S. Islamic Mysticism
- 625. Islamic Awakening: Revival and Reform
- 683S. The City of Two Continents: Istanbul in Literature and Film
- 687. The Turks: From Ottoman Empire to European Union

Cultural Anthropology

- 148. Israel/Palestine: Comparative Perspectives
- 256. Islamic Civilization I
- 257. Islamic Civilization II
- 283S. Istanbul: City of Two Continents
- 417S. The Middle East: From Facebook to Film
- 423. Sex and Money

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

- 147. Israel/Palestine: Comparative Perspectives
- 216S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

Gender, Sexuality, and Feminist Studies

- 214. Contemporary Israeli Cinema

German

- 511S. Theory and Practice of Literary Translation

History

- 158S. Gateway Seminar: Islam and Nationalism
- 207. Humanitarianism in Africa
- 209S. Islam in Asia
- 210. Islamic Civilization I
- 211. Islamic Civilization II
- 212. The Turks: From Ottoman Empire to European Union
- 214. The Modern Middle East
- 216S. Between Moscow, Beijing and Delhi: Narratives of Europe and Asia
- 239FS. Turkey: Muslim and Modern
- 283S. Turkish History through the Novels of Orhan Pamuk
- 294. Jews and Muslims, Judaism and Islam

351S. Islam in the Americas

380S. Islamic Mysticism

397S. Istanbul: City of Two Continents

444. Islamic Awakening: Revival and Reform

Human Rights Program-Franklin Humanities Institute

148. Israel/Palestine: Comparative Perspectives

207. Humanitarianism in Africa

229S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

374S. Islam in the Americas

International Comparative Studies

160. Islam

229S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

249S. Istanbul: City of Two Continents

345S. Turkish History through the Novels of Orhan Pamuk

370S. Islam in Asia

380S. Islamic Mysticism

417S. The Middle East: From Facebook to Film

Jewish Studies

148. Israel/Palestine: Comparative Perspectives

241. Contemporary Israeli Cinema

256. Jews and Muslims, Judaism and Islam

258. The Modern Middle East

Literature

217. Contemporary Israeli Cinema

276S. Turkish History through the Novels of Orhan Pamuk

640S. Theory and Practice of Literary Translation

Medieval and Renaissance Studies

268. Islamic Civilization I

269. Islamic Civilization II

357. Jews and Muslims, Judaism and Islam

659. Justice, Law, and Commerce in Islam

Political Science

159. Israel/Palestine: Comparative Perspectives

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

367S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

Public Policy

178. Israel/Palestine: Comparative Perspectives

212. Globalization and Public Policy

279S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

354. Politics in the Developing World

Religion

160. Islam

212. Jews and Muslims, Judaism and Islam

228. The Turks: From Ottoman Empire to European Union

263. Mystical Literature

274FS. Religion & Politics: The Middle East Today

370S. Understanding the Qur'an

372. Islamic Awakening: Revival and Reform

373S. Islamic Mysticism

374S. Muslim Philosophy and Theology, an introduction

375. Islamic Civilization I

376. Islamic Civilization II

378S. Islam in Asia

384S. Islam in the Americas

388S. Muslim Ethics and Islamic Law: Issues and Debates

660. Justice, Law, and Commerce in Islam

663. Islam and Modernism

664. The Religion and History of Islam

Russian

370S. Islam in Asia

Slavic and Eurasian Studies

279FS. Turkey: Muslim and Modern

287. The Turks: From Ottoman Empire to European Union

370S. Islam in Asia

373S. Between Moscow, Beijing and Delhi: Narratives of Europe and Asia

683S. The City of Two Continents: Istanbul in Literature and Film

687. The Turks: From Ottoman Empire to European Union
Sociology
345. Nations, Regions, and the Global Economy
Study of Ethics
221. Arab Society and Culture in Film
235S. Muslim Philosophy and Theology, an introduction
373S. Islamic Mysticism
Visual and Media Studies
248. Contemporary Israeli Cinema
417S. The Middle East: From Facebook to FilmItalian

Italian

For courses in Italian, see Romance Studies on [page 727](#).

Japanese

For courses in Japanese, see Asian & Middle Eastern Studies on [page 203](#).

Jewish Studies

Professor Lieber (Religious Studies), *Director and Director of Undergraduate Studies*; Professors Emeriti C. Meyers (Religious Studies), E. Meyers (Religious Studies), and Silverblatt (Cultural Anthropology); Professors Brettler (Religious Studies), Dainotto (Romance Studies), Davis (Divinity School), Hacohen (History), Holmgren (Slavic and Eurasian Studies), Lieber (Religious Studies), Solterer (Romance Studies), and Vengosh (Earth and Ocean Sciences); Associate Professors Gellen (German Studies), Ginsburg (Asian & Middle Eastern Studies); and Stein (Cultural Anthropology); Assistant Professor Ziolkowski (Romance Studies); Visiting Assistant Professor Y. Miller (History); Instructor Bigman (Asian & 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 & Middle Eastern Studies, Classical Studies, International Comparative Studies, Cultural Anthropology, English, Germanic Languages, History, Medieval and Renaissance Studies, Political Science, Religious Studies, and Gender, Sexuality, and Feminist Studies. A full range of courses is available in classical and modern Hebrew. Also, relevant courses in Jewish studies may be taken at The University of North Carolina at 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, 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 religious studies may count for the certificate. Three (semesters) of Hebrew language courses may count toward the certificate.

Courses in Jewish Studies (JEWISHST)

80S. Special Topics in Writing. Various topics with diverse readings and intensive writing. Instructor: Staff. One course.

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

140. Judaism. CCI, CZ One course. C-L: see Religion 140; also C-L: Gender, Sexuality, & Feminist Studies

141. Judaism Through Film. ALP, CCI, CZ, EI, W One course. C-L: see Religion 141

145. The Old Testament/Hebrew Bible. CCI, CZ, EI One course. C-L: see Religion 145; also C-L: Ethics

Elective

148. Israel/Palestine: Comparative Perspectives. CCI, EI, SS One course. C-L: see Cultural Anthropology 148; also C-L: Asian & Middle Eastern Studies 244, Environment 147, Public Policy 178, Political Science 159, Human Rights Program-Franklin Humanities Institute 148, Ethics Elective, Islamic Studies, Human Rights

156. Scripture: Judaism, Christianity, and Islam. ALP, CCI, CZ, EI One course. C-L: see Religion 156; also C-L: Asian & Middle Eastern Studies 138

190A. Duke-Administered Study Abroad: Special Topics in Jewish Studies. Topics differ by section. Instructor: Staff. One course.

190FS. Special Topics: Jewish Studies Focus Seminar. Topics vary by semester when offered. Open only to students in Focus Program. One course.

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

206S. The Israeli-Palestinian Conflict in Films. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 201S

215S. Hinduism and Judaism: Culture, Religion, and Identity. CCI, CZ One course. C-L: see Religion 216S; also C-L: Asian & Middle Eastern Studies 349S

241. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 143; also C-L: Visual and Media Studies 248, Literature 217, Gender, Sexuality, and Feminist Studies 214, Islamic Studies

243. Modern European Short Fiction. ALP, CCI, CZ, EI One course. C-L: see Italian 220; also C-L: German 243, Literature 244, English 244, International Comparative Studies 212

245. Introduction to Israeli Culture. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 144

251. Jewish History, 1492 to the Present. CCI, CZ, EI, SS One course. C-L: see History 251; also C-L: Religion 340, International Comparative Studies 253, Ethics Elective

256. Jews and Muslims, Judaism and Islam. CCI, CZ, EI This course will explore the relationship between Judaism and Islam from Muhammad's initial encounter with the Jews of Medina until the 13th century, a period in which the majority of Jews in the world lived under Islamic rule. Striking a balance between the examination of the relationship between these two rich religious traditions and the investigation into the historical experiences of Jews, this course will examine the shared cultural heritage of the two religions, the legal position of Jews in Islam and medieval works of polemics. Through the documents of the Cairo Geniza, we will explore the everyday realities of Jews thoroughly embedded in the surrounding Islamic and Arab culture. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 357, Religion 212, Asian & Middle Eastern Studies 216, History 294, Islamic Studies

258. The Modern Middle East. CCI, CZ One course. C-L: see History 214; also C-L: Asian & Middle Eastern Studies 127, International Comparative Studies, Islamic Studies

266S. Screening the Holocaust: Jews, WWII, and World Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 341S; also C-L: Visual and Media Studies 275S, Literature 263S, Documentary Studies

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, Human Rights Program-Franklin Humanities Institute 308S, Human Rights

271. Sex and Gender in the Hebrew Bible. CCI, CZ, EI One course. C-L: see Religion 271; also C-L: Gender, Sexuality, & Feminist Studies

290S. Special Topics in Jewish Studies. Topics vary by semester. Consent of instructor is required. Instructor: Staff. One course.

- 301D. Religion, Restrictions, and Violence.** CCI, CZ, EI One course. C-L: see Religion 301D; also C-L: Political Science 303D, Public Policy 313D, Study of Ethics 303D, Asian & Middle Eastern Studies 301D
- 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
- 315SA. New York Scenes.** ALP, R One course. C-L: see English 315SA; also C-L: Theater Studies 218SA, Gender, Sexuality, and Feminist Studies 315SA, Art History 318SA, African & African American Studies 318SA
- 319S. Andalusia: Muslim, Jewish, Christian Spain.** ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 319S; also C-L: Religion 214S, Romance Studies 319S, Medieval and Renaissance Studies 352S
- 337. America from Abroad: Literature and Cinema.** ALP, CCI, EI, W One course. C-L: see Italian 337; also C-L: English 237, Literature 337
- 340S. Death and the Emergence of the Modern Self.** ALP, CCI, EI, SS One course. C-L: see Asian & Middle Eastern Studies 451S
- 342. The Holocaust.** CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Religion 342, Political Science 262, Human Rights Program-Franklin Humanities Institute 297, Human Rights
- 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, Religion 343
- 369. Germany Confronts Nazism and the Holocaust.** ALP, CCI, CZ, EI One course. C-L: see German 387; also C-L: Literature 369, History 261, Human Rights Program-Franklin Humanities Institute 387, Human Rights
- 372. Kafka and Cinema.** ALP, CCI, STS One course. C-L: see German 372; also C-L: Visual and Media Studies 371, Literature 377
- 390. Special Topics in Jewish Studies.** Topics vary from semester to semester. Instructor: Staff. One course.
- 390A. Duke-Administered Study Abroad: Advanced Topics.** Topics differ by section. Instructor: Staff. One course.
- 390S. Special Topics in Jewish Studies.** Seminar version of Jewish Studies 390. Instructor: Staff. One course.
- 407S. Issues in Modern Hebrew.** ALP, CCI, FL One course. C-L: see Hebrew 407S
- 455S. Introduction to Israeli Culture.** ALP, CCI, CZ, FL One course. C-L: see Hebrew 455S
- 490S. Special Topics in Jewish Studies.** Topics vary by semester. Instructor: Staff. One course.
- 497S. Research Scholars Colloquium.** Colloquium for Jewish Studies Undergraduate Research Scholars. DUS approval required. Instructor: Staff. Half course.
- 519S. Andalusia: Muslim, Jewish, Christian Spain.** ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 519S; also C-L: Religion 519S, Romance Studies 519S
- 541S. Jews and the End of Theory.** CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 541S; also C-L: Literature 580S, International Comparative Studies 541S
- 550. Archaeology of Palestine in Hellenistic-Roman Times.** CCI, CZ, STS One course. C-L: see Religion 550
- 555S. Art and the Holocaust: Architecture, Art, and Cultural Politics during the Nazi Period.** ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 525S; also C-L: German 565S, History 531S
- 601S. Introduction to Jewish Studies.** An introduction to the topics and methods that are characteristic of Jewish studies as an academic and scholarly rubric in the contemporary university. The course engages both the history of Judaism as a religious culture and the history of Jewish Studies. Co-taught with faculty from UNC.

Weekly meetings will alternate between Duke and UNC campuses. Instructor: Lieber. One course. C-L: Religion 613S, History 601S

606S. Hebrew Biblical Texts. One course. C-L: see Religion 606S

607. Hebrew Prose Narrative. FL One course. C-L: see Religion 607

608. Classical Hebrew Poetry. FL One course. C-L: see Religion 608

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; also C-L: Human Rights Program-Franklin Humanities Institute 603, Human Rights

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 277080964.

Korean

For courses in Korean, see Asian & Middle Eastern Studies on [page 203](#).

Latin

For courses in Latin, see Classical Studies on [page 247](#).

Latin American & Caribbean Studies

Patrick Duddy, *Director*

A certificate, but not a major, is available in this program.

The Program in Latin American & Caribbean 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 The University of North Carolina at 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 working groups and an annual Latin American Film Festival.

Students interested in earning a certificate in Latin American & Caribbean 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.

For further information consult the academic program coordinator of the Center for Latin American and Caribbean Studies located in the John Hope Franklin Center, 2204 Erwin Road, Durham, NC 27708.

Certificate in Latin American and Caribbean Studies

The course of study for program participants is intended to be interdisciplinary. Students working toward a certificate in Latin American and Caribbean studies will declare a major in an academic department. To qualify for the certificate, students take Latin American Studies 230 (Introduction to Contemporary Latin America), the interdisciplinary capstone seminar (Latin American Studies 498S or other courses designated as a capstone each term), 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, K'iche' Maya, or Yucatec Maya). A Summer Intensive Yucatec Maya Language Program is also offered through the Consortium in Latin American Studies, and Haitian Creole and K'iche' Maya are 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 academic program coordinator. 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 International Comparative Studies.

Courses in Latin American Studies (LATAMER)

89S. First Year Seminar in Latin American and Caribbean Studies. Topics vary by semester.
Instructor: Staff. One course.

121. Introduction to Contemporary Latin America. CCI, CZ One course. C-L: see History 121; also C-L: International Comparative Studies 121

122. History of Latinxs in the United States. CCI, CZ, SS One course. C-L: see History 122; also C-L: Gender, Sexuality, and Feminist Studies 122, International Comparative Studies 122, Latino/a Studies in the Global South

222. Environment and Global Capitalism in Latin America. CZ, R, SS, W One course. C-L: see History 222; also C-L: Environment 223

223. Mexico Since Before Cortes. CCI, CZ One course. C-L: see History 324

246S. Human Rights in the Americas. CCI, CZ, W One course. C-L: see Cultural Anthropology 245S; also C-L: History 242S, Human Rights Program-Franklin Humanities Institute 245S, International Comparative Studies, Human Rights

283SL. Death, Burial, and Justice in the Americas. EI, SS One course. C-L: see International Comparative Studies 283SL; also C-L: Cultural Anthropology 285SL, African & African American Studies 283SL, Human Rights Program-Franklin Humanities Institute 283SL, Human Rights

290A. Duke-Administered Study Abroad: Special Topics in Latin American Studies. Topics differ by section. Instructor: Staff. One course.

320S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS One course. C-L: see Literature 320S; also C-L: African & African American Studies 247S, International Comparative Studies 320S, Information Science + Studies 323S, Visual and Media Studies 323S, Human Rights Program-Franklin Humanities Institute 323S, Asian & Middle Eastern Studies 318S, Human Rights

321. Visualizing the Caribbean. ALP, CCI, R, SS One course. C-L: see African & African American Studies 321; also C-L: Cultural Anthropology 368, International Comparative Studies 318

327. El cine político en América Latina. ALP, CCI, CZ, FL One course. C-L: see Spanish 339; also C-L: Visual and Media Studies 383, Literature 339

328. Global Brazil. CCI, CZ, SS One course. C-L: see History 328; also C-L: African & African American Studies 213, Human Rights Program-Franklin Humanities Institute 328, Human Rights

330S. Middle East and Latin America. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 375S; also C-L: Latino/a Studies in the Global South

336S. Unraveling Paradise: Examining the Mythical Ideal Through Art and Documentary of the

Caribbean. ALP, CCI, CZ One course. C-L: see Documentary Studies 336S; also C-L: Visual Arts 336S, Visual and Media Studies 367S

341S. Perspectives on the Amazon. CCI, CZ One course. C-L: see Portuguese 341S; also C-L: Literature 341S

343. Displacements: Migration and Human Trafficking. ALP, CCI, EI, R, SS One course. C-L: see African & African American Studies 343; also C-L: Cultural Anthropology 342, Sociology 343, Human Rights Program-Franklin Humanities Institute 339, Human Rights

349. Political Economy of Latin America. CCI, SS One course. C-L: see Political Science 349; also C-L: International Comparative Studies 354

363S. The Idea of Latin America in the Global World Order. CCI, CZ, FL One course. C-L: see Spanish 363S

380S. Political Cinema in Latin America. ALP, CCI, CZ, FL One course. C-L: see Spanish 380S; also C-L: Visual and Media Studies 420S, Literature 381S

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.

409. Surviving Globalization: The Global South and the Development Imagination. CCI, EI, SS One course. C-L: see African & African American Studies 409; also C-L: Cultural Anthropology 409, International Comparative Studies 409, Sociology 409

450S. The Global Caribbean. CCI, EI, R, SS One course. C-L: see African & African American Studies 450S; also C-L: Cultural Anthropology 450S, International Comparative Studies 418S, Sociology 450S

471S. Capstone Seminar: Latin American Left Turns: A New Politics for the 21st Century?. CCI, CZ, R, SS, W One course. C-L: see History 471S; also C-L: Political Science 497S

490A. Duke-Administered Study Abroad: Advanced Special Topics in Latin American Studies. Topics differ by section. Instructor: Staff. 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.

495S. Latino/as in the Global South Capstone - Global/Local Contexts. CCI, CZ, SS One course. C-L: see Latino/a Studies in the Global South 495S; also C-L: Cultural Anthropology 495S, Romance Studies 495S, Gender, Sexuality, and Feminist Studies 495S

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, with significant emphasis on student mentoring and capstone thesis/project. Frequently taught by visiting scholars from Latin America. Open to juniors and seniors only. Instructor: Staff. One course.

540S. Memory and Documentary Cinema in Latin America. ALP, CCI One course. C-L: see Romance Studies 540S; also C-L: Visual and Media Studies 540S, Documentary Studies 540S, Literature 544S

590. 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 juniors, seniors and graduate students. Instructor: Staff. One course.

590S. 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 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 & African American Studies 594S; also C-L: Cultural Anthropology 594S, Sociology 594S

613S. Third Cinema. ALP, CCI, EI, SS, STS One course. C-L: see Literature 613S; also C-L: African & African American Studies 530S, International Comparative Studies 613S, Visual and Media Studies 611S, International Comparative Studies

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 & African American Studies

- 209. Afro-Brazilian Culture and History
- 217S. The Atlantic Slave Trade
- 218. The Caribbean, 1492-1700
- 219. War, Slavery, and Revolution in the Caribbean, 1700-1800
- 264. Latin American Wars of Independence
- 283SL. Death, Burial, and Justice in the Americas

Art History

- 433S. Photography in the Americas: War, Tourism, Art, and Protest

Asian & Middle Eastern Studies

- 202S. Francophone Literature

Biology

- 561. Tropical Ecology

Cultural Anthropology

- 285SL. Death, Burial, and Justice in the Americas
- 348A. The Politics of Salsa: Music, Urban Spaces and Globalization

Environment

- 223. Environment and Global Capitalism in Latin America
- 517. Tropical Ecology

French

- 417S. Francophone Literature

Gender, Sexuality, and Feminist Studies

- 122. History of Latinxs in the United States

History

- 122. History of Latinxs in the United States
- 222. Environment and Global Capitalism in Latin America
- 264. Latin American Wars of Independence
- 316S. The Atlantic Slave Trade
- 318. The Caribbean, 1492-1700
- 319. War, Slavery, and Revolution in the Caribbean, 1700-1800
- 324. Mexico Since Before Cortes
- 326. Colonial Latin America
- 327. Afro-Brazilian Culture and History
- 329. Latin America Since Independence
- 387S. Francophone Literature

Human Rights Program-Franklin Humanities Institute

- 219. War, Slavery, and Revolution in the Caribbean, 1700-1800
- 283SL. Death, Burial, and Justice in the Americas
- 327. Afro-Brazilian Culture and History

- 432S. Popular Culture and Political Repression in Spain and Latin America

International Comparative Studies

- 122. History of Latinxs in the United States
- 209S. The Atlantic Slave Trade
- 232. Latin American Wars of Independence

263. War, Slavery, and Revolution in the Caribbean, 1700-1800
 283SL. Death, Burial, and Justice in the Americas
 459S. Photography in the Americas: War, Tourism, Art, and Protest
- Music**
 325A. The Politics of Salsa: Music, Urban Spaces and Globalization
- Political Science**
 257. Latin American Wars of Independence
 343S. The US Border and its Borderlands
- Portuguese**
 260. Afro-Brazilian Culture and History
- Public Policy**
 216S. The US Border and its Borderlands
- Sociology**
 226. The Challenges of Development
- Spanish**
 334. Introduction to Spanish-American Literature
 335. Introduction to Spanish-American Literature
 344A. The Politics of Salsa: Music, Urban Spaces and Globalization
 432S. Popular Culture and Political Repression in Spain and Latin America
 433S. Photography in the Americas: War, Tourism, Art, and Protest
- Visual and Media Studies**
 433S. Photography in the Americas: War, Tourism, Art, and Protest
 556S. Latin American Modernism and Visual Culture

Latino/a Studies in the Global South

Professor Claudia Milian, *Director*

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 The University of North Carolina at 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 may enroll in Spanish Service Learning courses as well as Duke-approved study away programs and DukeEngage programs that focus on Latino/a populations in the United States and/or that take place in various countries within Latin America. For further information, consult the Senior Program Coordinator 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 Office of the University Registrar (juniors and seniors) and should also meet in person with the Senior Program Coordinator 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 percent) 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 201 or 201S (Introduction to Latino/a Studies in the Global South).
- four elective courses, three of which must be at or above the 200-level. Of the 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 percent of course content on Latino/as or Latino/a studies and with term papers or other major projects focusing on this field. Language courses directly applicable to students' work in the certificate (e.g., in American indigenous languages or languages relevant to the study of Latino/a migrations to other areas of the Global South) can also be considered. To determine if specific courses meet requirements for the certificate, students should consult the Senior Program Coordinator. Up to two of the elective courses may be taken at The University of North Carolina at Chapel Hill, in consultation with the Senior Program Coordinator. Courses taken abroad with Latino/a Studies content that appear on the Duke transcript may count toward the 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), or equivalent advanced offering with Program approval, preferably in the senior year.

Courses in Latino/a Studies in the Global South (LGS)

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

201. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS Introduction 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 introductory course for students in the Latino/a Studies in the Global South certificate program. Instructor: Viego. One course. C-L: African & African American Studies 104, International Comparative Studies 106, Literature 243, Spanish 160

201S. 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 243S, Spanish 160S, African & African American Studies 104S, International Comparative Studies 106S

254. Cultures and Politics of the America Borderlands. CCI, EI, SS, STS One course. C-L: see Cultural Anthropology 254; also C-L: Human Rights Program-Franklin Humanities Institute 254, International Comparative Studies 254

290. 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. Instructor: Staff. One course.

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. Advanced Spanish for Heritage Learners. 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; also C-L: Global Health 326, Cultural Anthropology 306, Human Rights

307S. Issues of Education and Immigration. CCI, FL One course. C-L: see Spanish 307S; also C-L: Education 307S

308S. Latinx Voices in Duke, Durham, and Beyond. CCI, CZ, FL, W One course. C-L: see Spanish 308S

310. Translating Spanish-English and English-Spanish. ALP, CCI, FL One course. C-L: see Spanish 310; also C-L: Linguistics 310

314S. US Latin@ Histories. CCI, EI, SS, W One course. C-L: see History 314S

316. Sociology of Racism in America. CCI, EI, R, SS One course. C-L: see Sociology 215; also C-L: African & African American Studies 246, Human Rights Program-Franklin Humanities Institute 215, Marxism and Society, Human Rights

330S. Undocumented America in Literature. ALP, CCI This seminar explores the representation of lived experiences, trajectories, and current events vis-à-vis the figure of the undocumented migrant, in contemporary American literature. Testimonial accounts, journalism chronicles, memoirs, poetry, cinematic works, and critical scholarship inform and propel our study of the experience of (“illegal”) migrant movement—departure, journey, and arrival—as portrayed in Latino and Latina literature. We will question status designations such as “illegal,” “undocumented,” and “unauthorized”; “legitimacy” and recognition; the inadmissible and the construction of “suspect” bodies; social participation in US society. Instructor: Milian. One course. C-L: Literature 329S, Romance Studies 330S, Cultural Anthropology 329S

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change. CCI, CZ, EI, SS One course. C-L: see Documentary Studies 332S; also C-L: Cultural Anthropology 236S, Visual and Media Studies 341S, Human Rights Program-Franklin Humanities Institute 332S, Human Rights

336. Introduction to US Latino/a Literature. ALP, CCI One course. C-L: see Spanish 336; also C-L: Literature 336

350. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350; also C-L: Neuroscience 250, Gender, Sexuality, and Feminist Studies 350, Romance Studies 350

350S. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350S; also C-L: Neuroscience 250S, Gender, Sexuality, and Feminist Studies 350S, Romance Studies 350S

365S. Latino/a Popular Culture. ALP, CCI One course. C-L: see Romance Studies 365S

390. Special Topics in Latino/a Studies in the Global South. A comparative and interdisciplinary approach to Latino/a Studies in the Global South. Topics and instructors vary by semester. Instructor: Staff. One course.

390S. Special Topics in Latino/a Studies in the Global South. A comparative and interdisciplinary approach to Latino/a Studies in the Global South. Topics vary by semester and instructors. Instructor: Staff. One course.

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. CCI, CZ, R, SS, W One course. C-L: see History 465S

490S. Special Topics in US Latina/o Literatures and Cultural Studies. One course. C-L: see Spanish 490S-2

490S-1. Special Topics in Latino/a Studies in the Global South. A comparative and interdisciplinary approach to Latino/a Studies in the Global South. Topics vary with instructors. Instructor: Staff. One course.

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. C-L: Cultural Anthropology 495S, Latin American Studies 495S, Romance Studies 495S, Gender, Sexuality, and Feminist Studies 495S

690. Special Topics in Latino Studies in the Global South. A comparative approach to Latino Studies in the Global South that draws on the methods and materials of other disciplines. Focus on interdisciplinary study. Contents vary with instructors. Instructor: Staff. One course.

Electives

Asian & Middle Eastern Studies

375S. Middle East and Latin America

Cultural Anthropology

236S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

254. Cultures and Politics of the America Borderlands

348A. The Politics of Salsa: Music, Urban Spaces and Globalization

Documentary Studies

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

Gender, Sexuality, and Feminist Studies

122. History of Latinxs in the United States

History

122. History of Latinxs in the United States

389S. Family Rights/Human Rights

465S. Capstone Seminar: History of the U.S./Mexico Border, 18th to 20th Centuries

Human Rights Program-Franklin Humanities Institute

254. Cultures and Politics of the America Borderlands

332S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

389S. Family Rights/Human Rights

International Comparative Studies

122. History of Latinxs in the United States

254. Cultures and Politics of the America Borderlands

Latin American Studies

122. History of Latinxs in the United States

330S. Middle East and Latin America

Music

325A. The Politics of Salsa: Music, Urban Spaces and Globalization

Public Policy

346S. Family Rights/Human Rights

Spanish

303. Introduction to Cultural Studies

344A. The Politics of Salsa: Music, Urban Spaces and Globalization

Visual and Media Studies

341S. Farmworkers in North Carolina: Roots of Poverty, Roots of Change

Linguistics

Professor Andrews, *Chair and Director of Undergraduate Studies*; Professors Andrews, Benmanoun (Asian & Middle Eastern Studies), Brandon (Philosophy), Rosenberg (Philosophy), Rubin (Psychology), and Tomasello (Psychology); Associate Professors Baran (English) and Day (Psychology); Assistant Professor Bergelson (Psychology); Professors of the Practice Fellin (Romance Studies) and Paredes (Romance Studies); Visiting Professor Newcity; Visiting Assistant Professor Price; *Affiliated Faculty*: Professors Flanagan (Philosophy), Neander (Philosophy), and Rubin (Psychology); Assistant Professor Sterrett (Philosophy); Professor of the Practice Kim (Asian & Middle Eastern Studies); Research Professor Mazuka (Psychology)

A major and a minor are 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 past 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 database; 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.

Courses in Linguistics (LINGUIST)

89S. First-Year Seminar Special Topics. First year seminar devoted to relevant topics in the field of linguistics, including sociolinguistics, neurolinguistics, cognitive linguistics, linguistic theory, languages of the world, language and identity, language and migration, language and media, language and culture, and language and law. Instructor: Staff. One course.

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.

115FS. Games and the Brain. NS An introduction to the brain, fMRI technology, and tools used to analyze fMRI data. Analyze neural substrates that support game play through hands-on work with functional magnetic resonance imaging data. Consider structured games and how they can be used to answer questions about the brain. Design an fMRI experiment to learn something new about the brain. Initial assignments will assess data quality and prepare it for later analyses using a general-linear-model framework. Open only to students in the FOCUS program. Instructor: Carter. One course. C-L: Neuroscience 157FS

123FS. When the Head's in Trouble: Language, Lesions and Loss. NS Study of neurological breakdowns due to lesions from benign and malignant brain tumors, epilepsy (w/without lesions), head/neck cancer. Includes fundamentals of neuroanatomy, neurophysiology and head/neck physiology. Explores important diagnostic and research procedures, including cortical stimulation mapping, innovations in radiation therapy, surgery, molecular targeting, imaging, minimizing side effects of treatment, clinical trials. Topics include neurocognitive variation across patients with focus on memory and language, cortical and network abnormalities in criminal psychopathy, oncology and the human papilloma virus, and radiation/surgical treatments for head and neck cancer. Instructors: Brizel and Serafini. One course. C-L: Neuroscience 123FS

170. Advertising and Society: Global Perspective (DS4). CCI, SS One course. C-L: see Cultural Anthropology 170; also C-L: Sociology 160, Visual and Media Studies 170, International Comparative Studies 169, Policy Journalism and Media Studies, Gender, Sexuality, & Feminist Studies

170D. Advertising and Society: Global Perspective (DS4). 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. The study of linguistics and languages on Duke-approved programs at foreign institutions of higher learning. Topics differ by section. Instructor: Staff. One course.

190FS. Special Topics in Linguistics. Topics vary by semester. For students in the FOCUS program. Instructor: Staff. One course.

195FS. Cognition, Identity, and Linguistic (Human) Rights. CCI, EI, SS One course. C-L: see Romance Studies 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: Price. One course. C-L: Cultural Anthropology 201, 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: Baran. One course. C-L: Cultural Anthropology 202, Russian 362, International

Comparative Studies 210

203. Elements of Linguistic Structure. SS Examination of the main aspects of the phonemic systems and sound patterns and alternations of various languages that belong to different linguistic families, their word formation processes and mechanisms, and their phrasal and sentential syntactic structures and representations. Topics include the main issues in the field and theoretical approaches to natural languages and to language variation and change. Instructor: Benmamoun. One course. C-L: Asian & Middle Eastern Studies 219

204. History of English. 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

206. Variety in Language: English in the United States. CCI, SS English language variation in the United States considered from a current sociolinguistic perspective. Social, regional, ethnic, gender, and stylistic-related language variation, along with models for describing and applying knowledge about language variation. Language variation focused on vernacular varieties of American English in general and on North Carolina in particular. C-L. Instructor: Staff. One course. C-L: English 206

207. Psychology of Language. 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 + 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

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 250FS, Science & Society 212FS

213FS. The Politics of Language. SS One course. C-L: see Slavic and Eurasian Studies 215FS; also C-L: Political Science 185FS, International Comparative Studies 228FS

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: Neuroscience 116FS, Science & Society

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, Science & Society

217FS. Language, Thought, and Culture. CCI, CZ, SS Examines how language, thought, and culture are interrelated processes and structures. Takes a sociolinguistic perspective that language and society are intertwined, to understand how language either constrains or influences thought, how culture and language interact, and how culture is constructed through cognition. Course covers the study of signs (semiotics), cultural and linguistic depictions of people, groups, and issues (representation and discourse analysis), individual and societal beliefs about language itself (language ideologies), how meaning is created and perceived (semantics), and how speakers use language in real-life situations (linguistic anthropology). Open only to students in Focus Program. Department consent required. Instructor: Fellin and Price. One course. C-L: Romance Studies 217FS

218FS. Language and Identity. CZ, R, SS One course. C-L: see Romance Studies 207FS

219S. North Indian Classical Music: Structure, Culture and Lyric. ALP, CCI, CZ North Indian classical music (NICM) has a rich history of three thousand years with influences from multiple cultures/

languages. This course will explore linguistic/cultural/musical aspects of NICM culture. Texts and music include Bandishes (songs), using four different languages—Sanskrit, Hindi, Urdu, and Brajbasha, exploration of multilingual and multicultural aspects of text and melody construction, fundamental monophonic musical structure and improvisation (NICM-based definitions of raaga (melody) and thala(rhythm)). Theoretical principles include the Bhathkandes notation system. Live performances of main ragas and compositions in different dialects. Students learn to play tanpura, a traditional instrument. Instructor: Michael. One course. C-L: Asian & Middle Eastern Studies 212S

250. Symbolic Logic. CZ One course. C-L: see Philosophy 250; also C-L: Information Science + Studies

301. Advanced Spanish Grammar. CCI, FL One course. C-L: see Spanish 302

302S. French Phonetics. FL One course. C-L: see French 329S

304S. French Composition and Translation. CCI, FL, W One course. C-L: see French 304S

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 478S

308S. Bilingualism. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 308S

309S. Spanish in the U.S. CCI, FL, SS One course. C-L: see Spanish 309S

310. Translating Spanish-English and English-Spanish. ALP, CCI, FL One course. C-L: see Spanish 310; also C-L: Latino/a Studies in the Global South 310

315S. Acquisition of Japanese as a Second Language. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 310S

358S. Sociolinguistic Landscapes: German Language, Society, and Identity. CCI, CZ, FL, SS One course. C-L: see German 358S

364. Gender and Language. CCI, R, SS One course. C-L: see Russian 364; also C-L: Cultural Anthropology 232, International Comparative Studies 207, Gender, Sexuality, and Feminist Studies 232

384S. The History, Theory, and Praxis of Translating Languages and Worlds. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 489S; also C-L: Literature 384S

387S. Mapping Language Justice in Durham and Beyond. CCI, SS One course. C-L: see Romance Studies 387S

389S. Linguistic Human Rights in the Americas. CCI, EI, SS One course. C-L: see Romance Studies 389S

390A. Duke-Administered Study Abroad: Advanced Special Topics in Linguistics. 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. Special Topics in Linguistics. Topics vary each semester. Instructor: Staff. One course.

390S-01. Topics in Spanish Linguistics. 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, International Comparative Studies 396S, Human Rights Program-Franklin Humanities Institute 396S, Human Rights

397S. Narratives of Migration. ALP, CCI, R One course. C-L: see English 397S; also C-L: Cultural Anthropology 330S, International Comparative Studies 330S

409S. Identity and Linguistic Rights in the Spanish Speaking Americas. CCI, CZ, EI, FL One course. C-L: see Spanish 409S; also C-L: Human Rights Program-Franklin Humanities Institute 409S, Human Rights

410S. Linguistics and Law (DS4). 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.

413. Language and Aging. NS, SS This course will examine language acquisition, maintenance and loss across the life cycle. Research will include experiments and data collection with healthy subjects and in pathology (including different aphasias and dementias). Special foci include cognitive neurolinguistic approaches to understanding acquisition and maintenance of languages (first, second, third, etc.) across different age groups, bi- and multilingualism in aging, hypotheses about cognitive reserve, use of imaging in understanding languages in the healthy and pathological brain, and developing new protocols for future research. Instructor: Andrews. One course. C-L: Neuroscience 413

437S. Language Development. SS One course. C-L: see Psychology 437S

450S. Junior/Senior Seminar in Linguistics. CCI, R, SS Theory and methods of comparative linguistics. 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 included. Topics include theories of reconstruction, languages in contact, abductive processes, and questions of linguistic typology. Major research paper required. Instructor: Andrews, Butters, or Tetel. 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, International Comparative Studies 395, Human Rights Program-Franklin Humanities Institute 395, Human Rights

471S. Language and Politics: Global Perspectives. CCI, SS We will never speak a single language, or agree on the best way to organize society and politics for "the good life." How do macro-politics affect the language(s) we choose to speak? What public policy initiatives can be deployed so that language is an accessible resource for all? Are there such things as language rights, and how can they be distributed and defended? These questions are not just academic, but essential to understanding the world(s) that we inhabit. This course takes a global and historical approach to the politics of language, examining the relationships between language, society, and the state. Instructor: Price. One course. C-L: Slavic and Eurasian Studies 484S, Sociology 471S, Public Policy 208S

473AS. 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. Offered through Duke in Russia program. Instructor consent required. Instructor: Andrews. One course. C-L: Russian 438AS, Neuroscience 438AS

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, Neuroscience 439S, Science & Society 439S

480S. Critical Discourse Analysis: Theory and Method. CCI, EI, R, SS Presents key theories and methodologies of critical discourse analysis (CDA) through substantive practice in analyzing language and discourse in real-world texts, with a focus on understanding ethical implications of how people, events and issues are represented. Theoretical frameworks from e.g. Foucault and Laclau & Mouffe are examined in the context of linguistic approaches from e.g. Saussure, Halliday and Blommaert. Primarily aimed at junior/senior Linguistics majors but open to upper-class/graduate students majoring in allied humanities/social science fields. Some knowledge of language/linguistics is helpful, though not necessary. Instructor: Price. One course.

490S. Special Topics in Linguistics. Topics vary by semester. Instructor: Staff. One course.

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.

494. Research Independent Study. R See Linguistics 493. Consent of instructor and director of

undergraduate studies required. Instructor: Staff. One course.

497. Second Language Acquisition and Research. NS, R, SS Addresses historical and current perspectives on second language acquisition. SLA is the study of processes that contribute to learning a language other than the first language. The course will focus on linguistic, cognitive, and sociocultural processes that contribute to the acquisition of the L2. Research methodologies, neuroimaging, and data interpretation will be emphasized. Recommended prerequisite (for Neuroscience majors): Neuroscience 101 or 102. Instructor: Andrews. One course. C-L: Romance Studies 450, Neuroscience 450

498. Cyber Law: Law, Language, and Computers. EI, STS Cyber law refers to the legal principles that govern the creation, use of computers, software, and computer networks, or that relate to the transfer, use, and storage of electronic information. In this course we will analyze the key legal principles concerning: ownership of the designs of integrated circuits and computer software; crimes involving the use of computers; protection of electronic data, with particular concern for the protection of privacy interests; freedom of expression on the internet. There will be several over-arching meta-themes in this course, and other related themes. This course is designed for students with little or no familiarity with the American legal system. Instructor: Newcity. 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: Telel. 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: Telel. One course. C-L: English 503S

506S. Semiotics and Linguistics (DS4). ALP, CCI, R, SS One course. C-L: see Russian 506S

510. Brain and Language. NS, R The relationship of brain and language is explored through a variety of methodologies and approaches, including studies of first and second language acquisition across cultures, multilingualism, language disorders. Neuroimaging studies (including electrophysiological and hemodynamic techniques) are central to understanding current neurobiological, neurophysiological and neurolinguistic perspectives of representation of language(s) in the brain. Readings and case studies focus on the latest theoretical contributions to the field. IRB certification and data collection are required. 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

518S. Approaches and Practices in Second Language Pedagogy. CCI One course. C-L: see Asian & Middle Eastern Studies 518S; also C-L: Education 518S

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
- 562S. Old Norse: Introduction to the Language of Viking Scandinavia.** ALP, CZ One course. C-L: see German 510S; also C-L: Medieval and Renaissance Studies 609S
- 564. Russian and Slavic Linguistics.** SS One course. C-L: see Slavic and Eurasian Studies 564
- 590. Special Topics.** 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.** Same as Linguistics 590 except instruction is provided in a seminar format. Instructor: Staff. One course.
- 595. Language, Music and Dementia: Neuroscience Approaches.** NS, R, SS Exploration of the neuroscience data on cognitive processing of languages and music in healthy subjects and pathology. Specific attention given to the interaction of language(s) and music in the brain, music therapy and dementia, and multilingualism and dementia. Topics include the role of languages and music in building cognitive reserve, linguistic breakdown and cognitive decline in healthy aging and dementia, cross-cultural studies of pitch and timbre perception across languages of the world, possible benefits of multilingualism in healthy aging, interactions of singing and memory, integration of auditory and visual neural systems in language and music. Instructor: Andrews, Linnartz. One course. C-L: Neuroscience 595, Music 595

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 201 and 202, 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 450S, 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 300 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

The linguistics 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. The requirements are as follows:

- Introductory Linguistics Courses (two):
 - Linguistics 201 (Introduction to Linguistics)
 - Linguistics 202 (Languages of the World)
- Capstone: Linguistics 450S (Jr./Sr. Seminar in Linguistics) or Linguistics 595 (Language, Music and Dementia)
- Theory: Three courses in the study of theoretical linguistics. Courses to be chosen from the following list:

Regularly Scheduled Linguistics Courses and Special Topics Courses

- 203S. Introduction to Theoretical Linguistics
204. English Historical Linguistics
206. Variety in Language
207. Psychology of Language (cross-listed)
209. Philosophy of Language
216S. Neuroscience and Human Language
250. Symbolic Logic
303. Fundamentals of Spanish Linguistics
305S. Italian Sociolinguistics

306S. Korean Sociolinguistics
308S. Bilingualism
364. Gender and Language
410S. Linguistics and Law
451. Language and Society
471S. Language and Politics
473S. Neuroscience and Multilingualism (cross-listed w/Neuroscience 439S)
480S. Critical Discourse Analysis
493. Research Independent Study
490S. Special Topics in Linguistics
494. Research Independent Study
497. Second Language Acquisition and Research
501. Cognitive and Neurolinguistics
502S. Language, Brain, and Human Behavior
506. Semiotics and Linguistics
510. Brain and Language
561S. Second Language Acquisition and Applied Linguistics
590. Special Topics
590S. Special Topics in Linguistics
595. Language, Music and Dementia

- **Disciplinary Areas.** Two courses in one of the areas listed below. No course taken for credit as theory may be double-counted to fulfill the disciplinary concentration requirement. Qualifying courses are listed above under the heading “Regularly Scheduled Linguistics Courses and Special Topics Courses.” Disciplines include:
 - Asian and Middle Eastern studies
 - Cultural anthropology
 - English
 - German
 - Italian
 - Neuroscience
 - Philosophy
 - Psychology
 - Romance studies
 - Slavic and Eurasian studies
 - Spanish
- **Junior/Senior Seminar in Linguistics (Linguistics 450S) or Language, Music and Dementia (Linguistics 595).** The capstone course for the major, usually taken in the junior or senior year.
- **Language Requirement.** Two semester courses in a single language other than English at or above the 300 level, excluding languages in which the student possesses CEFR C2 proficiency in speech and writing. 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: Arabic, Chinese, French, German, Greek, Hebrew, Hindi, Italian, Japanese, Korean, Latin, Polish, Portuguese, Russian, Spanish.

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.

Evaluation Procedure. Completion of the thesis, its evaluation, and its defense before a three-member faculty committee warrants Graduation with Distinction.

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. **Research Independent Study (Linguistics 493).** Taken in the fall semester of the senior year,

this course 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.

2. Capstone Course (Linguistics 450S or 595). The second course is the capstone course required for all linguistics majors, which must be one of the following courses: Linguistics 450S, Senior Seminar in Linguistics, or Linguistics 595, Language, Music and Dementia.

Additional research independent study courses may be taken. Independent study courses are above and beyond the ten courses required for the major.

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.

Global Cultural Studies in Literature Program

Professor Chow, *Chair*; Associate Professor Viego, *Director of Undergraduate Studies*; Professors Chow, Dainotto, Hansen, Hardt, Jameson, R. Khanna, Mignolo, Moi, and Wiegman; Associate Professors Hadjioannou, Motta-hedeh, and Viego; Assistant Professors Bassiri and Reilly; Research Professor Garreta

A major and a minor are 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.

Courses in Global Cultural Studies in Literature Program (LIT)

80S. Special Topics: Introduction to Literature. 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.

102. Introduction to African American Studies. CCI, CZ, SS One course. C-L: see African & African American Studies 102

110. Introduction to Film Studies. ALP One course. C-L: see Visual and Media Studies 289; also C-L: Theater Studies 278, English 181, Documentary Studies 264, Policy Journalism and Media Studies

190. Special Topics in Literature. 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. Instructor: Staff. One course.

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

190S. Special Topics: Introduction to Literature. 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. Instructor: Staff. One course.

198FS. Performing Science: Experimentation, Collaboration, and Artistry. ALP, R, STS One course. C-L: see Science & Society 198FS; also C-L: English 198FS, Theater Studies 198FS

199. LGBTQ/Queer Cinema and Cultural Production. ALP, SS One course. C-L: see Visual and Media Studies 199; also C-L: Gender, Sexuality, and Feminist Studies 198

201. Introduction to Global Cultural Studies. ALP, CCI, CZ, EI Introductory course for the Literature Major in Global Cultural Studies. Examines how the work of the humanities provides conceptual and analytic skills for processing complex textual, cultural, scientific, mediatic, and ethical information in circulation in the contemporary world. Begins by asking what Global Cultural Studies is and why exploring culture in a global frame is important in our world today. Focuses on a particular area of cultural production and combines theoretical and historical analysis with concrete exploration of films and other media, literary texts, and other cultural material. Instructor: Staff. One course.

202S. Introduction to Performance Studies. ALP, CCI, W One course. C-L: see Theater Studies 202S; also C-L: Cultural Anthropology 219S, Visual and Media Studies 205S, English 202S

205. The Problem of Love in Western Literature. ALP, CCI, CZ, R One course. C-L: see Italian 225; also C-L: Medieval and Renaissance Studies 304

211. Indian Cinema. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 151; also C-L: Visual and Media Studies 231

212. World of Korean Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 171; also C-L: Visual and Media Studies 234, Cultural Anthropology 255

213. Japanese Cinema. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 161; also C-L: Visual and Media Studies 232

214. Master Filmmakers of Chinese Cinemas. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 129; also C-L: Visual and Media Studies 235

215. Italian Cinema. ALP, CCI One course. C-L: see Italian 380; also C-L: 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: Visual and Media Studies 284S, International Comparative Studies 288S

217. Contemporary Israeli Cinema. ALP, CCI, EI One course. C-L: see Asian & Middle Eastern Studies 143; also C-L: Visual and Media Studies 248, Jewish Studies 241, Gender, Sexuality, and Feminist 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

220. Film Genres. ALP One course. C-L: see Visual and Media Studies 267

222. Performance Art History and Theory. ALP, CCI, CZ, EI One course. C-L: see Art History 344; also C-L: Information Science + Studies 275, Theater Studies 235, Gender, Sexuality, and Feminist Studies 276

223. Film Noir. ALP, CCI, EI One course. C-L: see Visual and Media Studies 282; also C-L: German 270

223S. Film Noir. ALP, CCI, EI One course. C-L: see Visual and Media Studies 282S; also C-L: German 270S

225. Spies Like Us: Screening Cold War Espionage. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 270; also C-L: International Comparative Studies 262, Visual and Media Studies 258

229S. Space-Body-Image. ALP, CCI One course. C-L: see Gender, Sexuality, and Feminist Studies 229S; also C-L: Visual and Media Studies 226S

230A. Introduction to Global Los Angeles: An Interdisciplinary Survey (Service-Learning). ALP, CCI, EI One course. C-L: see Visual and Media Studies 359A; also C-L: Documentary Studies 359A, Innovation and Entrepreneurship 359A, Documentary Studies

239S. Korean Literature and Culture in Translation: Local and Global Connections. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 172S

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

241S. Around the Bloc: Cold War Culture in the USSR and Eastern Europe. CCI, CZ, EI, SS One course. C-L: see Slavic and Eurasian Studies 240S; also C-L: Cultural Anthropology 259S

243. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 201; also C-L: African & African American Studies 104, International Comparative Studies 106, Spanish 160

243S. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 201S; also C-L: Spanish 160S, African & African American Studies 104S, International Comparative Studies 106S

244. Modern European Short Fiction. ALP, CCI, CZ, EI One course. C-L: see Italian 220; also C-L: German 243, English 244, Jewish Studies 243, International Comparative Studies 212

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

246. Flaubert's Brain: Neurohumanities. ALP, CCI, STS One course. C-L: see French 481; also C-L: Neuroscience 241

248S. Chinese Literature and Culture in Translation. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 132S

249. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240; also C-L: Information Science + Studies 242, Visual and Media Studies 214, International Comparative Studies 265, Political Science 248

249S. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240S; also C-L: Political Science 248S, International Comparative Studies 265S, Cultural Anthropology 440S, Visual and Media Studies 214S, Information Science + Studies 242S, Information Science + Studies

250. Moral Dilemmas in Philosophy and Literature. ALP, CZ, EI One course. C-L: see German 250; also C-L: Study of Ethics 258

250FS. Alien America: Immigrant Experiences in Literature and Film. ALP, CCI, CZ, EI One course. C-L: see Slavic and Eurasian Studies 250FS

250S. Indigenous Journeys in South Asian Film and Literature. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 252S; also C-L: Visual and Media Studies 251S

251. Arab Cultures: Literature, Politics, History. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 210; also C-L: Cultural Anthropology 209

252. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney. ALP, CCI, CZ One course. C-L: see German 262; also C-L: English 287

252D. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney. ALP, CCI, CZ One course. C-L: see German 262D; also C-L: English 287D

260S. Freud and Sexuality. CCI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 372S; also C-L: Study of Sexualities 310S, Psychology 322S

261S. Freud and Feminism: The Unconscious. CCI, R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 373S

263S. Screening the Holocaust: Jews, WWII, and World Cinema. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 341S; also C-L: Visual and Media Studies 275S, Jewish Studies 266S, Documentary Studies

273. What Is Europe?. ALP, CCI, CZ, R One course. C-L: see Italian 201; also C-L: International Comparative Studies 240

274. Imagining Europe: Arts, Culture, Politics. ALP, CCI, CZ One course. C-L: see French 429; also C-L: Art History 202, Visual and Media Studies 202

276S. Turkish History through the Novels of Orhan Pamuk. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 296S; also C-L: International Comparative Studies 345S, History 283S, Islamic Studies

279S. Docu-Poetry: Real Life Truths Outside and Inside the Poetic Narrative. ALP, EI, W One course. C-L: see Documentary Studies 279S; also C-L: English 279S

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

281. American Apocalypse: Beat Generation Spirituality. ALP, CZ, EI, W One course. C-L: see Religion 281; also C-L: English 281

282S. Modernism and the Arts. ALP, CCI, CZ One course. C-L: see English 282S; also C-L: Art History 281S, German 282S, Romance Studies 282S

285. Existentialism. ALP, CCI, EI Existentialism in philosophy and literature. Key themes will be existence, ethics, meaning of life, freedom, death, and writing. Texts may include writings by Kierkegaard, Nietzsche, Dostoevsky, Tolstoy, Heidegger, Sartre, Camus, Beauvoir, Fanon, Murdoch and others. Instructor: Flanagan and Moi. One course. C-L: Philosophy 285, English 285

286. German History Through Film. ALP, CZ, EI One course. C-L: see German 286; also C-L: History 255, Visual and Media Studies 287

290. Special Topics in International Literature and Culture. Topics in international culture, examined through literary texts, film, and other media. Organized according to trends, topics, and genres. Instructor: Staff. 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. Topics differ by section. Instructor: Staff. One course.

290S. Special Topics in Literature. Topics vary by semester. Instructor: Staff. One course.

290S-1. Special Topics in International Literature and Culture. Seminar version of Literature 290. One course.

290S-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.

290SA. Duke-Administered Study Abroad: Special Topics in Literature. Seminar version of 290A. Topics vary by section. Instructor: Staff. One course.

295S. Sex Work: The Politics of Sexual Labor. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 352S; also C-L: Study of Sexualities 295S, Sociology 295S

298S. Revealing Histories: Polish Cinema. ALP, CCI, CZ, EI One course. C-L: see Polish 298S; also C-L: Visual and Media Studies 297S

301S. Theory Today: Introduction to the Study of Literature. ALP Introduction to major areas of research in Global Cultural Studies with focus on specific theoretical issues of contemporary concern in various subfields of global culture. Required for majors. One course. Instructor: Staff. One course. C-L: Cultural Anthropology 303S, Gender, Sexuality, and Feminist Studies 301S

302. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS Tracks digital life and creative expression of groups online in a close study of images, captions and hyperlinked tags. Examines rituals, symbols and cultural patterns that structure everyday life of digital tribes online and investigates impact of digital and social media (Twitter, Instagram Facebook, Periscope) on the constitution of communities online and offline. Studying varied array of digital tribes: tribes of the deaf, of oil rig workers, of Hindu worshippers, of prison wives and laptop entrepreneurs, students learn about underlying myths, rituals, and cultural symbols that connect groups of people online. Instructor: Mottahedeh. One course. C-L: Gender, Sexuality, and Feminist Studies 320, Visual and Media Studies 324, Asian & Middle Eastern Studies 402, Information Science + Studies 302

302S. Hashtags Memes, Digital Tribes. ALP, CCI, CZ, EI, STS Tracks digital life and creative expression of groups online in a close study of images, captions and hyperlinked tags. Examines rituals, symbols and cultural patterns that structure everyday life of digital tribes online and investigates impact of digital and social media (Twitter, Instagram Facebook, Periscope) on the constitution of communities online and offline. Studying varied array of digital tribes: tribes of the deaf, of oil rig workers, of Hindu worshipers, of prison wives and laptop entrepreneurs, students learn about underlying myths, rituals, and cultural symbols that connect groups of people online. Instructor: Mottahedeh. One course. C-L: Gender, Sexuality, and Feminist Studies 320S, Visual and Media Studies 349S, Asian & Middle Eastern Studies 402S, Information Science + Studies 302S

303S. Fiction/Reality: Reality Hunger in Recent Literature. ALP, CCI Inspired by Marcel Proust and W. G. Sebald, and working alongside Annie Ernaux, contemporary writers such as Karl Ove Knausgård, Rachel Cusk, Jenny Offill, and Teju Cole undermine traditional divides between fiction, memoir, and essay-writing, and challenge our understanding of what a novel is. How are we to understand this “reality hunger”? Does it entail new ideas about subjectivity and identity? Is it a return to realism? Or does it We will read contemporary literature from different countries alongside theories of language and reality, realism, the novel, and reading. We may study theoretical texts by Wittgenstein, Lukács, Adorno, Barthes, Orwell, Arendt, Shields, Felski, and others. Instructor: Moi. One course. C-L: English 385S

306S. Reading Literature in French. ALP, CCI, FL, W One course. C-L: see French 306S

316S. Film Theory. ALP, STS Recent critical developments in Marxist aesthetics, structuralism, semiotics of the image, feminist film theory. History and theory of film technology. Both experimental and Hollywood narrative films. Instructor: Hadjioannou or Mottahedeh. One course. C-L: Visual and Media Studies 298S, Gender, Sexuality, & Feminist Studies

317S. 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: Information Science + Studies 214S, Visual and Media Studies 328S

318S. American Independent Cinema. ALP, CCI Examination of the emergence, establishment, and transformations of American indie film. Addresses main genres, key films and prominent directors by looking at the aesthetic characteristics of indie films, as well as the social and institutional contexts (primarily its relationship to Hollywood cinema) that led to the creation and important impact of this filmmaking practice. Topics include Midnight Movies of the 70s, New American Cinema, Trash Cinema, Art Cinema, Black Indie Cinema, New Queer Cinema, Generation X, Smart Cinema, Neo Noir, and the Pulp Fiction success story. Instructor: Hadjioannou. One course. C-L: English 389S, Theater Studies 373S, Visual and Media Studies 332S, Documentary Studies 322S

319. Ethics and Native American: American Indian Life and Literature. CCI, CZ, EI One course. C-L: see Study of Ethics 319; also C-L: History 317

319S. Expressing Immigrant Experience: The Russians. ALP, CCI, EI One course. C-L: see Russian 317S; also C-L: English 318S

320S. Social Movements and Social Media. ALP, CCI, CZ, EI, STS Examines uses and abuses of social media by social movements. Interested in a broader historical study of mediating technologies and oppositional public sphere, course considers the uses of cameras, phones, cassette players, radio, and social media platforms, but also books, bodies, art, fashion, and automobiles as oppositional technologies. Studies political and ethical uses of technologies in social unrest. Investigates impact of technologies on social movements and social transformations in contemporary history. Student driven case studies will highlight contemporary engagement with social media by networked social movements. Instructor: Mottahedeh. One course. C-L: African & African American Studies 247S, International Comparative Studies 320S, Latin American Studies 320S, Information Science + Studies 323S, Visual and Media Studies 323S, Human Rights Program-Franklin Humanities Institute 323S, Asian & Middle Eastern Studies 318S, Human Rights

325S. Understanding Mediation. ALP, CCI, CZ Examines experience as always mediated. How does text mediate expression, or language mediate subjectivity? How do images mediate power, or sounds mediate

resistance? How does computation mediate agency, or networks mediate thought? But also, how do nations mediate globalization, or oil mediate energy? And how do bodies mediate liveness, or the environment mediate history? Moves from particular media forms and examples (language, literature, the fine and performing arts, audiovisual media, computational media) to focus on key theoretical concepts and debates of critical theory from twentieth and twenty-first centuries. Crosses national boundaries to understand mediation from global perspective. Instructor: Hadjioannou. One course. C-L: Visual and Media Studies 316S, English 480S, Theater Studies 249S, Gender, Sexuality, and Feminist Studies 325S, Documentary Studies 358S

328S. Literary Islam. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 328S; also C-L: Religion 326S

329S. Undocumented America in Literature. ALP, CCI One course. C-L: see Latino/a Studies in the Global South 330S; also C-L: Romance Studies 330S, Cultural Anthropology 329S

331. Beat Generation/Russian New Wave: Cultural Dissent in the Cold War. ALP, CCI, CZ, EI, W One course. C-L: see Russian 330; also C-L: English 378

332S. Social Movements in Age of Globalization. CCI, CZ, EI, R, SS Study of primary models and theories of social movements developed in fields of Sociology and Political Science. Readings provide vocabulary and conceptual framework for understanding how people organize, how social movements use media, role of leadership, meaning of success, and several other basic issues. Focus on social movements of last few decades. Students will conduct group projects on a selected contemporary social movement. Contemporary social movements considered include Occupy, 15M movement in Spain, Gezi Park encampment in Turkey, urban protests in Brazil, and Arab Spring uprisings. Instructor: Hardt. One course. C-L: Sociology 323S, Political Science 313S, Human Rights Program-Franklin Humanities Institute 313S, Human Rights

333S. Bad Behavior. CZ, EI, SS, STS What does it mean to behave badly? How is ‘bad behavior’ distinguished from actions that are otherwise described as evil or criminal? This course addresses these questions by examining ideas of deviance, wrongdoing, and misconduct in the nineteenth, twentieth, and twenty-first centuries—that is, modern behavioral categories that are considered to be aberrant without necessarily being strictly defined as transgressions of the law. We will consider how bad behavior concerns the disruption of implicit social norms rather than the explicit violation of legal or moral codes. Instructor: Bassiri. One course. C-L: Gender, Sexuality, and Feminist Studies 333S, Sociology 330S

336. Introduction to US Latino/a Literature. ALP, CCI One course. C-L: see Spanish 336; also C-L: Latino/a Studies in the Global South 336

337. America from Abroad: Literature and Cinema. ALP, CCI, EI, W One course. C-L: see Italian 337; also C-L: English 237, Jewish Studies 337

339. El cine político en América Latina. ALP, CCI, CZ, FL One course. C-L: see Spanish 339; also C-L: Visual and Media Studies 383, Latin American Studies 327

341S. Perspectives on the Amazon. CCI, CZ One course. C-L: see Portuguese 341S; also C-L: Latin American Studies 341S

342A. Dante and the Art of Hell. ALP, CZ, R One course. C-L: see Italian 342A; also C-L: Art History 342A, Medieval and Renaissance Studies 342A

343. African Americans, Mass Incarceration and Citizenship. ALP, CCI, CZ, EI, R One course. C-L: see African & African American Studies 345; also C-L: Human Rights Program-Franklin Humanities Institute 345, Human Rights

344. Poetics of Murder. ALP, CCI One course. C-L: see German 284

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, Gender, Sexuality, and Feminist Studies 252S

350. Brains, Everywhere. CZ, EI Over the last three decades we have witnessed the speedy rise of the “neurosciences,” an historical event characterized by some “neuro-cultures” and “neuro-subjects.” In this course we will track this history and ask what change in meaning might “neuro” effect in the disciplines that were previously “neuro”-free. If there is a neuro-turn in the humanities and social sciences, what is it that’s “turning”?

We will consider the centrality of brain research in these discussions to ask questions about the meaning of “personhood/subjectivity,” “human/post human,” “mind/body,” “self/ego,” and “emotion/affect.” Instructor: Viego. One course. C-L: Neuroscience 250, Gender, Sexuality, and Feminist Studies 350, Latino/a Studies in the Global South 350, Romance Studies 350

350S. Brains, Everywhere. CZ, EI Over the last three decades we have witnessed the speedy rise of the “neurosciences,” an historical event characterized by some as a “neuro-revolution” that has given rise to a “neuro-society,” “neuro-cultures,” and “neuro-subjects.” In this seminar we will track this history and ask what change in meaning might “neuro” effect in the disciplines that were previously “neuro”-free. If there is a neuro-turn in the humanities and social sciences, what is it that’s “turning”? We will consider the centrality of brain research in these discussions to ask questions about the meaning of “personhood/subjectivity,” “human/post human,” “mind/body,” “self/ego,” and “emotion/affect.” Instructor: Viego. One course. C-L: Neuroscience 250S, Gender, Sexuality, and Feminist Studies 350S, Latino/a Studies in the Global South 350S, Romance Studies 350S

351. Contemporary Novel. ALP One course. C-L: see English 377; also C-L: International Comparative Studies 377

351S. Contemporary Novel. ALP One course. C-L: see English 377S; also C-L: International Comparative Studies 377S

352S. Digital Storytelling and Interactive Narrative. ALP, STS, W One course. C-L: see Information Science + Studies 351S; also C-L: Visual and Media Studies 357S

352SA. Digital Storytelling. ALP, STS, W One course. C-L: see Information Science + Studies 351SA; also C-L: Visual and Media Studies 357SA

361. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360; also C-L: Asian & Middle Eastern Studies 360, Sociology 360, International Comparative Studies 369

361S. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360S; also C-L: Public Policy 358S, Asian & Middle Eastern Studies 360S, Sociology 360S, International Comparative Studies 369S

362D. What Is Beauty?. ALP, CCI, CZ, EI One course. C-L: see German 360D; also C-L: Art History 360D, English 362D

365S. Love, Marriage, Education: Theories About Women from Rousseau to Beauvoir. ALP, CCI Classic debates about women's place in the family and society from 1789 to 1949. Focus on three historical periods: 1790-1810; 1860-1880; 1920-1950, and two countries: France and England. Key texts by Mary Wollstonecraft, John Stuart Mill, Virginia Woolf and Simone de Beauvoir will be placed in conversation with literature and philosophy from their own time. Thus Wollstonecraft will be examined with Descartes, Rousseau, Mme de Staël and Hegel, while Mill will be read with Henry James and Henrik Ibsen. The course will develop the skills required to read philosophy with literature, and literature with philosophy. Instructor: Moi. One course. C-L: Philosophy 274S, Gender, Sexuality, and Feminist Studies 365S, English 388S, Study of Sexualities

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, Religion 343

369. Germany Confronts Nazism and the Holocaust. ALP, CCI, CZ, EI One course. C-L: see German 387; also C-L: Jewish Studies 369, History 261, Human Rights Program-Franklin Humanities Institute 387, Human Rights

370S. Russian Fiction and Film. ALP, CCI One course. C-L: see Russian 371S; also C-L: International Comparative Studies

373S. Recycled Cinema. ALP One course. C-L: see Visual and Media Studies 375S; also C-L: Documentary Studies 375S

374S. Global Men and Masculinities. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 374S; also C-L: International Comparative Studies 274S, Sociology 375S, History 229S

375. 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: Staff. One course. C-L: International Comparative Studies 339, Spanish 361

377. Kafka and Cinema. ALP, CCI, STS One course. C-L: see German 372; also C-L: Visual and Media Studies 371, Jewish Studies 372

379S. The Detective Novel. ALP, CZ One course. C-L: see Italian 379S; also C-L: English 376S

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, Political Science 371, International Comparative Studies, Marxism and Society

381S. Political Cinema in Latin America. ALP, CCI, CZ, FL One course. C-L: see Spanish 380S; also C-L: Visual and Media Studies 420S, Latin American Studies 380S

382S. Fictions That Mark the Moment. ALP, CCI, CZ, EI, R One course. C-L: see African & African American Studies 228S; also C-L: English 379S

384S. The History, Theory, and Praxis of Translating Languages and Worlds. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 489S; also C-L: Linguistics 384S

385. Mafia at the Movies. ALP, CCI One course. C-L: see Italian 385; also C-L: Visual and Media Studies 385, Theater Studies 375

387. Moral Panics, Spectacle, and Everyday Life: Social Anxieties and Minorities. ALP, CCI, CZ, EI One course. C-L: see African & African American Studies 387; also C-L: Gender, Sexuality, and Feminist Studies 387

390. Special Topics in Literature. Topics vary by semester. Instructor: Staff. One course.

390-10. Special Topics in Literature and National Cultures, Ethnicity, Race. 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.

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: Staff. One course.

390-5. Selected Topics in Feminist Studies. Topics vary each semester. Instructor: Staff. One course.

390-6. Special Topics in Gender and Sexuality. Different literary and/or theoretical approaches to questions of sex, gender, and sexuality. Instructor: Staff. One course.

390-7. Special Topics in the Study of Literature in Relation to Other Disciplines. Lecture version of Literature 390S-7. Instructor: Staff. One course.

390A-12. Special Topics in World Media. 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. Studies in literature and culture in a national or comparatist mode; offered only in a Duke study abroad program. Instructor: Staff. One course.

390S. Special Topics in Literature. Topics vary by semester. Instructor: Staff. One course.

390S-1. Special Topics in Literary Genres. 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-10. Special Topics in Literature and National Cultures, Ethnicity, Race. Seminar version of Literature 390-10. Instructor: Staff. One course.

390S-11. Special Topics in Third World or Postcolonial Literature and Cultures. Seminar version of Literature 390-11. Instructor: Staff. One course.

390S-12. Topics in Psychoanalytic Theory and Criticism. In this seminar we will read key works in psychoanalytic theory by its inventor, Sigmund Freud such as *Three Essays on a Theory of Sexuality*, *Interpretation of Dreams*, *Dora: An Analysis of a Case of Hysteria*, and *The Ego and the Id*. We'll also read the work of important psychoanalytic theorists, commentators, and historians that include Adam Phillips, Eli Zaretsky, Elisabeth Roudinesco, and Alenka Zupancic. We will explore psychoanalytic theory by focusing on specific topics such as hysteria, perversion, sexuality, repression, the unconscious, and the id/ego/superego. Instructor: Viego. One course.

390S-15. Special Topics in North American Literature and Culture. Seminar version of Literature 390. Instructor: Staff. One course.

390S-2. Special Topics in Literary Movements. 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. 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. Close study of a major genre, period, or director. Instructor: Staff. One course.

390S-5. Selected Topics in Feminist Studies. Seminar version of Literature 390-5. Instructor: Staff. One course.

390S-6. Special Topics in Gender and Sexuality. Seminar version of Literature 390-6. Instructor: Staff. One course.

390S-7. Special Topics in the Study of Literature in Relation to Other Disciplines. 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.

390S-8. Special Topics in Culture and the Arts. 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.

390S-9. Special Topics in Science and Culture. Approaches to the question of science and technology in a cultural context. Readings by scientists and scholars of science and society. Instructor: Staff. One course.

390SA. Special Topics in Literature. Topics vary by semester. 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. 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: Staff. One course.

410S. Contemporary French Fiction. ALP, CCI, FL, W Novels published in France during the past decade. Fashions, fads, new trends, succès de scandale, and prize winners. Instructor: Staff. One course. C-L: French 410S

412S. Cultures of New Media. ALP, SS, STS One course. C-L: see Cultural Anthropology 434S; also C-L:

Visual and Media Studies 412S, International Comparative Studies 432S, Asian & Middle Eastern Studies 425S

415S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 415S; also C-L: Cultural Anthropology 415S, Visual and Media Studies 416S, International Comparative Studies 415S, Gender, Sexuality, and Feminist Studies 415S

416S. Strange Masterpieces: Major Authors in French and Francophone Modernity. ALP, CCI, FL One course. C-L: see French 482S

417S. Critical Interventions in Middle East Studies and Policy. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 479S; also C-L: Public Policy 417S, History 417S, International Comparative Studies 408S, International Comparative Studies

420. Biography, Life Writing, Autofiction. ALP, CCI, CZ, FL, R One course. C-L: see French 411; also C-L: History 420

420A. Poéticas de aquí y de allá / Thinking Language: Poetics from Here and There. ALP, FL One course. C-L: see Spanish 420A

426S. France-Asia: Cultural Transfers and Translations in a Globalized Context. ALP, CCI, CZ, FL, W One course. C-L: see French 426S; also C-L: Asian & Middle Eastern Studies 426S, International Comparative Studies 413S

427S. Banlieues and Peripheries in French Contemporary Literature and Cinema. ALP, CCI, CZ, FL, W One course. C-L: see French 427S

430. Gender and the Law. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 401; also C-L: Public Policy 315, Human Rights Program-Franklin Humanities Institute 401

438S. Techno-Orientalism: Asian/America, (Post)Human and Science Fiction. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 438S; also C-L: Cultural Anthropology 438S, International Comparative Studies 407S, Study of Sexualities 438S, Visual and Media Studies 438S, Gender, Sexuality, and Feminist Studies 438S, International Comparative Studies

439. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 439; also C-L: Cultural Anthropology 439, Visual and Media Studies 439, Gender, Sexuality, and Feminist Studies 439

450. Foucault in Slow Motion. EI, SS Michel Foucault's work has been a powerful influence shaping debates in the humanities and social sciences around the world. Intensive study of key aspects of his arguments, including history, discourse, repression, the will to knowledge, visibility, soul production, biopolitics, and the socioeconomics of governance. Will focus on his major books, select essays and interviews, as well as articles by some of his interlocutors. "Slow motion" is intended here as a methodological emphasis, highlighting both the deliberateness of this course's approach and the intimate ways in which Foucault's thinking partakes of the historically changing aesthetics and politics of seeing as well as of speaking. Instructor: Chow. One course.

450S. Foucault in Slow Motion. EI, SS Michel Foucault's work has been a powerful influence shaping debates in the humanities and social sciences around the world. Intensive study of key aspects of his arguments, including history, discourse, repression, the will to knowledge, visibility, soul production, biopolitics, and the socioeconomics of governance. Will focus on his major books, select essays and interviews, as well as articles by some of his interlocutors. "Slow motion" is intended here as a methodological emphasis, highlighting both the deliberateness of this course's approach and the intimate ways in which Foucault's thinking partakes of the historically changing aesthetics and politics of seeing as well as of speaking. Instructor: Chow. One course.

455S. World of Gaming: Art, Theory, Technology, and Business of a Multi-Billion Dollar Global Industry. CCI, CZ, EI, SS, STS One course. C-L: see Asian & Middle Eastern Studies 455S; also C-L: Art History 453S, Visual and Media Studies 455S

475S. Queer Theory. ALP, CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 370S; also C-L: Study of Sexualities 470S, Marxism and Society

476S. Archiving and Visualizing Asia: Politics and Poetics of Knowledge Production. CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 476S; also C-L: International Comparative Studies 411S, Visual and Media Studies 476S, History 448S, Documentary Studies 476S

479S. Dante at Duke and in the World. CCI, CZ, R One course. C-L: see Italian 479S; also C-L: Medieval

and Renaissance Studies 474S

482SA. Sex, Death, and a Little Love: Boccaccio's Decameron. ALP, CCI, CZ, R One course. C-L: see Italian 482SA; also C-L: Medieval and Renaissance Studies 454SA

483. What Machiavelli Really Says. ALP, CZ, EI, R One course. C-L: see Italian 483; also C-L: History 405, Political Science 483, Medieval and Renaissance Studies 473

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

489S. Screening Europe. ALP, CCI, CZ One course. C-L: see French 489S; also C-L: International Comparative Studies 479S, Visual and Media Studies 489S

490-1. Special Topics in 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-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. Director of Undergraduate Studies consent required. 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. Director of Undergraduate Studies consent required. Prerequisite: Literature 495. Instructor: Staff. One course.

507S. Mimesis in Theory, Embodied Practice, and Literary Arts. ALP, CCI, CZ, FL One course. C-L: see French 507S; also C-L: Art History 509S, English 581S

510. Citizen Godard. ALP, CCI, W One course. C-L: see French 510; also C-L: Visual and Media Studies 552

511S. Borderland and Battleground: A Journey Through Twentieth-Century Eastern Europe. ALP, CCI, CZ One course. C-L: see Slavic and Eurasian Studies 596S

512S. Performing Gender/Exhibiting Race. ALP, R One course. C-L: see Visual and Media Studies 512S

515S. Interethnic Intimacies: Production and Consumption. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 515S; also C-L: Visual and Media Studies 515S, International Comparative Studies 515S, Gender, Sexuality, and Feminist Studies 505S

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: Gender, Sexuality, and Feminist Studies 541S, History 577S, Science & Society

522. Eco-Media: Studies in Planetary Futures. CCI, CZ, SS One course. C-L: see Cultural Anthropology 520; also C-L: Visual and Media Studies 520

522S. Eco-Media: Studies in Planetary Futures. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 520S; also C-L: Visual and Media Studies 520S

525S. Art as Work: Valuing Labor in the Arts. ALP, CCI, CZ, EI, R One course. C-L: see Dance 561S; also C-L: Visual Arts 571S, Visual and Media Studies 571S

530S. Seminar in Asian and Middle Eastern Cultural Studies. CZ One course. C-L: see Asian & Middle Eastern Studies 505S; also C-L: African & African American Studies 540S

532S. Comparative Modernisms. ALP, CCI, R One course. C-L: see Italian 532S; also C-L: German 535S

539S. Queer China. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 539S; also C-L: Cultural Anthropology 539S, Gender, Sexuality, and Feminist Studies 502S, Visual and Media Studies 539S, Human Rights Program-Franklin Humanities Institute 539S, Human Rights

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

542S. Literary Guide to Italy. ALP, CCI, CZ One course. C-L: see Italian 586S; also C-L: German 586S

543S. Reading Heidegger. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 540S; also C-L: Religion 560S

544S. Memory and Documentary Cinema in Latin America. ALP, CCI One course. C-L: see Romance Studies 540S; also C-L: Visual and Media Studies 540S, Documentary Studies 540S, Latin American Studies 540S

545S. Expanded Cinema: Cinema Outside the Movie Theater. ALP One course. C-L: see Visual and Media Studies 640S; also C-L: Documentary Studies 640S

551S. Translation: Theory/Praxis. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 551S

557. Cultural Memory. ALP, CCI, R, W One course. C-L: see French 557; also C-L: History 557

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 605

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

580S. Jews and the End of Theory. CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 541S; also C-L: Jewish Studies 541S, International Comparative Studies 541S

582. Dante's Divine Comedy: Hell, Purgatory, and Paradise. ALP, CCI, CZ, EI One course. C-L: see Italian 582; also C-L: Medieval and Renaissance Studies 603

583S. Dante Studies. ALP, CCI, CZ One course. C-L: see Italian 583S; also C-L: Medieval and Renaissance Studies 615S

584S. Boccaccio Studies. ALP, CCI, R One course. C-L: see Italian 584S; also C-L: Medieval and Renaissance Studies 618S

590. Special Topics in Literature. Special topics in Literature. Instructor: Staff. One course.

590S. Special Topics in Literature. Special topics in Literature. Instructor: Staff. One course.

609. Biography, Life Writing, Autofiction. ALP, CCI, CZ, FL, R One course. C-L: see French 611; also C-L: History 611

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: Visual and Media Studies 610S

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: Gender, Sexuality, and Feminist Studies 611S

612S. Theories of the Image: The Image in Walter Benjamin. ALP Returning to Walter Benjamin's *Art Work* essay and its various sources and revisions, this course will discuss recent engagements with Benjamin's work in cinema, photography, and visual and media studies and will attempt to understand the role and functions of the faculty he coins "the mimetic" in modern culture. Readings will be drawn from the English

translation of Benjamin's *Selected Writings*, volumes 1-4, and including his work on photography, history, surrealism and his reviews of writers such as Charles Baudelaire. Readings will also include some of Benjamin's own primary sources, such as the writings of Kracauer as well contemporary discussions of Benjamin's work in academic journals. Instructor: Mottahedeh. One course. C-L: German 512S, Romance Studies 612S, Visual and Media Studies 612S

613S. Third Cinema. ALP, CCI, EI, SS, STS Exploration of the geopolitics of situatedness and distance as they refer to the film industry, investigating processes of production, distribution, and reception of Hollywood, Third World, and diasporic films, and studying classical and artisanal modes of production in film. Addresses questions of authorship and embodiment; human rights and interventionist filmmaking as they refer themselves to human states of liminality, global movements of populations and capital. Traces the experience of globalization, urbanization, alienation, violence, nostalgia for nature and homeland as represented in the filmic image. Instructor: Mottahedeh. One course. C-L: African & African American Studies 530S, International Comparative Studies 613S, Latin American Studies 613S, Visual and Media Studies 611S

614S. Thinking Digital Cinema. ALP, STS Review of debates regarding digital cinema. Exploration of impact of new media technologies on contemporary cinema cultures. Examines question of medium specificity, cinema ontology, conventions of analog cinema vs. digital cinema, mediation/remediation/media convergence, applications of CGI, interactivity, cinephilia and DVD consumption, and spectatorship. Explores a series of philosophical questions surrounding our understanding and experience of contemporary cinema. Includes one trip to a local museum or gallery to examine digital installation art. Instructor: Hadjioannou. One course. C-L: Theater Studies 671S, Visual and Media Studies 614S

615S. The #Selfie. CZ, EI, R, STS Focusing on digital self portraits that social media denizens have hashtagged "the selfie", the course will trace two different histories 1) the global history of portraiture in the arts and photography from the 19th C to the present 2) the emergence of the modern idea of "everyday life" (i.e. the routine, the trivial, the unconscious, the unremarkable) as the exact antithesis of what has routinely been called "history", all strongly associated with women and private life. These unrepresentable phenomenon have challenged notions of the state, Capital, urban design, and copyright, indeed the body and the Beautiful. Student driven case studies highlight everyday engagements with social media. Instructor: Mottahedeh. One course. C-L: Visual and Media Studies 615S, Gender, Sexuality, and Feminist Studies 615S, International Comparative Studies 615S

620S. Film-philosophers/Film-makers. ALP, CZ, STS Examines intersections between film, critical theory, and continental philosophy, from standpoint of spectatorship. Focuses on different approaches to film theory from a philosophical prism, and on different philosophers addressing film as a mediated visual interpretation of reality, the world, our own bodies, and societies within which we reside. Addresses film-making as an act of philosophical thought—of thinking about the world and representing subject's position within the world. Topics include, existential phenomenology, Deleuzian metaphysics, feminism, semiotics, political theory. Instructor: Hadjioannou. One course. C-L: Visual and Media Studies 622S, Theater Studies 620S, English 620S, Documentary Studies 620S

621S. Computational Media, Arts & Cultures Proseminar. ALP, R, SS, STS One course. C-L: see Computational Media, Arts & Cultures 650S; also C-L: Information Science + Studies 650S, Art History 537S, Visual and Media Studies 561S, 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 methodological problems leading to a critiques of classical conceptions of knowledge and scientific truth, method, objectivity, and progress, and b 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 + 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 + Studies 670; also C-L: Philosophy 570, Science & Society

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, Eisneman, Koolhaas, Lynn, Diller + Scofidio. Explores programs for post-digital architecture that integrate nano & biomimetic technologies, smart materials & protocells 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 + 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: Staff. One course. C-L: Information Science + Studies 615S, Visual and Media Studies 625S

630S. Phenomenology and Media. ALP, CCI, CZ, R, STS Examination of phenomenology both as a philosophical movement and as a resource for contemporary media theory. Attention centers on the classical phase of phenomenology (from Husserl to Merleau-Ponty), on more recent developments in phenomenology and post-phenomenology (Levinas, Derrida, Fink, Barbaras), and on correlations between phenomenology and media theory (Ihde, Stiegler, Flusser). Key topics include: reduction, experience, time-consciousness, sensation, world manifestation, differance, reversibility, de-presencing, worldliness, readiness-to-hand and thrownness. Instructor: Hansen. One course. C-L: Art History 630S, Information Science + Studies 630S, Visual and Media Studies 630S

631S. Seminar on Modern Chinese Cinema. CZ, R One course. C-L: see Asian & Middle Eastern Studies 631S; also C-L: Visual and Media Studies 631S

632. Questions of National Cinemas. CZ, R One course. C-L: see Asian & Middle Eastern Studies 631; also C-L: Visual and Media Studies 632

632S. Whitehead, Bergson, James. ALP, CCI, CZ, EI An exploration of process philosophy, with particular attention to its relevance for contemporary issues in media, political economy, aesthetics, and culture. Focuses on three texts: Whitehead's Process and Reality, Bergson's Matter and Memory, and James's Essays in Radical Empiricism. Other works by these philosophers and secondary literature on them will help establish context for arguments of these fundamental philosophical texts. Topics explored includes: process, radical empiricism, vitalism, memory, perception, monism, experience, speculative empiricism, actuality & potentiality, the virtual, the fringe, the superject, causal efficacy, society, prehension, & selection. Instructor: Hansen. One course. C-L: Information Science + Studies 632S, Art History 632S, Visual and Media Studies 632S

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. 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: Staff. 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, Philosophy 681S

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: Staff. 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: Staff. One course.

690. Special Topics in Literature. Topics vary by semester. Instructor: Staff. One course.

690-1. Special Topics in Literature of the Modern Era. 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. Instructors: Staff. One course.

690-4. Special Topics in Film. 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: Staff. One course.

690-6. Topics in Psychoanalytic Theory and Criticism. Instructor: Moi or Viego. One course.

690-7. Special Topics in Literature and History. 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. One course.

690-8. Special Topics in Literature: Paradigms of Modern Thought. 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: Staff. One course.

690S. Special Topics in Literature. Topics vary each semester. Instructor: Staff. One course.

690S-3. Topics in Cultural Studies. Contents and methods vary with instructors and from semester to semester. Instructor: Staff. One course.

690S-4. Special Topics in Film. Contents and methods vary with instructors and from semester to semester. Instructor: Staff. One course.

690S-8. Special Topics in Literature: Paradigms of Modern Thought. 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.

691S. Black Sonic Culture—Analog to Digital. One course. C-L: see African & African American Studies 622S; also C-L: English 691S, Music 691S

695S. Literature Seminar. ALP Contents and methods vary with instructors and from semester to semester. Instructor: Staff. Variable credit.

The Major

The global cultural studies major of the Literature Program 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 major’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, and Medium-the major aims to provide students with the broad knowledge

base and analytical skills that will prepare them for leadership roles in the twenty-first 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 composed of ten courses. All majors are required to take a gateway course, Literature 201S (Gateway to Global Cultural Studies), and an upper-level course, Literature 301S (Theory Today), as well as four core courses distributed across the three domains of inquiry—Experience, Interpretation, Medium—with at least one course selected from each domain. In addition, students must select three electives from across the humanities offerings at Duke and fulfill the “Senior Culminating Experience” requirement. For more information, visit <https://globalculturalstudies.duke.edu>.

Interpretation Domain (I). The major method of the humanities is interpretation, understood as any kind of reading, decoding or deciphering of signs, sign-systems, languages, texts, artworks, and material artefacts. This category includes courses concerned with the practice of interpretation and reading, and/or the theoretical problems arising from the attempt to understand human signs and artefacts.

Experience Domain (E). The humanities investigate human existence as it is personally and collectively experienced. Human experience is always situated, always intertwined with specific historical, geographical, political, social, cultural, and economic conditions and contexts. This category includes courses concerned with identity, social and bodily life, and with theoretical problems arising from the attempt to demarcate agency from the broader environments out of which it emerges.

Medium Domain (M). A crucial dimension of the humanities involves attending to the history and technicity of the media in which culture is expressed, transmitted, and inherited. This category addresses the tension between meaning and materiality that stems from the inherent media specificity of every cultural expression, and range in scope from concretely situated notions of “genre,” “audience,” and “sense modality” to broader operations of “reflexivity” and “receptivity.”

Major in Global Cultural Studies with Concentration in Film and Media

The Global Cultural Studies in Literature Program also offers a film and media concentration, providing students the opportunity to pursue a flexible curriculum in global cultural studies with a focus on film and media issues. The film and media concentration is intended to work together with Duke’s Program in the Arts of the Moving Image.

Requirements: The major with a concentration in film and media is composed of ten courses. All majors are required to take the gateway course Literature 201S (Gateway to Global Cultural Studies), upper-level course Literature 301S (Theory Today), as well as Literature 110 (Introduction to Film Studies) and either Literature 316 (Film Theory) or Literature 317 (Media Theory). For the remaining six courses, students must take at least two courses that focus on the study of film and/or media, and at least three of the six courses must be core literature courses. For more information, visit <https://globalculturalstudies.duke.edu>.

The Minor

The global cultural studies minor of the Literature Program offers Duke students an opportunity to complement their major field of concentration—whether it be computer science, environmental studies, economics, music, or mathematics—with a suite of courses designed to thematize the larger cultural contexts of their scholarly interests.

Requirements: The minor in global cultural studies is composed of five courses. All minors are required to take a gateway course (Literature 201S) as well as three core courses distributed across at least two of the three domains of humanistic inquiry (experience, interpretation, medium), and one elective. For more information, visit <https://globalculturalstudies.duke.edu>.

Departmental Graduation with Distinction

To receive Graduation with Distinction students must satisfy university GPA requirements and submit an application by the beginning of the spring 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

(60 pages minimum) and submit it by the official submission date noted on a written and signed departmental agreement. Students will defend the thesis before a three-member committee consisting of the thesis advisor, director of undergraduate studies, 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 toward the ten literature courses required for the major.

Domains of Inquiry for Program Courses

Experience Courses

- 143. Introduction to Latino/a Studies in the Global South
- 143S. Introduction to Latino/a Studies in the Global South
- 201. Introduction to Global Cultural Studies
- 202S. Introduction to Performance Studies
- 229S. Space-Body-Image
- 230A. Introduction to Global Los Angeles: An Interdisciplinary Survey
- 235S. Anthropology of Space
- 241S. Around the Bloc: Cold War Culture in the USSR and Eastern Europe
- 244S. Poetry, Desire & Religion
- 246D. Flaubert's Brain: Neurohumanities
- 250S. Indigenous Journeys in South Asian Film and Literature
- 260S. Freud and Sexuality
- 261S. Freud and Feminism: The Unconscious
- 281. American Apocalypse: Beat Generation Spirituality
- 285. Existentialism
- 290. Special Topics in International Literature and Culture
- 290A. Duke-Administered Study Abroad: Special Topics in Literature
- 290SA. Duke-Administered Study Abroad: Special Topics in Literature
- 290S-1. Special Topics in International Literature and Culture
- 295S. Sex Work: The Politics of Sexual Labor
- 301S. Theory Today: Introduction to the Study of Literature
- 319. Ethics and Native American: American Indian Life and Literature
- 319S. Expressing Immigrant Experience: The Russians
- 320S. Social Movements and Social Media
- 331. Beat Generation/Russian New Wave: Cultural Dissent in the Cold War
- 332. Social Movements in Age of Globalization
- 335S. Political Economies of the Global Image
- 343. African Americans, Mass Incarceration and Citizenship
- 367A. Jewish Berlin
- 368. German Jewish Culture from the Enlightenment to the Present
- 369. Germany Confronts Nazism and the Holocaust
- 372D. The Idea of Latin America
- 380. Marxism and Society
- 384S. The History, Theory, and Praxis of Translating Languages and Worlds
- 390. Special Topics in Literature
- 390-5. Selected Topics in Feminist Studies
- 390-6. Special Topics in Gender and Sexuality
- 390-10. Special Topics in Literature and National Cultures, Ethnicity, Race
- 390-11. Special Topics in Third World or Postcolonial Literature and Cultures
- 390S-5. Selected Topics in Feminist Studies
- 390S-6. Special Topics in Gender and Sexuality
- 390S-10. Special Topics in Literature and National Cultures, Ethnicity, Race
- 390S-11. Special Topics in Third World or Postcolonial Literature and Cultures
- 390S-15. Special Topics in North American Literature and Culture
- 415S. Interethnic Intimacies: Production and Consumption
- 430. Gender and the Law
- 439. Queer China
- 471S. Marxism and Culture
- 475S. Queer Theory
- 486S. Ordinary Language Philosophy
- 495. Honors Thesis I
- 496. Honors Thesis II
- 511S. Borderland and Battleground: A Journey Through Twentieth-Century Eastern Europe
- 515S. Interethnic Intimacies: Production and Consumption
- 530S. Seminar in Asian and Middle Eastern Cultural Studies
- 539S. Queer China
- 542S. Literary Guide to Italy
- 571. East Asian Cultural Studies

- 580S. Jews and the End of Theory
 615S. The #Selfie
 623. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America
 644. Modernism
 672. Representation in a Global Perspective
 690. Special Topics in Literature
 690-1. Special Topics in Literature of the Modern Era
 690-3. Topics in Cultural Studies
 690-6. Topics in Psychoanalytic Criticism
 690-8. Special Topics in Literature: Paradigms of Modern Thought
 690S. Special Topics in Literature
 690S-3. Topics in Cultural Studies
 690S-8. Special Topics in Literature: Paradigms of Modern Thought
 695S. Literature Seminar

Interpretation Courses

- 80S. Special Topics: Introduction to Literature
 89S. First-Year Seminar
 102. Introduction to African & African American Studies
 190FS. Special Topics in the Focus Program
 190S. Special Topics: Introduction to Literature
 201. Introduction to Global Cultural Studies
 205. The Problem of Love in Western Literature
 229S. Space-Body-Image
 239S. Korean Literature in Translation: Local and Global Connections
 240. The Devil's Pact: Faust and the Faust Tradition
 242. The Existentialist Imagination
 242D. The Existentialist Imagination
 244. Modern European Short Fiction
 245. Dante's Divine Comedy: Hell, Purgatory and Paradise
 246D. Flaubert's Brain: Neurohumanities
 247. Classics of Western Civilization: The German Tradition, 1750-1930
 248S. Chinese Literature and Culture in Translation
 250. Moral Dilemmas in Philosophy and Literature
 252. Romantic Fairy Tales: Literary and Folk Fairy Tales from Grimms to Disney
 260S. Freud and Sexuality
 261S. Freud and Feminism: The Unconscious
 273. Europe in Theory
 276S. Orhan Pamuk and World Literature
 280. Marx, Nietzsche, Freud
 280D. Marx, Nietzsche, Freud
 285. Existentialism
 290. Special Topics in International Literature and Culture
 290S-1. Special Topics in International Literature and Culture
 301S. Theory Today: Introduction to the Study of Literature
 316. Film Theory
 317. Media Theory
 319. Ethics and Native American: American Indian Life and Literature
 328S. Literary Islam
 338S. German Language Graphic Novels
 344. Poetics of Murder
 345S. Popular Fictions
 346S. Utopian Writing
 351. Contemporary Novel
 351S. Contemporary Novel
 360S. Women Writers
 365S. Love, Marriage, Education: Theories About Women from Rousseau to Beauvoir
 371. Problems in Global Culture
 371S. Problems in Global Culture
 375. Latin American Literature in Translation
 376. Latin-American Literature in Translation
 377. Kafka and Cinema
 380. Marxism and Society
 384S. The History, Theory, and Praxis of Translating Languages and Worlds
 385. Mafia at the Movies
 390. Special Topics in Literature
 390-5. Selected Topics in Feminist Studies
 390-7. Special Topics in the Study of Literature in Relation to Other Disciplines
 390-10. Special Topics in Literature and National Cultures, Ethnicity, Race
 390-11. Special Topics in Third World or Postcolonial Literature and Cultures

390A-13. Special Topics in World Literature and Culture
390S. Special Topics in Literature
390S-1. Special Topics in Literary Genres
390S-2. Special Topics in Literary Movements
390S-3. Special Topics in Individual Authors
390S-5. Selected Topics in Feminist Studies
390S-6. Special Topics in Gender and Sexuality
390S-7. Special Topics in the Study of Literature in Relation to Other Disciplines
390S-8. Special Topics in Culture and the Arts
390S-9. Special Topics in Science and Culture
390S-10. Special Topics in Literature and National Cultures, Ethnicity, Race
390S-11. Special Topics in Third World or Postcolonial Literature and Cultures
390S-15. Special Topics in North American Literature and Culture
390SA. Special Topics in Literature
412S. Cultures of New Media
420. Biography, Life Writing, Autofiction
430. Gender and the Law
475S. Queer Theory
482SA. Sex, Death, and a Little Love: Boccaccio's Decameron
490-1. Special Topics in Theory
490S-1. Special Topics Theory
490S-2. Special Topics in Literature
495. Honors Thesis I
496. Honors Thesis II
521S. Historical and Philosophical Perspectives on Science
530S. Seminar in Asian and Middle Eastern Cultural Studies
540S. Methods and Theories of Romance Studies
541. Medieval Fictions
541S. The Symbolist Movement in the Arts & European Thought
543S. Reading Heidegger
551S. Translation: Theory/Praxis
571. East Asian Cultural Studies
572S. Antonio Gramsci and the Marxist Legacy
573S. Ethnohistory of Latin America
580S. Jews and the End of Theory
583S. Dante Studies
584S. Boccaccio Studies
590. Special Topics in Literature
590S. Special Topics in Literature
612S. Theories of the Image
620S. Film-philosophers / Film-makers
622. Science Studies
623. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America
625S. Comparative Media Studies
630S. Phenomenology and Media
632S. Whitehead, Bergson, James
640S. Theory and Practice of Literary Translation
644. Modernism
672. Representation in a Global Perspective
681S. Wittgensteinian Perspectives on Literary Theory
682. The Intellectual as Writer
683. Studies in Legal Theory
690. Special Topics in Literature
690-1. Special Topics in Literature of the Modern Era
690-3. Topics in Cultural Studies
690-6. Topics in Psychoanalytic Criticism
690-7. Special Topics in Literature and History
690-8. Special Topics in Literature: Paradigms of Modern Thought
690S. Special Topics in Literature
690S-3. Topics in Cultural Studies
690S-4. Special Topics in Film
690S-8. Special Topics in Literature: Paradigms of Modern Thought
695S. Literature Seminar

Medium Courses

110. Introduction to Film Studies
111. Introduction to the Arts of the Moving Image
201. Introduction to Global Cultural Studies
208S. The Silent Film: An Introduction
211. Indian Cinema

- 212. World of Korean Cinema
- 213. Japanese Cinema
- 214. Modern Chinese Cinema
- 215. Italian Cinema
- 216S. Trauma and Nostalgia: East European Film in the 21st Century
- 217. Contemporary Israeli Cinema
- 218. Existentialist Cinema
- 219. Women in Film
- 220. Film Genres
- 221. American Film Comedy
- 222. Global Performance Art: History/Theory from 1950's to Present
- 223. Film Noir
- 223S. Film Noir
- 224S. Digital Storytelling
- 224SA. Digital Storytelling
- 263S. Screening the Holocaust: Jews, WWII, and World Cinema
- 279S. Docu-Poetry: Real Life Truths Outside and Inside the Poetic Narrative
- 286. German History Through Film
- 290-2. Special Topics in National Cinema
- 290AS-1. Studies in the United States Culture Industries
- 290S-2. Special Topics in National Cinema
- 298S. Revealing Histories: Polish Cinema
- 301S. Theory Today: Introduction to the Study of Literature
- 302. Hashtags Memes, Digital Tribes
- 302S. Hashtags Memes, Digital Tribes
- 313. Movies of the World/The World of Movies
- 314S. States of Exile and Accented Cinemas
- 315S. Sexualities in Film and Video (DS4)
- 316. Film Theory
- 317. Media Theory
- 318S. American Independent Cinema
- 320S. Social Movements and Social Media
- 335S. Political Economies of the Global Image
- 339. El cine político en América Latina
- 371. Problems in Global Culture
- 371S. Problems in Global Culture
- 377. Kafka and Cinema
- 380. Marxism and Society
- 390A-12. Special Topics in World Media
- 390S-4. Special Topics in Film
- 390S-9. Special Topics in Science and Culture
- 412S. Cultures of New Media
- 495. Honors Thesis I
- 496. Honors Thesis II
- 510. Citizen Godard
- 520S. Performance Studies
- 610S. Basic Concepts in Cinema Studies
- 611S. Film Feminisms
- 612S. Theories of the Image
- 613S. Third Cinema
- 614S. Thinking Digital Cinema
- 615S. The #Selfie
- 620S. Film-philosophers / Film-makers
- 621S. Critical Studies in New Media
- 625S. Comparative Media Studies
- 630S. Phenomenology and Media
- 631S. Seminar on Modern Chinese Cinema
- 632. Modern Chinese Cinema
- 690-4. Special Topics in Film
- 690S-4. Special Topics in Film

Marine Biology

For courses in marine biology, see Biology on [page 209](#); Environmental Sciences and Policy Program on [page 356](#); and the University Program in Marine Sciences on [page 549](#).

Marine Science and Conservation Leadership

Professor Silliman, *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, North Carolina, for one full academic semester (fall or spring) or both summer terms.

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 website at <https://nicholas.duke.edu/marinelab/programs/undergraduate/certificate>.

Courses in Marine Science and Conservation Leadership

Introductory Courses

Environment

- 102. Introduction to Environmental Sciences and Policy
- 201. Integrating Environmental Sciences and Policy

Leadership/Ethics/Management/Communication Courses

Asian & Middle Eastern Studies

- 331S. Buddhist Ethics

Biology

- 255. Philosophy of Biology

Documentary Studies

- 248S. Environmental Conservation and Documentary Photography

Environment

- 214S. Ethical Challenges in Environmental Conservation

216S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding
222S. Environmental Conservation and Documentary Photography

Human Rights Program-Franklin Humanities Institute

214S. Ethical Challenges in Environmental Conservation

229S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

International Comparative Studies

229S. Environment and Conflict: The Role of the Environment in Conflict and Peacebuilding

Markets and Management Studies

210. Managerial Effectiveness

Neuroscience

237. Religion and Science

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

259S. Women as Leaders

263. Border Crossing: Leadership, Value Conflicts, and Public Life

265S. Enterprising Leadership

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

321S. Buddhist Ethics

Science & Society

156. Genetics, Genomics, and Society: Implications for the 21st Century

Study of Ethics

265. Applied and Environmental Ethics

287. Religion and Science

321S. Buddhist Ethics

Theater Studies

248S. The Art of Public Speaking: The Natural Voice

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. Comparative Physiology of Marine Animals

279LA. Sound in the Sea: Introduction to Marine Bioacoustics

293. Research Independent Study

293-1. Research Independent Study

293A. Research Independent Study

293A-1. Research Independent Study

335A. Drones in Marine Biology, Ecology, and Conservation

335LA. Drones in Marine Biology, Ecology, and Conservation

369LA. Biological Oceanography

373LA. Sensory Physiology and Behavior of Marine Animals

377LA. Biodiversity of Marine Invertebrates

380LA. Marine Molecular Microbiology

445A. Climate Change in the Marine Environment

491A. Independent Study: Advanced Topics

493. Research Independent Study

493A. 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

364S. Changing Oceans

370A. Physical Oceanography

374LA. Marine Ecology

377LA. Biodiversity of Marine Invertebrates

Electrical and Computer Engineering

384LA. Sound in the Sea: Introduction to Marine Bioacoustics

Environment

- 175LA. Marine Biology
- 271A. Biology for Engineers: Informing Engineering Decisions
- 272A. Analysis of Ocean Ecosystems
- 273LA. Marine Ecology
- 278LA. Comparative Physiology of Marine Animals
- 280LA. Sound in the Sea: Introduction to Marine Bioacoustics
- 335A. Drones in Marine Biology, Ecology, and Conservation
- 335LA. Drones in Marine Biology, Ecology, and Conservation
- 362S. Changing Oceans
- 369LA. Biological Oceanography
- 370A. Physical Oceanography
- 377LA. Biodiversity of Marine Invertebrates
- 383LA. Marine Molecular Microbiology
- 445A. Climate Change in the Marine Environment
- 571A. Sojourn in Singapore: Urban Tropical Ecology
- 579LA. Biological Oceanography
- 585. Fisheries Biogeography and Ecology
- 590LA. Duke-Administered Study Away: Special Topics

Neuroscience

- 381LA. Sensory Physiology and Behavior of Marine Animals

Public Policy

- 445A. Climate Change in the Marine Environment

Marine Science: Social Science Courses

Cultural Anthropology

- 419S. Global Environmentalism and the Politics of Nature

Economics

- 339. Environmental Economics and Policy
- 530. Resource & Environmental Economics I
- 530L. Resource and Environmental Economics

Environment

- 212. United States Environmental Policy
- 286A. Marine Policy
- 305SA. Social Impact Analysis
- 346A. Marine Conservation Policy - A Practicum
- 363. Environmental Economics and Policy
- 394A. Research Independent Study
- 512A. Deep-Sea Science and Environmental Management
- 520. Resource & Environmental Economics I
- 520L. Resource and Environmental Economics
- 528SA. Community-Based Marine Conservation in the Gulf of California
- 533A. Marine Fisheries Policy
- 551DA. International Conservation and Development
- 752. Sustainability and Renewable Resource Economics

Human Rights Program-Franklin Humanities Institute

- 213. United States Environmental Policy

Public Policy

- 246A. Marine Conservation Policy - A Practicum
- 275. United States Environmental Policy
- 281A. Marine Policy

- 576. Resource & Environmental Economics I

Marine Conservation Courses

Biology

- 205. Marine Megafauna
- 270A. Conservation Biology and Policy
- 368A. Deep-Sea Science and Environmental Management
- 375A. Biology and Conservation of Sea Turtles
- 375LA. Biology and Conservation of Sea Turtles
- 376A. Marine Mammals
- 376LA. Marine Mammals
- 384A. Marine Conservation Biology - a Practicum
- 571A. Sojourn in Singapore: Urban Tropical Ecology

Environment

- 205. Marine Megafauna
- 270A. Conservation Biology and Policy
- 287A. Marine Conservation Service-Learning Course: Challenges at Sea
- 307A. Barrier Island Ecology, Geology, and Policy
- 314. Managing the Oceans to Solve Global Problems

- 375A. Biology and Conservation of Sea Turtles
 - 375LA. Biology and Conservation of Sea Turtles
 - 376A. Marine Mammals
 - 376LA. Marine Mammals
 - 384A. Marine Conservation Biology - a Practicum
 - 504A. Marine Protected Area Monitoring and Management
- Public Policy**
- 314. Managing the Oceans to Solve Global Problems

Capstone Course

Environment

- 350S. Marine Science and Conservation Leadership
- Public Policy**
- 280S. Marine Science and Conservation Leadership

University Program in Marine Sciences

Professor Read (Environment), *Director and Chair*; Lecturer Schultz (Environment), *Director of Undergraduate Studies*; Professors Campbell (Environment), Rittschof (Environment and Biology), and Van Dover (Environment); Associate Professors Basurto (Environment), Halpin (Environment), Hench (Environment), Hunt (Environment), Johnson (Environment), Murray (Environment), Nowacek (Environment and Engineering), and Silliman (Environment); Assistant Professor Gill; Professors Emeriti Barber (Environment and Biology), C. Bonaventura (Environment and Cell Biology), J. Bonaventura (Environment and Cell Biology), Forward (Environment and biology), Orbach (Environment), and Ramus (Environment and Biology); Associate Professor of the Practice Johnston; Professor of the Practice Emeritus Kirby Smith (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 the surrounding marine environment and to modern scientific equipment including a shared-use molecular laboratory and a specialized library.

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, and 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 such as Gulf of California, Panama, Puerto Rico, Singapore, and US Virgin Islands. 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 Road, Beaufort, NC 28516; (252) 504-7502; ml_enrollment@nicholas.duke.edu; or visit the website at <https://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 website at <https://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 online course catalog or the Duke Marine Lab website (<https://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, and environmental sciences and policy), minors (including biology, chemistry, and environmental sciences and policy), and programs (including prehealth and Marine Science and Conservation Leadership) see the Marine Lab website's academic programs section (<https://nicholas.duke.edu/marinelab/programs/undergraduate>) or consult the director of undergraduate studies for the department.

Courses in the University Program in Marine Sciences

Biology

- 175LA. Marine Biology
- 201LA. Gateway to Biology: Molecular Biology

202LA. Gateway to Biology: Genetics and Evolution
205. Marine Megafauna
270A. Conservation Biology and Policy
272A. Analysis of Ocean Ecosystems
273LA. Marine Ecology
275A. Biology for Engineers: Informing Engineering Decisions
278LA. Comparative Physiology of Marine Animals
279LA. Sound in the Sea: Introduction to Marine Bioacoustics
293. Research Independent Study
293-1. Research Independent Study
293A. Research Independent Study
293A-1. Research Independent Study
309A. Oceans in Human and Environmental Health
319A. Coastal Watershed Science and Policy
335A. Drones in Marine Biology, Ecology, and Conservation
335LA. Drones in Marine Biology, Ecology, and Conservation
368A. Deep-Sea Science and Environmental Management
369LA. Biological Oceanography
373LA. Sensory Physiology and Behavior of Marine Animals
375A. Biology and Conservation of Sea Turtles
375LA. Biology and Conservation of Sea Turtles
376A. Marine Mammals
376LA. Marine Mammals
377LA. Biodiversity of Marine Invertebrates
380LA. Marine Molecular Microbiology
384A. Marine Conservation Biology - a Practicum
445A. Climate Change in the Marine Environment
493. Research Independent Study
493A. Research Independent Study
570LA-1. Experimental Tropical Marine Ecology
570LA-2. Marine Ecology of the Pacific Coast of California
571A. Sojourn in Singapore: Urban Tropical Ecology
579LA. Biological Oceanography

Cell Biology

493. Research Independent Study

Chemistry

201DLA. Organic Chemistry I at the Duke Marine Lab

202LA. Organic Chemistry II

Earth and Ocean Sciences

272A. Analysis of Ocean Ecosystems
273LA. Biological Oceanography
280LA. Sound in the Sea: Introduction to Marine Bioacoustics
370A. Physical Oceanography
374LA. Marine Ecology
377LA. Biodiversity of Marine Invertebrates
391. Independent Study
392. Independent Study
393. Research Independent Study
393A. Research Independent Study
394. Research Independent Study
394A. Research Independent Study
579LA. Biological Oceanography

Electrical and Computer Engineering

384LA. Sound in the Sea: Introduction to Marine Bioacoustics

Environment

175LA. Marine Biology
205. Marine Megafauna
270A. Conservation Biology and Policy
271A. Biology for Engineers: Informing Engineering Decisions
272A. Analysis of Ocean Ecosystems
273LA. Marine Ecology
275SA. Global Fisheries Conflicts: Exploring Local and Global Economic, Ecological, and Social Impacts
278LA. Comparative Physiology of Marine Animals
280LA. Sound in the Sea: Introduction to Marine Bioacoustics
286A. Marine Policy
287A. Marine Conservation Service-Learning Course: Challenges at Sea
307A. Barrier Island Ecology, Geology, and Policy
309A. Oceans in Human and Environmental Health
321A. Coastal Watershed Science and Policy
335A. Drones in Marine Biology, Ecology, and Conservation

- 335LA. Drones in Marine Biology, Ecology, and Conservation
- 346A. Marine Conservation Policy - A Practicum
- 350S. Marine Science and Conservation Leadership
- 369LA. Biological Oceanography
- 370A. Physical Oceanography
- 373LA. Sensory Physiology and Behavior of Marine Animals
- 375A. Biology and Conservation of Sea Turtles
- 375LA. Biology and Conservation of Sea Turtles
- 376A. Marine Mammals
- 376LA. Marine Mammals
- 377LA. Biodiversity of Marine Invertebrates
- 383LA. Marine Molecular Microbiology
- 384A. Marine Conservation Biology - a Practicum
- 391. Independent Study
- 391A. Independent Study
- 393. Research Independent Study
- 393-1. Research Independent Study
- 393A. Research Independent Study
- 394A. Research Independent Study
- 445A. Climate Change in the Marine Environment
- 476A. Data and Time Series Analysis in Marine Sciences
- 504A. Marine Protected Area Monitoring and Management
- 528SA. Community-Based Marine Conservation in the Gulf of California
- 533A. Marine Fisheries Policy
- 551DA. International Conservation and Development
- 571A. Sojourn in Singapore: Urban Tropical Ecology
- 573A. Coastal and Marine Pollution
- 579LA. Biological Oceanography
- 585. Fisheries Biogeography and Ecology
- 590A. Duke-Administered Study Away: Special Topics
- 590SA. Seminar in Ocean Sciences
- Global Health**
- 309A. Oceans in Human and Environmental Health
- Neuroscience**
- 381LA. Sensory Physiology and Behavior of Marine Animals
- Physics**
- 141LA. General Physics I
- 142LA. General Physics II
- Public Policy**
- 246A. Marine Conservation Policy - A Practicum
- 280S. Marine Science and Conservation Leadership
- 281A. Marine Policy
- 445A. Climate Change in the Marine Environment
- Statistical Science**
- 101LA. Data Analysis and Statistical Inference

Markets and Management Studies

Martha Reeves, *Director*

A certificate, but not a major, is available in this program.

The Markets and Management Studies 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 nonprofit 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.

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 (including MMS); 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 website at <https://www.markets.duke.edu>.

Courses in Markets and Management Studies (MMS)

Core Course

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: Green, Grody, Reeves, or Veraldi. One course.

Electives

190FS. Special Topics in Markets and Managements. Topics vary by semester. Open to students in the Focus Program only. One course.

195FS. Freedom and the Market. EI, SS, W One course. C-L: see Sociology 197FS

197. Organizational Leadership & Management. SS Study of individual and group behaviors within organized settings and managerial strategies that enhance organizational effectiveness. Topics include leadership, culture and diversity, power and politics, communication, decision making, motivation and reward systems, conflict management, justice and ethics as well as organization structure and design. Special attention to critical assessment of new technological options in organizational settings with an aim to produce informed, ethical consumers and leaders. Instructor: Grody, Hicks. 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: Grody, Hicks. 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: Grody, Lin. One course.

230. Game Changers: From Panda Diplomacy to Zipcar. The course discovers and draws inspiration from different types of game changers in a variety of fields and disciplines—from politics and policy to business/marketing/finance, environment and social movement. Investigations are pursued on how out-of-the-box thinking has brought creativity to problem solving and changed the ways people live, connect, and contribute around the world. The relevant factors that have helped successfully implement the core ideas as well as the blunders that pioneers have encountered are examined. Instructor: Pikuei Tu. One course.

272. Marketing Across Borders, Cultures and Demographics. CCI, 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. Instructor: Grody. One course.

275. Business of Sport: A Comprehensive Look at a Powerhouse Global Industry. Provides a broad overview of "Sports", finance/valuation, professional/college, sponsorship/marketing, teams/leagues, labor/ownership; examines industry from finance perspective in determining valuations; examines role of sports and transformation into entertainment; how web based applications have changed the dynamic of the sports industry; discussion of topics regarding lockouts, free agency, paying college athletes, NCAA tournament, college athletic budgets, Super Bowl, athlete salaries, public/corporate funding. Instructor: Tiryakian. 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: Tiryakian and Veraldi. One course.

380. Entrepreneurial Marketing. SS Teaches students how to discover and understand customer wants and needs, understand the impacts of the market environment on customer behavior and product acceptance, define products that will meet customer needs, choose the right distribution channels, price and promote the product or service effectively, understand the unique ways in which the marketing process must be tailored to an entrepreneurial environment. Instructor: Green. One course.

390. Special Topics in Markets and Management Studies. Topics vary each semester. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics in Markets and Management Studies. Topics differ by section. Instructor: Staff. One course.

390S. Special Topics in Markets and Management Studies. Topics vary each semester. Instructor: Staff. One course.

395. New Ventures 2: Strategy Development. One course. C-L: see Innovation and Entrepreneurship 395

396. New Ventures 3: Operating Plan. One course. C-L: see Innovation and Entrepreneurship 396

425. Intellectual Property and Innovation: Law, Policy & Entrepreneurship. EI, SS, STS Course examines the tightly linked roles of intellectual property law and innovation in the 21st century global economy; offers an overview of the use of intellectual property in business, law and public policy, as well as in-depth coverage of current controversies impacting the future of the global information economy: gene patents; online piracy; music sampling; open source business models; access to medicines; and the impact of the 3D printing revolution. Besides overviews of trends in intellectual property law, research and development strategies, university technology transfer, and government and private sector investment, examine case studies of specific innovators, companies, places. Instructor: Cross. One course. C-L: Sociology 425, Economics 295, Information Science + Studies 425, Public Policy 425

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

Sociology

- 223. Data Analytics and Visualization for Business
- 258. Markets and Marketing
- 342D. Organizations and Global Competitiveness
- 344. Technology and Organizational Environments
- 345. Nations, Regions, and the Global Economy
- 347. Managing Networks: Research and Applications of Network Analysis to Business Organizations
- 355. Organizations and Management
- 359. The Sociology of Entrepreneurship

Elective Courses

Art History

- 220. Museum Theory and Practice
- 261. The Contemporary Art Market
- 508S. Art and Markets

Cultural Anthropology

- 170. Advertising and Society: Global Perspective (DS4)
- 170D. Advertising and Society: Global Perspective (DS4)
- 210. Global Culture
- 399. Global Russia
- 425. Globalization and Anti-Globalization

Dance

- 279SA. The Economics of Art (The Chicago Scene)
- 307SA. stARTup Project

Economics

- 119. Introduction to Political Economy
- 222D. American Business History
- 274. Advanced Financial and Managerial Accounting
- 281A. Building and Sustaining a Successful Enterprise
- 321S. Art and Markets
- 343. The Contemporary Art Market
- 355. International Trade
- 373. Corporate Finance
- 464. Competitive Strategy and Industrial Organization

French

- 328SA. Marketing Québec: Policy, Marketing, and Identity

Gender, Sexuality, and Feminist Studies

- 241. Gender, Work, and Organizations
- 361. Money, Sex, Power

History

- 107D. Introduction to the History of Economic and Business Cultures
- 252. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015
- 364D. American Business History

Human Rights Program-Franklin Humanities Institute

- 301S. Business and Human Rights Advocacy Lab
- 361. Money, Sex, Power

Innovation and Entrepreneurship

- 217SA. The Economics of Art (The Chicago Scene)
- 271A. Building and Sustaining a Successful Enterprise
- 316SA. stARTup Project

- 373. Intellectual Property: Law, Policy, and Practice
- 395. New Ventures 2: Strategy Development
- 396. New Ventures 3: Operating Plan

International Comparative Studies

- 307S. Political Economy of Financial Crises
- 317S. Business and Human Rights Advocacy Lab
- 399. Global Russia
- 404. Globalization and Anti-Globalization

Music

- 217SA. The Economics of Art (The Chicago Scene)
- 316SA. stARTup Project

Philosophy

- 270. Business Ethics: The Debate Over Corporate Social Responsibility

Political Science

- 145. Introduction to Political Economy
- 250. The Politics of International Economic Relations: America in the World Economy

255. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015

315S. Political Economy of Financial Crises

321. International Law and International Institutions

341S. Business and Human Rights Advocacy Lab

346. Business, Politics, and Economic Growth

347. Globalization and Domestic Politics

350. International Political Economy

468S. Wealth and Poverty of Nations: Prosperity and Distribution in the Long Run

555S. The Politics of Market Competition in a Global Economy

650S. Political Economy of International Relations

Psychology

425. The Psychology of Consumers

426. Social Psychology of Business

Public Policy

223. Global Russia

240. The Politics of International Economic Relations: America in the World Economy

254. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015

288. International Trade

311S. Business and Human Rights Advocacy Lab

337SA. Marketing Québec: Policy, Marketing, and Identity

373. Intellectual Property: Law, Policy, and Practice

555S. The Politics of Market Competition in a Global Economy

Russian

399. Global Russia

Sociology

160. Advertising and Society: Global Perspective (DS4)

160D. Advertising and Society: Global Perspective (DS4)

197FS. Freedom and the Market

226. The Challenges of Development

227. Leadership and Collaboration

229. Gender, Work, and Organizations

341. The United States and the Asian Pacific Region

354. Getting Rich: Financial Markets, Household Finance, and Wealth

357. Organizations and Management in Global Capital Markets: an Ethical Perspective

Study of Ethics

255. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015

270. Business Ethics: The Debate Over Corporate Social Responsibility

301S. Business and Human Rights Advocacy Lab

555S. The Politics of Market Competition in a Global Economy

Theater Studies

217SA. The Economics of Art (The Chicago Scene)

316SA. stARTup Project

Visual and Media Studies

170. Advertising and Society: Global Perspective (DS4)

221SA. The Economics of Art (The Chicago Scene)

247. Global Culture

315SA. stARTup Project

567S. Art and Markets

Mathematics

Professor Mattingly, *Chair*; Professor Aspinwall, *Associate Chair*; Professor H. Bray, *Director of Undergraduate Studies*; Associate Professor of the Practice Schott, *Associate Director of Undergraduate Studies*; Associate Professor of the Practice C. Bray, *Supervisor of First-Year Instruction*; Professors Aspinwall, H. Bray, Bryant, Calderbank, Dasgupta, Daubechies, Durrett, Hain, Harer, Haskins, Kiselev, A. Layton, Liu, Mattingly, Miller, Mukherjee, Ng, Nolen, Pardon, Petters, Plessner, Reed, Saper, Schoen, Stern, Venakides, Wickelgren, and Witelski; Associate Professors Getz, Kraines, Lu, Pierce, Rabinoff, Robles, and Wu; Assistant Professors Cheng, Levine, and Pollack; Professors Emeriti Allard, Beale, Hodel, Kitchen, Moore, Schaeffer, Smith, Trangenstein, Warner, Weisfeld, and Zhou; Associate Professors of the Practice C. Bray and Schott; Assistant Professors of the Practice Akin and Viel; Professor of the Practice Emeritus Bookman; Associate Professor of the Practice Emeritus Blake; Research Professors Buck and A. Layton; Associate Research Professor Bendich; Assistant Research Professors Agazzi, Autry, Campbell, Dym, Gao, Hahn, He, Hebbar, Herschlag, Kovalsky, Lee, Leslie, Li, Lim, Lu, Malen, Myer, Nagy, Orizaga, Silliman, Sober, Solomon, Sorribes Rodriguez, Vafee, J. Wang, M. Wang, Watson, Wong, Wu, and Zhu; Adjunct Professors Dong, Wahl, and Werner; Lecturers Bar-On and Fitzpatrick

A major and a minor are available in this department.

Courses in Mathematics (MATH)

21. Introductory Calculus I. 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.

22. Introductory Calculus II. Credit awarded on the basis of national/international examinations in mathematics such as College Board, International Baccalaureate, British Advanced Level. Equivalent to Mathematics 112L as a prerequisite. Instructor: Staff. One course.

75. SPIRE Fellows STEM Skills and Identity Building. Introduction to mathematical techniques and applications in science and engineering. Students will participate in group research projects and discussions. Topics vary each semester offered. Instructor consent required. Instructor: Staff. Half 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(31L) or 121. Instructor: Staff. One course.

106L. Laboratory Calculus and Functions II. QS A continuation of Mathematics 105L. Topics include zeros of functions, antiderivatives, 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. Prerequisite: Mathematics 105L. 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, 106L, or 121. 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 (AP/IPC/PMC placement credit for Math 21 is not sufficient if Math 122L is offered) or consent. 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. Transfer credit not to be granted to students with credit for Math 105L, 106L, or 111L. 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. For transfer credit only. 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. 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 105L, 106L, 111L, 112L, or 122. Instructor: Staff. One course.

161FS. Introduction to Mathematical Modeling in Biology. QS, R, STS Introduction to techniques used in the construction, analysis, and evaluation of mathematical models. Modeling topics include: How fast will an infectious disease spread within a community? What fraction of a population need to be vaccinated in order to eradicate a disease, and what is the best vaccination policy? How stable is a given ecosystem? Students

will learn how to frame a scientific question in mathematical terms; how to study the model using mathematical tools and techniques; how to interpret model predictions in the appropriate scientific context. Department consent required. Instructor: Staff. One course.

163FS. Mathematics of Data Science. QS, STS Introduction to the mathematics and algorithms that are central to a variety of data science applications. Basic mathematical concepts underlying popular data science algorithms will be introduced and students will write code implementing these algorithms. We will discuss the impact of these algorithms on society and ethical implications. Algorithms examined include: Google's pagerank, principal component analysis for visualizing high dimensional data, hidden Markov models for speech recognition, and classifiers detecting spam emails. Linear algebra and basic probability will be the mathematical focus and there will be a programming component to this class using the R programming language. Open only to students in the Focus Program. Department consent required. Instructor: Staff. One course. C-L: Statistical Science 115FS

165FS. Cryptography and Society. QS, STS, W Introduction to topics in mathematical cryptography, and the role of cryptography within society, in both historic and modern contexts. Cryptographic systems studied will include: early historical ciphers; the Enigma machines of WWII; modern public channel cryptography. Students will learn: to encode/decode using each system; to quantify the complexity, strength, and weaknesses of each system; to use elementary techniques from combinatorics, graph theory, abstract algebra, and number theory; about the role cryptography plays in human society. Open only to students in the Focus Program. Department consent required. Instructor: Staff. One course. C-L: Science & Society 165FS

168S. 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 probability, statistics, and matrix algebra will be provided. Prerequisite: Mathematics 21 or 111L or permission of the instructor. Instructor: Staff. One course. C-L: Science & Society

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.

190. Special Topics in Mathematics. Topics vary. Instructor: Staff. One course.

190L. Special Topics in Mathematics. Topics vary. Instructor: Staff. One course.

190S. Seminar on Special Topics in Mathematics. Seminar version of Math 190. Topics vary. Instructor: Staff. One course.

191. Independent Study. Directed reading in a field of special interest under the supervision of a faculty member. This course does not contribute to the requirements of a mathematics major. Consent of instructor and director of undergraduate studies required. 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. Not open to students who have taken Mathematics 212 or 222. Prerequisite: Mathematics 22, 112L, 122, or 122L. Instructor: Staff. One course.

202D. 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. Not open to students who have taken Mathematics 212 or 222. Prerequisite: Mathematics 22, 112L, 122, or 122L. 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 or 222. Prerequisite: Mathematics 22, 112L, 122, or 122L. Instructor: Staff. One course.

212A. 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. Taught in Beaufort at Duke Marine Lab. Not open to students who have taken Mathematics 202 or 222. Prerequisite: Mathematics 22, 112L, 122, 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, systems of differential equations with constant coefficients, applications, computer simulations. Intended primarily for engineering students. Prospective math majors should take Math 221 instead. Prerequisite: Mathematics 202, 212 or 222. Not open to students who have had Mathematics 218 or 221 or 356. Instructor: Staff. One course.

218-1. Matrices and Vector Spaces. **QS** Solving systems of linear equations, matrix factorizations and fundamental vector subspaces, orthogonality, least squares problems, eigenvalues and eigenvectors, the singular value decomposition and principal component analysis, applications to data-driven problems. Intended primarily for students in computer science and other data-focused sciences. Prospective math majors should take Mathematics 221 instead. Not open to students who have taken Mathematics 216 or 221. Recommended prerequisite: Mathematics 21, 121, 106L, or 111L. Instructor: Staff. One course.

218-2. Matrices and Vectors. **QS** Solving systems of linear equations, matrix factorizations and fundamental vector subspaces, orthogonality, least squares problems, eigenvalues and eigenvectors, the singular value decomposition and principal component analysis, applications to engineering problems. Intended primarily for students in engineering. Prospective math majors should take Mathematics 221 instead. Not open to students who have taken Mathematics 216 or 221. Recommended prerequisite: Mathematics 21, 121, 106L, or 111L. Instructor: Staff. One course.

218L. Matrices and Vector Spaces: Optional Lab Section. Optional lab section for Mathematics 218-1: solving systems of linear equations, matrix factorizations and fundamental vector subspaces, orthogonality, least squares problems, eigenvalues and eigenvectors, the singular value decomposition and principal component analysis, applications to data-driven problems. Intended primarily for students in computer science and other data-focused sciences. Prospective math majors should take Mathematics 221 instead. Corequisite: Mathematics 218-1. Instructor: Staff. Half 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. Introduction to proofs. A gateway to more advanced math courses. Not open to students who have taken Mathematics 216 or 218. Prerequisite: Mathematics 122, 112L or 122L. Instructor: Staff. One course.

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.

228L. Probability for Statistical Inference, Modeling, and Data Analysis. **QS** One course. C-L: see Statistical Science 240L

230. Probability. **QS** Probability models, random variables with discrete and continuous distributions. Independence, joint distributions, conditional distributions. Expectations, functions of random variables, central limit theorem. Prerequisite: Calculus II (Mathematics 22, 112L, 122, or 122L) OR credit for multivariable calculus (Mathematics 202, 212, or 222) OR graduate student standing. Not open to students who have credit for Mathematics 340. Instructor: Staff. One course. C-L: Statistical Science 230, Information Science + Studies

238L. Fundamentals of Data Analysis and Decision Science. **QS** This course provides a mathematically rigorous and broad foundation for key concepts in probability and statistics, as well as the application of probability and statistics to the mathematical modeling of non-deterministic systems. The main motivation of the course is to show how these concepts are fundamental to a variety of current data analysis techniques, and to demonstrate applications of these techniques in situations relevant to all engineering majors. Prerequisite: (Mathematics 216, 218, or 221) and (Engineering 103L, Computer Science 101L, or Mathematics 218L). Instructor: Staff. One course.

240. Introduction to Applied Mathematics: Modeling, Equations and Proofs. **QS** The course will consist of 3 or 4 concrete applications, for which precise mathematical questions will be formulated, and a mathematical framework developed that will make it possible to answer these questions. In doing so, we will encounter and explore portions of real analysis, probability, linear algebra, convex analysis, information theory and maybe others. We will also learn how to construct watertight mathematical arguments, and explore different proof techniques. Prerequisites: none, beyond high school calculus. Instructor: Staff. One course.

245. Introduction to Mathematics: Example, Conjecture, and Proof. **QS** Explorations of interesting problems from a variety of branches of math such as geometry, number theory, combinatorics, logic, and analysis. Students will strengthen their problem solving and proof-writing abilities. Recommended prerequisite: Mathematics 216, 218, or 221. Instructor: Staff. One course.

260. Python Programming in Mathematics. **QS** Introductory programming course in Python providing a foundational background for programming in a mathematical setting. Students will learn the basics of object orientated programming: memory storage and variable scoping, recursion, objects and classes, and basic data structures. A variety of numerical methods will be introduced, with a focus on their practical implementation, through a series of practice modules covering subjects that may include: linear algebra, machine learning, operations research, and genetics. Recommended prerequisite: linear algebra (Mathematics 216, 218, or 221). No programming background is required. Not open to students who have taken Computer Science 201. 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.

290. Special Topics in Mathematics. Topics vary by semester. Instructor: Staff. One course.

304. Introduction to Cryptography. **QS, STS** Introduction to techniques in cryptography, accompanied by analysis of historical and societal consequences. Topics include elementary combinatorics and number theory, including modular arithmetic and prime numbers; classical ciphers and accompanying attacks; the Enigma machines; modern encryption schemes, including public channel cryptography. Prerequisite: Mathematics 212, 216, 221, or 222, or consent of instructor. Not open to students who have taken Mathematics 404. 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 + Studies

323S. Geometry. **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 or 222 as well as Mathematics 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

342D. Statistics. **QS** One course. C-L: see Statistical Science 250D; also C-L: Information Science + Studies

343. Theory and Methods of Statistical Learning and Inference. **QS** One course. C-L: see Statistical Science 432

353. Ordinary and Partial Differential Equations. **QS** First and second order ordinary differential

equations with applications, Laplace transforms, series solutions and qualitative behavior, Fourier series, partial differential equations, boundary value problems, Sturm-Liouville theory. Intended primarily for engineering and science students. Prerequisite: Mathematics 216. Not open to students who have had Mathematics 356. Instructor: Staff. One course.

353A. Ordinary and Partial Differential Equations. QS First and second order ordinary differential equations with applications, Laplace transforms, series solutions and qualitative behavior, Fourier series, partial differential equations, boundary value problems, Sturm-Liouville theory. Intended primarily for engineering and science students. Study-abroad version of Math 353. Prerequisite: Mathematics 216. Not open to students who have had Mathematics 356. Instructor: Staff. One course.

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. Recommended prerequisite: Mathematics 218 or 221 and one of 202, 212, or 222. 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.

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. 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

390. Special Topics in Mathematics. Topics vary by semester. Instructor: Staff. One course.

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. 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.

403. Advanced Linear Algebra. QS Topics in linear algebra beyond those in a first course. For example: principal component analysis and other decompositions (singular value, Cholesky, etc.); Perron-Frobenius theory; positive semi-definite matrices; linear programming and more general convexity and optimization; basic simplicial topology; Gershgorin theory; classical matrix groups. Applications to computer science, statistics, image processing, economics, or other fields of mathematics and science. Prerequisite: Mathematics 212 or 222 and Mathematics 218 or 221. Instructor: Staff. One course.

404. Mathematical Cryptography. QS Mathematics of cryptography and some applications. Topics include finite fields, discrete logarithms, integer factorization and RSA, elliptic curve cryptography, hash functions, digital signatures, DES and AES. Open to students who have taken Mathematics 304. Prerequisite: Mathematics 221 or 218 or 216, Computer Science 101L or equivalent. Mathematics 401 or 501 would be useful. 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. Topological Data Analysis. 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 and one of 202, 212, or 222. Instructor: Staff. One course.

431. Introduction to Real Analysis. 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. Students intending to continue studying mathematics at a graduate level are encouraged to take Math 531 instead of this class. Not open to students who have taken Mathematics 531. Recommended 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.

465. Introduction to High Dimensional Data Analysis. QS Geometry of high dimensional data sets. Linear dimension reduction, principal component analysis, kernel methods. Nonlinear dimension reduction, manifold models. Graphs. Random walks on graphs, diffusions, page rank. Clustering, classification and regression in high-dimensions. Sparsity. Computational aspects, randomized algorithms. Prerequisite: Mathematics 218 or 221. Instructor: Staff. One course. C-L: Computer Science 445, Statistical Science 465

466. Mathematics of Machine Learning. QS The course will explore mathematics underlying the practice and theory of various machine learning concepts and algorithms. Kernel methods, deep learning, reinforcement learning, generalization error, stochastic gradient descent, and dimension reduction or data embeddings will be introduced. The interplay between the mathematics and real applications will be an component of the course. Students can take both this course and Mathematics 465 for credit. Recommended prerequisite: Mathematics 230/340 and 218/216/221 and some familiarity with programing, preferably Python. Instructor: Staff. One course.

477S. Seminar in Mathematical Modeling with a Focus on Writing. 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. Considerable attention is given to writing in an interdisciplinary context. Not open to student that have taken Math 476S. Prerequisite: Mathematics 353 or 356 or consent of instructor. Instructor: Staff. One course.

490. Topics in Mathematics. Topics vary. Instructor: Staff. One course.

490S. Seminar in Mathematics. 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.

501. Introduction to Algebraic Structures I. 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. Fields and field extensions, modules over rings, further topics in groups, rings, fields, and their applications. Prerequisite: Mathematics 501, or 401 and consent of instructor. Instructor: Staff. One course.

527. General Relativity. NS, QS One course. C-L: see Physics 622

531. Real 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. Recommended prerequisite: Mathematics 221, Mathematics 531, or consent of instructor. Instructor: Staff. One course.

541. Applied Stochastic Processes. QS An introduction to stochastic processes without measure theory. Topics selected from: Markov chains in discrete and continuous time, queuing theory, branching processes, martingales, Brownian motion, stochastic calculus. Prerequisite: Mathematics 230 or Mathematics 340 or equivalent. Instructor: Staff. One course. C-L: Statistical Science 621

545. Introduction to Stochastic Calculus. QS Introduction to the theory of stochastic differential equations oriented towards topics useful in applications. Brownian motion, stochastic integrals, and diffusions as solutions of stochastic differential equations. Functionals of diffusions and their connection with partial differential equations. Ito's formula, Girsanov's theorem, Feynman-Kac formula, Martingale representation theorem. 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.

551. Applied Partial Differential Equations and Complex Variables. QS Initial and boundary value problems for the heat and wave equations in one and several dimensions. Fourier series and integrals, eigenvalue problems. Laplace transforms, solutions via contour integration, and elementary complex variables.

Solutions via Green's functions. Intended for applied math students and students in science and engineering. Prerequisite: Mathematics 216 and 353 or the equivalent. Instructor: Staff. One course.

553. Asymptotic and Perturbation Methods. QS Asymptotic solution of linear and nonlinear ordinary and partial differential equations. Asymptotic evaluation of integrals. Singular perturbation. Boundary layer theory. Multiple scale analysis. Prerequisite: Mathematics 353 or equivalent. 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.

557. Introduction to Partial Differential Equations. QS Fundamental solutions of linear partial differential equations, hyperbolic equations, characteristics, Cauchy-Kowalevski theorem, propagation of singularities. Prerequisite: Mathematics 532 or equivalent. Instructor: Staff. One course.

560. Theory and Practice of Algorithms. The mathematical theory of algorithms and graphs and their practical implementations. Examines the foundational mathematical structures for the behavior and analysis of algorithms from a variety of domains, with a particular emphasis on graphs. Students tie theory to practice by writing code to implement algorithms, and compare experimentally observed run-times to those predicted by the mathematical theory. Recommended prerequisite: Computer Science 201; or recommended corequisite: ECE 551; or equivalent. Instructor: Staff. One course.

561. Numerical Linear Algebra, Optimization and Monte Carlo Simulation. QS Structured scientific programming in C/C++ and FORTRAN. Floating point arithmetic and interactive graphics for data visualization. Numerical linear algebra, direct and iterative methods for solving linear systems, matrix factorizations, least squares problems and eigenvalue problems. Iterative methods for nonlinear equations and nonlinear systems, Newton's method. Prerequisite: Mathematics 212 and 221. Instructor: Staff. One course.

563. Applied Computational Analysis. QS Approximation theory: Fourier series, orthogonal polynomials, interpolating polynomials and splines. Numerical differentiation and integration. Numerical methods for ordinary differential equations: finite difference methods for initial and boundary value problems, and stability analysis. Introduction to finite element methods. Prerequisite: Mathematics 561 and familiarity with ODEs at the level of Mathematics 216 or 356. Instructor: Staff. One course.

565. Numerical Analysis. QS, R One course. C-L: see Computer Science 520; also C-L: Statistical Science 612

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. 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.

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

582. Financial Derivatives. A rigorous introduction to financial derivatives with applications. Topics include: binomial trees and geometric Brownian motion; European options, American options, forwards, and futures; put-call parity; the Black-Scholes-Merton pricing formula and its derivations; Delta and Gamma hedging; implied volatility; Merton jump-diffusion model; Heston model; GARCH(1,1) model. Prerequisites: Math 212 (or 222) and Math 230 (or 340) or consent of instructor. Instructor: Staff. One course. C-L: Economics 674

590-01. Special Readings. Instructor consent required. Instructor: Staff. One course.

590-02. Advanced Special Topics in Mathematics. Topics in mathematics suitable for advanced undergraduates or graduate students. Topics vary per semester. Instructor: Staff. One course.

590-60. Topics in Theory and Practice of Algorithms. The mathematical theory of algorithms and graphs and their practical implementations. Examines the foundational mathematical structures for the behavior and analysis of algorithms from a variety of domains, with a particular emphasis on graphs. Students tie theory to practice by writing code to implement algorithms, and compare experimentally observed run-times to those predicted by the mathematical theory. Prerequisite: Computer Science 201 or corequisite of ECE 551 or equivalent. Instructor: Staff. One course.

601. Groups, Rings, and Fields. 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. 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. C-L: Physics 603

605. Algebraic Number Theory. 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.

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

620. Smooth Manifolds. QS This introductory course will cover smooth manifolds, orientation, immersions, submersions, Stokes Theorem, Frobenius Theorem, Lie groups, vector bundles, Lie groups, and additional topics (such as principal bundles) as time allows. Recommended prerequisite: Mathematics 532 or equivalent. Instructor: Staff. One course.

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. 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, Čech cohomology. Prerequisite: Mathematics 633 and Mathematics 611 or consent of instructor. Instructor: Staff. One course.

627. Algebraic Geometry. 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. Measure and Integration. **QS** Lebesgue measure and integration; L^p spaces; absolute continuity; abstract measure theory; Radon-Nikodym Theorem; connection with probability; Fourier series and integrals. Recommended prerequisite: Mathematics 531 and 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.

636. Analytic Number Theory. **QS** Dirichlet series, the Riemann zeta function and L-functions, solutions to Diophantine equations, the circle method, exponential sums and character sums. Additional topics may include prime number theorems, sieve methods, connections to harmonic analysis, and automorphic forms. Prerequisite: 333, 531 and 502 or equivalent, or permission of instructor. Instructor: Staff. One course.

641. Probability. **QS** Designed to be a sequel to Statistical Science 711. The basic five topics are: martingales, Markov chains from an advanced viewpoint, ergodic theory, Brownian motion and its applications to random walks, Donsker's theorem and the law of the iterated logarithm, and multidimensional Brownian motion, connection to PDE's. For those who have not had 711, we will prove the law of large numbers using martingales and obtain versions of the central limit theorem from Donsker's theorem. Course requires a knowledge of measure theory. Prerequisite: Statistical Science 711 or Mathematics 631. 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.

653. Elliptic Partial Differential Equations. **QS** Fourier transforms, distributions, elliptic equations, singular integrals, layer potentials, Sobolev spaces, regularity of elliptic boundary value problems. Prerequisite: Mathematics 557 and 631 or equivalent. Instructor: Staff. One course.

660. Numerical Partial Differential Equations. **QS** Introduction to important classes of numerical methods for partial differential equations, notably finite difference and finite element methods. Emphasis on a solid understanding of the accuracy of these methods, with a view toward the interplay between theory and practice. Topics may include finite difference and finite element methods for elliptic equations; finite difference methods for parabolic equations; and numerical methods for hyperbolic equations and conservation laws. Prerequisite: Mathematics 561, 563, or consent of instructor. Instructor: Staff. One course.

661. Numerical Solution of Hyperbolic Partial Differential Equations. **QS** Numerical solution of hyperbolic conservation laws. Conservative difference schemes, modified equation analysis and Fourier analysis, Lax-Wendroff process. Gas dynamics and Riemann problems. Upwind schemes for hyperbolic systems. Nonlinear stability, monotonicity and entropy; TVD, MUSCL, and ENO schemes for scalar laws. Approximate Riemann solvers and schemes for hyperbolic systems. Multidimensional schemes. Adaptive mesh refinement. Prerequisite: Mathematics 561, 563, or consent of instructor. Instructor: Staff. One course.

663. Numerical Solution of Elliptic and Parabolic Partial Differential Equations. **QS** Numerical solution of parabolic and elliptic equations. Diffusion equations and stiffness, finite difference methods and operator splitting (ADI). Convection-diffusion equations. Finite element methods for elliptic equations. Conforming elements, nodal basis functions, finite element matrix assembly and numerical quadrature. Iterative linear algebra; conjugate gradients, Gauss-Seidel, incomplete factorizations and multigrid. Mixed and hybrid methods. Mortar elements. Reaction-diffusion problems, localized phenomena, and adaptive mesh refinement.

Prerequisite: Mathematics 561, 563, or consent of instructor. Instructor: Staff. One course.

690-00. Topics in Algebraic Geometry. 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.

690-05. Topics in Number Theory. A selection of topics from algebraic number theory, arithmetic geometry, automorphic forms, analytic number theory, etc. Instructor: Staff. One course.

690-10. Topics in Topology. Algebraic, geometric, or differential topology. Consent of instructor required. Instructor: Staff. One course.

690-20. Topics in Differential Geometry. 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. Geometric function theory, function algebras, several complex variables, uniformization, or analytic number theory. Prerequisite: Mathematics 633 or equivalent. Instructor: Staff. One course.

690-32. Topics in Analysis. Topics in analysis geared towards topics of current research interest. The prerequisites will depend on the specific topic covered. Instructor: Staff. One course.

690-40. Topics in Probability Theory. 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

690-50. Topics in Partial Differential Equations. Hyperbolic conservation laws, pseudo-differential operators, variational inequalities, theoretical continuum mechanics. Prerequisite: Mathematics 651 or equivalent. Instructor: Staff. One course.

690-70. Topics in Applied Mathematics. An advanced course in areas of applied mathematics. Topics vary by semester. Instructor: Staff. One course.

690-82. Topics in Mathematical Finance. Topics of current research interest in mathematical models with relevant applications to finance. Prerequisites: Mathematics 230 or 340 or equivalent, or consent of instructor. Possible additional prerequisites depending on course content. Instructor: Staff. One course. C-L: Economics 690-82

The Major

The Department of Mathematics offers both the AB degree and the BS degree. Students who plan to attend graduate school in mathematics or the sciences should consider working toward the BS degree, which requires at least eight courses in mathematics numbered Mathematics 230 or above. The AB 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 AB 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 BS 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, 412, 421, 502, 532, 541, 581. No more than three electives at the 200-level may count toward the major. The BS degree also requires a pair of science courses from the following list:

- **Physics:** (Physics 25 (AP), 141L, 151L, or 161D) and (Physics 26 (AP), 142L, 152L, or 162D)
- **Statistical Science:** Statistical Science 360 and (Statistical Science 444 or 325)
- **Economics:** Economics 205D and Economics 210D
- **Electrical and Computer Engineering:** ECE 110L and ECE 280L
- **Computer Science:** Computer Science 330 and Computer Science 334
- **Biology:** (Biology 201L and Biology 202L) or (Biology 203L and another higher numbered full-credit Biology course)
- **Chemistry:** (Chemistry 21 (AP), 101DL, or 110DL) and Chemistry 201DL

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, 412, 421, 431, 451S, 487, or any Mathematics course at the 500 or 600 level.

Mechanical Engineering and Materials Science

For courses in mechanical engineering, see [page 857](#).

Medieval and Renaissance Studies

Professor Aers, *Director*; Dr. Cornett, *Associate Director and Director of Undergraduate Studies*; Professors Aers, Beckwith, Brothers, Freeman, Gaspar, Janiak, Longino, Martin, Mignolo, Porter, Robisheaux, Sigal, Solterer, Stern, Tennenhouse, Wharton, and Van Miegroet; Associate Professors Eisner, Galletti, Hassan, Malegam, McLarney, Neuschel, Norberg, Pak, Smith, Vilches, and Woods; Assistant Professors Caviglia, Giles, Riedel, and Werlin; Professors Emeriti Bruzelius, Clark, DeNeef, Finucci, Garci-Gómez, Grant, Greer, Hillerbrand, Mauskopf, Newton, Quilligan, Shatzmiller, Silbiger, Silverblatt, and Williams; Lecturing Fellows Dubois, Giugni, and Huffman; Instructor Triplett

A major and a minor are available in this program.

The Program in Medieval and Renaissance Studies is designed to provide the student with a wellrounded 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.

Courses in Medieval and Renaissance Studies (MEDREN)

Core Courses

190FS. Special Topics in Focus. Special topics in Medieval and Renaissance Studies open only to students in the Focus Program. 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. 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.

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. 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. Undertaken by a student working on an Honors project in consultation with the student's project advisor. One course.

Other Courses

For full descriptions of most of these courses, consult the cross-listings under the specified department in this bulletin.

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

105. Old Worlds/New Histories, 500-1500 CE. CCI, CZ, SS One course. C-L: see History 105; also C-L: African & African American Studies 134

125. Early Modern Europe. CCI, CZ, SS, STS One course. C-L: see History 117

128. War and Society in the Middle Ages and Renaissance. ALP, CCI, CZ One course. C-L: see History 128

135. Silk Roads and China, Ancient and Medieval Transformations. CCI, CZ One course. C-L: see History 135; also C-L: Asian & Middle Eastern Studies 207, Religion 181

190A. Duke-Administered Study Abroad: Special Topics in Medieval and Renaissance Studies. Topics differ by section. Instructor: Staff. One course.

190S. Special Topics in Medieval Renaissance Studies. Topics differ each semester. Instructor: Staff. One course.

201S. Music History I: Antiquity Through Renaissance. ALP, CCI, CZ One course. C-L: see Music 255S

215. Gothic Cathedrals. ALP, CCI, CZ, R One course. C-L: see Art History 225

217. The Body in Art in Early Modern Europe: Power and Limits of Corporeal Representations. ALP, CCI, CZ One course. C-L: see Art History 317; also C-L: Romance Studies 317, Dance 317, Theater Studies 245

225. Art in Renaissance Italy. ALP, CCI, CZ One course. C-L: see Art History 255; also C-L: Italian 386

225FS. Art in Renaissance Italy. ALP, CCI, CZ One course. C-L: see Art History 255FS; also C-L: Italian 386FS

226. Medieval Castles of Europe. CZ, STS One course. C-L: see Art History 227

227. Renaissance Architecture in Italy: Brunelleschi to Michelangelo. ALP, CZ One course. C-L: see Art History 258; also C-L: Italian 258

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

240. Drawing Foundations in Early Modern Europe. ALP One course. C-L: see Visual and Media Studies 256

- 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
- 244. Renaissance Architecture: A European Perspective.** ALP, CZ One course. C-L: see Art History 254
- 245. Art & Architecture in Early Modern France.** ALP, CCI, CZ One course. C-L: see Art History 268; also C-L: French 268
- 246. Italian Baroque Art.** ALP, CCI, CZ One course. C-L: see Art History 256; also C-L: Italian 256, Romance Studies 256
- 248S. Women and Power in the Renaissance.** CZ, EI, W One course. C-L: see History 258S; also C-L: Gender, Sexuality, and Feminist Studies 258S, Romance Studies 258S
- 254. The Expansion of Medieval Europe.** CCI, CZ One course. C-L: see History 254
- 255. The Caribbean, 1492-1700.** CCI, CZ One course. C-L: see History 318; also C-L: African & African American Studies 218
- 259. Europe Before The Crusades.** CCI, CZ One course. C-L: see History 245
- 268. Islamic Civilization I.** CCI, CZ, EI One course. C-L: see Religion 375; also C-L: Cultural Anthropology 256, History 210, Asian & Middle Eastern Studies 122, Ethics Elective, Information Science + Studies, Islamic Studies
- 269. Islamic Civilization II.** CCI, CZ, EI One course. C-L: see Religion 376; also C-L: Cultural Anthropology 257, History 211, Asian & Middle Eastern Studies 185, International Comparative Studies, Ethics Elective, Islamic Studies
- 272. British Isles in the Middle Ages.** CCI, CZ, EI, W One course. C-L: see History 247
- 275. Tudor/Stuart Britain.** CZ, R, W One course. C-L: see History 269
- 281. Religion, Reform, and Violence in Early Modern Europe.** CCI, CZ One course. C-L: see History 257; also C-L: International Comparative Studies
- 287. Magic, Religion, and Science since 1400.** CCI, CZ, EI, STS One course. C-L: see History 260; also C-L: Science & Society 260
- 287D. Magic, Religion, and Science since 1400.** CCI, CZ, EI, STS One course. C-L: see History 260D
- 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.** One course. C-L: see Art History 290-1
- 290AS-1. Topics in Renaissance British Literature.** Two courses. C-L: see English 290AS-1
- 290S-1. Special Topics in Medieval and Early Modern Literature.** One course. C-L: see English 290S-1
- 303. Ancient and Medieval Epic.** ALP, CCI One course. C-L: see Classical Studies 204
- 304. The Problem of Love in Western Literature.** ALP, CCI, CZ, R One course. C-L: see Italian 225; also C-L: Literature 205
- 305S. The Viking Age.** ALP, CCI, EI One course. C-L: see German 261S; also C-L: History 256S
- 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
- 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
- 330. Shakespeare.** ALP, EI, W One course. C-L: see English 235; also C-L: Theater Studies 222
- 331. Shakespeare through 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
- 334S. Late Medieval Literature and Culture.** ALP, CCI, CZ, EI One course. C-L: see English 331S
- 337S. Milton.** ALP, EI, R One course. C-L: see English 338S
- 342A. Dante and the Art of Hell.** ALP, CZ, R One course. C-L: see Italian 342A; also C-L: Art History 342A, Literature 342A
- 343. Cities and City Life in Italy.** ALP, CCI, CZ One course. C-L: see Italian 383; also C-L: History 237, Cultural Anthropology 383
- 343A. Cities and City Life in Italy.** ALP, CCI, CZ One course. C-L: see Italian 383A; also C-L: History 237A, Cultural Anthropology 383A
- 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
- 346. The History of the Book.** ALP, CZ, R One course. C-L: see Classical Studies 360; also C-L: Information Science + Studies 360, History 367
- 347. Idealistic Nature: The Literature, Philosophy, and Cognition of Ecology.** ALP, CZ, EI One course. C-L: see Information Science + Studies 307; also C-L: English 355, Visual and Media Studies 347
- 348S. Medieval Latin.** ALP, CZ, FL One course. C-L: see Latin 376S
- 352S. Andalusia: Muslim, Jewish, Christian Spain.** ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 319S; also C-L: Religion 214S, Jewish Studies 319S, Romance Studies 319S
- 354. Medieval Christianity in Film and Fiction.** ALP, CCI, CZ, EI One course. C-L: see Religion 261; also C-L: History 244, English 254
- 357. Jews and Muslims, Judaism and Islam.** CCI, CZ, EI One course. C-L: see Jewish Studies 256; also C-L: Religion 212, Asian & Middle Eastern Studies 216, History 294, Islamic Studies
- 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.** One course. C-L: see Art History 390-1
- 390A. Duke-Administered Study Abroad: Advanced Special Topics in Medieval and Renaissance Studies.** Topics differ by section. Instructor: Staff. One course.
- 390S. Seminar in Medieval and Renaissance Studies.** Seminar version of Medieval and Renaissance Studies 390. Instructor: Staff. One course.
- 429S. Capstone Seminar: The Black Death and Medieval Society.** CCI, CZ, EI, R One course. C-L: see History 460S; also C-L: Global Health 460S
- 430S. Capstone Seminar: Heresy and Inquisition in the Middle Ages.** CCI, CZ, R, W 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, Literature 245, History 253
- 454SA. Sex, Death, and a Little Love: Boccaccio's Decameron.** ALP, CCI, CZ, R One course. C-L: see Italian 482SA; also C-L: Literature 482SA
- 458. Spanish Literature of the Renaissance and the Baroque.** ALP, CCI, FL One course. C-L: see Spanish 410
- 459. Golden Age Literature: Cervantes.** ALP, CCI, CZ, FL One course. C-L: see Spanish 411
- 473. What Machiavelli Really Says.** ALP, CZ, EI, R One course. C-L: see Italian 483; also C-L: History 405, Literature 483, Political Science 483
- 474S. Dante at Duke and in the World.** CCI, CZ, R One course. C-L: see Italian 479S; also C-L: Literature 479S

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

507S. 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, Classical Studies 558S

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: Doerfler, Pak, Riedel, or Smith. One course.

551. Early Modern, Modern and American 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: Pak or Riedel. One course.

552S. Jerusalem after Rome. CCI, CZ, R, W One course. C-L: see History 522S

556S. Religion, Conflict and Holy War in the Pre-Modern West: Sects and Violence. CCI, CZ, EI, SS, W One course. C-L: see History 506S

561S. The Margins of Justice: Law and Minorities in the Middle Ages. CCI, CZ, SS One course. C-L: see History 511S

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

576S. Microhistory. CCI, CZ, R, SS, W One course. C-L: see History 520S

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.

590S-1. Topics in Romanesque and Gothic Art and Architecture. One course. C-L: see Art History 590S-3

590S-2. Topics in Italian Renaissance Art. One course. C-L: see Art History 590S-4

601S. Moliere: The Phenomenon of Laughter. ALP, CCI, FL One course. C-L: see French 525S; also C-L: Theater Studies 521S

603. Dante's Divine Comedy: Hell, Purgatory, and Paradise. ALP, CCI, CZ, EI One course. C-L: see Italian 582; also C-L: Literature 582

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

609S. Old Norse: Introduction to the Language of Viking Scandinavia. ALP, CZ One course. C-L: see German 510S; also C-L: Linguistics 562S

615S. Dante Studies. ALP, CCI, CZ One course. C-L: see Italian 583S; also C-L: Literature 583S

618S. Boccaccio Studies. ALP, CCI, R One course. C-L: see Italian 584S; also C-L: Literature 584S

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

637S. Shakespeare & Co.: English Renaissance Drama. ALP, CCI, CZ, R Variable credit. C-L: see English 537S

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: Staff. 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: Staff. 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: Staff. One course.

655. Early Christian Asceticism. CZ, EI One course. C-L: see Religion 634; also C-L: Study of Sexualities, Gender, Sexuality, & Feminist Studies

659. Justice, Law, and Commerce in Islam. CZ, EI One course. C-L: see Religion 660; also C-L: African & African American Studies 575, International Comparative Studies, Islamic 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: Staff. 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: Staff. 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: Staff. One course.

690S-1. Special Topics in Middle English Literature: 1100 to 1500. One course. C-L: see English 530S

690S-2. Topics in Renaissance Studies. One course. C-L: see Italian 590S-1

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 one course designated as Medieval Cultures and one as Renaissance Cultures. 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 associate director or director of undergraduate studies 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 Medieval and Renaissance Studies Focus Program courses or courses designated as Medieval Cultures and Renaissance Cultures. The three remaining courses may be taken in any distribution suiting 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. 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

201S, 215, 217, 225, 226, 227, 229A, 233, 240, 242A, 243A, 244, 245, 246, 290-1, 390-1, 504A, 505A, 507S, 510, 522, 523, 524, 590S-1, 590S-2.

Area 2: History

105, 125, 128, 135, 248S, 254, 255, 259, 268, 269, 272, 275, 279, 281, 284, 287, 289, 305S, 343, 343A, 354, 429S, 430S, 432S, 473, 550, 551, 552S, 556S, 561S, 570S, 575S, 576S.

Area 3: Language and Literature

290AS-1, 290S-1, 303, 304, 305S, 312, 314, 320S, 321, 330, 331, 332, 334S, 337S, 342A, 343, 343A, 345, 346, 347, 348S, 450, 454SA, 458, 459, 473, 474S, 603, 605, 607, 608S, 609S, 615S, 618S, 625S, 630S, 632S, 637S, 642, 647S, 648, 690S-1, 690S-2.

Area 4: Philosophy and Religious Studies

268, 269, 281, 287, 347, 352S, 354, 357, 430S, 450, 550, 551, 556S, 575S, 603, 650, 651S, 653, 655, 659, 662, 664, 667, 669S, 672, 675, 676, 677, 679, 680, 682.

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 a Medieval and Renaissance Studies advisor to determine how any one of these courses may be distributed: 89S, 190A, 190S, 291, 293, 390, 390A, 390S, 491, 493, 590, 590S.

Military Science—Army ROTC

Visiting Professor Macon, Lieutenant Colonel, US Army, *Chair*; Instructor Dauz, Captain, US Army, *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 logistics; ethics; the role and responsibility of the military in contemporary society; and the philosophy and practice of military strategy and tactics. First- year and sophomore-level courses are open to all 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 team-building, military skills and tactics into practice. The laboratory is an optional course for non-program students enrolled in first-year courses. It is mandatory each semester for contracted cadets (both scholarship and non-scholarship) and for students who intend to contract or apply for a scholarship.

The Army ROTC Program is a two-year Basic Course of study (first-year and sophomore level) and a two-year Advanced Course of study (junior and senior level). Basic Course classes are open to all students as leadership development electives without any military service obligation unless a student voluntarily chooses to make a commitment and sign a contract for military service. Non-contracted students may choose to be participating students for one semester (MS 101 or 102 only) which means they only attend the lecture, not the leadership laboratory or physical training. Enrolled students/Cadets are required to attend the lecture, leadership laboratory, and physical training. The two-year Advanced Course of Study includes a five-week leadership Advanced Camp, usually completed during the summer prior to senior year. To be eligible for participation in the Advanced Course, students must successfully complete the Basic Course (unless direct entry is approved by the Department Chair), be physically qualified, be of good moral character, be a US 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 if the student completes a four-week ROTC Basic Camp leadership training course.

Students who are interested in full program enrollment and scholarship opportunities should consult the Department of Military Science (call (919) 660-3091 or (919) 660-3090) for more detailed information. Also see the Army Reserve Officers' Training Corps section under special programs in this bulletin. Information is also located on the departmental website (<https://arotc.duke.edu>), Facebook page (Duke/NCCU Army ROTC), and Instagram (Bull City Battalion).

Courses in Military Science—Army ROTC (MILITSCI)

91L. Leadership Laboratory - Fall Semester Only. Introduces students to basic Army operations, including team building, map reading, first aid, confidence training, rifle marksmanship, drill and ceremonies, Army doctrine and small unit tactics. Must be repeated each fall semester. Instructor consent required. Instructor: Dauz or staff.

92L. Leadership Laboratory - Spring Semester Only. Introduces students to basic Army operations, including team building, map reading, first aid, confidence training, rifle marksmanship, drill and ceremonies, Army doctrine and small unit tactics. Must be repeated each spring semester. Instructor consent required. Instructor: Dauz or staff.

93L. Senior Leadership Laboratory - Fall Semester. (Seniors only) Introduces students to Army operations and case studies associated with the areas. The course includes team building, map reading, first aid, confidence training, rifle marksmanship, drill and ceremonies, Army doctrine and small unit tactics. Instructor consent required. Instructor: Macon or staff.

94. Basic Army Physical Development. Introduction to Senior Reserve Officers' Training Course with

studies in basic military fitness. Emphasis on implementation of the Army's physical fitness program through lecture and practical exercises. Familiarizes students with the Army's height and weight standards. Requires participation in three testing sessions to track individual improvement, and participation as leaders in the conduct of physical training sessions. Class held in the vicinity of the track, soccer field, ROTC building, and/or the pool. Instructor: Dauz or staff. Half course.

94L. Senior Leadership Laboratory - Spring Semester. (Seniors only) Introduces students to Army operations and case studies associated with these areas. Includes team building, map reading, first aid, confidence training, rifle marksmanship, drill and ceremonies, Army doctrine and small unit tactics. Instructor consent required. Instructor: Macon.

101S. Introduction to the Army. Introduces students to the personal challenges/competencies critical for effective leadership and communication. Students learn fundamentals of Army organization, basic Soldier skills, as well as critical thinking fundamentals and how they apply to the Army context. The course teaches how development of personal skills (cultural understanding, goal setting, time management, stress management, and fitness) relate to leadership, and the Profession of Arms. Army leadership dimensions, attributes, and core leader competencies also discussed. Instructor: Dauz or staff. Half course.

102S. Foundations of Leadership. EI, SS Examines behavioral science theories (individual, group, and organizational) in a small group learning environment to build healthy classroom discourse. It explores the professional challenges and competencies that are needed for effective examination of history, psychology, leadership/management theories, decision sciences, and military doctrine. Through this course, you will examine military ethics, ethical decision making, Geneva Convention rules, and NATO rules of engagement. Instructor: Dauz or staff. Half course.

201. Leadership and Ethics. Explore the theory and practical application of group dynamics, team building, and innovative leadership in both civilian and military contexts. Students will participate in the practical application of personal motivation and team-building through planning, executing and assessing team exercises. Builds on concepts taught in Military Science 101S and 102S. Leadership Laboratory (91L) and physical training are required for all enrolled cadets. Recommended prerequisite: Military Science 101S and 102S, unless waived by the director of undergraduate studies—contact the Army ROTC Department for more information. Graduate students contact Army ROTC Department for enrollment eligibility. Instructor: Dauz or staff. One course.

202S. Army Doctrine and Decision-Making. EI, SS Examines behavioral science theories (individual, group, and organization) in a small group learning environment in order to build healthy classroom discourse. Students will be exposed to the professional challenges and competencies that are needed for effective execution of the profession of arms through the examination of history, psychology, leadership/management theories, decision sciences, and military doctrine. Through this course, students will examine military ethics, ethical decision-making, Geneva Convention rules, and NATO rules of engagement. Instructor: Dauz or staff. One course.

291. Independent Study. Individual study under direct faculty supervision. Written consent of instructor and director of undergraduate studies required. Instructor: Dauz or staff. One course.

291-1. Independent Study - Half Credit. Individual study under the direct faculty supervision. Written consent of instructor and director of undergraduate studies required. Instructor: Dauz or staff. Half course.

301. Training Management and the Warfighting Functions. 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 Advanced Camp leadership course. Laboratory required for Army ROTC cadets. Instructor consent required. Recommended prerequisite: completion of first two years of ROTC or prior military experience. Instructor: Dauz or staff. One course.

302S. Applied Leadership in Small Unit Operations. EI, SS Examines behavioral science theories (individual, group, and organization) in a small group learning environment in order to build healthy classroom discourse. The course will expose students to the professional challenges and competencies that are needed for effective execution of the profession of arms through the examination of history, psychology, leadership/management theories, decision sciences, and military doctrine. Through this course, students will examine military ethics, ethical decision-making, Geneva Convention rules, and NATO rules of engagement. Instructor: Dauz or staff. One course.

310. American Military History. Examines America's unique experience of warfare and the development of military institutions and military policy in the United States. Explores the country's military history from Colonial era to the present, with emphasis on the Revolutionary War, Civil War, frontier wars, America's rise to great power status, World War I and World War II, and conflicts of the Cold War era. Also examines America's civil-military relations. Instructor: Dauz or staff. One course.

370S. Diversity in the American Military. Examines effects of the various individual characteristics, especially gender, race, ethnicity, religion, region, sexual orientation, and status, on the American military. Considers interplay between cultural values, norms, beliefs, and attitudes as well as other factors such as technological change, demographic patterns, occupational structures, labor shortages, and military effectiveness. Policy questions are considered, including arguments and evidence regarding inclusion and exclusion in the armed forces of the U.S. Instructor: Dauz. One course.

401S. The Army Officer. **EI** Explores dynamics of leading in complex situations of current military operations. Examines differences in customs/courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Explores aspects of interacting with non-government organizations, civilians on the battlefield, decision-making processes, and host nation support. Emphasis placed on preparing students for Officer Basic Course and first unit of assignment. Uses mission command case studies/scenarios to prepare students to face complex ethical demands of serving as a commissioned officer in the US Army. Instructor consent required. Recommended prerequisite: Military Science 301 and 350. Instructor: Macon or staff. One course.

402S. Company Grade Leadership. **EI, SS** Examines behavioral science theories (individual, group, and organization) in a small group learning environment in order to build healthy classroom discourse. It explores professional challenges and competencies that are needed for effective execution of the profession of arms through the examination of history, psychology, leadership/management theories, decision sciences, and military doctrine. Through this course, students will examine military ethics, ethical decision-making, Geneva Convention rules, and NATO rules of engagement. Instructor: Macon or staff. One course.

Music

Professor Bagg, *Chair*; Associate Professor of the Practice Mösenbichler-Bryant, *Director of Undergraduate Studies*; Professors Brothers, Jaffe, Lindroth, Rupprecht, and Todd; Associate Professors Meintjes, Waeber, and Supko; Assistant Professors Giles, Stoia, and Wang; Professors Emeriti Berliner, Bryan, Gilliam, and Silbiger; Professors of the Practice Bagg, Brown, Davidson, Ku, Parkins, Pritchard, and Wynkoop; Professors of the Practice Emeriti Dunn and Raimi; Associate Professors of the Practice Kelley, Mösenbichler-Bryant, and Stinson; Associate Professors of the Practice Emeriti Love and Troxler; Instructors Byrne, Copeland-Burns, Cotton, Curtis, Duarte, Eagle, Fancher, Federle, Finucane, Gilmore, Greenberg, Heid, Jensen, Kris, Kunttu, Linnartz, Liu, Newsome, Niketopoulos, Paolantonio, Reed, Roberts, Robinson, Simmons, Thompson, Van Sant, Yonan, and Zimmerman

A major and a minor are 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.

Courses in Music (MUSIC)

Theory and Composition

161. Introduction to Music Theory. ALP Rudiments of music theory, including meter, major-minor tonality, chordal vocabulary. Introduction to harmony, four-part chorale writing. Instructor: 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 or Supko. One course.

171. Jazz Combo and Improvisation I. ALP The theory of jazz improvisation and its practical application to the different styles of jazz. Consent of instructor required. Instructor: Staff. Half course.

172. Jazz Combo and 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 161 or consent of instructor. Instructor: Zimmerman or staff. One course.

218. Musical Theater Workshop: Performance. ALP One course. C-L: see Theater Studies 211; also C-L: Dance 211

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 161. Instructor: Kelley, Lindroth, Parkins, Rupprecht, Stoia, Supko, or Wynkoop. One course.

273S. Introduction to Electronic Music Composition. ALP, STS Introduction to composing electronic music using variety of software such as Logic, ProTools, Ableton, Audacity, Max/MSP, SuperCollider, etc. Concepts covered include recording/editing/mixing; plugin FX; MIDI; sampling; synthesis, etc. Readings and listening assignments explore history of electronic music. Course relevant to wide array of student musical interests, from experimental to EDM. Instructor: Supko, Lindroth, or staff. One course. C-L: Information Science + Studies

274S. Computer Music. ALP, R Computer music composition with an emphasis on digital synthesis, sampling, and related technologies. Study of recent computer music repertory. Consent of instructor required. Instructor: Lindroth, Supko, or staff. One course. C-L: Information Science + Studies

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, Lindroth, or Supko. One course.

288S. Music as Biology. NS One course. C-L: see Neuroscience 288S; also C-L: Psychology 288S

290S-2. Special Topics in Music Theory. Topics vary. Prerequisite: Music 361 or consent of instructor. Instructor: Brown, Jaffe, Lindroth, Rupprecht, Stoia, or staff. One course.

295S. Arts Entrepreneurship. Student teams work on specific arts-based entrepreneurial projects. Teams comprised of students from different backgrounds (arts, engineering, economics, computer science). Goals include creating business plan and launching ventures in areas of the arts. Structure an adaptation of Fuqua Program for Entrepreneurs. Ideal projects have real/positive impact on society. Students learn to situate artistic creativity within projects that meet societal need. Students from any background welcome to apply for enrollment. Must have interest in arts or working with artists in entrepreneurial context. Admission by permission of instructors. Instructor: Supko, Green, or staff. One course. C-L: Innovation and Entrepreneurship

295S, Dance 201S, Visual and Media Studies 295S, Theater Studies 312S, Documentary Studies 295S, Visual Arts 295S

361. Theory and Practice of Tonal Music II. ALP Chromaticism, modulation, musical forms, and counterpoint. Writing of short pieces (dance forms, variations, songs). Laboratory. Prerequisite: Music 261. Instructor: Kelley, Lindroth, Rupprecht, Stoia, Supko, or staff. 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, Lindroth, or Supko. One course.

390S-1. Advanced Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

390T. Special Music Topics Tutorial. Small group instruction on focused music topics. Topics vary each semester. Instructor: Departmental Staff. One course.

461. Theory and Practice of Tonal Music III. ALP Extended chromatic techniques of the nineteenth century, extended tonality, and larger forms. Writing of larger pieces (character pieces, rondo, sonata). Laboratory. Prerequisite: Music 361. Instructor: Jaffe, Kelley, Lindroth, Rupprecht, or Stoia. 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, Rupprecht, or Supko. 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, Kelley, Supko, or Stoia. One course.

481T. 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.

History, Literature, and Ethnomusicology

89S. First-Year Seminar. Topics vary each semester offered. Instructor: Brothers, Davidson, Jaffe, Todd, Waeber, or staff. One course.

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.

120. Music: An Introduction. 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: Kelley, Mösenbichler-Bryant, or staff. One course.

126. Acoustics and Music. NS, R, W One course. C-L: see Physics 136

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: Waeber. One course. C-L: Visual and Media Studies 217S, 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, Human Rights Program-Franklin Humanities Institute 130, International Comparative Studies, Documentary Studies, Human Rights

132L. African Dance Percussion. Half course. C-L: see Dance 132L

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: Staff. One course. C-L: African & 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, Byerly, or staff. 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 & African American Studies 140

143. History of Rock: Rhythm & Blues and Rock & Roll to Indie Rock and Hip-Hop. 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: Stoia or staff. One course. C-L: African & African American Studies 139, History 108

144. Meet the Beatles and the 1960s. ALP, CZ, EI 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.

146. Motown and American Soul Music. ALP, CCI, CZ During the 1960's, in Detroit, Michigan, a landmark in music was established: The Motown Sound. This aural kaleidoscope of high quality, dynamic song creation was established through a confluence of talent and hard work by people whose names now line the halls of fame for popular music. Some of these luminaries include Berry Gordy, Diana Ross, Stevie Wonder, Marvin Gaye, and Holland-Dozier-Holland. This course will investigate the societal and musical factors that gave rise to such a distinctive aesthetic, also framing this phenomenon as a point of comparison to a range of commercial music styles, including Philly Soul, Southern Soul, RnB, and current musical trends. Instructor: Kelley and Neal. One course. C-L: African & African American Studies 146

165. Let's Dance! Live Art and Performance. ALP, CCI, CZ One course. C-L: see Dance 165; also C-L: Theater Studies 104

190A. Duke-Administered Study Abroad: Special Topics in Music. Topics differ by section. Instructor: Staff. One course.

190FS. Focus Seminar. Topics vary each semester. Open only to students in the Focus Program. Instructor: Brothers, Giles, or Jaffe. One course.

190S. Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

220S. Writing the Musical Book. ALP, W One course. C-L: see Theater Studies 216S; also C-L: English 228S

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 161 or basic knowledge of music vocabulary or consent of the instructor. Instructor: Staff. One course.

234. Sound and Society in East Asian Contexts. ALP, CCI, CZ Investigation of the human condition

in East Asian cultural and historical contexts through the lens of classical, theatrical, folk, and popular musics from China, Taiwan, Japan, the two Koreas, and the global diaspora. No previous background in music or Asian Studies is required. Instructor: Wang. One course. C-L: Asian & Middle Eastern Studies 120

236. African Music: Sound, History, Culture, Politics. ALP, CCI, EI, SS, STS This class is about the sound, culture, politics and history of African music as heard in the world today. We will sample diverse styles and practices from around the continent, including live and recorded musics, “popular” and “traditional” styles, and sacred and secular practices. The class aims to teach you about the music “itself”, the African history of the international music industry, and about the social value of music, exploring how the patterns of circulation of African music could augment or diminish African problems, Africa’s promise, and Africans’ creative gifts to the world. Instructor: Meintjes. One course. C-L: Cultural Anthropology 235, International Comparative Studies 259

239S. Sound in Social Life. ALP, CCI, STS One course. C-L: see Cultural Anthropology 222S; also C-L: International Comparative Studies 246S

239SA. Sound in Social Life. ALP, CCI, SS, STS One course. C-L: see Cultural Anthropology 222SA; also C-L: International Comparative Studies 246SA

243S. American Musicals. ALP One course. C-L: see Theater Studies 210S

244S. Giants of Jazz: A Journey into the Lives and Music of the Masters of Jazz Music. ALP, CCI In the Giants of Jazz Seminar, students will delve deeply into the music and lives of the biggest names in Jazz. Miles Davis, John Coltrane, Charlie Parker, Duke Ellington, Art Blakey and Cannonball Adderly (to name a few) are among those who created various levels of the art form known as jazz, and this course allows students a unique opportunity to get down and dirty with the music and blueprint they left for the world to enjoy. This highly interactive course engages students with the Professor, and it is a fun and exciting way to get up close and personal with some of the greatest music and musicians of all time. Instructor: Brown. One course. C-L: African & African American Studies 252S

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. Instructor: Waeber 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: Todd. One course. C-L: International Comparative Studies

255S. Music History I: Antiquity Through Renaissance. ALP, CCI, CZ The history of music in medieval and early Europe in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Brothers or Giles. One course. C-L: Medieval and Renaissance Studies 201S

256S. Music History II: 1600 through Mozart. ALP, CCI, CZ, R The history of music in Europe in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Waeber or Giles. One course. C-L: International Comparative Studies

257. Music History III: Beethoven through WWI. ALP, CCI, CZ, R The history of music in nineteenth-century through post-WWI Europe and the United States in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Todd. One course. C-L: International Comparative Studies

258. Music History IV: Post-WWI through the Present. ALP, CZ, R The history of music in twentieth- and twenty-first-century Europe and the United States in its cultural and social context. Prerequisite: Music 261 or consent of instructor. Instructor: Rupprecht or Todd. One course.

259. Modern and Experimental Music. 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 Lutoslawski, 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, Kelley, or Rupprecht. One course.

289. Music and the Brain. ALP, NS One course. C-L: see Neuroscience 289

290. Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Music. Topics differ by section. Instructor: Staff. One course.

290S. Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

290S-1. Special Topics in Music History. Topics vary. Instructor: Staff. One course.

290S-3. Special Topics in Ethnomusicology. 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. Topics vary. Also taught as African & African American Studies 141S. Prerequisite: Music 140 or consent of instructor. Instructor: Brothers, Brown, or staff. One course.

305S. Writing about Performance. ALP, CCI, R, W One course. C-L: see Writing 305S; also C-L: Dance 302S, Theater Studies 283S

314. Thinking through the Body: Becoming an Ordinary Genius. ALP Half course. C-L: see Dance 314; also C-L: Theater Studies 304

325A. The Politics of Salsa: Music, Urban Spaces and Globalization. ALP, CCI, FL One course. C-L: see Spanish 344A; also C-L: Cultural Anthropology 348A, Latin American Studies, Latino/a Studies in the Global South

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: Dunn or staff. One course.

335. The History of Hip-Hop. ALP, CCI One course. C-L: see African & African American Studies 335; also C-L: Cultural Anthropology 335, Visual and Media Studies 337, English 381

336. The Black Performance Tradition: Michael Jackson and Prince. ALP, CCI One course. C-L: see African & African American Studies 336; also C-L: Visual and Media Studies 353

337S. Introduction to Hip-Hop Production. ALP, EI, STS One course. C-L: see African & African American Studies 325S

342. Music for Dancers. ALP One course. C-L: see Dance 375

371. Artists in Healthcare: Collaborations and Complexities. ALP, CCI, CZ, EI, R One course. C-L: see Dance 371; also C-L: Visual and Media Studies 374, Theater Studies 371

390. Advanced Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

490S. Advanced Topics in Music. Primarily for junior and senior music majors. Topics to be announced. Prerequisites: Music 255S, 256S, 257, and 461. Instructor: Staff. One course.

Advanced Students

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: Rupprecht or staff. One course.

551. Music in the Middle Ages. ALP, R Selected topics. Instructor: Brothers or Giles. One course. C-L: Medieval and Renaissance Studies 522

552. Topics in Renaissance Music. ALP, R Selected topics. Instructor: Brothers, Giles, or staff. One course. C-L: Medieval and Renaissance Studies 523

553. Music in the Baroque Era. ALP, R Selected topics. Instructor: Brothers, Giles, or staff. One course. C-L: Medieval and Renaissance Studies 524

554. Music in the Classic Era. ALP, R Selected topics. Instructor: Todd. One course.

555. Music in the Nineteenth Century. ALP, R Selected topics. Instructor: Todd. One course.

556. Music in the Twentieth Century. ALP, R Selected topics. Instructor: Brothers, Rupprecht, Stoia, or Todd. One course.

560. Tonal Analysis. ALP, R In-depth study of various methods for analyzing tonal music. Approach and content vary by instructor. Instructor: Stoia, Todd, or 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 repertoires. Instructors: Brothers, Giles, or staff. One course.

562. Analysis of Music After 1900. ALP Introduction to analytic and theoretic methodologies for engaging the structures and rhetoric of a range of art-music styles since 1900. Readings in atonal and twelve-tone theories; hexatonic and octatonic pitch collections; neo-Riemannian transformations; voice leading, metric and rhythmic theories. Theory-based analysis of selected repertory. Instructor: Rupprecht or Staff. One course.

575S. Generative Media Authorship - Music, Text & Image. ALP One course. C-L: see Visual Arts 575S; also C-L: Information Science + Studies 575S, Computational Media, Arts & Cultures 575S

590. Selected Topics in Analysis. 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, Stoia, or staff. One course.

590S. Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

595. Language, Music and Dementia: Neuroscience Approaches. NS, R, SS One course. C-L: see Linguistics 595; also C-L: Neuroscience 595

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, Rupprecht, or Supko. One course.

690S-1. Composition Seminar: Selected Topics. Selected topics in composition. Instructor: Jaffe, Lindroth, or Supko. One course.

691S. Black Sonic Culture—Analog to Digital. One course. C-L: see African & African American Studies 622S; also C-L: English 691S, Literature 691S

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.

391. Independent Study. Individual directed study in a field of special interest on 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. One course that can be repeated for credit. Instructor: Staff. One course.

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.

491. Independent Study. 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. One course that can be repeated for credit. 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 should contact department faculty for recommendations for local instructors. 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, non-majors, and graduate students outside of the Music department. 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.

101-5. Class Improvisation. Development of musicianship and interpretation through harmony and improvisation, improvisation games, investigations of style and 21st century performance practice. Instructor consent required. Instructor: Staff. Quarter course.

101-6. Class Percussion. ALP Group lessons focused on the development of basic technique for percussion. Students will observe their peers during lessons and will perform literature appropriate to each individual's skill level. Instructor consent required. Instructor: Thompson. Quarter course.

115S. Vocal Diction. Introduction to the International Phonetic Alphabet (IPA) with a focus on diction for singing in English, Italian, French and German. Students will be required to sing in class. Instructor: Cotton. Half course.

210-6. Chinese Music Ensemble. Instructor consent required. Instructor: Chang or Ku. Half course. C-L: Asian & Middle Eastern Studies 145

217SA. The Economics of Art (The Chicago Scene). ALP, CCI One course. C-L: see Theater Studies 217SA; also C-L: Visual and Media Studies 221SA, Dance 279SA, Innovation and Entrepreneurship 217SA, Markets and Management Studies

316SA. stARTup Project. ALP, R One course. C-L: see Theater Studies 316SA; also C-L: Visual and Media Studies 315SA, Dance 307SA, Innovation and Entrepreneurship 316SA, Markets and Management Studies

Instruction: Half Hour

101-1. Class Piano. A group lesson in which students play assigned pieces for each other and the instructor. The instructor works with each student individually. Beginners are welcome as well as students who have taken other rudimentary lessons. Each student learns at their own pace and is given some practice time during the class period. Assigned pieces will include duets with other members of the class. Instructor consent required. Instructor: Greenberg. Quarter course.

101-2. Class Voice. Group lessons focused on development of basic technique for voice in a master class setting. Students will perform song literature appropriate to the individual skill level. Instructor consent required. Instructor: Cotton or Linnartz. Quarter course.

101-3. Introductory Guitar Class. Group lessons focused on the development of basic technique for guitar. Students will observe their peers during lessons and will perform literature appropriate to each individual's skill level. Instructor consent required. Instructor: Reed. Quarter course.

101-4. Djembe Class. Group lessons focused on the development of basic technique for djembe. Students will observe their peers during lessons and will perform literature appropriate to each individual's skill level. Instructor consent required. Instructor: Simmons. Quarter course.

101-7. Class Brass. Group lessons focused on the development of basic technique for brass instrumentalists. Emphasis placed upon a relaxed approach to tone production and the proper use of air and embouchure to produce a musical sound. Students will observe their peers during lessons and will perform literature appropriate to each individual's skill level. Instructor consent required. Instructor: Au. Quarter course.

103-1. Classical Piano. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Duarte, Heid, Liu, or staff. Quarter course.

103-2. Jazz Piano. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Paolantonio or staff. Quarter course.

103-3. Organ. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Parkins. Quarter course.

103-4. Harpsichord. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Parkins. Quarter course.

104-1. Violin. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Ku, Pritchard, or Robinson. Quarter course.

104-2. Viola. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Bagg or Yonan. Quarter course.

104-3. Cello. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Stinson. Quarter course.

104-4. Double Bass. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Brown. Quarter course.

104-5. Classical Guitar. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Reed. Quarter course.

104-6. Jazz Guitar. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Van Sant. Quarter course.

104-7. Harp. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Byrne. Quarter course.

105-1. Flute. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Copeland-Burns. Quarter course.

105-2. Oboe. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Newsome. Quarter course.

105-3. Clarinet. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Gilmore. Quarter course.

105-4. Bassoon. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Kunttu. Quarter course.

105-5. Saxophone. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Fancher. Quarter course.

105-6. Jazz Saxophone. ALP Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Finucane. Quarter course.

106-1. Trumpet. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Eagle. Quarter course.

106-2. French Horn. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Niketopoulos. Quarter course.

106-3. Trombone. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Kris. Quarter course.

106-4. Tuba. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Kris. Quarter course.

107-1. Percussion. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Thompson. Quarter course.

107-2. Djembe. Weekly, 30-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Simmons. Quarter course.

Instruction: One Hour

203-1. Classical Piano. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Duarte, Heid, Liu, or staff. Half course.

203-2. Jazz Piano. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Paolantonio or staff. Half course.

203-3. Organ. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Parkins. Half course.

203-4. Harpsichord. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Parkins. Half course.

204-1. Violin. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music

majors. Instructor consent required. Instructor: Ku, Pritchard, or Robinson. Half course.

204-2. Viola. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Bagg or Yonan. Half course.

204-3. Cello. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Stinson. Half course.

204-4. Double Bass. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Brown. Half course.

204-5. Classical Guitar. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Reed. Half course.

204-6. Jazz Guitar. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. Instructor consent required. Instructor: Van Sant. Half course.

204-7. Harp. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Byrne. Half course.

205-1. Flute. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Copeland-Burns. Half course.

205-2. Oboe. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Newsome. Half course.

205-3. Clarinet. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Gilmore. Half course.

205-4. Bassoon. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Kunttu. Half course.

205-5. Saxophone. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Fancher. Half course.

205-6. Jazz Saxophone. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Finucane. Half course.

206-1. Trumpet. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Eagle. Half course.

206-2. French Horn. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Niketopoulos. Half course.

206-3. Trombone. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Kris. Half course.

206-4. Tuba. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Kris. Half course.

207-1. Percussion. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Thompson. Half course.

207-2. Djembe. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Simmons. Half course.

208. Voice. Weekly, 60-minute individual private instruction for undergraduate students of varying levels. Ability beyond the beginner stage is required. There is a fee associated with lessons for non-declared music majors. Instructor consent required. Instructor: Cotton, Dunn, Federle, Jensen, or Linnartz. Half course.

Ensemble Classes: Satisfactory/Unsatisfactory

210-1. Symphony Orchestra. Instructor consent required. Instructor: Davidson. Half course.

210-2. Wind Symphony. Instructor consent required. Instructor: Mösenbichler-Bryant. Half course.

210-3. Marching Band. Instructor consent required. Instructor: Au. Half course.

210-4. Jazz Ensemble. Instructor consent required. Instructor: Brown. Half course.

210-5. Small Jazz Ensemble. Instructor consent required. Instructor: Staff. Half course.

211-1. Collegium Musicum. Instructor consent required. Instructor: Staff. Half course.

211-2. Chamber Music. Instructor consent required. Instructor: Bagg or staff. Half course.

211-3. Piano Ensemble. Chamber music dealing with collaborative piano skills (piano duos, vocal/instrumental accompanying, sight reading, transposition and orchestral reductions). Instructor consent required. Instructor: Heid. Half course.

212-1. Djembe Ensemble. Instructor consent required. Instructor: Simmons. Half course.

212-2. Afro-Cuban Percussion. Instructor consent required. Instructor: Simmons. Quarter course.

213-1. Opera Theater. Instructor consent required. Instructor: Heid. Half course.

213-2. Chapel Choir. Instructor consent required. Instructor: Staff. Half course.

213-3. Chorale. Instructor consent required. Instructor: Wynkoop. Half course.

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 consent required. Instructor: 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 consent required. Instructor: Wynkoop. One course.

390-1. Special Topics in Interpretation and Performance. Interpretative analysis of instrumental (piano, strings, winds) and vocal repertoire from baroque to modern composers. Participants expected to perform. Instructor consent required. Instructor: Cotton, Dunn, or Linnartz. 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 consent required. Instructor: Staff. One course.

401-1. Advanced Study in Vocal Music Performance. **ALP** 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 voice at Duke, audition, consent of instructor, and completion of or concurrent enrollment in Music 115S. Instructor consent required. Instructor: Cotton, Dunn, Federle, Jensen, or Linnartz. 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: Staff.

Other Applied Music Courses

116. Alexander Technique for Musicians, Dancers, and Actors. ALP The Alexander Technique provides a structured method of self inquiry which has helped performing artists improve their skills for over 100 years. By uncovering and transforming previously unconscious movement patterns and mental habits, performers can significantly improve their skills by increasing freedom and ease of movement. All instrumentalists and singers with a strong interest and background in performance are welcome. Instructor: Pritchard. Half course. C-L: Dance 116, Theater Studies 247

190. Special Topics in Music. Opportunities to engage with a specific issue in music. Instructor: Staff. One course.

425S. Auditory Neuroscience - From Sound to Music. NS One course. C-L: see Neuroscience 425S; also C-L: Psychology 479S

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, another four semesters offer a survey of Western music history. Students pick three further courses from a range of musical styles, including jazz, world music, rock, and other electives. 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.

The music major requires 10.0 course credits.

Major in Music

Prerequisite. Music 261

Requirements. Music 255S, 256S, 257, 258, 361, 461

Applied Music. Two semesters of study in an instrument or voice

Ensemble. Two semesters in a departmental ensemble (excluding Music 210-3)

Three Additional Courses (two of which must be above the level of Music 213) to be chosen from:

Music 130, 137, 140, 143, 144, and Music courses numbered above 213

Major in Music with Concentration in Performance

Prerequisite. Music 261

Requirements. Music 255S, 256S, 257, 258, 361, 461

Applied Music. At least five semesters of individual applied instruction (Music 103-108, 203-208, 401) earning a minimum of four full credits. (This will include two semesters of Music 401—culminating in a full recital.)

Additional Performance Requirements. Two full credits of Music 401 Advanced Study in Musical Performance, culminating in a recital

Ensemble. Two semesters in a departmental ensemble (excluding Music 210-3)

One Additional Music Elective. Approved by the director of undergraduate studies

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 yearlong endeavor involving an independent study (Music 393) 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 5.5 course credits is required for the minor, of which at least 3.0 full course credits must be above the 213 level.

Requirements:

- Music 261 Theory and Practice of Tonal Music I
Note: Music 161 Introduction to Music Theory, if taken first, may count as an elective toward the minor.
- One course in music history, selected from the following:
 - Music 255S Music History I: Antiquity through Renaissance
 - Music 256S Music History II: 1600 through Mozart
 - Music 257 Music History III: Beethoven through WWI
 - Music 258 Music History IV: Post-WWI through the Present
- Two semester courses in performance from among:
 - Music 101-108, 203-213 (excluding 210-3). These courses cover classical or jazz piano, organ, harpsichord, violin, cello, string bass, classical or jazz guitar, harp, flute, oboe, clarinet, bassoon, saxophone, trumpet, French horn, trombone, tuba, percussions, djembe, voice, and some ensembles.
 - Music 318 Instrumental Conducting
 - Music 319 Choral Conducting
 - Music 401 Advanced Study in Musical Performance
 - Music 418 Advanced Study in Conducting
- Three elective courses, two must be above the level of Music 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 (the thesis advisor must be a regular rank Music department faculty member) 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. One semester of research independent study (Music 393) is required in preparation of the written component. 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, music.duke.edu.

Naval Science—Naval ROTC

Professor Hertel, Captain, US Navy, *Chair*; Visiting Associate Professor Arguello, Major, USMC; Visiting Assistant Professor Blackwell, Lieutenant, US Navy, *Director of Undergraduate Studies*; Visiting Assistant Professors Stanich, Captain, USMC; Scott, Lieutenant, US Navy; Heider, Lieutenant, US Navy

Neither a major nor a 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.

Courses in Naval Science—Naval ROTC (NAVALSCI)

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: Blackwell.

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: Blackwell. One course.

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. CZ, STS Continuity and change in the history of warfare, with attention to the interrelationship of social, political, technological, and military factors. Instructor: Stanich. One course.

215S. Amphibious Warfare. Development of amphibious doctrine, with attention to its current applications. Instructor: Stanich. 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: Arguello. One course.

231. Concepts and Analyses of Naval Tactical Systems. NS 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: Heider. One course.

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.

331. Naval Ship Systems. NS Quantitative study of basic naval ships' systems. Focus on detailed ship design, hydrodynamic forces, stability, propulsion, electrical theory and distribution, hydraulic theory, and damage control. Includes basic theory/design of various ship propulsion systems and case studies on leadership/ethical issues in the engineering arena. Instructor: Heider. One course.

353. Navigation. STS Theory, principles, and procedures of ship navigation, movements, and employment. Dead reckoning, piloting, celestial and electronic principles of navigation. Corequisite: Naval Science 353L. Instructor: Keller. One course.

353L. Navigation Laboratory. Practical application of the theories and principles of navigation as presented in the lecture series. Instructor: Keller.

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.

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. Instructor: Hertel. 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: Keller. One course.

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 Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates on [page 811](#).

Neuroscience

Associate Professor White, *Director of Undergraduate Studies*

A major and a minor are available in this program.

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 across levels of analysis: from the molecular and cellular level, through the level of neural circuits within which cells are organized and interconnected, and toward 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 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 in the Trinity College of Arts & Sciences. Students may also elect to pursue faculty-mentored research and scholarship wherever brain science discovery happens at Duke. Indeed, the broad impact of neuroscience discovery now extends beyond the academic disciplines in the natural sciences to spaces where neuroscientists collaborate and regularly interact with experts in ethics, law, business, social sciences, philosophy, the fine arts and performing arts, and the humanities. Accordingly, our neuroscience curriculum reflects this broad interdisciplinary platform for discovery and learning, with a rich offering of coursework and experiences that reflect the exciting growth of neuroscience and its increasing relevance to human flourishing, the diverse challenges facing society, and the health and wellness of all life.

Courses in Neuroscience (NEUROSCI)

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

101. Biological Bases of Behavior: Introduction and Survey. NS, STS One course. C-L: see Psychology 106

102. Biological Bases of Behavior (Team-Based Learning). NS Introduction to neuroscience that explores methods, models, and reasoning that led to discoveries about brain-behavior relations. Students learn and apply concepts in neuroanatomy, neurophysiology, synaptic transmission, the somatic sensorimotor system, vision, emotions, attention & consciousness, memory & learning, sexual differentiation & orientation, and psychopathology. In-class experiences organized around principles of team-based learning, with students collaborating in small teams for readiness assessments and team applications. Course fulfills gateway requirement for Neuroscience major. First years are welcome. Instructor: Ng. One course. C-L: Psychology 107

103L. Computing and the Brain. NS, QS One course. C-L: see Computer Science 103L; also C-L: Psychology 113L

104L. Interdisciplinary Introduction to Computer Science. QS One course. C-L: see Computer Science 102L

116FS. Neuroscience and Human Language. NS, SS One course. C-L: see Linguistics 216FS; also C-L: Science & Society

116S. Neuroscience and Human Language. NS, SS One course. C-L: see Linguistics 216S; also C-L: Russian 216S, Science & Society

123FS. When the Head's in Trouble: Language, Lesions and Loss. NS One course. C-L: see Linguistics 123FS

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.

153FS. Drugs and the Law. SS Exploration of the relationship between addictive drugs and the law. Examine mechanisms by which drugs of abuse affect the brain and decision-making on the individual level, and consequences of those effects on the societal level, then examine how society responds to these behaviors in terms of attitudes and laws. Compare perspectives of the criminal justice system with that of drug users. Class consists of lectures, discussions, guest speakers, and media presentations and a project examining cross-generational views on drug use, abuse, and laws. Open only to students in the Focus Program. Instructor consent required. Instructor: Schramm-Sapta. One course. C-L: Public Policy 185FS, Science & Society 153FS

155FS. Vision. NS, W Course will explore the remarkable phenomenology of visual perception and its neural basis. Some background in neuroscience is desirable. Open only to students in FOCUS program. Director of Undergraduate Studies consent required. Instructor: Purves. One course. C-L: Psychology 155FS

157FS. Games and the Brain. NS One course. C-L: see Linguistics 115FS

190S. Special Topics in Neuroscience. Topics vary by semester. Instructor: Staff. One course.

191FS. Intersections of the Sexual Brain. CCI, CZ, NS, STS Understanding how the human brain and environment interconnect evolved dramatically with recent advances in neuroscience research methods. Students analyze such interconnections and the impact on societal theories of human sexuality. Students assess influential factors such as ethnicity/race, culture, and religion, all diversely represented in contemporary America. Students read and discuss scientific and popular articles with historical context and explore the consequences of scientific observations on the personal, societal and political levels. Students develop written and oral communication skills and work collaboratively with fellow peers. Open only to Focus Program students. Instructor: Ng. One course. C-L: Gender, Sexuality, and Feminist Studies 191FS, Psychology 195FS, Study of Sexualities 191FS

201. Fundamentals of Neuroscience. NS, STS Course covers broad and rapidly evolving field of neuroscience encompassing questions about how humans and other animals experience their world. Learners explore the organization of neural systems that sense our environment, plan and execute complex movements, encode and retrieve memories, and experience a wide range of emotions. Learners examine brain development and how changes in structure and function underlie impacts of neurological and psychiatric disorders. Not recommended for first-year students. Prerequisite: Biology 20, 201L, 202L, or 203L and Chemistry 20, 21, 101DL, or 110DL -or-concurrent enrollment in Biology 201L, 202L, or 203L and concurrent enrollment in Chemistry 101DL or 110DL. Instructor: Newpher. One course. C-L: Biology 224, Psychology 275

202. Medical Neuroscience: Foundations for the Neurological Sciences. NS Examines the functional organization and neurophysiology of the human central nervous system, with a neurobiological framework for understanding human behavior. Students learn the anatomy and function of neural systems in the brain and spinal cord that mediate sensation, motivate bodily action, and integrate sensorimotor signals with memory, emotion, and related cognitive faculties. Provides the foundation for neurological sciences, including understanding the impairments of sensation, action, and cognition that accompany injury, disease, or dysfunction in the human central nervous system. Prior completion of Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107 strongly encouraged. Instructor: White. One course.

211. Brain and Behavior: Translating Neuroscience. NS One course. C-L: see Psychology 276

212. Introduction to Cognitive Neuroscience. NS One course. C-L: see Psychology 257

212D. Introduction to Cognitive Neuroscience. NS One course. C-L: see Psychology 257D

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. Recommended prerequisite: Biology 20, 21, 201L or 203L or equivalent, and Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107. Instructor: Newpher, Sherwood, and Volkan. One course. C-L: Biology 223

237. Religion and Science. CCI, CZ, STS One course. C-L: see Religion 287; also C-L: Study of Ethics 287, Marine Science and Conservation

237S. Religion and Science. CCI, CZ, STS One course. C-L: see Religion 287S; also C-L: Study of Ethics 287S

241. Flaubert's Brain: Neurohumanities. ALP, CCI, STS One course. C-L: see French 481; also C-L: Literature 246

242A. The Creative Brain: Literature, Arts & Cognition. ALP, NS, STS One course. C-L: see French 342A; also C-L: Visual and Media Studies 246A

245A. Cultured Brain: Neuroscience of Perception and Action. NS Explores mimesis in cognition and culture as an emergent product of perceptual and motor processing. Topics include touch, proprioception, vision, visual psychophysics and visual perception, motor control, embodied cognition, and functional anatomy of the human brain. Exploration of neuroscience theories and controversies in the context of France entails observation of social and performative movement, phenomenological examination of visual art, and experiential studies of contemporary Parisian culture. Instruction in English. Prior completion of NEUROSCI 101/102 or any NEUROSCI Focus Program course recommended. Offered in Duke Neurohumanities in Paris program. Instructor consent required. Instructor: White and Johnson. One course.

250. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350; also C-L: Gender, Sexuality, and Feminist Studies 350, Latino/a Studies in the Global South 350, Romance Studies 350

250S. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350S; also C-L: Gender, Sexuality, and Feminist Studies 350S, Latino/a Studies in the Global South 350S, Romance Studies 350S

252. Philosophy and Neuroscience. SS One course. C-L: see Philosophy 252

258. Decision Neuroscience. NS, SS, STS One course. C-L: see Psychology 258

260. Human Cognitive Evolution. NS, SS One course. C-L: see Evolutionary Anthropology 260; also C-L: Psychology 255

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

268D. Mechanisms of Animal Behavior. NS One course. C-L: see Biology 268D

274S. Aristotle and Neuroscience. CCI, EI, SS One course. C-L: see Classical Studies 374S; also C-L: Study of Ethics 274S

277. Looking Inside the Disordered Brain. NS One course. C-L: see Psychology 277

278. Sex/Gender - Nature/Nurture: Intersections of Biology and Society. NS, STS One course. C-L: see Gender, Sexuality, and Feminist Studies 278; also C-L: Cultural Anthropology 278, Psychology 226, Study of Sexualities 278

282. Neuroscience of Movement and Athletic Performance. NS One course. C-L: see Psychology 282

288S. Music as Biology. NS The course will explore the tone combinations that humans consider consonant or dissonant, the scales we use, and the emotions music elicits, all of which provide a rich dataset for exploring music and auditory aesthetics in neurobiological terms. Analyses of speech and music indicate that the chromatic scale (the set of tones used by humans to create music), consonance and dissonance, worldwide preferences for a few dozen scales from the billions that are possible, and the emotions elicited by music in different cultures stem from the relative similarity of musical tonalities and the characteristics of voiced (tonal) speech. Our brains have evidently evolved to associate these two domains. Instructor: Purves. One course. C-L: Music 288S, Psychology 288S

289. Music and the Brain. ALP, NS Musical perception and performance from artistic, subjective and neuroscientific perspectives. Presentations/didactic musical performances address how our brain detects and represents music, distinguishing music from other sounds, how we learn to perform and create music, the effects of music on brain structure and function, musical schema, and musical antecedents and analogues in non-humans. Dialog between course directors, a professional musician and neuroscientist, highlights the intersection between artistic and scientific perspectives on this fundamental and aesthetic form of human expression. Music and/or neuroscience background preferred, but not required. Instructor: Lindroth, Overath. One course. C-L: Music 289

290. Special Topics in Neuroscience. Topics vary by semester. Undergraduate. Instructor: Staff. One course.

290-1. Topics in Literature and Neuroscience. One course. C-L: see French 490-1

290A. Duke Administered Study Abroad: Special Topics in Neuroscience. Topics vary by semester. Instructor: Staff. One course.

290S. Special Topics in Neuroscience. Topics vary by semester. Instructor: Staff. One course.

301L. Bioelectricity (AC or GE). One course. C-L: see Biomedical Engineering 301L

322. From Neurons to Brain. NS One course. C-L: see Biology 322

333S. Neuroscience and Nutrition. NS, STS Interdisciplinary course examining neurobiological mechanisms and nutrition. Students learn how nutrients and eating behaviors promote brain health and wellness. Students will differentiate foods grown on smaller farms versus those produced for grocery stores. They will study nutrition labels, fad diets, and public resources for nutrition information. Applied learning includes cooking healthy meals and engagement in the Durham community. Co-taught by faculty in Psychology & Neuroscience and Community and Family Medicine using team-based learning. Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107. Instructor: Ng and Alphin. One course.

340S. Educational Neuroscience. SS One course. C-L: see Psychology 340S; also C-L: Human Development

350. Pharmacology: Drug Actions and Reactions. NS One course. C-L: see Pharmacology and Cancer Biology 350

351S. Neuroplasticity and Expertise. NS, W Course addresses brain and behavioral plasticity that results from intensive practice and experience. Topics covered include neuroscience of expertise, brain training games, biofeedback and neurostimulation, among others. Recommended prerequisite: Neuroscience 101/102 or Psychology 106/107 AND at least one of the following: Psychology 275/Neuroscience 201/Biology 224, Psychology 276D. Instructor: Appelbaum. One course. C-L: Psychology 351S

352S. Social and Affective Neuroscience. 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. Recommended prerequisite: one of the following: Psychology 193FS/Neurobiology 193FS/Neuroscience 193FS, Psychology 106/107/Neuroscience 101/102, Psychology 257/Neurobiology 212, or Psychology 275D/Neurobiology 201D/Biology 224D. Instructor: LaBar. One course. C-L: Psychology 280S

353S. Neuroplasticity and Disease: Molecules, Cells, and Circuits. NS, W Explore the cellular and molecular mechanisms that alter brain function in diverse neurological disorders, with an emphasis on understanding how disruptions of neural circuits drive behavioral and cognitive dysfunction. Students read

and critically evaluate primary literature on topics including Alzheimer's disease, Parkinson's disease, ALS, autism spectrum disorders, intellectual disabilities, and traumatic brain injuries. Classes utilize a combination of lectures, invited guest speakers, and team-based learning exercises to create a highly interactive learning environment. Prerequisite: Neuroscience 201/Psychology 275/Biology 224, or concurrent enrollment. Instructor: Newpher. One course. C-L: Psychology 353S

355S. Visual Perception and the Brain. NS, W Course explores how what we see is generated by the visual system. Students learn how the visual system links stimulus patterns with reproductive success without ever recovering real-world properties and without invoking feature detection, image representation in the brain, and probabilistic inference. Course considers in broader terms the relationship between the objective world and subjective human experience. Course delivered in flipped format with all lectures assigned as videos and class time devoted entirely to discussion of papers, problems and different perspectives on how the visual brain operates. Instructor: Purves. One course. C-L: Philosophy 355S, Psychology 355S

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. NS One course. C-L: see Psychology 279

376. Contemporary Neuroscience Methods. NS Explore the wide spectrum of methods commonly used in the field of neuroscience, ranging from molecular/genetic to electrophysiology and whole brain imaging. Multiple units of this team-based learning course will include interaction with a scientist currently practicing the technique. Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107. Instructor: Newpher. One course. C-L: Psychology 313

378L. Perception and the Brain. NS, R, W One course. C-L: see Psychology 308L

379L. Comparative Neuroanatomy. NS For advanced undergraduate students in the brain-related sciences who want to acquire an in-depth understanding of vertebrate neuroanatomy. Course focused on the primate central nervous system, with aspects of brain organization in rodents and other vertebrates presented throughout the semester. Reading assignments include book chapters, videos, and selected research articles. Grades are based on exams and periodic quizzes that test understanding of material in lectures and reading assignments. Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107. Instructor: Watson. One course. C-L: Psychology 379L

380L. Functional Anatomy of the Human Brain. NS, STS Functional Anatomy of the Human Brain. Overview of the structure of the human brain and spinal cord with team-based learning approaches and laboratory-based discovery. Hands-on examination of human brain specimens with guided explorations of external and internal brain structures. Dissections of human brains to facilitate discovery. Extensive use of interactive digital media to explore the gross anatomy of the central nervous system and the organization of the major neural systems underlying sensory, motor and cognitive function. Analysis of actual clinical cases representing a variety of neurological disorders. Minimum prerequisites: Neuroscience 101/102 or 201. Instructor: White. One course. C-L: Psychology 375L

381LA. Sensory Physiology and Behavior of Marine Animals. NS, R, W One course. C-L: see Biology 373LA; also C-L: Environment 373LA, Marine Sciences, Marine Science and Conservation

382L. Functional Neuroimaging. NS, R One course. C-L: see Psychology 303L

383L. Brain Waves and Cognition. NS, R, W One course. C-L: see Psychology 302L

385L. Integrative Neuroscience Laboratory. NS, R, W Gain skills necessary to conduct neuroscience research and integrate findings from multiple levels of analysis (molecular, cellular and behavioral). Team-based learning format and collaboration with neuroscience lab to generate, analyze, and communicate novel scientific findings. Experimentation will occur in a model organism and may include PCR, live cell imaging and/or behavioral conditioning experiments. Instructor: Volkan. One course. C-L: Biology 385L

388LS. Experiments in Animal Models of Human Neurodegenerative Disease. NS, R One course. C-L: see Biology 422LS

390. Special Topics in Neuroscience. Topics vary by semester. Instructor: Staff. One course.

390S. Special Topics in Neuroscience. Topics vary by semester. Instructor consent required to assure sufficient background knowledge. Instructor: Staff. One course.

391. Neuroscience Independent Scholarship 1: Advanced Topics. NS Readings, discussion, and synthesis of knowledge in a domain of special interest, under the supervision of a Neuroscience faculty member, through weekly meetings. Students produce a substantive, deliverable product by the end of the term that could be a written paper, a multimedia project, a website, an exhibition or performance, or some other original scholarly work that results from multiple iterations of draft, review, incorporation of feedback, and re-synthesis. Intended for students interested in exploring in depth specific topics not covered or only introduced in regularly available Neuroscience courses. Consent from the director of undergraduate studies is required. Instructor: Staff. One course.

392. Neuroscience Independent Scholarship 2: Advanced Topics. NS Second course, to follow Neuroscience 391, on readings, weekly discussion, and synthesis of knowledge in a domain of special interest, under the supervision of a Neuroscience faculty member. Students produce a substantive, deliverable product that could be a written paper, multimedia project, website, exhibition or performance, or some other original scholarly work that results from multiple iterations of draft, review, incorporation of feedback, and re-synthesis. Intended for students interested in exploring in depth specific topics not covered or only introduced in regularly available Neuroscience courses. Consent of the director of undergraduate studies required. Prerequisite: Neuroscience 391. Instructor: Staff. One course.

413. Language and Aging. NS, SS One course. C-L: see Linguistics 413

421S. Biology of Nervous System Diseases. NS One course. C-L: see Biology 421S; also C-L: Psychology 477S

425S. Auditory Neuroscience - From Sound to Music. NS An exploration of how sound is processed in brain, providing an introduction to stages of information processing from ears to auditory cortex and beyond. Methods of data acquisition (e.g., fMRI, electrophysiology, psychoacoustics) are introduced along with their advantages and pitfalls. Sound and auditory perception are discussed, starting with basic properties such as frequency, loudness, pitch, and timbre, progressing to human speech and music. A textbook, primary research papers and scholarly reviews are assigned. An interest in all forms of sound and music and completion of Neuroscience 201 or Neuroscience 212 are strongly recommended. Instructor: Overath. One course. C-L: Music 425S, Psychology 479S

427S. Current Topics in Sensory Biology. NS One course. C-L: see Biology 427S

438AS. Neuroscience and Multilingualism. NS, R, STS One course. C-L: see Linguistics 473AS; also C-L: Russian 438AS

439S. Neuroscience and Multilingualism. NS, R, STS One course. C-L: see Linguistics 473S; also C-L: Russian 439S, Science & Society 439S

444S. Neuroscience Service Learning: Brain Connections. NS, SS, STS Learn major scientific discoveries and technological advances in psychology, biology, and neurology that shaped contemporary neuroscience and society. Discuss early and recent works ranging from popular media to scientific journals online and in-class. Improve written communication through self-reflection and weekly feedback from instructor and peers. Develop and assess neuroscience demonstrations in team environment for engaging local communities. Prerequisites: strong competency in foundational knowledge of neuroscience—successful completion of Neuroscience 101 and TWO of the following core courses: Neuroscience 201, 211, 212 or 223 (concurrent enrollment in 2nd core course acceptable). Instructor: Ng. One course. C-L: Psychology 444S

450. Second Language Acquisition and Research. NS, R, SS One course. C-L: see Linguistics 497; also C-L: Romance Studies 450

451S. Autobiographical Memory. NS, R, SS One course. C-L: see Psychology 451S

461S. Neurobiology of Learning and Memory. NS One course. C-L: see Psychology 461S

462S. Neuroscience Applications for Everyday Decision Making. NS, SS, STS One course. C-L: see Psychology 462S

469S. Cognitive Control and the Prefrontal Cortex. NS, R, W One course. C-L: see Psychology 469S

470S. Cognitive Neuroscience of Memory. NS One course. C-L: see Psychology 470S

471S. Reward and Addiction. NS, W One course. C-L: see Psychology 471S; also C-L: Pharmacology and Cancer Biology 471S

478S. Motivation, Action, Choice: Neural and Behavioral Mechanisms. NS, W One course. C-L: see Psychology 478S

490S. Special Topics in Neuroscience. Topics vary by semester. Instructor: Staff. One course.

493. Research Independent Study 1. R First term of Research Independent Study in a subfield of neuroscience of special interest to a 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 a 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 a 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 a 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.

499. Current Research in Neuroscience. EI, NS, R, W A formal component of the Graduation with Distinction in Neuroscience plan 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. Along with research and thesis, required for Graduation with Distinction in Neuroscience. Instructor: Meck, LaBar, or Yin. One course. C-L: Psychology 499

500S. The Cinematic Depiction of Psychopathology. ALP, NS One course. C-L: see Psychology 500S

501S. Cognitive and Neurolinguistics. NS, R, SS One course. C-L: see Linguistics 501; also C-L: Russian 510

502. Neural Signal Acquisition (GE, IM, EL). One course. C-L: see Biomedical Engineering 502

503. Computational Neuroengineering (GE, EL). One course. C-L: see Biomedical Engineering 503

504. Fundamentals of Electrical Stimulation of the Nervous System (GE, EL). One course. C-L: see Biomedical Engineering 504

507. Neuronal Control of Movement (GE, EL). One course. C-L: see Biomedical Engineering 517

- 510. Brain and Language.** NS, R One course. C-L: see Linguistics 510; also C-L: Psychology 575
- 511L. Intermediate Bioelectricity (GE, EL).** One course. C-L: see Biomedical Engineering 511L
- 513. Introduction to Neurodynamics (GE, EL).** One course. C-L: see Biomedical Engineering 513
- 515. Neural Prosthetic Systems (GE, EL, IM).** One course. C-L: see Biomedical Engineering 515
- 533. Essentials of Pharmacology and Toxicology.** One course. C-L: see Pharmacology and Cancer Biology 533; also C-L: Molecular Cancer Biology 533
- 555S. Topics in Philosophy of Mind.** CZ, R, STS, W One course. C-L: see Philosophy 555S
- 560. Molecular Basis of Membrane Transport (GE, EL, MC).** One course. C-L: see Biomedical Engineering 560
- 567. Theoretical Neuroscience.** NS, QS One course. C-L: see Physics 567
- 584S. Hormones, Brain, and Cognition.** NS, R One course. C-L: see Psychology 684S
- 590. Special Topics in Neuroscience.** Topics vary by semester. Instructor: Staff. One course.
- 590S. Special Topics in Neuroscience.** Topics vary by semester. Undergraduate as well as Graduate/Professional students. Instructor: Staff. One course.
- 595. Language, Music and Dementia: Neuroscience Approaches.** NS, R, SS One course. C-L: see Linguistics 595; also C-L: Music 595
- 685S. Biological Pathways to Psychopathology.** NS One course. C-L: see Psychology 685S
- 686S. Principles of Neuroimmunology.** NS One course. C-L: see Psychology 686S

The Major

For the BS Degree

Requirements. Ten courses in major (eight of ten courses must be 200-level or higher; one or more must be laboratory and methods; one or more must be a seminar at the 350 level or higher).

Corequisites. Foundational coursework is required in the disciplines of biology, chemistry, computer science, mathematics, and physics that may be completed concurrently with courses in the major. In biology, one of the gateway courses, Biology 201L (Gateway to Biology: Molecular Biology) or Biology 202L (Gateway to Biology: Evolution & Genetics) or Biology 203L (Gateway to Biology: Molecular Biology, Genetics & Evolution) or its equivalent, will satisfy the corequisite. A score of 4 or 5 on the College Board Advance Placement Test in Biology can also be used to satisfy this corequisite. In chemistry, one general chemistry course-Chemistry 101DL (Core Concepts in Chemistry) or Chemistry 110DL (Honors Chemistry: Core Concepts in Context)-or equivalent, will satisfy the corequisite for the neuroscience major. A score of 4 or 5 on the College Board Advance Placement Test in Chemistry can also be used to satisfy this requirement. For Computer Science, one of the following courses (or its equivalent) will fulfill the corequisite: Neuroscience 103L (Computing and the Brain), Computer Science 101 (Program Design and Analysis I), Engineering 103L (Computational Methods in Engineering), or the equivalent. A score of 4 or 5 on the College Board Advance Placement Test in Computer Science A or Computer Science Principles can also be used to satisfy this corequisite. For mathematics, two terms of calculus or equivalent are required for the BS degree. The first semester calculus requirement can be satisfied by Mathematics 21 (Introductory Calculus I) or Mathematics 111L (Laboratory Calculus I) or Mathematics 121 (Introductory Calculus I), or Mathematics 105L (Laboratory Calculus and Functions I) and Mathematics 106L (Laboratory Calculus and Functions II). A score of 5 on the College Board Advanced Placement Test in Calculus AB or a 4 or better in Calculus BC suffices for the first term of calculus. The second semester calculus requirement can be satisfied by: Mathematics 22 (Introductory Calculus II) or Mathematics 112L (Laboratory Calculus II) or Mathematics 122 (Introductory Calculus II) or Mathematics 122L (Introductory Calculus II with Applications). A score of 4 or 5 on the College Board Advanced Placement Test in Calculus BC fulfills the corequisite for both terms of calculus. In physics, two terms of algebra- or calculus-based physics are required, which may be satisfied by one of the following three sequences or their equivalent: Physics 141L (General Physics I) followed by Physics 142L (General Physics II), or Physics 151L (Introductory Mechanics) followed by Physics 152L (Introductory Electricity, Magnetism, and Optics), or Physics 161L (Introductory Experimental Physics I), followed by Physics

162L (Introductory Experimental Physics II). A score of 4 or 5 on the College Board Advanced Placement Tests for each component of the pair of yearlong Advanced Placement physics courses (AP Physics 1: Algebra-Based and AP Physics 2: Algebra-Based, or Physics C: Mechanics and Physics and Physics C: Electricity and Magnetism) will fulfill this corequisite in its entirety. A score of 4 or 5 on just one of these Advanced Placements tests will satisfy just the corresponding term of physics (first term: AP Physics 1: Algebra-Based or Physics C: Mechanics; second term: AP Physics 2: Algebra-Based or Physics C: Electricity and Magnetism).

Gateway Course. Neuroscience 101/102 (Biological Basis of Behavior: Introduction and Survey) is the gateway to the major.

Core Courses (two courses required). There are two core courses in the major in neuroscience that reflect different levels of inquiry described above: Neuroscience 223 (Cellular and Molecular Neurobiology), which focuses on cellular processes and synaptic mechanisms of neural signaling; and Neuroscience 212 (Introduction to Cognitive Neuroscience), which focuses on cognition and the brain basis of behavior. Neuroscience 223 and 212 may be taken in any order.

Methods Courses (one course required). Neuroscience majors are required to understand the methods of scientific inquiry for investigating the structure and function of the nervous system. Any one of the following courses will satisfy this curricular requirement: Neuroscience 103L (Computing and the Brain), Neuroscience 301L (Bioelectricity), Neuroscience 376 (Contemporary Neuroscience Methods), Neuroscience 378L (Perception and the Brain), Neuroscience 379L (Comparative Neuroanatomy), Neuroscience 380L (Functional Anatomy of the Human Brain), Neuroscience 381LA (Sensory Physiology and Behavior of Marine Animals), Neuroscience 382L (Functional Neuroimaging), Neuroscience 383L (Brain Waves and Cognition), Neuroscience 385L (Integrative Neuroscience Laboratory), Neuroscience 502 (Neural Signal Acquisition), Neuroscience 503 (Computational Neuroengineering), Neuroscience 511L (Intermediate Bioelectricity), or Neuroscience 515 (Neural Prosthetic Systems).

Statistics (one course required). Neuroscience majors are required to acquire competency in 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: Statistical Science 101 (Data Analysis and Statistical Inference), Statistical Science 102 (Introductory Biostatistics), Statistical Science 104 (Data Analysis and Statistical Inference - Online), Statistical Science 110FS (Focus Program - Introductory Special Topics in Statistics), Statistical Science 111 (Probability and Statistical Inference), Statistical Science 130 (Probability and Statistics in Engineering), Statistical Science 230 (Probability), Psychology 201 (Introduction to Statistical Methods in Psychology), or Biology 304 (Biological Data Analysis).

Electives (five courses required). Neuroscience majors are required to explore the breadth and depth of the field by fulfilling five course requirements in neuroscience, with no more than two electives at the 100 level or below and at least one elective being a seminar course (350S or above). No more than one elective may count from a set of neuroscience courses that explore the intersection of the brain sciences and other disciplines (e.g., Neuroscience 289 (Music and the Brain); see website for complete list of intersection courses). Seminar, small-lecture, and laboratory elective offerings are drawn from a dynamic list of approximately fifty courses that are offered by multiple departments in Trinity College, as well as departments in the School of Medicine and the Pratt School of Engineering. See the [Psychology and Neuroscience website](#) for the current list of elective offerings.

For the BS2 Degree for BME Majors in the Pratt School of Engineering

Requirements. Corequisites as above for the BS degree and ten courses in major (eight of ten courses must be 200-level or higher, one or more courses must be laboratory or methods; one or more courses must be from 350-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 (Bioelectricity) is required, in addition to the gateway and core courses and a course in statistics. Of the five additional neuroscience electives, no more than two electives may be cross-listed between neuroscience and biomedical engineering.

For the AB Degree

Requirements. Ten courses in major (eight of ten courses must be 200-level or higher, one or more courses must be laboratory or methods; one or more courses must be intersection; one or more courses must be from 350-level or higher seminars).

Corequisites. 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 AB degree. For these disciplines, the same guidelines detailed above for the BS degree apply to the AB degree, with the following exceptions: there is no corequisite in Computer Science for the AB major in neuroscience, and in Mathematics,

the equivalent of just one term of calculus is required (Mathematics 21 or 111L or 121, or 105L and 106L). A score of 5 on the College Board Advanced Placement Test in Calculus AB or a 4 or better on the Calculus BC test fulfills this corequisite.

Gateway, Core, and Methods Courses. Same as for the BS degree.

Statistics. Same as for the BS degree.

Electives (five 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 at the 350 level or higher. Furthermore, for the AB degree, students must complete an intersection course that explores the broader impact of neuroscience on society or the dialogue between the brain sciences and other disciplines, as listed on the program website (e.g., Neuroscience 267 (Neuroethics)). To complete the elective requirements for the AB degree, students may choose from a variety of seminar, small lecture, and laboratory offerings that are drawn from a dynamic list of more than fifty courses offered by multiple departments in Trinity College, as well as departments in the School of Medicine and the Pratt School of Engineering. See the [Psychology and Neuroscience website](#) for the current list of elective offerings.

For both BS and AB degree plans, 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 corequisites), may apply for Graduation with Distinction in neuroscience. They must also maintain at least this level of performance throughout the remainder of their neuroscience 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 committee comprising three members. One member of the committee (either the research mentor or one of the 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 the committee can be a postdoctoral fellow or an advanced graduate student who has completed her/his/their preliminary exam. The director(s) of undergraduate studies and the associate director (if applicable) 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 earn Graduation with Distinction in neuroscience will take Neuroscience 499 (Current Research in Neuroscience). This spring-term 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 distinction level is recognized). Finally, Graduation with Distinction in neuroscience research projects will be presented as scientific posters in April during an undergraduate research forum.

The Minor

Requirements for Students in Trinity College of Arts & Sciences: Five 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.

No more than two of the five courses required for the minor may be used to satisfy the requirements of another major, minor, or certificate.

Requirements for Biomedical Engineering Majors in the Pratt School: Five 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. Neuroscience 101/102 (Biological

Basis of Behavior: Introduction and Survey) is the gateway to the minor in neuroscience. Next, the biomedical engineering major will complete one of the core courses in neuroscience—Neuroscience 212 or 223. The biomedical engineering major is also required to complete Biomedical Engineering 301/Neuroscience 301 (Bioelectricity) for the minor in neuroscience. Finally, completion of the minor requires two neuroscience electives that are not cross-listed in biomedical engineering.

Nonlinear and Complex Systems

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.

Courses in Nonlinear and Complex Systems (NCS)

501. Survey of Nonlinear and Complex Systems. NS 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: Staff. Half course. C-L: Physics 501

513. Nonlinear Dynamics. NS, 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. Prerequisite: Computer Science 101, Mathematics 216, and Physics 161D, 162D, or equivalent. Instructor: Staff. One course. C-L: Computer Science 524, Physics 513

Pathology

For courses in pathology, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates on [page 811](#).

Pharmacology

For courses in pharmacology, see Medicine (School)—Graduate (School) Basic Science Courses Open to Undergraduates on [page 811](#).

Persian (Farsi)

For courses in Persian (Farsi), see Asian & Middle Eastern Studies on [page 204](#).

Philosophy

Professor Janiak, *Chair*; Professor Sinnott-Armstrong, *Director of Undergraduate Studies*; Professors Adler (Law, Economics, and Public Policy), Brading, Brandon, Conitzer (Computer Science and Economics), Farahany (Law and Science & Society), Ferejohn, Flanagan, Gillespie (Political Science), Grant (Political Science), Hoover, Janiak, McShea (Biology), Moi (English), Neander, Norman, Purves (Neurobiology), Rosenberg, Sinnott-Armstrong, Sreenivasan, and Wong; Visiting Professor van Inwagen; Associate Professors De Brigard and Pickford (German Studies); Assistant Professor Pavese; Professors Emeriti Buchanan, Golding, and Sanford; Associate Research Professor Hawkins

A major and a minor are 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, 103S, and 104S may be taken for credit. These courses are not open to juniors and seniors.

Courses in Philosophy (PHIL)

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. Open only to first years and sophomores. Instructor: Staff. One course. C-L: Science & Society

103S. Introduction to Philosophy. CZ, W Philosophy 101 conducted as a seminar. Open only to first years and sophomores. Instructor: Staff. One course.

104S. Introduction to Philosophy. CZ, EI, W Philosophy 102 conducted as a seminar. Instructor: Staff. One course.

110. Information, Society & Culture: Bass Connections Gateway. CZ, STS One course. C-L: see Information Science + Studies 110; also C-L: Computer Science 110, Public Policy 110

123FS. Freedom and Responsibility. EI, SS, W One course. C-L: see Political Science 175FS; also C-L: Ethics Elective

124FS. Freedom and Moral Obligation. CZ, EI, W Are moral obligations limitations on our freedom, or are they, as some philosophers have insisted, the fullest expressions of our freedom? We'll look at what moral obligations are and how we come to have them at all. We will then ask about the nature of moral motivation by considering altruism: giving to others with nothing expected in return. Finally, we will consider collective moral obligations. When a moral problem, like alleviating global poverty or remedying climate change, is solvable not by individual action, but by coordinated, collective action, does that morally obligate each of us individually? Only open to students in the Focus program. Department consent required. Instructor: Summers. One course. C-L: Political Science 195FS

150. Logic. CZ The conditions of effective thinking and clear communication. Examination of the basic principles of deductive reasoning. Instructor: Staff. One course.

155. Reason and Argument. W How to analyze, evaluate, and construct arguments of various kinds on a wide range of topics. Web-based lectures, exercises, and quizzes. Class meetings for discussion of short weekly writing with peer assessment. Instructor: Sinnott-Armstrong. One course.

163D. Ethics for Robertson Scholars. CZ, EI Robertson Scholars First-Year colloquium; Introduction to ethical reasoning & argument. Asks questions/examines concepts & arguments related to the nature of moral reasoning. Examines contemporary ethical issues to gain understanding of the kinds of reasons/arguments used to establish or support ethical claims. Restricted to Robertson scholars. Class meets half the semester at Duke, half at UNC, with weekly discussion sections on both campuses. One course.

190A. Duke-Administered Study Abroad: Special Topics in Philosophy. Topics differ by section. Instructor: Staff. One course.

190FS. 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.

194FS. Beyond Disagreement and Cozy Consensus. CCI, CZ, EI Part of the “Ethics, Leadership & Global Citizenship” Focus cluster. Introduction to tools and concepts in ethics, critical reasoning, politics, and psychology. Emphasis on identifying and framing the right questions about justice, democracy, identity, etc; then criticizing or justifying answers to such questions. Readings range from classics in the history of Western thought, to country and western music, and Kanye West. Open only to students in the Focus program. Instructor consent required. Instructor: Norman. One course. C-L: Study of Ethics 194FS

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: Janiak or staff. 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: Staff. 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

205. World Philosophy. CCI, CZ, EI, SS Course introduces students to several great philosophical traditions worthy of respect in their own right and important for understanding our contemporary world. Surveys, compares, contrasts philosophical thought from classical Greco-Roman world (Plato and Seneca), Middle Eastern and Africa traditions (including African American traditions), India (Hinduism, Buddhism, Jainism), and China (Confucianism and Daoism). These traditions, embodied in the modern world, try to answer questions like: Why are we here? Are we fated to live as we do? What is a good human life? Is there God or gods? Is there afterlife? How can we know what is true good? What is a person? How ought humans relate to nature? Instructor: Flanagan. One course.

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 or Sreenivasan. One course. C-L: Ethics Elective

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: Pavese. 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: Ferejohn or Pavese. One course. C-L: Information Science + 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: Ferejohn or staff. 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: De Brigard, Flanagan or Neander. One course. C-L: Linguistics 208, Visual and Media Studies 302, Information Science + 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. Introduction to Ethical Theory. CZ, EI Historically informed introduction to ethical theories in the Western tradition. Major historical figures (Aristotle, Kant, Mill) are read as well as some contemporary defenders of views inspired by these thinkers. This course is intended to provide a foundation for further study

of ethics in philosophy. No prerequisites. Instructor: Hawkins. One course. C-L: Ethics Elective

218. Medical Ethics. CZ, EI, STS Examination of ethical issues in the practice of medicine. Course examines the concepts of well-being, autonomy, health, and disease; the ethics of informed consent; problems of capacity assessment; ethics of making decisions for incompetent patients; ethical issues of advance directives; the ethics of legalizing assisted suicide and euthanasia. Course also looks at ethical dimensions of decision-making for particular vulnerable groups: elderly dementia patients, permanently unconscious patients, impaired newborns, people with various disabilities. The focus is on clinical medicine, but the course serves also as a foundation for further study in bioethics. Instructor: Hawkins. One course. C-L: Ethics Elective, Science & Society

219D. The Challenges of Living an Ethical Life. CZ, EI One course. C-L: see Study of Ethics 101D; also C-L: Political Science 120D

220. Philosophical Perspectives on Disability. EI, SS Considers core questions about the nature of disability and what this entails for policy. Review of medical and social models of disability, and current philosophical attempts to improve on these models. Careful consideration of the relationship between disability and well-being, including questions about how much weight to give to different kinds of testimony about the quality of life of disabled people. Relates all of this to various topics in practical ethics. Instructor: Hawkins. One course.

221S. Philosophy and Literature. ALP, CCI, CZ, EI Explores what great literature and drama teach about mind, morals, and meaning of life. Examines how fiction, drama, and poetry speak truthfully about human condition though what they say may be literally false. Can literature answer questions like: What makes life worth living? Why be moral? Selections and films from, and based on the works of Sophocles, Aristotle, Shakespeare, Dostoevsky, Whitman, Camus, T.S. Eliot, Steinbeck, Sylvia Plath, Mary Gordon. Instructor: Flanagan or staff. One course.

222. Gender and Philosophy. 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: Wong. One course. C-L: Gender, Sexuality, and Feminist Studies 222, Gender, Sexuality, & Feminist Studies

222S. Gender and Philosophy. Seminar version of Philosophy 222. Instructor: Wong. One course. C-L: Gender, Sexuality, and Feminist 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: Staff. One course.

232A. The Cognitive Science of Religion and Morality. CZ, EI, R, W Review of recent theories of mind in cognitive science as they pertain to the nature of belief in God, religious practices, and moral attitudes. Arguments in ethics and philosophy of religion as they apply to Judaism, Christianity, and Islam. Offered only in the Duke in Istanbul semester study abroad programs. Consent of instructor required. Instructor: Staff. One course. C-L: International Comparative Studies 224A, Religion 281A, Turkish 232A

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 204A, Economics 303A

242. Problems in Philosophy of Science. CZ, STS The principal philosophical problems of scientific practice. Explanation, confirmation, instrumentalist and realist conceptions of scientific theory. Laws and

indeterminism in modern science. Instructors: Brandon, Janiak, or Rosenberg. One course.

242S. Problems in Philosophy of Science. CZ, STS The principal philosophical problems of scientific practice. Explanation, confirmation, instrumentalist and realist conceptions of scientific theory. Laws and indeterminism in modern science. Instructor: Brading, Brandon, Janiak, or Rosenberg. One course.

246. Prisoner's Dilemma and Distributive Justice. EI, SS One course. C-L: see Political Science 331; also C-L: Economics 361, Human Rights Program-Franklin Humanities Institute 331, Ethics Elective, Information Science + Studies, Human Rights

246D. Prisoner's Dilemma and Distributive Justice. EI, SS One course. C-L: see Political Science 331D; also C-L: Economics 361D, Ethics Elective, Information Science + Studies

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 + 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: De Brigard, Sinnott-Armstrong, 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 272; also C-L: Public Policy 231, International Comparative Studies 272, Human Rights Program-Franklin Humanities Institute 262, Documentary Studies, Ethics Elective, Global Health, Human Rights

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: Asian & Middle Eastern Studies 275, Ethics Elective

270. Business Ethics: The Debate Over Corporate Social Responsibility. EI, SS Debates about obligations of firms and business leaders over and above legal obligations. Examination of foundations and implications of corporate governance, corporate law, and the theory of the firm. Evaluation of challenges by supporters of stakeholder theory and corporate social responsibility. Instructor: Norman. One course. C-L: Study of Ethics 270, International Comparative Studies 271, Markets and Management Studies

274S. Love, Marriage, Education: Theories About Women from Rousseau to Beauvoir. ALP, CCI One course. C-L: see Literature 365S; also C-L: Gender, Sexuality, and Feminist Studies 365S, English 388S

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. C-L: Global Health 241, International Comparative Studies 282

282. Science, Ethics, & Democracy. EI, SS, STS Examines relationships between scientific knowledge, ethics, & formation of public policies in a democratic society. Science influences public policy & public policy shapes scientific enterprise. How can citizens reliably identify genuine scientific expertise? If scientific expertise conflicts with religious views of some citizens, can public policy rely on scientific expertise without violating principles of religious toleration? What are ethical rules of public deliberation—must citizens appeal only to reasons accessible from secular viewpoints? To what extent should science goals be shaped by scientific community versus democratic processes? Instructor: Buchanan. One course. C-L: Bioethics and Science Policy 282

285. Existentialism. ALP, CCI, EI One course. C-L: see Literature 285; also C-L: English 285

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. Instructor: Staff. One course.

291. 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. 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.

312S. Adam Smith and the System of Natural Liberty. SS, STS One course. C-L: see Economics 312S; also C-L: History 308S

314. Philosophy of Biology. CZ, NS, R, STS An introduction to conceptual and methodological issues raised in contemporary biology, including reductionism, the meaning of chance, laws in biology, the units of natural selection, teleology, and the structure of evolutionary theory. Recommended prerequisite: AP biology or introductory biology. Instructors: Brandon and/or McShea. One course. C-L: Biology 255, Marine Science and Conservation, Science & Society

317. Aristotle. CZ, EI Survey of principal topics in Aristotelian philosophy. Areas of study include metaphysics, epistemology, philosophy of science, philosophy of language, ethics, and political philosophy. Instructor: Ferejohn. One course. C-L: Classical Studies 371

331. Kant. CZ, W 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*. Recommended prerequisite or corequisite: Philosophy 201. Instructor: Janiak. One course.

331T. Voices in Philosophy: German. Discussion-based course trains students with advanced intermediate proficiency in German to read and analyze core philosophical texts in German, typically in conjunction with a lecture course offered in philosophy. Classes include close readings of original texts, discussions of interpretation and application in variety of other forms (including film, documentary, multimedia) and real-life situations. Students examine how language/culture impact our understanding of core philosophical texts through attention to issues such as translation, vernacular, and word choice. Tutorials meet weekly for 75 minutes. Recommended prerequisite: German 204 or equivalent. Instructor: Staff. Half course. C-L: German 331T

335. Moral Psychology. CZ, EI, SS Considers core questions about the proper role of empirical psychology in developing and/or confirming or disconfirming moral theories. Review of contemporary debates about the nature of moral motivation, the role of emotion in moral judgment, the nature of virtues and whether they exist, the nature of agency and moral responsibility, the nature and importance of happiness, and the role of intuitions in developing moral theories. Prerequisite: previous course in moral theory. Instructor: Hawkins. One course.

345. The Philosophy and Methodology of Economics. EI, SS, W Introduction to conceptual and methodological issues raised in modern economics. Topics may include choice, rationality and irrationality, realism, models, the relationship between microeconomics and macroeconomics, prediction and explanation, value judgments and policymaking, and causality. Case studies of applications to economic problems. Prerequisites: One course in economics or consent of instructor. Instructor: Hoover or Rosenberg. One course. C-L: Economics 319

350. Logic and Its Applications. 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

355S. Visual Perception and the Brain. NS, W One course. C-L: see Neuroscience 355S; also C-L: Psychology 355S

380S. The Scientific Revolution. CZ, STS, W Study emergence of modern physical sciences as leading means for understanding the natural world; read primary documents from Copernicus, Kepler, Galileo, Descartes, Boyle, Hooke and Newton; learn how past science shaped the modern world; learn how history of science enables understanding of 21st-century science. Instructor: Janiak. One course. C-L: History 388S, Science & Society 380S

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 377AS

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: Staff. Two courses. C-L: Religion 282AS, Public Policy 258AS

390A. Duke-Administered Study Abroad: Advanced Special Topics in Philosophy. 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: Staff. One course.

447. Philosophical and Conceptual Problems of Entrepreneurship. SS Investigation of the nature of entrepreneurship; its psychological foundations, relation to science and technology, implications for economics, and ramifications for morality and ethics. Instructors: Rosenberg/Fjeld. One course. C-L: Economics 346, Innovation and Entrepreneurship 447

463S. Eastern & Western Conceptions of Human Nature, Ethics, & Politics. CCI, CZ, EI, SS Course deals with differences of value by understanding a variety of traditions. Explores conceptions of human nature and how these connect with views about the good human life, duties, responsibilities, rights, and proper forms of political governance. International team leads discussions from comparative and cross-cultural perspectives. Critically examines Western sources, Chinese/Korean sources, Hindu, Buddhist, and Jain sources- analyzing how these ideas shape contemporary Western/East Asian/South Asian culture. All in context of contemporary scientific sources on human nature from psychology, anthropology, and primatology. Instructor: Flanagan. 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. 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, Sreenivasan, or Wong. One course. C-L: Political Science 582S, Gender, Sexuality, & Feminist 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: Norman or Sreenivasan. 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 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, Study of Ethics 510S

511S. Plato. CZ Selected dialogues. Instructor: Ferejohn. One course. C-L: Classical Studies 572S

512S. Aristotle. CZ Selected topics. Instructor: Ferejohn. One course. C-L: Classical Studies 573S

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: Information Science + 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. One course. C-L: African & African American Studies 580S

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. Counts as elective for the Science & Society Certificate Program. Instructor: Bradling, Janiak, or Rosenberg. One course. C-L: Literature 521S, Gender, Sexuality, and Feminist Studies 541S, History 577S, Science & Society

550SL. Digital Publishing: Concepts and Practice. CZ, R, STS One course. C-L: see Information Science + Studies 550SL

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: Staff. One course.

552S. Metaphysics. CZ, R Selected topics: substance, qualities and universals, identity, space, time, causation, and determinism. Instructor: 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: De Brigard 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 + Studies 670; also C-L: Literature 623, Science & Society

572. Frankfurt School Critical Theory. CZ, EI One course. C-L: see German 570; also C-L: Political Science 570

573S. Heidegger. CZ, EI, SS One course. C-L: see Political Science 581S

584S. Modern Political Theory. CCI, EI, SS One course. C-L: see Political Science 584S; also C-L: Ethics Elective

590. Special Topics in Philosophy Lecture. Topics vary each semester. Instructor: Staff. One course.

590S. Special Fields of Philosophy Seminar (Topics). 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.

678S. Pragmatism. CZ A study of the philosophical school of American Pragmatism. Involves close reading, discussion, and analysis of the major pragmatist philosophers of the late 19th and early 20th centuries, including Peirce, James, and Dewey, as well as more recent pragmatists, such as Rorty. Topics include pragmatic analyses of belief, action, will, and experience and their applications to human inquiry, scientific method, ethics, and political philosophy. Instructor: Hoover. One course.

681S. Wittgensteinian Perspectives on Literary Theory. ALP One course. C-L: see Literature 681S; also C-L: English 582S

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. Instructor: Hawkins or Sreenivasan. One course.

693S. Causation. A study of the philosophical foundations of causation. Involves close reading and discussion of classic modern philosophical analyses of causation, with special reference to applications in the philosophy of science including the social sciences. Instructor: Hoover. 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, 250, or 350); 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.

Philosophy, Politics, and Economics

Professor Munger, *Director*

A certificate, but not a major, is available in this program.

The interdisciplinary Philosophy, Politics, and Economics 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 certificate in the Philosophy, Politics, and Economics Program is composed of six courses, including two cross-listed courses, one that functions as a gateway to the certificate program, a second that figures as its capstone, and four 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 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

Six specified courses distributed across the three disciplines, including gateway and capstone courses.

Gateway Course

All students in the certificate program must take the Philosophy, Politics, and Economics introductory course:

Political Science 331 (Prisoner's Dilemma and Distributive Justice) (C-L: Economics 361, Philosophy 246)

Capstone Course

In their senior year students must take the Philosophy, Politics, 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 selected sequence of four courses in microeconomics, rational choice, ethical theory/political

philosophy, and the history of economic thought. The four courses will be chosen from three groups: This sequence will be selected in consultation with the program director, and must be approved for each student separately. The four courses must include one course from each of the three core disciplines of the certificate—philosophy, politics, and economics—as well as one additional course that will reflect the interests of the student and will be chosen with an eye toward facilitating completion of the major paper in the capstone class.

Health, Wellness, and Physical Education

Associate Professor of the Practice Yakola, *Chair*; Lecturing Fellow McNally, *Director of Undergraduate Studies*; Assistant Clinical Professor Alphin; Professor of the Practice Dale; Professor Emeritus LeBar; Assistant Professor of the Practice Hampton; Instructors Bar, Beguinet, Brame, Branson, Douglas, Finnegan, Kaufmann, King, Lee, Miller, Moore, Shamp, Silar, and Welsh

Activity courses in the program of health, wellness, and physical education do not count toward distributional requirements.

Courses in Health, Wellness, and Physical Education (PHYSEDU)

Activity Courses

Each activity course listed below carries a 0.5 course credit and is given on a Satisfactory/Unsatisfactory basis. The maximum amount of credit that counts for the undergraduate degree is 1.0 course credit, but additional courses may be taken without credit toward graduation. Students may repeat activity courses.

101. Cardio Conditioning. Utilizes a variety of exercise modalities (walking, running, cycling, elliptical) and formats (intervals, circuits) to improve cardiovascular fitness. Instructor: Branson. Half course.

102. Triathlon Training. Course to include running, biking, and swimming techniques and training; Students will increase their cardiorespiratory capacity and learn training and race day strategies such as proper form, transitions and nutrition. Students should be a proficient swimmer and supply their own swimming and running gear. Bike not required. Instructor: Branson. 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. Half course.

104. Fusion Fitness. Formerly called Circuit Training. Combines strength and cardiovascular training using a variety of equipment and settings (weight room, studio, outdoors) to provide an efficient and challenging program to develop strength, endurance, flexibility and coordination. Instructor: Branson, Finnegan, Hampton, McNally. Half course.

105. Pilates Mat and Ball. System of movement emphasizing strong back and abdominal muscles. Stability ball for balance and strength. Instructor: Branson. Half course.

106. Advanced Pilates and Barre. A series of exercises based in yoga, dance and sport training. Advanced techniques to continue work on posture, breathing, balance, coordination, strength and flexibility. Includes barre exercises for lower body strengthening. Equipment used includes stability balls, tubing, gliding discs, foam rollers. Previous Pilates training necessary. Instructor: Branson. Half course.

107. Group Fitness Overview. Overview of several group exercise formats; including intervals/circuit, boot camp, Zumba/cardio dance, kickboxing, strength training, indoor cycle, yoga, Pilates, and barre. Instructor: Branson or Finnegan. Half course.

108. Group Fitness Certification. Covers the knowledge and skills needed to design and conduct group fitness programs and to take the group fitness certification test, making participants eligible to apply for a group fitness instructor position. Topics to include anatomy, exercise program design, choreography, special populations, and legal and professional responsibilities. Instructor: Staff. Half course.

109. Cardio-Kickboxing. A noncontact activity designed to teach self-defense techniques while building the muscular and cardiovascular systems. Instructor: Shamp. Half course.

110. Intermediate Cardio-Kickboxing. A workout that combines cardiovascular conditioning and body toning while learning more advanced boxing and kickboxing skills for self-defense tactics. Recommended

prerequisite: Physical Education 109 or Physical Education 160 or previous kickboxing experience. Instructor: Champ. Half course.

112. Running. Introduces a variety of running workouts, including trail running, track intervals, tempo runs, and hill repeats. Course will also examine running-related physiology, nutrition, biomechanics, and gear. Optionally course may provide road race training for distances from 5k to marathon. Instructor: Branson, McNally. Half course.

113. Weight Training. Develop and implement an individualized weight training program. Learn program design parameters for different goals (bulking, toning, strength, power), proper form for a variety of exercises and equipment, periodization, and safety. Instructor: Bar or McNally. Half course.

115. Fitness for First Years. This course emphasizes both cardiovascular conditioning and strength training. Get to know fellow first-year students and learn how to design, implement, and progress a personalized fitness program using a variety of exercise formats and equipment. Open only to first-year students. Instructor: Hampton, Finnegan. Half course.

116. Weight Training for Women. Learn how to design and implement a weight training program to address individualized goals such as toning and increasing strength. Emphasis on functional strength and core training. Accommodates beginner to advanced. Instructor: Branson, Finnegan, or McNally. Half course.

117. Fusion Fitness for Women. Formerly called Fitness for Women. Combines strength and cardiovascular training using a variety of equipment and settings (weight room, studio, outdoors) to provide an efficient and challenging program to develop strength, endurance, flexibility and coordination. Instructor: Branson, Finnegan, Hampton. Half course.

118. Personal Trainer Certification. Introduces the knowledge and physical skills needed to prepare for the ACE Personal Training Certification exam and become an effective personal trainer (sitting for the PT Certification exam is optional). Topics include fitness assessment and exercise program design for different exercise goals, as well as business and organizational practices for conducting personal training sessions. Instructor: Staff. Half course.

122. Basketball. Development of individual and team skills. Instructor: King, Silar, or Welsh. Half course.

123. Bowling. Beginning, intermediate, and advanced instruction in the fundamentals of approach, release, arm swing, methods of scoring, rules, and etiquette. Instructor: Staff. Half course.

124. Fencing. Foils, épée, and saber. Instructor: Beguinet. Half course.

125. Soccer. Basic soccer skills. Instructor: Staff. Half course.

126. Volleyball. Increase volleyball knowledge and skill through rules presentation, skill practice, and tournament play. Topics include passing, serving, setting, hitting, offense, defense, and outdoor play. Instructor: Hunter. Half course.

131. Beginning Golf. This course covers rules, terminology, and fundamentals of golf, including pre swing, grip, stance and posture, alignment, ball position and clubface alignment. Considers ball flight laws and the golf swing as well as aspects of short game including putting, chipping, pitching and sand play. Instructor: Miller. Half course.

132. Intermediate Golf. This course covers rules, terminology, and fundamentals of golf, including pre swing, grip, stance and posture, alignment, ball position and clubface alignment. Considers ball flight laws and the golf swing as well as aspects of short game including putting, chipping, pitching and sand play. Stroke development and use of all clubs emphasized. Instructor: Miller. Half course.

133. Advanced Golf. This course covers rules, terminology, and fundamentals of golf, including pre swing, grip, stance and posture, alignment, ball position and clubface alignment. Considers ball flight laws and the golf swing as well as aspects of short game including putting, chipping, pitching and sand play. Course strategy and play will be emphasized. Instructor: Miller. Half course.

135. Level 1 Swimming. Intended for students with no formal swimming experience who need to learn the foundation of swimming skills. Will focus on free style, backstroke, putting their face in the water, gaining self confidence in the water, water safety. Instructor: Staff. Half course.

136. Level 2 Swimming. Improve on skills learned in Level 1 swimming. Develop strokes in Backstroke,

Freestyle, and Breaststroke. Students should be comfortable in the water and be able to effectively swim 25 yards of Freestyle and Backstroke. Instructor: Staff. Half course.

137. Level 3 Swimming. Stroke technique and endurance training. Students should know how to swim Freestyle, Backstroke, and Breaststroke. Students should be able to swim 100 yards (4 lengths) continuously. Instructor: Staff. Half course.

143. Beginning Tennis. Addresses tennis fundamentals through basic drills and games that will lead into match-play. Instructor: Hampton. Half course.

144. Intermediate Tennis. Strategy of the game and stroke development. Instructor: Hampton. Half course.

145. Advanced Tennis. Stroke development with emphasis on strategy. Instructor: Hampton. Half course.

150. Social Dancing. Waltz, Foxtrot, Tango, Swing, Cha-Cha, Rumba and select line dances. Students are encouraged to register for the waitlist as the instructor will take students off the waitlist to create an even number of leads and follows. Instructor: Staff. Half course.

152. Latin Dance. Merengue, Salsa, Bachata, Cha-Cha, Rumba and others. Students are encouraged to register for the waitlist as the instructor will take students off the waitlist to create an even number of leads and follows. Instructor: Staff. Half course.

159. Self Defense for Women. Learn practical and realistic skills for self-protection and defense for women. Instructor: 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: Shamp. Half course.

161. Aikido. Focuses on cooperation rather than competition. Partner practice maximizes the fluidity of delivering the attack, handling an attack, and skills for staying safe. Instructor: Kaufmann. Half course.

162. Intermediate Aikido. More advanced training for Aikido techniques and more fun. If you've seen movies where the actor rolls across the car you've seen an Aikido roll. Recommended prerequisite: one semester of martial arts and rolling skills. Instructor: Kaufmann. Half course.

163. Tae Kwon Do/Karate. Emphasis on teaching excellence, personal attention, and tradition. Covers variety of self-defense technique and fundamentals, which include basic blocks, punches, kicks, joint manipulations, falling techniques, sparring skills (World Taekwondo Federation system), flexibility, and conditioning. Etiquette, history, and philosophy of Tae Kwon Do are also taught during class. Instructor: Lee. Half course.

164. Intermediate/Advanced Tae Kwon Do/Karate. Emphasis on principles of teaching excellence, personal attention, and tradition. Students will further develop Tae Kwon Do skills. Advanced kicking techniques, practical self-defense with joint manipulations/throws and Olympic style sparring (WTF system) will be introduced. Etiquette, history, philosophy of Tae Kwon Do are also taught during class. Accommodates the intermediate to advanced student. Instructor: Lee. Half course.

165. Tai Chi. Graceful, healthful, and powerful. Use your brain to move your body and it becomes a meditation. Chinese internal art of self-defense with considerable health benefits. Stretches, strengthens, and improves alignment. Instructor: Kaufmann. Half course.

166. Intermediate Tai Chi. Internal martial art develops belly muscles with breathing as the key to moving power and energy. Instructor continues to show applications of Tai Chi through study of Chen long form. Push hands partner practice. Instructor: Kaufmann. Half course.

167. Aikido: Japanese Sword and Staff. Aikido sword and staff forms were developed to protect oneself from multiple attackers and involve coordinating whole body movements for maximum safety and power. Course to include solo and partner foundational movements. Training with wooden swords (bokken) will teach methods of centering oneself, and develops upper and lower body strength. Instructor: Kaufmann. Half course.

168. Advanced Women's Self Defense - Krav Maga. Krav Maga for Women is an advanced self-defense program. The emphasis of the class is on instinctive movements and efficient counter attacks. Krav Maga is the ideal self-defense system for any woman regardless of strength, size or age. The techniques taught will quickly give the student the skills and mindset to defend against an attacker. Classes will include standing self-defense

and ground defenses. Prerequisite: Completion of Self Defense for Women, PHYSEDU 159. Instructor: Staff. Half course.

170. Yoga. An introduction to hatha yoga and yoga philosophy with a focus on balance, strength and flexibility of mind, body, and breath. Instructor: Branson or Finnegan. 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: Finnegan. 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 healthier lifestyle. Instructor: Brame. Half course.

174. Athletic Yoga. Designed to help students gain flexibility, balance, and strength in order to prevent injuries and improve form, efficiency, and power. Students will learn breath awareness and mental training to increase concentration and focus in the midst of intensity. Instructor: Branson. Half course.

175. Meditation, Movement, Stillness. Explore and practice different styles of meditation from Yoga, Zen, Tai Chi and Chi Gong, including forms of sitting, standing, walking and movement meditation. Instructor: Kaufmann. Half course.

176. Beginning Equitation I. Introduction to horseback riding: basic horsemanship; walk, trot, and canter; as well as learning proper care of a horse before and after riding. Course held off campus. Transportation needed. Contact instructor for more information on location and fees. Instructor: Staff. Half course.

177. Beginning Equitation II. Continuation of Beginning Equitation I or for riders with limited experience. Students will refine their horse care and walk/trot skills, expand their skills of cantering, and possibly learn how to jump. Course is held off campus. Transportation needed. Contact instructor for more information on location and fees. Instructor: Staff. Half course.

178. Intermediate Equitation. Skills in hunt seat riding. Emphasis on balanced seat and focus on improving skills in walk, trot, canter, and jumping. Course held off campus. Transportation needed. Contact instructor for more information on location and fees and to arrange class meeting schedule. Instructor: Staff. Half course.

179. Advanced Equitation: Hunt Seat. Cross-country and stadium jumping techniques. Course held at off campus. Contact the instructor to find out more information about location and fees and to arrange a class meeting schedule. Instructor: Staff. Half course.

180. Outdoor Recreation. 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: Staff. Half course.

181. 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: Staff. Half course.

182. Fly Fishing. Includes fly tying, casting, methods of fly fishing, knots, and practical techniques. Instructor: Staff. Half course.

183. Kayaking. Prepares students to kayak intermediate rivers with focus on safety, enjoyment, and skill. Topics include equipment, boat control, advanced paddle techniques and boat maneuvers, river classification, trip planning, and fitness. Includes 1-2 night class trip. Instructor: Staff. Half course.

184. SCUBA Diving. Covers knowledge and skills for open water SCUBA dives, including equipment, skills, history, physiology, and safety protocols. Learn to assemble, disassemble, check and use all equipment; and practice safety skills, buddy rescue, snorkeling, free diving, and work up to SCUBA diving in the dive well. After successful completion of course, student is eligible for a SCUBA certification dive, but this dive is not included in the class schedule or fee. Instructor: Staff. Half course.

186. Stand Up Paddleboard Fitness. This course will introduce students to various aspects of Stand Up Paddleboarding (SUP) including: paddling technique, strokes, turns, water safety, SUP yoga, SUP fitness and SUP bootcamp. Using the SUP, students will have a chance to improve core strength and stability, improve

cardiorespiratory fitness level, increase muscular strength and endurance and improve flexibility. Instructor: Finnegan. Half course.

189. Campus Recreation. Offers an introduction to activities, programs and services that are commonly offered through recreation programs in a collegiate setting. Students will learn about and participate in activities associated with aquatics, fitness, intramurals, outdoor adventures, special events and sport clubs. Instructor: Staff. Half course.

190. Care and Prevention of Athletic Injuries. Basic instruction in prevention, recognition, care, and rehabilitation of athletic-related injuries. Instructor: Staff. Half course.

Theory Courses

Each theory course listed below carries 1.0 course credit. Taking Theory classes does not cancel a student's ability to take two activity classes for credit toward their undergraduate degree. Theory classes are general electives.

89S. First-Year Seminar. Topics vary each semester offered. Instructor: 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: Aphin, Dale, McNally, or Yakola. One course.

203. Diet and Nutrition. NS How diet affects well-being and reduces risk of certain diseases. Basic nutrition principles, sports performance enhancement, supplements, disordered eating, vegetarianism, herbs, diet and disease, and current trends in nutrition. Instructor: Alphin. One course.

204. Women's Health. Introduces students to a variety of women's health issues, as well as mental, physical, emotional, social, and environmental factors affecting college-aged women. A practical, hands on approach will emphasize information, resources, and skills to help students achieve and maintain a healthy lifestyle. Topics include exercise, nutrition, stress and resilience, sleep, substance use, sexual health, mental health, chronic disease, and behavior change models. Instructor: McNally. One course.

205. Health Effects of Exercise. Examines the physical and mental health benefits and risks of exercise, including prevention and treatment effects for cardiovascular disease, diabetes, cancer, depression, anxiety, dementia and improvements in cognitive function. Course includes a service-learning component where students work in the community a minimum of 20 hours across the semester to promote physical activity. Instructor: McNally. One course.

206. Exercise Physiology. NS Reviews physiological adaptations (cardiorespiratory, musculoskeletal, nervous, endocrine) that occur with exercise training leading to improved health and performance. Examines practical applications such as workout design, nutrition, fitness testing, and body composition management. Instructor: McNally. One course.

207. Exercise and Mental Health. NS Examines the neural and psychological correlates of exercise that influence mental and cognitive health. Explores exercise guidelines and theories of exercise behaviors. Topics include exercise and depression, anxiety, stress, self-esteem, body image, circadian rhythms, learning, dementia, and mental states and performance. Instructor: McNally or staff. One course. C-L: Psychology 214

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 89S. Instructor: Staff. One course.

221. Administration in Sports Management. Philosophy, financial structure, administrative structure, fund-raising, NCAA legislation, personnel decisions, and scheduling events. Instructor: Yakola. One course.

222. Sports Marketing. The multi-faceted elements associated with marketing within the sports industry. Instructor: Yakola. One course.

223. Sport Ethics. Moral reasoning and ethical values in sport today. Emphasis on character development and

sportsmanship and their influence on fair play for everyone. Instructor: Dale. One course.

224. Sport Finance. Financial resource management in the sports industry including forms of ownership, financial analysis, feasibility studies, revenue generation, economic impact, and current issues. Instructor: Yakola. One course.

225. Sports Leadership Development. Examine the principles and practices of leadership development with an emphasis on their application to sports as applied to the individual and in leading a team and /or organization. Topics to include value based leadership, self-awareness as a leader, ethical leadership, leadership styles, strategies for effective leadership development including and through proper communication, motivation, conflict resolution, team building, group dynamics, and decision making. Instructor: Yakola. 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.

290S. Special Topics in Nutrition: Analysis of Dietary Trends. Brief overview of basic concepts of nutrition. Curriculum includes dietary self-assessment, critical evaluation of popular diets, and examination, evaluation, and discussion of current trends in nutrition. Instructor: Branson. One course.

Physics

Professor Bass, *Chair*; Professor Scholberg, *Associate Chair*; Professor Arce, *Director of Undergraduate Studies*; Professors Aspinwall, Baranger, Bass, Beratan, Bray, Brunel, Chandrasekharan, Chang, Curtarolo, Dobbins, Edwards, Finkelstein, Gao, Goshaw, Greenside, Howell, Johnson, Kim, Kotwal, Kruse, Liu, Mehen, Mueller, Oh, Petters, Plessner, Samei, Schmidt, Scholberg, Smith, Socolar, Springer, Walter, Warren, Wu, and Yang; Associate Professors Arce, Charbonneau, Lu, Mikkelsen, and Teitsworth; Assistant Professors Barbeau, Barthel, Buchler, Haravifard, Marvian, Scolnic, Troxel, and Vossen; Professors Emeriti Evans, Palmer, Roberson, Robinson, Thomas, Tornow, R. Walter, and Weller; Associate Professor of the Practice Mercer; Associate Research Professor Driehuys; Adjunct Professors Ahmed, Ciftan, Everitt, Guenther, Lawson, Skatrud, and West; Adjunct Associate Professor Tonchev; Adjunct Assistant Professor Baker; Lecturer Brown; Instructor Roy

A major and a minor are 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 or biophysics major gains are valuable to the study of all areas of science and engineering. The Department of Physics 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.

Courses in Physics (PHYSICS)

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

131. Introductory Lecture on Big Questions in Physics. NS, STS Introduction to six big questions representing frontiers of twenty-first-century physics, such as what are the ultimate laws of nature, how does complex structure arise, and how can physics benefit society. Classes will involve presentations by researchers and by students, discussions of journal articles, and tours of physics labs involved with related research. Recommended prerequisite: precalculus and at least one quantitative science course at the high school level, such as chemistry or physics. Instructor: Mueller. Half course.

131-1. Introductory Lecture on Big Questions in Physics. NS, STS Introduction to six big questions representing frontiers of twenty-first-century physics, such as what are the ultimate laws of nature, how does complex structure arise, and how can physics benefit society. Classes will involve presentations by researchers

and by students, discussions of journal articles, and tours of physics labs involved with related research. Recommended prerequisite: precalculus and at least one quantitative science course at the high school level, such as chemistry or physics. Instructor: Barbeau, Ahmed, Roy, Teitsworth. One course.

133. The Physics of Sports. NS Examines the physics behind a wide variety of sports, including football, baseball, hockey, soccer, track and field, swimming, and many others. Illuminates how scientific concepts such as force, momentum and energy provide a deeper understanding and appreciation of common sports plays seen or made on the field. Instructor: Scolnic. One course.

134. Introduction to Astronomy. NS, QS 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: Plessner. One course.

136. Acoustics and Music. NS, R, W The physical principles underlying musical instruments, room acoustics, and the human ear. Analysis, reproduction, and synthesis of musical sounds. No previous knowledge of physics assumed. Instructor: Socolar. One course. C-L: Music 126

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. C-L: Energy and the Environment

139S. Physics and Society: Nuclear Energy. NS, STS, W Core topics include: science and technology of mass-scale generation of electrical power; history, science and technology of nuclear fission reactors; methods for comparing the cost of different energy generating technologies (from mining raw materials, to constructing power plants, to disposal of byproduct and environmental cleanup, to decommission of power plants); and political and international security issues associated with nuclear fission power reactor technology. This course is highly recommended for juniors and seniors with non-science majors. Not open to students having credit for Physics 137S. Instructor: Howell. One course.

141L. General Physics I. NS, QS First part of a two-semester calculus-based course intended for students in health or life sciences. Core topics: kinematics, dynamics, systems of particles, conservation laws, statics, fluids, oscillations, waves. Additional possible topics: sound, diffusion, thermodynamics, selected applications. For credit, enrollment in Physics 141L lecture, lab and discussion sections (Physics 141L9, 141D) required. Physics majors should enroll in Physics 161D/164L, 162D/165L in their first year. Not recommended for students with credit for Physics 151L, 152L, 161D. Recommended prerequisite: college calculus (Mathematics 21, Mathematics 105 and 106, or Mathematics 111). Mathematics 122 also recommended (may be taken concurrently). Instructor: Brown, Kotwal. One course.

141LA. General Physics I. NS, QS First part of a two-semester calculus-based course for students in health or life sciences. Core topics: kinematics, dynamics, systems of particles, conservation laws, statics, fluids, oscillations, waves. Other possible topics: sound, diffusion, thermodynamics, selected applications. For credit, enrollment in Physics 141LA lecture, lab and discussion sections required. Physics majors should enroll in Physics 161D/164L, 162D/165L in their first year. Not recommended for students with credit for Physics 151L, 152L, 161D. Recommended prerequisite: one year of college calculus such as Mathematics 105L, 106L, 21. Mathematics 122 recommended. Open only to students in the Duke Marine Lab. Taught in Beaufort at Duke Marine Lab. Instructor: Tyndall or Brown. One course. C-L: Marine Sciences

142L. General Physics II. NS, QS The second semester of a calculus-based course for students in health or life sciences. Core topics: electric fields, circuits, magnetic fields, Faraday's law, Maxwell's equations, electromagnetic waves, properties of light, geometric optics, wave optics. Additional possible topics: optical instrumentation, quantum physics, selected applications. Students must enroll in a lecture (Physics 142L), a lab (Physics 142L9), and a discussion section (Physics 142L9D) to receive credit. Closed to students having credit for Physics 152L, 153L or 162D. Prerequisites: Physics 141L, 151L, or 161D. Instructor: Howell, Wu. One course.

142LA. General Physics II. NS, QS The second semester of a calculus-based course for students in health or life sciences. Core topics: electric fields, circuits, magnetic fields, Faraday's law, Maxwell's equations, electromagnetic waves, properties of light, geometric optics, wave optics. Additional possible topics: optical instrumentation, quantum physics, selected applications. Students must enroll in Physics 142LA lecture, lab and discussion sections to receive credit. Closed to students having credit for Physics 152L, 153L or 162D. Prerequisite: Physics 141L, 141LA, 151L, or 161D. Open only to students in the Duke Marine Lab. Taught in Beaufort at Duke Marine Lab. Instructor: Brown. One course. C-L: Marine Sciences

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 first 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: Roy, Brown. 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: Roy. 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. For credit, enrollment in Phy 153L, lab and discussion (Phy 153L9, 153D) sections required. (Closed to students having credit for Physics 142L or 162D). Prerequisites: Physics 152L and Mathematics 212 or instructor's permission. Instructor: Springer. One course.

160. Frontiers of 21st Century Physics. NS, QS This course is a one-semester introduction to current research topics in physics, organized around six "Big Questions" in physics, including: what are the ultimate laws of nature, how does complex structure arise, and how can physics benefit society? This course is more quantitative than 131S and is designed for prospective physics majors as well as those interested in deeper understanding of the physical world. Prerequisites: Precalculus and at least one quantitative science course at the high school level, such as chemistry or physics. Instructor: Kruse. One course.

161D. Fundamentals of Physics I. NS, QS First semester of a two-semester sequence intended for potential physics or biophysics majors. Course discusses 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. Prerequisites: Mathematics 21 and 122 or equivalents; Mathematics 122 may be taken concurrently. Recommended that course is taken concurrently with Physics 164L. Instructor: Brown. One course.

162D. Fundamentals of Physics II. NS, QS Second semester of a two-semester sequence 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. Prerequisites: Physics 161D and Math 122 or consent from instructor. Recommended that course is taken concurrently with Physics 165L. Instructor: Brown. One course.

163D. Fundamentals of Mechanics and Electromagnetism. NS, QS One semester calculus-based course covering the fundamental principles of mechanics, electricity, magnetism, and optics. This team-based course covers topics of Physics 161D and 162D that are not included in the high school AP Physics C curriculum, including fluids, damped and driven oscillations, waves, sound, AC circuits, Maxwell's equations, light, geometric optics, and physical (wave) optics. Prerequisite: Physics 25, Physics 26, Mathematics 21, and Mathematics 122/122L (Mathematics 122/122L can be taken concurrently). Not open to students who have taken Physics 141L, 142L, 151L, 152L, 161D, or 162D. Instructor: Brown. One course.

164L. Introductory Experimental Physics I. NS, QS, W First in a series of half-courses on experimental physics techniques for physics and biophysics majors. Experiments focus on core physics concepts of mechanics: force, motion, conservation laws, and oscillations. Students work in teams and use computers to collect, visualize, and analyze data. Key components: written documentation of experimental procedures and results in a scientific notebook; interpreting results and testing hypotheses; coding (Python), experimental design and refinement; multiple opportunities for open-ended laboratory activities that inspire team and individual creativity. Instructor: McKenzie. Half course.

165L. Introductory Experimental Physics II. NS, QS, W Second in series of half-courses on experimental physics techniques for physics and biophysics majors. Focus on core physics concepts of electricity, magnetism and optics: electrostatics, magnetostatics, magnetic induction, electromagnetic waves, geometrical and physical optics. Students work in teams and use computers to collect, visualize and analyze data. Key components: written documentation of experimental procedures and results in a scientific notebook; interpreting results and testing hypotheses; coding (Python), experimental design and refinement; multiple opportunities for open-ended laboratory activities that inspire team and individual creativity. Prerequisite: Physics 164L. Instructor: McKenzie. Half course.

174. Introduction to Frontiers of Biophysics. NS, STS Once-per-week class with goal of introducing students to representative frontiers of biophysics. Course will be a mixture of presentations by researchers, presentations by students of journal articles, and some lab tours. Prerequisites: Knowledge equivalent to Advanced Placement courses in biology, chemistry and physics, or with permission of the instructor. Instructor: Schmidt. Half course.

175. Introduction to Physics in Medicine. NS The aim of the course is to introduce to physics and life science students the critical role of medical physics in medicine including clinical service, patient care, scientific innovation and clinical problem solving. Four main areas of professional activities will be covered: Radiation Therapy, Diagnostic Imaging, Health Physics, and Nuclear Medicine. The course will highlight key clinical challenges where medical physicists impact clinical practice and improve patient care and treatment outcomes. This introductory course will be taught by medical physics faculty who work in Duke Hospital Clinics and have joint appointments in the Duke Medical Physics Graduate Program. Prerequisite: Physics 141L/142L, 151L/152L, or 161L/162L. Instructor: Kapadia and Oldham. One course.

190. Special Topics in Physics. Special topics in physics, intended for non-majors. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Physics. Topics differ by section. Instructor: Staff. One course.

190S. Special Topics in Physics. Special topics in physics, intended for non-majors. Instructor: Staff. One course.

190S-1. Special Topics in Physics. Special topics in physics, intended for non-majors. Instructor: Staff. Half course.

264L. Optics and Modern Physics. NS, QS 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 162D and Mathematics 212 or their equivalents. Instructor: Brown, Haravifard. One course.

271L. Electronics. NS, QS 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 162D, or equivalent; Mathematics 212 or equivalent. Instructor: Finkelstein. One course. C-L: Information Science + Studies

305. Introduction to Astrophysics. NS, QS Basic principles of astronomy treated quantitatively. Cosmological models, galaxies, stars, interstellar matter, the solar system, and experimental techniques. Mathematics 212 and Mathematics 216 strongly encouraged. Prerequisites: Physics 264 or instructor consent. Instructor: Barbeau. One course.

320L. Optics and Photonics. NS Ray optics, wave optics, beam optics, resonators, atom-photons, interaction, interference, diffraction, polarization, lasers, light detection, electromagnetic optics. Laboratory experiments apply concepts in basic optics. Prerequisite: Electrical and Computer Engineering 270L or equivalent. Instructor: Jokerst, Stiff-Roberts, Yoshie or staff. C-L: Physics 320L. One course. C-L: Visual and Media Studies 325L, Electrical and Computer Engineering 340L

346. Introduction to Methods and Concepts in Particle Physics. NS, QS Particle physics is the study of the fundamental nature of the universe, including its fundamental constituents and the fields through which they interact. This course introduces our current understanding, starting with a review of special relativity and quantum mechanics, before discussing their application to particle physics, the importance of symmetries, experimental techniques (including introductions to how particle colliders and detectors work), statistical and computing methods for data analysis, philosophical considerations in our quest for a fundamental understanding, and prospects for the future. Prerequisite: Physics 264L. Recommended prerequisite: Physics 141L/142L, 151L/152L, or 161L/162L. Instructor: Kruse. One course.

361. Intermediate Mechanics. NS, QS 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: Scholberg. One course.

362D. Electricity and Magnetism. NS, QS Electrostatic fields and potentials, boundary value problems, magnetic induction, energy in electromagnetic fields, Maxwell's equations, introduction to electromagnetic radiation. Prerequisite: Mathematics 216 or equivalent. Instructor: Finkelstein. One course.

363. Thermal Physics. NS, QS 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. Prerequisite: Physics 264L. Instructor: Socolar. One course.

364L. Advanced Experimental Physics. NS Last in series of half-courses on experimental physics techniques for physics and biophysics majors. Students will perform a single advanced laboratory project. Biophysics-related laboratory projects are available. Includes written and oral presentation of results. Prerequisite: Physics 264L. Instructor: Bomze, staff. Half course. C-L: Biology 364L

365L. Advanced Experimental Physics. NS One of several undergraduate courses on experimental physics techniques suitable for physics and biophysics majors. Identical in content and method to Physics 364L except it requires two half semester advanced laboratory projects for one full semester credit. Biophysics-related laboratory projects are available. Includes written and oral presentation of results. Prerequisite: Physics 264L. Instructor: Bomze, staff. One course. C-L: Biology 365L

390A. Duke-Administered Study Abroad: Advanced Special Topics in Physics. Topics differ by section. Instructor: Staff. One course.

414. Introduction to Biophysics. NS, QS How theory and experimental techniques from physics can be used to analyze and understand biological structure and function, including chemical, mechanical, electrical, collective, and information-processing aspects. Recommended prerequisite: Biology 201L or 203L and knowledge of statistical physics by taking either Physics 363 or Chemistry 311. Instructor: Greenside. One course. C-L: Biology 418

415. Biophysics II. NS, QS Quantitative understanding of biological systems through the application of physical principles. Course will emphasize topics that span multiple length and time scales, and different levels of biological organization. Two to four topics per semester, including possibly organismal motion from molecular processes to whole organisms, nervous systems from membrane channels to neuronal networks, noise in biology, novel biophysical technologies, etc. Recommended prerequisite: Biology 201L or 203L, Mathematics 212 and 216 or equivalent, and calculus-based introductory physics or permission of the instructors. Instructor: Mercer, Greenside. One course. C-L: Biology 425

417S. Advanced Physics Laboratory and Seminar. NS, QS, R, W Experiments involving the fields of electricity, magnetism, heat, optics, and modern physics. Written and oral presentations of results. Instructor consent required. Instructor: Oh. One course.

464D. Quantum Mechanics I. NS, QS 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: Springer. One course.

465. Quantum Mechanics II. NS, QS 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: Barthel. 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 topics not offered in regularly available courses. Format and grading are determined by the supervising faculty member and then approved by the DUS. Consent of instructor required. One course. 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 DUS 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 DUS required. Instructor: Staff. One course.

501. Survey of Nonlinear and Complex Systems. NS 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: Staff. Half course. C-L: Nonlinear and Complex Systems 501

505. Introduction to Nuclear and Particle Physics. NS, QS 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. Prerequisite: for undergraduates, Physics 464, 465; for graduate students, Physics 764, which may be taken concurrently. Instructor: Oh. One course.

509. Quantum Nanophysics. NS Quantum phenomena in nanostructures, emphasizing interference, dimensionality, and electron interactions. Uses current research topics to introduce fundamental building blocks of the subject, thereby providing in addition a background in solid-state physics. Topics covered may include: graphene, carbon nanotubes, and topological insulators; scanning tunneling microscopy; quantum point contacts and quantum dots; spintronics, single electronics, and molecular electronics; superconducting qubits; giant and colossal magnetoresistance; quantum Hall effect. Emphasis placed on phenomena observed in the last two decades. Prerequisite: Physics 464 or instructor consent. Instructor: Baranger. One course.

513. Nonlinear Dynamics. NS, 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. Prerequisite: Computer Science 101, Mathematics 216, and Physics 161D, 162D, or equivalent. Instructor: Staff. One course. C-L: Computer Science 524, Nonlinear and Complex Systems 513

516. Quantum Materials: Introduction to Solid State Physics. Microscopic structure of solids, liquids,

liquid crystals, polymers, and spin systems; elastic scattering and long-range order; topological defects; electronic structure of crystals (metals and semiconductors); phonons and inelastic scattering; magnetism; superconductivity. Recommended prerequisite: Physics 464, 465, and 563. Instructor: Baranger. One course.

522. Special and General Relativity. NS, QS 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.

555. Introduction to Cosmology. NS, QS Cosmology is the study of the origin, structure and evolution of the Universe itself. The goal of this course is to provide an advanced undergraduate or introductory graduate description of the “standard” big bang theory of the Universe, the Lambda-Cold Dark Matter model, that includes recent experimental developments. Topics include: the observational and theoretical basis for the model; spacetime and the Friedmann-Lemaitre-Robertson-Walker metric; big bang cosmology and the Universe’s contents and dynamics; the cosmic microwave background; formation of galaxies, large-scale structure, and gravitational lensing; dark matter and dark energy; current and future observational experiments. Recommended prerequisite: Physics 361 and Mathematics 216 or Physics 264L. Instructor: Troxel. One course.

556. Stellar Astrophysics. NS, QS This course surveys the key physics of stellar structure, interiors, and evolution. The focus is on the essential concepts for understanding dynamical processes in stars, the relevant equations and their approximate solutions. Topics include: timescales, scaling relations, equations of state, radiative transfer, convection, nuclear reactions and rates, white dwarfs, neutron stars, and supernovae. We will aim throughout the course to impart a better physical and intuitive understanding of the essential meaning of the equations, processes, and principles that govern stars of all sort, and of their universality. The intended audience is graduate students and upper-level undergraduates. Prerequisite: Physics 305. Instructor: Scolnic. One course.

562. Fundamentals of Electromagnetism. QS 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: Staff. One course.

563. Introduction to Statistical Mechanics. NS, QS Fundamentals of kinetic theory, thermodynamics and statistical mechanics with applications to physics and chemistry. Undergraduate enrollment requires consent of director of undergraduate studies. Prerequisite: Physics 464. Instructor: Finkelstein. 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 264L and 363. Experience with a programming language is desirable, but can be acquired while taking the course. Instructor: Walter. One course.

567. Theoretical Neuroscience. NS, QS Introductory course on theoretical neuroscience. Neuronal biophysics: ions, membranes, channels. Single neuron models: Hodgkin-Huxley, 2D reductions, phase plane analysis. Leaky integrate-and-fire model, response to stochastic inputs. Models of synapses and synaptic plasticity. Models of networks at various scales. Network dynamics: rate models, networks of spiking neurons. Coding and decoding by single neurons and populations of neurons. Unsupervised learning, supervised learning, reinforcement learning. Adequate for any graduate student in physics or other quantitative fields (mathematics, statistics, engineering, computer science) and undergraduate majors in such fields. Instructor: Brunel. One course. C-L: Neuroscience 567

590. Selected Topics in Theoretical Physics. 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. QS 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 340L

or equivalent. Instructor: Adam Wax. One course. C-L: Electrical and Computer Engineering 541, Biomedical Engineering 552

622. General Relativity. NS, QS 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: Aspinwall. One course. C-L: Mathematics 527

627. Quantum Information Science. NS, QS One course. C-L: see Electrical and Computer Engineering 523

655. Astrophysics. NS, QS An introductory survey of astrophysics with an emphasis on topics of current interest. Introduction to General Relativity, Stellar and Galactic Evolution, Standard Cosmology, Big-Bang Nucleosynthesis, Early Universe, Neutrino Astrophysics, Supernovae and Cosmic Rays, Special Topics. Prerequisites: Physics 361, 362, 363, 464; Physics 465 is recommended. Instructor: Staff. One course.

671. Quantum Optics. NS, QS 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: Staff. 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 161D, 162D, 164L, and 165L during their first year if possible; those with qualifying advanced placement credit can substitute Physics 163D for Physics 161D and 162D. Students should also arrange to complete the mathematics requirements by the end of their sophomore year.

For the AB Degree

Prerequisites. Physics 161D, 162D, 164L, and 165L or equivalents; Mathematics 122/122L, 212, and 221

Major Requirements. Physics 264L and 363 and two courses out of 361, 362D, 464D, 513, or one 300-level or higher physics course approved by the director of undergraduate studies. One laboratory-related course which can be Physics 271L, 417S, or 493 with a substantial experimental component. One other physics elective numbered above 200.

For the BS Degree

Prerequisites. Physics 161D, 162D, 164L, and 165L or equivalents; Mathematics 122/122L, 212, 221, and 356

Major Requirements. Physics 264L, 361, 362D, 363, 417S, 464D, one physics elective numbered 200 or higher, and one physics elective numbered 300 or higher.\

Concentration in Astrophysics

An optional concentration in astrophysics allows students to immerse themselves in contemporary issues such as the nature of dark matter and dark energy, the evolution of the early universe, and the structures, from galaxies to stars, that characterize it today.

Requirements. In addition to the physics major requirements, Physics 305 and three additional astrophysics courses are required. Two or more of these must be selected from among Physics 555, 556 , or an independent study (Physics 491, 493, or 495) approved by the director of undergraduate studies as an astrophysics course. One of Physics 346, 505, 522, 622, 655, or Mathematics 575 may be chosen. Courses for the astrophysics concentration may also satisfy the elective requirements for the major.

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 161/161L and 162/162L or equivalents; Physics 264L; two additional physics courses numbered above 200 that need to be approved by the physics director of undergraduate studies or by a physics advisor. A total of five physics courses must be taken at Duke to satisfy the minor.

The Biophysics Major

Biophysics is the study of quantitative 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, diverse areas of biology like cell biology, neuroscience, physiology, and health professions like medicine, veterinary school, and dentistry. (But if a student anticipates applying to graduate school in physics, he or she should consider the Physics major as an alternative.). This major is administered in close cooperation with the departments of biology and chemistry.

For the AB Degree

Prerequisites. Chemistry 101DL (or equivalent); Mathematics 122 (or equivalent), 212 and 216.

Major Requirements. Biology 201L and either Biology 202L or 220 or Biology 203L and 220; Physics 161, 164L, 162, 165L (or equivalent); Physics 364L or equivalent; Physics 264L (or Chemistry 310 and either 310L or 311L), Physics 363 (or Chemistry 311); one of Physics: 361, 362, 464, or a director-approved 300-level or above course not including independent studies; Physics 414 and 415; one 200-level or higher director-approved elective course relevant to the biophysics major.

For the BS Degree

Prerequisites. Chemistry 101DL (or equivalent); Mathematics 122 (or equivalent), 212 (or 222), 221 (or 218), and 356.

Major Requirements. Biology 201L and either Biology 202L or 220 or Biology 203L and 220; Physics 161, 164L, 162, 165L (or equivalent); Physics 264L and 464 (satisfies A) (or Chemistry 310 and either 310L or 311L), Physics 363 (or Chemistry 311); Physics 364L or equivalent; one of Physics 361, 362, 464(A), or a director-approved 300-level or above course not including independent studies; Physics 414 and 415; three 200-level or higher director-approved elective courses relevant to the biophysics major.

Policy, Journalism and Media Studies

Associate Professor of the Practice Rogerson, *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 (PJMS), which helps to prepare students for careers in journalism and media-related professions. Through PJMS coursework, students gain a thorough understanding of the role of the press in a democracy 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.

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 PJMS 410 (capstone) and PJMS 371 (News as a Moral Battleground), and a third core practicum course, either PJMS 365S, 366S, or 367S (Video 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/courses/. New courses, special topics courses, and independent study courses may also

be approved as elective courses by the program. Each student also is required to complete an internship in the field prior to taking the capstone course (the internship must be approved before it is begun). Only one of the electives can originate in the PJMS Program. 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 Office of the University Registrar (or, if they are declaring a major for the first time, through the Pre-Major Advising Center) and also see program director Ken Rogerson in the Sanford School of Public Policy.

Courses in Policy Journalism and Media Studies (PJMS)

89S. First Year Seminar: Special Topics in Policy, Journalism and Media Studies. Topics vary. Instructor: Staff. One course.

112. The Googlization of Knowledge: Information, Ethics, and Technology. EI, R, SS, STS One course. C-L: see Information Science + Studies 112

120. Internship in Media-Related Field. For students enrolled in the Policy Journalism & Media Studies certificate program. Field work in media-related organization with pre-approval of the program Chair. Must submit approval form in advance, and a brief memo two weeks after internship ends. Director of undergraduate studies consent required. Instructor: Rogerson.

135S. Introduction to Audio Documentary. ALP, R One course. C-L: see Documentary Studies 135S

264S. Religion & Journalism. CZ, R One course. C-L: see Religion 264S; also C-L: Study of Ethics 264S

290. Special Topics in Policy Journalism & Media Studies. Selected Policy Journalism & Media Studies topics. Instructor: Staff. One course.

290S. Special Topics in Policy Journalism & Media Studies. Selected Policy Journalism & Media Studies topics. Instructor: Staff. One course.

290T. Special Topics Tutorial Journalism & Media Studies. Selected topics tutorial course in Journalism and Media Studies. Satisfactory/Unsatisfactory grading only. Half course credit. Instructor: Staff. Half course. C-L: Public Policy 291T

291. Internship in Journalism and Media Studies. For students working in journalism or communications capacities in the journalism, public agency, political campaign, or other media-oriented group under the supervision of a faculty member. Requires a substantive paper (or papers) or project. Satisfactory/Unsatisfactory grading only. Instructor: Staff. One course.

310S. The Short Audio Documentary. ALP, R One course. C-L: see Documentary Studies 310S

311S. Documentary Writing Workshop. ALP, R, W One course. C-L: see Documentary Studies 311S; also C-L: English 214S

335. Free Speech: France-USA. ALP, CCI, CZ, EI, FL One course. C-L: see French 335; also C-L: Human Rights Program-Franklin Humanities Institute 335, Human Rights

352S. Documentary Publishing from Gutenberg to the Web: The Vanishing Point Course. ALP, CCI, R, SS, STS One course. C-L: see Documentary Studies 352S; also C-L: Visual and Media Studies 352S, Visual Arts 352S

361S. Algorithms, Journalism and the Public Interest. EI, SS, STS Explores the expanding and evolving role of algorithms in the production, dissemination, and consumption of news. Course considers the political, economic, cultural, legal, public policy, and ethical implications of algorithmically-driven journalism and news consumption. Places algorithmically-driven journalism and news consumption in historical and technological context. Instructor: Napoli. One course. C-L: Public Policy 361S

364S. Art of the Interview. R, W An exploration of the role of the interview as a core feature of modern American journalism, with focus on its development as a tool of inquiry, a cultural form and news-making event. Students will study examples of media coverage and produce projects involving interviews around a common subject: the experience of immigration and the immigration debate in America. Instructor: Staff. One course. C-L: Public Policy 364S, Documentary Studies 364S

365S. Video Journalism. ALP, SS Theories and concepts of television broadcasting; writing and editing for electronic media; issues of production. Students will produce a Web portfolio. Approved as a practicum course for the Policy, Journalism and Media Studies certificate. Instructor: Owens. One course. C-L: Public Policy 365S, Visual and Media Studies 305S, Documentary Studies 367S, Information Science + Studies, Policy Journalism and Media Studies Core

366S. Magazine Journalism. SS, W Storytelling techniques of magazine journalism; reporting and writing strategies; historical and contemporary writing for magazines in print and digital formats. Students develop experience in different kinds of magazine writing. Approved as a practicum course required for the Policy, Journalism and Media Studies certificate. Instructor: Graham. One course. C-L: Public Policy 366S, 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. Students required to produce news stories 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. Instructor: Clabby, Rogerson, or Stencel. One course. C-L: Public Policy 367S, Policy Journalism and Media Studies Core

371. News as a Moral Battleground. EI, R, SS, W Ethical inquiry into journalism and its effect on public discourse. Issues include accuracy, transparency, conflicts of interest and fairness. Topics include coverage of national security, government secrecy, plagiarism/fabrication, and trade-offs of anonymous sourcing. Instructor: Adair. One course. C-L: Public Policy 371, Study of Ethics 259, Documentary Studies 371, Human Rights Program-Franklin Humanities Institute 371, Documentary Studies, Human Rights

372. Information, Technology, Ethics and Policy. EI, SS, STS The evolution of the Internet and other information technologies and the related policies and regulations that have emerged both internationally and nationally (in the United States). The tensions surrounding the access to information and the controversies about content, such as issues of free speech. Includes an Internet monitoring project designed to encourage in-depth analysis in order to place technology and technology policy in their historical evolution and context. Explores the contemporary political and social impacts of the Internet and other information technologies. Instructor: Rogerson. One course. C-L: Public Policy 372, Political Science 388, Ethics Elective, Information Science + Studies

374S. Watchdog Reporting in Politics. EI, W Focus on fundamental reporting and writing techniques to cover political news. Review and use public documents and data tools to scrutinize the records, veracity and finances of politicians and government officials. Discussions with guest speakers explore ethical issues, such as the boundaries of a public official's private conduct and how politicians and those who report about them misinterpret and misrepresent facts. Covers related editorial skills, including ways to set aside personal biases to cover political issues fairly. Skills developed, including the use of editorial style guidelines, have wide application in journalism and public policy communication. Instructor: Stencel. One course. C-L: Public Policy 357S, Political Science 374S, Study of Ethics 374S

375. Journalism in the Age of Data. SS, STS Teaches the tools and techniques used by investigative journalists to acquire and analyze data in order to discover story ideas and draw and evaluate conclusions about politicians, public policy, broader behavior of public institutions. Students should have basic familiarity with journalism concepts, but no specific technical or mathematical skills required. Instructor: Dukes, Bowers. One course. C-L: Public Policy 343

386S. The Intersection of Politics, Policy, and Media. SS An examination of decision-making at intersection of politics, public policy, and media. Draws on real-world and real-time examples and case studies, readings, and guest speakers. Issues include: role, power and practice of lobbying, rise of think tanks and interest groups as key players, theater of politics and policy, the many faces of media, scandal and commodification of outrage, crisis management and mismanagement. Instructor: Schoenfeld. One course. C-L: Public Policy 369S

390. Special Topics in Policy Journalism and Media Studies. Selected policy, journalism and media studies topics. Instructor: Staff. One course.

390A-01. Study Abroad/Away, Duke Program. Study abroad or study away, through a Duke-in-____ program, in which the area of study focuses on policy journalism or media studies. Instructor: Staff. One course.

390A-02. Study Abroad/Away, non-Duke Program. Study Abroad or Study Away, through a program that is not a Duke-in-____ program. The area of academic focus must relate to policy journalism or media studies. Instructor: Staff. One course.

390S. Special Topics in Policy Journalism and Media Studies. Selected policy, journalism and media studies topics. Topics vary by semester. Instructor: Staff. One course.

391. Independent Study. Independent project in an area of Policy Journalism and Media Studies (PJMS), under the supervision or sponsorship of a faculty member. Projects must be pre-approved by the supervising faculty member, and a PJMS co-chair. 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 project containing significant analysis and interpretation of a previously approved topic. Consent of instructor and chair of policy journalism & media studies certificate program required. Instructor: Staff. One course.

397S. Advanced Reporting. W Durham government and community reporting course for students with experience in journalism. Assignments will involve covering meetings of the Durham City Council and Board of Education and other Durham County boards and commissions, covering civil and criminal trials, and conducting interviews with government officials, people affected by government actions, and elected representatives. Resources are provided for students to travel throughout Durham County. Prerequisite: Policy, Journalism and Media Studies 364S and 367S. Students with journalism experience who do not meet these two prerequisites may contact the instructor for permission to enroll. Instructor: Adair. One course. C-L: Public Policy 397S

410. Policy Journalism and Media Studies Capstone Course. R, SS Capstone course for Policy Journalism and Media Studies certificate. Course taken after student completes media internship. Designed to integrate student's practical experience with conceptual and theoretical classroom work. Students meet in formal course setting to discuss what they have learned, present examples of the work they have accomplished, and discuss relevant research, culminating in a final project. Course requires a class presentation about the student's internship and a final project that integrates the internship experience with course content. Open to Policy Journalism and Media Studies certificate students only. Instructor consent required. Instructor: Staff. One course. C-L: Public Policy 410

490. Special Topics in Policy, Journalism, & Media Studies. Selected topics for courses offering capstone experiences or advanced research. Instructor consent required. Instructor: Staff. One course.

490S. Special Topics in Policy Journalism and Media Studies. Selected topics for courses offering advanced research opportunities. Instructor consent required. Instructor: Staff. One course.

510S. Science and the Media: Narrative Writing about Science, Health and Policy. STS, W One course. C-L: see Bioethics and Science Policy 510S; also C-L: Public Policy 510S, Documentary Studies

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: Staff. One course. C-L: Political Science 619, Public Policy 676, Russian 516

Journalism Practical Core Course Cluster

Documentary Studies

356S. Magazine Journalism

367S. Video Journalism

Policy Journalism & Media Studies

365S. Video Journalism

366S. Magazine Journalism

367S. News Writing and Reporting

Public Policy

365S. Video Journalism

366S. Magazine Journalism

367S. News Writing and Reporting

Visual and Media Studies

305S. Video Journalism

Elective Courses

Art History

537S. Computational Media, Arts & Cultures Proseminar

Asian & Middle Eastern Studies

435S. Chinese Media and Popular Culture: Politics, Ideology, and Social Change

535. Chinese Media and Pop Culture

Computational Media, Arts & Cultures

650S. Computational Media, Arts & Cultures Proseminar

Computer Science

92L. Technical and Social Analysis of Information and the Internet

Cultural Anthropology

106S. The Documentary Experience: A Video Approach

170. Advertising and Society: Global Perspective (DS4)

213. Cyborgs

Documentary Studies

105S. The Documentary Experience: A Video Approach

230S. Small Town USA: Local Collaborations

264. Introduction to Film Studies

310S. The Short Audio Documentary

English

181. Introduction to Film Studies

310A. The Business of Art and Media

391A. Duke in New York Arts and Media Independent Study

Gender, Sexuality, and Feminist Studies

215. Cyborgs

History

125S. The Documentary Experience: A Video Approach

Information Science + Studies

101L. Technical and Social Analysis of Information and the Internet

294L. Interactive Graphics: Critical Code

435S. Chinese Media and Popular Culture: Politics, Ideology, and Social Change

535. Chinese Media and Pop Culture

565S. New Media, Memory, and the Visual Archive

650S. Computational Media, Arts & Cultures Proseminar

Innovation and Entrepreneurship

373. Intellectual Property: Law, Policy, and Practice

Linguistics

170. Advertising and Society: Global Perspective (DS4)

Literature

110. Introduction to Film Studies

621S. Computational Media, Arts & Cultures Proseminar

Physical Education

212. Sports Media

Political Science

105S. The Documentary Experience: A Video Approach

201. Public Opinion

242D. Campaigns and Elections

388. Information, Technology, Ethics and Policy

435S. Chinese Media and Popular Culture: Politics, Ideology, and Social Change

501S. Politics and Media in the United States

619. Media and Social Change

Public Policy

170S. The Documentary Experience: A Video Approach

372. Information, Technology, Ethics and Policy

373. Intellectual Property: Law, Policy, and Practice

379S. The First Amendment in the Digital Age

389S. Small Town USA: Local Collaborations

415. Servant Leadership in a Democracy

674. Media and Democracy

676. Media and Social Change

Russian

350. Eastern Europe in Transition: Markets, Media, and the Mafia

516. Media and Social Change

Sociology

160. Advertising and Society: Global Perspective (DS4)

221. Eastern Europe in Transition: Markets, Media, and the Mafia

Theater Studies

278. Introduction to Film Studies

Visual Arts

232S. Small Town USA: Local Collaborations

- 242L. Interactive Graphics: Critical Code
Visual and Media Studies
 106S. The Documentary Experience: A Video Approach
 170. Advertising and Society: Global Perspective (DS4)
 224S. Small Town USA: Local Collaborations
 289. Introduction to Film Studies
 318. Eastern Europe in Transition: Markets, Media, and the Mafia
 397L. Interactive Graphics: Critical Code
 561S. Computational Media, Arts & Cultures Proseminar
 563. Media and Democracy
 565S. New Media, Memory, and the Visual Archive

Polish

For courses in Polish, see Slavic and Eurasian Studies on [page 756](#).

Political Science

Professor Vanberg, *Chair*; Professor Wibbels, *Associate Chair*; Professor Munger, *Director of Undergraduate Studies*; Professors Aldrich, Beardsley, Beramendi, deMarchi, Feaver, Gillespie, Grieco, Hillygus, Jentleson (public policy), Kelley (public policy), Kitschelt, Knight, Krishna (public policy), Kuran (economics), Liu (Asian & Middle Eastern Studies), Malesky, Manion, McClain, McCubbins, Munger, Niou, Price, Remmer, Rohde, Rosenberg (philosophy), Siegel (law), Vanberg, and Wibbels; Associate Professors Goss (public policy), Hacohen (history), Haynie, Johnston, Kirshner, Leventoglu, Mullin (environmental science), Siegel, and White; Assistant Professors Barnes (public policy), Bermeo (public policy), Carnes (public policy), Fresh, Johnson (public policy), Jardina, Rose (public policy), and Rousseliere; Professors Emeriti Fish, Grant, Holsti, Hough, Horowitz (law), Johns, Lange, McKean, Mickiewicz (public policy), Paletz, Spragens, and Ward; Research Professors Emeriti Brennan, Keech, and Soskice; Adjunct Professors Engstrom, MacKuen, and Stimson; Adjunct Associate Professor Kessler; Associate Professors of the Practice Charney (public policy) and Maghraoui

A major and a minor are 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 <https://polisci.duke.edu/undergraduate>. The Areas 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.

Courses in Political Science (POLSCI)

Introductory Courses

The following courses introduce the study of political science. Courses numbered 89S and 110 through 190 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.

20. American Government and Politics. Credit for Advanced Placement on the basis of the College Board examination in American government and politics. Does not satisfy course requirements of the political science major. One course.

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.

90S. Special Topics in Political Science. Topics vary each semester offered. Instructor: Staff. One course.

101. Introduction to Political Science. SS Political science seeks to describe and understand political phenomena, and to explore their ethical and normative dimensions. Course provides a broad introduction to the range of topics covered in political science, from authoritarian to democratic politics, from local governance to international relations, from formal rules and institutions to the psychology and behavior of individuals who participate in political processes. Instructor: Staff. One course.

102. The Science of Politics. SS Why and how is political science a science? This course introduces students to the scientific study of the political world. Students are introduced to a broad set of questions and topics that political scientists work on. Students will learn how political scientists build theories, generate hypotheses, and test hypotheses with quantitative and qualitative data. And students will have an opportunity to apply their knowledge as political scientists do—by critiquing scientific research; proposing and testing original hypotheses; and using theory and evidence from the class as a basis for making policy recommendations. Instructor: Aldrich, Fresh. One course.

105S. The Documentary Experience: A Video Approach. ALP, R, SS One course. C-L: see Documentary Studies 105S; also C-L: Cultural Anthropology 106S, History 125S, Public Policy 170S, Visual and Media Studies 106S, Policy Journalism and Media Studies

108. Introduction to African Studies (DS3 or DS4). ALP, CCI, CZ One course. C-L: see African & African American Studies 103; also C-L: Cultural Anthropology 105, History 129, International Comparative Studies 110

110. Comparative Approaches to Global Issues. CCI, CZ, SS, W One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, History 103, Sociology 195, Gender, Sexuality, and Feminist Studies 195, Marxism and Society

114. 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.

115. Rules of Power: How Institutions Shape What Politics Deliver. SS Formation of states out of tribal societies; predatory and self-limiting rules; rule of law; forms of non-democratic political organization: military, personal, single party rule; democracy and transitions to democracy; institutional components of democratic rule: presidential and parliamentary executives; legislatures and their task structures (debate, oversight, law preparation, budgeting); electoral laws and political parties; veto-institutions: judicial control, federal delegation of authority to political subsidiaries; consequences of institutional choice: economic performance, political regime support. Instructor: Staff. One course.

116D. The American Political System. SS Same as Political Science 116 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course.

120. The Challenges of Living an Ethical Life. CZ, EI One course. C-L: see Study of Ethics 101

120D. The Challenges of Living an Ethical Life. CZ, EI One course. C-L: see Study of Ethics 101D; also C-L: Philosophy 219D

125D. Introduction to Global Development: Politics, Policy and Practice. CCI, SS Introduces intellectual tools for understanding why development varies across the globe and practical tools for designing and evaluating foreign aid programs. Course focuses on foundations for sustained development, including geography, historical legacies, technological innovation and political institutions, and practical challenges associated with aid programming aimed at promoting development. Also explores how international donors work, what constitutes a good development program, and how to evaluate whether a development project “works.” Instructor: Wibbels. One course.

140S. Empires in Modern European History. CCI, CZ, SS One course. C-L: see History 140S; also C-L: Sociology 148S, Cultural Anthropology 140S

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, Markets and Management Studies, Energy and the Environment

146. Politics and Economics. SS Politics is about choices that affect the distribution of gains and losses, and about societal and political conflicts surrounding them. Course analyzes how political and economic forces

shape: (1) Historical origins, such as the industrial revolution, slavery, and the birth of the modern welfare state; (2) Macro-economic policies, such as the taxation of capital, public spending and debt; and (3) Redistributive policies, such as welfare programs, unemployment and health insurance, and the minimum wage. Instructor: Stegmueller. One course.

150FS. Citizenship, Patriotism, & Identity. CZ, EI, SS One course. C-L: see Study of Ethics 150FS; also C-L: Public Policy 167FS

159. Israel/Palestine: Comparative Perspectives. CCI, EI, SS One course. C-L: see Cultural Anthropology 148; also C-L: Asian & Middle Eastern Studies 244, Environment 147, Jewish Studies 148, Public Policy 178, Human Rights Program-Franklin Humanities Institute 148, Ethics Electives, Islamic Studies, Human Rights

160D. Introduction to Security, Peace and Conflict. CCI, SS Same as Political Science 160 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Staff. One course. C-L: Public Policy 166D

160S. Introduction to Security, Peace and Conflict. CCI, SS The theory and practice of international polities 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.

170FS. Liberty and Equality: Ancient and Modern Perspectives. CCI, CZ, EI, SS One course. C-L: see Classical Studies 170FS; also C-L: Study of Ethics 170FS

171FS. Political Polarization in the US: Causes and Consequences. SS Examines various measures of the degree of polarization in the public and in Congress, explores the causes of observed changes in polarization over time, and considers what consequences these changes have had for the practice of electoral politics and the conduct of government. Open only to students in the Focus Program. Instructor consent required. Instructor: Rohde. One course.

172FS. Racial Attitudes and Racial Politics in the United States. CCI, EI, SS Course considers the different conceptions and definitions of racial attitudes and racial prejudice in the United States. Compares across the disciplines of social psychology, sociology, and political science, acknowledging debates about both the sources and consequences of these attitudes. Focuses on how in the present day, different theories lead to different understanding of racial conflict and its political consequences. Discusses how racial attitudes, prejudice, and conflict may be mitigated in political world. Open only to students in the Focus Program. Department consent required. Instructor: Jardina. 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 Elective

175D. Introduction to Political Philosophy. EI, SS Same as Political Science 175 except instruction is provided in two lectures and one small discussion meeting each week. 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: Kirshner. One course. C-L: Ethics Elective

175FS. Freedom and Responsibility. EI, SS, W 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. Open only to students in the Focus Program. Department consent required. Instructor: Gillespie. One course. C-L: Philosophy 123FS, Ethics Elective

176FS. Human Rights and World Politics. EI, SS One course. C-L: see Study of Ethics 129FS; also C-L: International Comparative Studies 128FS, Public Policy 181FS, Human Rights

180FS. Hierarchy and Spontaneous Order: The Nature of Freedom in Political and Economic Organizations (C-N). EI, SS, W Course examines themes that emerge from the classics of political thought through contemporary work in the analytic social science tradition. Employs the tools of game theory to consider simple models of social and political interaction that shed light on the emergence of formal and informal institutions that govern individual behavior, and the role of these institutions in securing individual freedom. Reliance on analytic models is what differentiates this course from a historical or philosophical inquiry. Open only to students in the Focus Program. Department consent required. Instructor: Vanberg. One course.

185FS. The Politics of Language. SS One course. C-L: see Slavic and Eurasian Studies 215FS; also C-L: Linguistics 213FS, International Comparative Studies 228FS

187FS. American Democracy: Two Centuries of Creating Institutions to Achieve its Principles. CZ, SS Analysis of American democracy: rooted in stirring sentences ("all men are created equal."), yet knowingly designed imperfectly. How have American political institutions been created and recreated? Is "a more perfect union" possible or illusory? How can we reconcile politics that often expands political opportunities for citizens, yet leads politicians to a shutdown they claim they did not want? Open only to students in the Focus Program. Department consent required. Instructor: Aldrich. One course. C-L: Study of Ethics 187FS

188FS. American Perspectives on Citizenship. EI, SS An overview of American perspectives on citizenship. Explores ongoing controversies about the influence of liberalism and republicanism on American conceptions of citizenship, whether American individualism threatens civic duty, whether civil disobedience is justified, whether there are certain values and experiences that all American citizens should share, and whether national identities are relevant in an increasingly global world. Open only to students in the Focus Program. Department consent required. Instructor: Hanagan. One course. C-L: Study of Ethics 188FS

189FS. Introduction to Machine Learning and Legislative Behavior. R, SS Introduction to using machine learning techniques to model behavior in legislatures. Focus on two canonical activities in legislatures. Students will build predictive models of voting in the US Congress using text as data to connect the content of bills to votes and will look outside the United States and model bargaining and coalition formation in proportional representation systems. Open only to students in the Focus Program. Department consent required. Instructor: Demarchi. One course.

190. Special Topics in Political Science. Topics vary each semester offered. Instructor: Staff. One course.

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

190S. Special Topics in Political Science. Topics vary each semester offered. Instructor: Staff. One course.

190S-1. Special Topics in Political Science. Topics vary each semester offered. Instructor: Staff. Half course.

195FS. Freedom and Moral Obligation. CZ, EI, W One course. C-L: see Philosophy 124FS

Study Abroad Courses

190A. Duke-Administered Study Abroad: Special Topics in Political Science. Topics differ by section. Instructor: Staff. One course.

213SA. Women and Gender in the Middle East. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 303SA; also C-L: Cultural Anthropology 304SA

214SA. Media and Power in Washington. SS One course. C-L: see Public Policy 238SA

240SA. Theory and Practice: People, Places and Policy Cases. SS One course. C-L: see Public Policy 217SA

241SA. Whose Democracy? Participation and Public Policy in the United States. SS One course. C-L: see Public Policy 261SA

260A. Frontier City Berlin: Facing History's Great Challenges. CCI, CZ One course. C-L: see German 366A; also C-L: Public Policy 210A, History 334A

280A. Duke Summer Program: London. CCI, SS Media and Politics in Britain. Instructor: Staff. Two courses. C-L: International Comparative Studies

282A. Duke Summer Program: Oxford. CCI, SS Political System of Modern Britain. Open only to students in the Duke Summer Program: Oxford. Instructor: Staff. Two courses. C-L: History 399A, International Comparative Studies

283A. Duke Summer/Semester Program: Madrid. CCI, SS Instructor: Staff. One course.

284A. Duke Semester 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.

286A. Duke Summer/Semester Program: France. CCI, FL, SS 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. 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.

295A. Environmental Policy in Europe: Duke in Berlin. CCI, SS Economic concepts and environmental policies with their application to selected environmental issues in Western and Eastern Europe, transboundary pollution problems, and the role of the European Community. Taught by a leading German expert in the Duke-in-Berlin fall semester program. Instructor: Staff. One course. C-L: Public Policy 201A, German 320A, International Comparative Studies

296A. Germany Today: A European Superpower? Duke-in-Berlin. CCI, FL, SS One course. C-L: see German 359A; also C-L: History 266A, International Comparative Studies

297A. Political Philosophy of Globalization. CCI, CZ, EI, SS One course. C-L: see Philosophy 237A; also C-L: Public Policy 204A, Economics 303A

298A. Themes in Chinese Culture and History. CCI, CZ, SS One course. C-L: see Cultural Anthropology 343A; also C-L: History 224A, International Comparative Studies

320A. Globalization and Deglobalization. FL, SS One course. C-L: see French 350A; also C-L: Economics 320A, Public Policy 356A, International Comparative Studies 363A

325A. The Economic and Political History of the European Union. CCI, CZ, FL, SS One course. C-L: see French 351A; also C-L: Public Policy 351A, History 331A, Economics 330A

395A. Religion, Security and Global Citizenship in the Arab World. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 326A; also C-L: Religion 371A, International Comparative Studies 362A, Public Policy 339A

Other Undergraduate Courses

201. Public Opinion. EI, SS Examines nature and role of public opinion in American democracy, providing broad-based introduction to dynamics of citizens' social and political attitudes in contemporary United States. Goal of course is to help students arrive at a more comprehensive understanding of forces that shape beliefs, attitudes, and opinions of American public, the means by which those views are publicly expressed, and the influence of those opinions on policy outcomes. Instructor: Hillygus. One course. C-L: Policy Journalism and Media

203. Women and the Political Process. R, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 225

205. 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. Instructor: McClain. One course. C-L: African & African American Studies 257, Human Rights Program-Franklin Humanities Institute 205, Human Rights

206. American Values, Institutions, and Culture. CCI, SS Introduction to American political theory and institutional development from European settlement to Progressive Era; origins and evolution of key political institutions, including congress, federalism, the presidency, the party system, and Supreme Court; ways in which these institutions resolve collective action problems; influence of competing political ideologies—especially, liberalism, puritanism, republicanism—on American political development; role of political ideologies and institutions in re-enforcing and resisting slavery, as well as racial and gender inequality. Instructor: Staff. One course.

211. Democracy: Ancient and Modern. CCI, CZ, EI, SS One course. C-L: see Classical Studies 275; also C-L: History 234, Study of Ethics 275

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: Staff. One course.

213. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS One course. C-L: see Education 201; also C-L: Public Policy 203, Human Rights Program-Franklin Humanities Institute 201

213S. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS One course. C-L: see Education 201S; also C-L: Public Policy 206S, Human Rights Program-Franklin Humanities Institute 201S, Human Rights

217. Discovering Game Theory: Social Complexity and Strategic Interdependence. QS, SS Strategy is all around you: In sports, the economy, law, politics, and your own social interactions. In this course, you will explore one of the foundational tools that social scientists use to analyze the complexity of strategic interactions: Game Theory. To do so, the course employs a highly interactive learning environment, in which you and your peers engage in strategic interactions that illustrate fundamental social dilemmas. In taking this course, you will gain a new analytical perspective into the complexity of social phenomena, and develop a solid foundation for additional course work in social science. Instructor: Abdulkadiroglu, Vanberg. One course. C-L: Economics 362, Duke Center for Interdisciplinary Decision Sciences 201

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.

221. South Africa: Past and Present. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 214; also C-L: History 208, Public Policy 214, International Comparative Studies, Human Rights

222. The Arab Youths Revolution. CCI, EI, SS Examines mass protest movements that topple autocratic leaders in the Arab World. Studies causes, dynamics, and pattern of authoritarian breakdown and transition in Tunisia, Egypt, Libya, Yemen and Syria. Questions include: What is driving sudden protest movements? Why now? How important is role of youths and new technologies of communication? What does religion have to do with these movements? Why have Arab republics been more vulnerable? Are Arab monarchies (Jordan, Morocco, and Saudi Arabia) really immune? Instructor: Maghraoui. One course.

224. Inequality and Politics. SS Inequality, understood as the ultimate allocation of scarce resources in society, plays an important role in how democratic societies work. Course will review the fundamental political theory debates about the relationship between inequality and politics; understanding of how politics shapes the distributions of income and wealth in contemporary democracies; and functioning of democratic polities at different levels of development. Examines its influence on citizens' political engagement, the extent to which political participation works, and various forms of conflict and political (dis)integration. Instructor: Beramendi. One course.

225S. Research in International Policy Issues. CCI, R, SS One course. C-L: see Public Policy 237S

227. 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, Public Policy 239

228. Politics of Authoritarian Regimes. CCI, R, SS Examine the variety of ways in which authoritarian regimes operate. Study the emergence and persistence of authoritarian regimes, the institutions they adopt, leadership change, government/opposition relations, their potential for democratic transition as well as the theories that explain these outcomes. Instructor: Leventoglu. One course. C-L: Public Policy 228, International Comparative Studies

229. Institutions and Self Governance. CCI, CZ, SS Study the history and development of institutions in self-governing communities and societies to gain a deeper understanding of the need for creating and maintaining institutions to resolve specific collection action problems and to achieve social security, political stability and economic prosperity in general for a community. Types of institutions include: mutual-aid associations such as friendly societies in the West and community compacts in the East, Western credit union system and Chinese granary systems, credit and money raising schemes, public security and social control measures, conflict resolution and dispute settlement methods, and collective decision making methods. Instructor: Niou. One course.

230. Networks in a Globalizing World. R, SS Network perspective on understanding politics; focus on aspects of security, peace, and conflict as seen from a global network perspective; focus on major concepts of network analysis: nodes, links, cliques, centrality, as well as the dynamics of the spread of political phenomena through networks. Students will learn to conduct studies of politics that use network concepts and data. Instructor: Staff. One course.

231D. Introduction to Tools of Political Risk Analysis. SS This course explores the impact of national and subnational government institutions on international business strategy. The course is designed around the theme of political risk analysis, approaching the topic from two perspectives: country and individual firm. Political risk is a type of risk faced by investors, that political decisions, events, or conditions will significantly affect the profitability of a business actor or the expected value of a given economic action. In this course, students will learn tools for measuring and assessing political risk, as well as how smart leaders can make intelligent business strategy decisions in these environments. Instructor: Malesky. One course.

232. Introduction to Terrorism. CCI, SS Nature of terrorist organizations and government responses to them. Includes analysis of different aspects of terrorism: historical, social, cultural, economic, political, religious context; determinants of terrorism at state and individual level; organizational structure of terrorist groups' weapons and tactics; mobilization and recruitment within terror networks; terrorist finance; methods of counterterrorism. Details different methods of study of terrorism. Instructor: Siegel. One course.

233. Nuclear Weapons: US Foreign Policy and the Challenges of Global Proliferation. SS, STS Implication of nuclear weapons to U.S. foreign policy and international politics. Topics include basic science of nuclear fission and fusion, history of nuclear proliferation, theory of nuclear deterrence, evolution of U.S. nuclear posture during and after Cold War, and case studies of other nuclear proliferation with detailed coverage of North Korea and Iran. Emphasis in readings and assignments will be placed on being able to understand how these weapons apply to theories of international relations and foreign policy and on being able to make causal inferences regarding their importance. Instructor: Beardsley. One course.

234D. Are Things Getting Better? The Question of Progress in World Affairs. R, SS, W Course explores a fundamental question for students of world affairs across several disciplines: are governments and their respective societies making progress in building a more peaceful, democratic, and prosperous global order? Objectives: students will learn how debate among scholars on a fundamental question contributes to the constitution and development of several disciplines; how scholars undertake debates and thus be better prepared to assess and contribute to them; and how to frame research questions and to write a research paper that ties into and contributes to a larger inter-disciplinary dialogue. Instructor: Grieco. One course. C-L: Public Policy 233D, International Comparative Studies 252D

235S. Comparative Urban Politics and Policymaking. CCI, EI, SS DukeImmerse Seminar. A comparative examination and analysis of urban governance in South Africa and the United States. Examines potential consequences of persistent racial and class disparities for housing and neighborhoods, public health, education, community infrastructure, and general economic and social development. Specific attention to how the physical layout, government structures, politics, culture, and the civil society of cities and urban areas may both promote and hinder human development and social justice. Instructor consent required. Instructor: Haynie and Lawrence. One course. C-L: Public Policy 285S, International Comparative Studies 213S, Human Rights Program-Franklin Humanities Institute 235S, African & African American Studies 234S

236S. Advanced Research Seminar in Urban Politics and Policymaking. CCI, R, SS,

W DukeImmerse Seminar. Advanced research and writing seminar. Participants produce a 30-40 page research paper based on field work and archival research experiences in Durham and an approved South African city. Includes tutorials in research design and comparative research methods. There is a required field work component of the course which entails a two-week trip to South Africa. Students will collect data, do interviews, visit municipals offices, and or spend time at NGOs in Pietermaritzburg. Instructor consent required. Instructor: Haynie and Lawrence. One course. C-L: Human Rights Program-Franklin Humanities Institute 236S, African & African American Studies 237S, Human Rights

237. Religion and Foreign Policy. CCI, CZ, EI, SS Examines ways in which religious ideas, identities, and actors impact the foreign policy actions of states. Topics include just war theory, religious nationalism, public opinion, elites, and faith-based approaches to peacebuilding. Focus on theory as well as comparisons of contemporary case studies. Cases include United States, Turkey, India, Israel, Iran, and Russia and explore various elements of the five major world religions. Major assignments: ongoing blog, policy brief, and final group video project. Instructor: Alexander. One course.

238. Racial Attitudes, Racial Prejudice, and Racial Politics. CCI, EI, SS Course delves into work from sociology, social psychology, and political science to explore the development of racial attitudes, stereotypes, and prejudice. Consideration of the way race matters for attitudes and behavior among all racial and ethnic group members and how racial attitudes have changed over time, corresponding to massive social, legal, and political changes in the United States. Examines how individual racial attitudes affect political outcomes, how they relate to individual political preferences, and how they have influenced voting behavior historically and in the present day. Not open to students who have taken Political Science 172FS. Instructor: Jardina. One course. C-L: African & African American Studies 239

239S. Political Communication in a Changing Media Environment. R, SS Examination of interaction between citizens, media and political actors in today's fragmented information environment. Topics include evolution of political communication and media, emergence of new communication technologies, changes in campaign communication strategy, nature of news, theories of attitude formation and change, and role of political communications in campaigns and elections. Focus on implications of changing information environment for political communication strategies and for citizen knowledge and engagement in democratic process. Instructor: Hillygus. One course.

240. 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

242D. 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: Staff. One course. C-L: Policy Journalism and Media

244S. Activism & Christianity in Modern America. CCI, CZ, EI, W One course. C-L: see Religion 238S; also C-L: Study of Ethics 238S, African & African American Studies 238S

245. American Constitutional Development and Interpretation I: The Constitutional Structure. EI, SS Introduction to primary themes of American constitutional structure (judicial review, democracy,

federalism, and separation of powers), their shaping and reshaping through cultural conflict over course of American history, and basic methods of constitutional interpretation (text, structure, history, precedent, consequences, identity, and aspirationalism). Special focus on relationships among constitutional text, judicial doctrine, and constitutional interpretation outside the courts. Instructor: Siegel. One course. C-L: Public Policy 251

246. American Constitutional Development and Interpretation II: Individual Rights. EI, SS Historical, political, and doctrinal introduction to the primary themes of constitutional protection of individual rights in the United States: judicial review, state action, incorporation, fundamental rights (e.g., marriage, contraception, abortion, and speech), and equal citizenship (i.e., discrimination on the basis of race, sex, and sexual orientation). Special emphasis on: (1) the shaping and reshaping of constitutional rights through cultural and political conflict; (2) basic methods of constitutional interpretation and (3) relationships among constitutional text, judicial doctrine, and robust practices of constitutional interpretation outside the courts. Instructor: Staff. One course. C-L: Public Policy 247

248. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240; also C-L: Information Science + Studies 242, Literature 249, Visual and Media Studies 214, International Comparative Studies 265

248S. Games and Culture: Gateway to the Study of Games. CCI, SS One course. C-L: see Asian & Middle Eastern Studies 240S; also C-L: Literature 249S, International Comparative Studies 265S, Cultural Anthropology 440S, Visual and Media Studies 214S, Information Science + Studies 242S, Information Science + Studies

250. The Politics of International Economic Relations: America in the World Economy. CCI, SS Introduction to politics of international economic relations through an examination of persistent major debates and current events in world politics and global economy. Topics include politics of trade; politics of money and finance; foreign direct investment, multinational corporations, and global value chains; politics of foreign aid and economic development; and corporate social responsibility in a global economy. Examines how material interests, historical and socio-political context, and institutions at domestic and international level shape a country's foreign economic policies. Special focus on U.S. foreign economic policy in comparative perspective. Instructor: Staff. One course. C-L: Public Policy 240, Markets and Management Studies

251S. Relations between Industrialized and Developing Countries. SS One course. C-L: see Public Policy 295S

252. Life Within Capitalism: A History of its Values, Measures and Struggles. CZ, EI One course. C-L: see Public Policy 249; also C-L: Study of Ethics 271, Economics 270, History 284

253. Christian Ethics and Modern Society. CZ, EI, W One course. C-L: see Study of Ethics 220; also C-L: Religion 254

253S. Christian Ethics and Modern Society. CZ, EI, W One course. C-L: see Study of Ethics 220S; also C-L: Religion 354S

255. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015. R, SS Introduction to the history and key issues in U.S. antitrust from the beginning of federal antitrust legislation in 1890 through today, with special emphasis on how politics and economics of antitrust have been intertwined with the position of the United States in the world economy. Focuses on antitrust law—which authorizes interventions against cartels, monopolies, and anti-competitive conduct, with the goal of constraining the accumulation and abuse of economic power—as one of the key instruments governments have to shape the structure and distribution of benefits of a market economy. Field trip to Washington, DC to meet with U.S. antitrust enforcement agencies. Instructor: Staff. One course. C-L: History 252, Public Policy 254, Study of Ethics 255, Markets and Management Studies, Ethics Elective

257. Latin American Wars of Independence. CCI, CZ, SS One course. C-L: see History 264; also C-L: African & African American Studies 264, International Comparative Studies 232, Latin American Studies

258D. From Machine Learning to Ethnography: Puzzles and Approaches to International Development. CCI, SS This is an introductory course in applied social science that examines policy issues in developing countries, with a focus on applied research and statistical methods. The objectives of the course are threefold: 1) to introduce students to a range of topics and puzzles in international development; 2) to introduce

the broad range of research methods that social scientists use to rigorously study development; and 3) to apply those tools to topics and data that you care about. Instructor: Staff. One course. C-L: Economics 241D

262. The Holocaust. CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Jewish Studies 342, Religion 342, Human Rights Program-Franklin Humanities Institute 297, Human Rights

263. The Political History of Modern Architecture: From Revolution through Neoliberalism. ALP, CCI, CZ One course. C-L: see Art History 284; also C-L: History 263, Public Policy 287

264S. Democratic Erosion. SS The course is divided into two broad modules. The first module begins by defining democracy and democratic erosion, and then surveys six substantive themes. Each of the first five substantive themes addresses one of the causes, symptoms, and/or consequences of democratic erosion; the sixth—resistance—explores mechanisms for defending democracy from the threat of erosion. In the second module, regional or country case studies are discussed in greater depth. We conclude by returning to the case of the US and our own unique political moment. Instructor: Staff. One course.

265S. 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: Staff. One course. C-L: Ethics Elective

268. 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 Elective

270. Ambition and Politics. CCI, CZ, 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.

272. 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 231, Philosophy 262, International Comparative Studies 272, Human Rights Program-Franklin Humanities Institute 262, Human Rights, Documentary Studies, Ethics Elective, Global Health

273. The Middle East Through Film. ALP, CCI, CZ, EI One course. C-L: see Visual and Media Studies 273; also C-L: Asian & Middle Eastern Studies 218, Documentary Studies 274

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: International Comparative Studies 275, Ethics Elective

275S. 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: International Comparative Studies 275S, Ethics Elective

276. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS One course. C-L: see Visual and Media Studies 264; also C-L: Documentary Studies 270, Public Policy 374, Arts & Sciences IDEAS themes and University Course 206

277D. The Ethics of War: Self-Defense, Humanitarian Intervention, Terrorism and Law. EI, SS Examines ethical questions of war: 1) when are you justified in taking up arms and killing others?; 2) what limits, if any, does morality place on how wars can be prosecuted?; 3) what is required of combatants in the aftermath of conflict?; 4) how do the existence of international laws and institutions affect our answers to these questions? Will also consider the ethical dilemmas raised by the following issues: preemptive invasions, terrorism, cyber and nuclear weapons, and unmanned drones. Readings include classic and modern works of

just war theory. Instructor: Kirshner. One course.

278. Roman Political Thought and Its Modern Legacy. CCI, CZ, EI One course. C-L: see Classical Studies 278; also C-L: History 262, Study of Ethics 276

279. Professionalization and the Job Search. What will you do with your Duke political science degree? This course will prepare you for your (professional) life after leaving Duke, equipping you with the knowledge, tools, and confidence to thrive in your post-Duke career. The class is tailored for those interested in pursuing internships offered in the following summer. Instructor: Staff. Half course.

290D. Special Topics in Political Science. Special topics in political science with discussion. Instructor: Munger. One course.

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.

291-3. Sophomore/Junior Independent Study Security Peace and Conflict. Same as Political Science 291-1 except fulfills a security, peace and conflict 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.

292-2. Internship. See Political Science 292-1. Consent of director of undergraduate studies required. Instructor: Staff. One course.

294A. Political Economy of Immigration. CCI, SS The regulation of labour immigration is among the most important and controversial public policy issues in high-income countries. Many countries in Europe and North America, including the UK and the US, have experienced very rapid increases in labour immigration over the past 20 years. Instructor consent is required. Instructor: Staff. Two courses. C-L: Economics 434A, Public Policy 355A, Sociology 294A

301S. Illiberal Nondemocracies: Focus on Eastern Europe and Asia. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 388S; also C-L: History 331S, International Comparative Studies 346S, Public Policy 317S

303D. Religion, Restrictions, and Violence. CCI, CZ, EI One course. C-L: see Religion 301D; also C-L: Jewish Studies 301D, Public Policy 313D, Study of Ethics 303D, Asian & Middle Eastern Studies 301D

305S. Black Politics. SS Course focuses on the evolution, nature, and role of African-Americans within the American political system. The concern is with African Americans as actors, creators and initiators in the political process. Beginning with an exploration of the historical antecedents of blackness in America, we will explore how the black experience in America has shaped the American political system (specifically public opinion, political institutions, political behavior, and salient public policy debates) and how black Americans have come to understand their position within the American political system. Instructor: White. One course. C-L: African & African American Studies 304S

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

310. Political Analysis for Public Policy-Making. SS, W One course. C-L: see Public Policy 301

311. Political Polarization in America: Causes and Consequences. SS Examines various conceptions of polarization; forces that led to recent apparent rise in polarization; the consequences of polarization for governance, civil discourse, political conflict. Instructor: Rohde. One course.

313S. Social Movements in Age of Globalization. CCI, CZ, EI, R, SS One course. C-L: see Literature 332S; also C-L: Sociology 323S, Human Rights Program-Franklin Humanities Institute 313S, Human Rights

315S. Political Economy of Financial Crises. SS Exploration of the political economy of financial crises with central theoretical emphasis on the role of ideas, institutions, and interests. Addresses causes of banking, currency and debt crises as well as their political consequences--both national and international. Geographical and historical coverage will be relatively broad, spanning historical cycles of financial crisis as well as specific boom and bust episodes involving Latin America, Asia, the United States, and countries of the Eurozone. No prerequisites. Instructor: Remmer. One course. C-L: International Comparative Studies 307S, Markets and Management Studies

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.

317. Global Corruption. CCI, SS Inquiry into causes and political, social, and economic effects of corruption worldwide, with focus on developing countries. Analysis of prospects of success in anticorruption reform and prescriptions for hurrying it along. Examination of role of political institutions, social norms, multinational firms, international organizations, grassroots activists. Readings include legal research, case studies, statistical analyses, policy reports. Prior coursework in political science a prerequisite, basic understanding of multivariate statistics helpful but not required. Instructor: Manion. 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: Staff. One course.

319S. 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. DukeImmerse students only. Instructor consent required. Instructor: Haynie. One course. C-L: Human Rights Program-Franklin Humanities Institute 319S, Human Rights

321. International Law and International Institutions. CCI, R, SS, W 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: International Comparative Studies 324, 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

324S. Chinese Politics. CCI, SS Inquiry into politics and policy in contemporary China. Equal focus on

political fundamentals and major new policy challenges. Political fundamentals include communist party, elite politics, policy process, political culture, legal reform, representation, interest groups, protests, political dissidence. Policy challenges include economic growth, socioeconomic inequality, political corruption, social media, human rights, population planning, environmental degradation, minority nationalities, China as global player. Course does not assume prior knowledge about China. Prior coursework in political science or policy helpful but not required. Instructor: Manion. One course. C-L: International Comparative Studies

326S. Reason and Passion in Politics. SS Explores the nature of mass politics in democracies through the distinction between reason and passion and the idea that a well-functioning democracy requires the triumph of cold deliberation over emotion and intuition. Discussion of classic texts on reason and passion from philosophy, politics, and psychology; dual-process models of political judgment and decision making; political belief updating and persistent disagreement over facts; moral psychology and political ideology; emotions and collective action. Instructor: Johnston. One course. C-L: Psychology 326S

327S. The Economic and Political Performance of Civilizations. CCI, CZ, R, SS One course. C-L: see Economics 351S

329S. Politics in Violence. R, SS, W Exploration of the role of violence in politics. What is the role of violence in the formation and consolidation of states? What is the relationship between violence and political regimes? In-depth analysis of the varieties of political violence in contemporary world: terrorism, coups, riots, wars, protest violence, revolutions. Combination of theoretical analysis and empirical exploration of cases. Exploration of non-violent forms of resistance and protest. Reading responses and final research paper required. Instructor: Staff. One course. C-L: International Comparative Studies 329S, Human Rights Program-Franklin Humanities Institute 329S, Human Rights

330. Quantitative Political Inquiry and Evaluation. QS, SS Theory and practice of causal inference in political science research and policy impact evaluation. Students master how to test hypotheses and evaluate the substantive impacts of policy treatments using regression, experimental and survey techniques. Also develop skills in software applications such as Stata and R. Assigned texts assist learning of both the quantitative methods and how they are applied in practice and assignments emphasize practical applications. Prerequisites: Statistics 101 or higher; first semester of calculus (Mathematics 21, 111L or 121). Not available if received credit for Political Science 130D in Spring 2013 (Malesky) or Fall 2013 (Beardsley). Instructor: Staff. One course.

331. Prisoner's Dilemma and Distributive Justice. EI, SS Economic, political, and philosophical perspectives on distribution justice and the problems in each discipline raised by variations on the prisoner's dilemma. Classic texts include Hobbes and Hume, Smith and Mill, Rawls and Nozick. Gateway course to the Politics, Philosophy, and Economics certificate program. Recommended prerequisite: Economics 101 and a course in ethics or political philosophy. Open only to first-year and sophomore students. Instructor: Staff. One course. C-L: Economics 361, Philosophy 246, Human Rights Program-Franklin Humanities Institute 331, Information Science + Studies, Human Rights, Ethics Elective

331D. Prisoner's Dilemma and Distributive Justice. EI, SS Same as Political Science 331 except instruction is provided in two lectures and one small discussion meeting each week. Instructor: Munger and Rosenberg. One course. C-L: Economics 361D, Philosophy 246D, Information Science + Studies, Ethics Elective

332. Games and Politics. 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.

333S. Democracy and Social Choice. CCI, QS, SS Course introduces students to the study of social choice and democratic theory. Social choice theory studies the properties of political institutions by which individual preferences are aggregated into collective choices. It provides a useful and powerful analytical framework to understand the choice and consequence of political institutions in democratic political systems. Topics include voting methods and theories, electoral systems, theoretical properties of social choice functions, strategic voting, voter qualifications, politics of suffrage, secret vs. open ballot, voting restrictions, representative districting, voting fraud, voting technology, etc. Instructor: Niou. One course.

335S. Economic, Political, and Social Institutions. CCI, SS Surveys theories of institutions based on economic, political and social perspectives with three parts: (1) an examination of what institutions are, how they originate, how they change, and why they often don't change; (2) consideration of the effects of different institutional arrangements on development, growth, and stability in nations; (3) normative theories of evaluation and comparison—are some institutions better than others, and how could we tell? Covers selections from Aristotle, Buchanan, Dewey, Durkheim, Marx, North, Ostrom, Weber, as well as other thinkers. Prerequisite: introductory course in political philosophy. Instructor: Munger. One course. C-L: Philosophy, Politics, and Economics

336S. Racial Justice in the 20th Century US and South Africa. CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 346S; also C-L: International Comparative Studies 351S, History 396S, Public Policy 326S, Human Rights Program-Franklin Humanities Institute 349S, Human Rights

337S. Apartheid South Africa and the Struggles for Democracy. CCI, CZ, EI, R, SS One course. C-L: see African & African American Studies 316S; also C-L: History 386S, Public Policy 327S, Human Rights Program-Franklin Humanities Institute 316S, Human Rights

338. Political Economy of South East Asia. CCI, EI, SS Course studies the history, political institutions, and economic development of South East Asia. Topics include the history of the region including the pre-colonial period, forms of colonialism, the impact of World War II, the struggles for independence, nationalism, and communism, and the impact of the Asian Financial Crisis; tools of political economy to place the countries in a broader comparative perspective; and issues of great powers in South East Asia and the growing influence of political Islam in the region. Instructor: Malesky. One course.

340D. The Modern Regulatory State. CZ, EI, R, SS One course. C-L: see History 365D; also C-L: Public Policy 219D, Environment 365D

341S. Business and Human Rights Advocacy Lab. EI, R, W One course. C-L: see Study of Ethics 301S; also C-L: International Comparative Studies 317S, Public Policy 311S, Human Rights Program-Franklin Humanities Institute 301S, Markets and Management Studies, Human Rights

342. Strategy and Politics. QS, SS Introduction to the application of rational choice analysis (or economic models) to the study of political phenomena. Topics include social choice theory, legislative voting, problems of cooperation and collective action, and public choice theory. Familiarity with algebra and geometric reasoning required. Instructor: Niou or Vanberg. One course.

343S. The US Border and its Borderlands. CCI, CZ, EI, SS, W One course. C-L: see Public Policy 216S; also C-L: International Comparative Studies 359S, International Comparative Studies, Latin American Studies

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: Markets and Management 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 intra-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. C-L: Markets and Management Studies

348. Global Environmental Politics. SS One course. C-L: see Environment 348; also C-L: Public Policy 349

349. Political Economy of Latin America. CCI, SS Study of interaction between politics and economies in Latin America with central emphasis on political correlates of alternative strategies of economic development, the impact of global economic forces on domestic policy choice, and interrelationships among political institutions, electoral choice, public policy, and economic performance. Topics include financial meltdowns, market-oriented reform, democratic transitions, ethnic mobilization, and rise of leftist-populism in the region. Readings will combine discussion of specific countries with broader theoretical literature addressing

major debates in study of political economy of development. Instructor: Staff. One course. C-L: International Comparative Studies 354, Latin American Studies 349

350. International Political Economy. CCI, R, SS One course. C-L: see Public Policy 222; also C-L: International Comparative Studies 350, 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

352S. U.S. Policy in the Middle East. CCI, EI, SS U.S. foreign policy: Middle East; Arab-Israeli-Palestinian conflict; oil and security; cold war; military cooperation and intervention; aid and democracy promotion; Iran, the Arab Spring; realism vs. liberalism in US foreign policy. Instructor: Maghraoui. One course. C-L: Public Policy 353S

353. Globalization of Democracy. CCI, SS The past three decades have witnessed an unprecedented upsurge in democratic forms of rule in Asia, Africa, Eastern Europe, Latin America, and Middle East. Course explores reasons for this global pattern of political change, analyzes the process of political transition in a variety of empirical settings, and provides comparative perspective on challenges facing political leaders in new democracies. Instructor: Staff. One course. C-L: International Comparative Studies 334

354. Politics in the Developing World. CCI, R, SS This course addresses the challenges developing countries typically face. What is developing world? What is development? What is democracy? How do democratic regimes emerge and endure and sometimes die? What about the relationship between development and democracy? What factors hinder or facilitate the democratization process? Areas of study include Mexico, Chile, Turkey, Iran, South Africa and Nigeria. Case studies help enormously to illustrate and understand the broader theoretical issues studied early in the semester. Instructor: Leventoglu. One course. C-L: Public Policy 354, Islamic Studies, International Comparative Studies

355. Comparative Health Care Systems. CCI, EI, SS One course. C-L: see Public Policy 335; also C-L: Sociology 271

357S. Refugee Policy and Practice (DukeImmerse). CCI, EI, QS, SS One course. C-L: see Study of Ethics 388S; also C-L: International Comparative Studies 355S, Public Policy 382S

358. Globalization and Public Policy. R, SS One course. C-L: see Public Policy 212; also C-L: International Comparative Studies, Islamic Studies

359S. Social Engineering and Social Movements in Eastern Europe and Asia. CCI, CZ, EI, SS One course. C-L: see Slavic and Eurasian Studies 375S; also C-L: History 333S, Public Policy 282S

361. Political and Criminal Armed Groups. CCI, SS Course introduces students to a research agenda on armed groups that operate in the context of intra-state armed conflict or organized crime. Primary focus lies on how political and criminal armed groups interact with state agents and with civilian populations; how they recruit and maintain control over their members; how and why their internal institutions and their strategies of violence vary; and what the consequences of these patterns are. Also explore the role of the state, particularly when it comes to the effects of wartime repression, mass incarceration, and the war on drugs. Instructor: Schubiger. One course.

362. International Security. EI, SS, STS The various causes, processes and impacts of international conflict in contemporary international affairs. Factors that contribute to conflict, including the impact of scientific and technological developments on war and the ethical arguments and beliefs associated with war making. Contemporary and future threats to international security. Instructor: Staff. One course.

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. C-L: Human Rights Program-Franklin Humanities Institute 363, Human Rights

364. Political Violence, Repression, and Organized Crime. CCI, SS This course introduces students

to a research agenda on intra-state armed conflict, repression, and organized crime. The primary focus lies on how political and criminal armed groups interact with state agents and with civilian populations; how they recruit and maintain control over their members; how and why their internal institutions and their strategies of violence vary; and what the consequences of these patterns are. The course also explores the role of the state, particularly when it comes to the effects of wartime repression, mass incarceration, and the war on drugs. Not open to students who have taken Political Science 361. Instructor: Schubiger. One course.

365D. 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. Instruction is provided in two lectures and one small discussion meeting each week. Instructor: Feaver. One course. C-L: Public Policy 376D

366. International Politics of East Asia. CCI, SS Course explores the economic, political, and security issues in East Asia. Examines respective theoretical and historical backgrounds of the countries in the region (Japan, North and South Koreas, Taiwan, China, Southeast Asia). Focuses on issues surrounding the region, including globalization, economic interdependence, nuclear proliferation, territorial disputes, and terrorism. Utilization of some international relation theory and methodological tools for more systematic analysis of these issues. Readings will be drawn from international relations theory, political science and history. Instructor: Niou. One course.

367S. 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: Public Policy 279S, International Comparative Studies 229S, Human Rights Program-Franklin Humanities Institute 229S, Islamic Studies, Marine Science and Conservation, Human Rights

371. Marxism and Society. CZ, EI, SS One course. C-L: see Literature 380; also C-L: Cultural Anthropology 203, Education 239, Sociology 339, International Comparative Studies, Marxism and Society

372S. Sex, Politics and Feminist Philosophy. CZ, EI Provides a philosophical framework to think about issues of sex, gender and their political implications. Comparison between different historical traditions and methods. Study of a variety of feminist approaches and their critiques. Study of related questions, such as pornography, prostitution and multiculturalism. Readings include Mill, Beauvoir, Butler, Foucault and contemporary analytical philosophy. Instructor: Rousseliere. One course. C-L: Gender, Sexuality, and Feminist Studies 322S

373. 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.

374S. Watchdog Reporting in Politics. EI, W One course. C-L: see Policy Journalism and Media Studies 374S; also C-L: Public Policy 357S, Study of Ethics 374S

377AS. 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 in Post-Revolutionary Iran. CCI, CZ, EI One course. C-L: see Religion 377S; also C-L: Asian & Middle Eastern Studies 288S, History 265S

381. Greek and Roman Law. CCI, CZ One course. C-L: see Classical Studies 308; also C-L: History 240

382. Violent Jihad in the Twentieth Century - A Global History. CCI, CZ One course. C-L: see History 359; also C-L: Asian & Middle Eastern Studies 359, Public Policy 359, International Comparative Studies 361

383. Gender and Political Theory. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 365; also C-L: International Comparative Studies 367

384. Inequality in Western Political Thought. CCI, CZ, EI, SS Study of egalitarian and inequalitarian theories in the history of Western Political Thought. Distinction between forms of inequality (political, economic, social, racial, gender, etc.). Analysis of what kind of equality should be achieved (resources, opportunities, rights, respect, etc.). Connection of equality with other political and moral issues (freedom, responsibility, class conflict, well-being, poverty, exclusion, solidarity, difference, etc.) Readings include Aristotle, Machiavelli, Locke, Rousseau, Smith, Wollstonecraft, Tocqueville, Marx, Veblen, Du Bois, Friedman, Rawls, and Piketty. Instructor: Rousseliere. One course. C-L: Human Rights Program-Franklin Humanities Institute 384

388. Information, Technology, Ethics and Policy. EI, SS, STS One course. C-L: see Policy Journalism and Media Studies 372; also C-L: Public Policy 372, Ethics Elective, Information Science + Studies, Policy Journalism and Media Studies

390-1. Special Topics in Political Theory. Topics in Political Theory. Topics vary from semester to semester. Instructor: Staff. One course.

390-2. Special Topics in Political Institutions. Special topics in political institutions. Topics vary semester by semester. Instructor: Staff. One course.

390-3. Special Topics in Security, Peace and Conflict. Special Topics in Security, Peace and Conflict. Topics vary from semester to semester. Instructor: Staff. One course.

390-4. Special Topics in Political Behavior and Identities. Special topics in political behavior and identities. Topics vary from semester to semester. Instructor: Staff. One course.

390-5. Special Topics in Political Methodology. Special topics in political methodology. Topics vary from semester to semester. Instructor: Staff. One course.

390-6. Special Topics in Political Economy. Special topics in political economy. Topics vary from semester to semester. Instructor: Staff. One course.

390S-1. Special Topics in Political Theory. Special Topics in Political Theory. Same as Political Science 390-1 except in seminar format. Instructor: Staff. One course.

390S-2. Special Topics in Political Institutions. Special Topics in Political Institutions. Same as Political Science 390-2 except in seminar format. Instructor: Staff. One course.

390S-3. Special Topics in Security, Peace and Conflict. Special Topics in Security, Peace and Conflict. Same as Political Science 390-3 except in seminar format. Instructor: Staff. One course.

390S-4. Special Topics in Political Behavior and Identities. Special Topics in Political Behavior and Identities. Same as Political Science 390-4 except in seminar format. Instructor: Staff. One course.

390S-5. Special Topics in Political Methodology. Special topics in political methodology. Same as Political Science 390-5 except in seminar format. Instructor: Staff. One course.

390S-6. Special Topics in Political Economy. 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.

391-3. Senior Independent Study in Security, Peace and Conflict. Same as Political Science 391-1 except fulfills a security, peace and conflict 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.

393-3. Sophomore/Junior Research Independent Study Security Peace and Conflict. **R** Same as Political Science 393-1 except fulfills a security, peace, and conflict 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.

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement. **CZ, EI** One course. C-L: see Education 401S; also C-L: Public Policy 401S, Study of Ethics 401S, Ethics Elective

402S. Origins of WWI and WWII in Europe. **R, SS** Seminar will examine major scholarly works from History and Political Science that address the same question, namely, how can we explain the origins of World War I and World War II in Europe? Consider how these two disciplines explain why the Cold War did not escalate to full-blown war. Will provide students with an opportunity to undertake a significant research project, with opportunities to use one or another of the two disciplines or to undertake some form of integration across the two fields. Instructor: Grieco. One course.

406S. South African Life Histories. **CCI, CZ, R, W** One course. C-L: see African & African American Studies 406S; also C-L: History 450S, Human Rights Program-Franklin Humanities Institute 406S, Public Policy 406S, Cultural Anthropology 406S

415. U.S-Russia Relations: 1991-2016. **CCI, SS** One course. C-L: see Russian 415; also C-L: Public Policy 352

427S. World in Your Hand. **QS, R, SS** Your chance to hold the (simulated) world in your hand. First half of class provides background and tools needed to create computational, simulation models of political, social, and economic phenomena. Second half provides practical experience with class-chosen group computational modeling project(s) that will be submitted for publication. No prior computer programming experience required or expected, and skills gained in class will translate beyond academia. Instructor: Siegel. One course.

428S. International Conflict Resolution. **SS, W** The origins of armed conflicts and the means to resolve them, with special attention to strategic interaction, international law and third-party conflict managers. Historical and contemporary case studies used to illustrate theories of the onset and termination of violence in both interstate and intrastate conflicts. Writing developed in a multi-part assessment of an ongoing conflict that include simulation of a peace process. Instructor: Beardsley. One course.

435S. Chinese Media and Popular Culture: Politics, Ideology, and Social Change. **CCI, SS** One

course. C-L: see Asian & Middle Eastern Studies 435S; also C-L: Information Science + Studies 435S, International Comparative Studies, Policy Journalism and Media Studies

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

456S. Chinese Culture and Ideology in the 20th Century and Now. ALP, CCI, SS One course. C-L: see Asian & Middle Eastern Studies 456S

468S. Wealth and Poverty of Nations: Prosperity and Distribution in the Long Run. SS Overview of the different explanations for the economic development of nations in the long run and the differential patterns of distribution within them. Approach is global (what explains the dynamics of global inequality, the contrast between the developed and the developing world), historical (long term structural constraints and early institutional choices and their legacies), and analytical (theoretical identification of the mechanisms driving the wealth and poverty of nations, and the methodological strategies to approach them empirically). Instructor: Beramendi. One course. C-L: Markets and Management Studies

480S. Capstone Seminars in Classical Studies. ALP, CCI, CZ, R, W One course. C-L: see Classical Studies 480S; also C-L: History 480S

483. What Machiavelli Really Says. ALP, CZ, EI, R One course. C-L: see Italian 483; also C-L: History 405, Literature 483, Medieval and Renaissance Studies 473

490S. Special Topics in Political Science. Special topics in political science. Instructor: Staff. One course.

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.

493-3. Senior Research Independent Study in Security, Peace and Conflict. R Same as Political Science 493-1 except fulfills a security, peace, and conflict 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.

494A. Politics and Policy Practicum for Duke in DC. R, SS One course. C-L: see Public Policy 493A

495S. Honors Seminar. R, SS, W Course is open to junior political science majors who intend to write an honors thesis during their senior year. Purpose of course is to develop a thesis project, and to prepare students to conduct independent research under the direction of a faculty advisor. Students will acquire skills required to formulate a research question, develop a research design, conduct literature reviews, and gather appropriate data. Major component of class will be to practice these skills through weekly written assignments, and completion of a research proposal for honors thesis project. Course will not fulfill capstone requirement for political science major. Instructor consent required. Instructor: Vanberg. One course.

497S. Capstone Seminar: Latin American Left Turns: A New Politics for the 21st Century?. CCI, CZ, R, SS, W One course. C-L: see History 471S; also C-L: Latin American Studies 471S

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: Staff. One course. C-L: 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 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: Staff. 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. C-L: International Comparative Studies 505S

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: Staff. 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: Staff. One course. C-L: International Comparative Studies 511S

515S. Post War Europe, 1945-1968: Politics, Society, and Culture. CCI, CZ, EI, SS, STS One course. C-L: see History 537S; also C-L: International Comparative Studies 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 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.

521S. Gender, Identity, and Public Policy. R, SS One course. C-L: see Public Policy 530S; also C-L: Gender, Sexuality, and Feminist Studies 515S

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.

525S. Race and American Politics. CCI, SS A broad overview of the salience of race in the American political fabric and how it structures racial attitudes on a number of political and policy dimensions. Instructor: McClain. One course. C-L: African & African American Studies 544S, Public Policy 526S

526S. Markets and Democracy in Latin America. CCI, R, SS Explores the interaction between markets and democracy in Latin America in relationship to broader theoretical and substantive debates in the field of comparative politics. Addresses competing theoretical perspectives on the interaction between markets and democratic institutions; focuses upon issues of regime change and consolidation with emphasis on the political economy of democratic transitions and institutional change; and examines the politics of market-oriented reform in the new international context of regional development with emphasis on policy formation in Latin America. Instructor: Staff. One course.

527S. Global Africa. CCI, EI, SS One course. C-L: see Cultural Anthropology 561S; also C-L: African & African American Studies 510S, History 561S, International Comparative Studies 510S

528S. Peace and Conflict Processes. R, SS, W Understanding the causes of armed conflict, as well as strategies to prevent, manage and resolve it. Course readings from the academic literature. Writing developed in a multi-part assessment of an ongoing conflict that includes simulation of a peace process and a final research paper. Prerequisite: Political Science 160S. Instructor: Beardsley. One course.

536S. Choosing in Groups: Social Choice and Collective Action. QS, R Survey of problems of social choice and collective action in politics and economics. Representing preferences, indifference, geometric representation of trade-offs. Consideration of Arrow Problem and Olson Problem of Collective Action. Instructor consent required. Prerequisite: Political Science 342 or equivalent. Instructor: Munger. One course.

542S. The Global Cold War. CCI, CZ, SS One course. C-L: see Public Policy 556S; also C-L: History 556S

543. Counterterrorism Law and Policy. EI, R, SS One course. C-L: see Public Policy 504

544. 9/11: Causes, Response & Strategy. EI, SS, W One course. C-L: see Public Policy 561; also C-L: International Comparative 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 example, GATT). Instructor: Staff. One course. C-L: Public Policy 581S, International Comparative Studies 521S

546S. Assisting Development. **R, SS, W** One course. C-L: see Public Policy 515S; also C-L: International Comparative Studies 514S

547. Politics of United States Foreign Policy. **EI, R, SS** One course. C-L: see Public Policy 506; also C-L: International Comparative Studies 506

549S. Collective Action, Property Rights, and the Environment. **CCI, EI, SS** The rational choice tradition (public goods, collective action, game theory, property rights, new institutionalism) as applied to environmental problems, resource exploitation, environmental justice, and the design of an environmentally sound society. Instructor: Staff. One course. C-L: Environment 544S, Energy and the Environment

550S. Predicting Politics: Counter Insurgency, Elections, and Stability. **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: Staff. One course.

551S. Voting Behavior. **QS, R, SS** A research-centered seminar focusing on models of voting behavior. Voting behavior includes individual voting by citizens in democracies but also voting by politicians in a variety of contexts (e.g., national legislatures or the United Nations). Methods employed will range from applied statistics to game theory to more recent innovations in the areas of computational social science and machine learning. Students will produce a journal length article. Instructor: Demarchi. One course.

555S. The Politics of Market Competition in a Global Economy. **R, SS** Course examines history and contemporary political, economic, and legal aspects of industrial policy and its development in East Asia. Explores evolution of economic competition or business-state relations thought and practice in East Asia over the past century, the recent rapid spread of innovative policies, as well as domestic and international conflicts and cooperation over competition policy. Students will write original research papers on a related topic of their own choosing. Instructor: Staff. One course. C-L: Study of Ethics 555S, Public Policy 555S, Markets and Management Studies

561S. Problems in International Security. **R, SS** States attempt to secure their population and territory. Such security measures sometimes bring states into conflict with each other. Course explores how states search for security, cooperate with one another, and engage in interstate violence. Instructor: Staff. One course.

562S. American Grand Strategy. **CZ, R, SS, W** 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 or Miles. One course. C-L: History 567S, Public Policy 501S

570. Frankfurt School Critical Theory. **CZ, EI** One course. C-L: see German 570; also C-L: Philosophy 572

573S. Intellectual History and Political Theory. **CCI, CZ, EI, SS** One course. C-L: see History 541S

574S. Dissent, Disobedience and Revolution. **R, SS** Examines boundaries of democratic practice—including hate speech, protest, and secession. Key topics in democratic theory will be addressed including scholarly debates over free speech, civil disobedience, and justified revolution. Readings include works by Mill, Locke, Waldron, Buchanan, Cristiano, Elster. Instructor: Kirshner. 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 staff. One course. C-L: Classical Studies 571S, Philosophy 571, Ethics Elective

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 Bakhtin. 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 Democracy. EI, SS Seminar has three aims: (a) to introduce students to some important topics and approaches in contemporary democratic theory; (b) to investigate the ways in which these issues are related to broader discussions about the strengths and weaknesses of democracy and the rule of law; (c) to familiarize students with a range of strategies for justifying or criticizing political arrangements or policies. Topics include social justice, individual rights and community, representation, deliberation, the relationship between democratic decision-making and markets and the normative implications of moral, religious and ideological pluralism. Instructor: Knight. One course. C-L: Study of Ethics 578S, Ethics Elective

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 Aristotle, early modernity's "new science of politics," Marxist praxis, Weber's "wertfrei" science, Mill's logic of the "moral sciences," Comte's sociology, Mannheim's sociology of knowledge, behaviorism and its critics, and the vocation of social science. Instructor: Staff. 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: Gender, Sexuality, & Feminist 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: Staff. One course.

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: Staff. One course. C-L: Philosophy 584S, Ethics Elective

585S. Adversarial Ethics. EI, SS One course. C-L: see Philosophy 510S; also C-L: Study of Ethics 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 staff. One course. C-L: Ethics Elective

587S. Free Speech, Hate Speech, and Civil Disobedience. EI, SS What justifies free speech? When can it be limited legitimately? What justifies civil disobedience? Is violent resistance ever justified? Answering these questions will constitute the key work of this course. Students will debate these questions by confronting key works in political philosophy and by thinking through how these theoretical questions come up in debates over: the regulation of pornography and hate speech, the ridiculing of religious figures, and the use of violence to protest unjust policies. Readings include works: Mill, Locke, King, Langton, Waldron, Shelby and Rawls. Instructor: Kirshner. One course.

588S. Toleration, Freedom of Conscience, and Religious Liberty. CCI, CZ, EI, R One course. C-L: see Classical Studies 564S; also C-L: Religion 564S, History 564S

589S. Moments in Black (Radical) Theory: From Ferguson to Rhodes Must Fall to Silent Sam. CCI, EI, SS One course. C-L: see African & African American Studies 503S; also C-L: Religion 503S, Cultural Anthropology 503S, International Comparative Studies 504S

590-1. Intermediate Topics in Political Theory. Intermediate topics in political theory. Instructor: Staff. One course.

590-2. Intermediate Topics in Political Institutions. Intermediate topics in political institutions. Instructor: Staff. One course.

590-3. Intermediate Topics in Security, Peace, and Conflict. Intermediate topics in security, peace, and conflict. Instructor: Staff. One course.

590-4. Intermediate Topics in Behavior and Identities. Intermediate topics in behavior and identities. Instructor: Staff. One course.

590-5. Intermediate Topics in Political Methodology. Intermediate topics in political methodology. Instructor: Staff. One course.

590-6. Intermediate Topics in Political Economy. Intermediate topics in political economy. Instructor: Staff. One course.

590S-2. Intermediate Topics in Political Institutions. Intermediate topics in political institutions taught in seminar format. Instructor: Staff. One course.

590S-3. Intermediate Topics in Security, Peace and Conflict. Intermediate topics in security, peace, and conflict taught in seminar format. Instructor: Staff. One course.

590S-4. Intermediate Topics in Behavior and Identities. Intermediate topics in behavior and identities taught in seminar format. Instructor: Staff. One course.

590S-5. Intermediate Topics in Political Methodology. Intermediate topics in political methodology taught in seminar format. Instructor: Staff. One course.

590S-6. Intermediate Topics in Political Economy. Intermediate topics in political economy taught in seminar format. Instructor: Staff. One course.

610S. Political Persuasion. SS Course will examine political persuasion and democratic decision-making, with particular attention paid to US presidential campaigns. 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. Instructor: Hillygus. One course.

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: Staff. One course.

617S. The Regulatory Process. R, SS, STS One course. C-L: see Public Policy 609S

618S. Politics of Institutional Change. 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: Staff. One course.

619. Media and Social Change. CCI, R, SS, STS One course. C-L: see Policy Journalism and Media Studies 676; also C-L: Public Policy 676, Russian 516, Information Science + Studies, Policy Journalism and Media, International Comparative Studies

630. Probability and Basic Regression. QS Offers an introduction to empirical methods used in contemporary research in political science. Course develops an applied understanding of the linear regression model in the context of political science research questions. Students will be able to evaluate and interpret allied aggression results as well as develop their own simple models. Required of all incoming graduate students. Open only to Political Science graduate students. Instructor: Staff. One course.

631L. 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. 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: de Marchi. One course.

633S. Positive Political Theory. R, SS Introduction to generating hypotheses and building theory in political science. Focus on general principles of deductive and computational modeling, how theoretical models connect to empirical tests, and several of the main schools of theoretical modeling in political science including game theory and social choice. Course is expected to be taken simultaneously with Political Science 748. Open only to Political Science graduate students. Instructor: Staff. One course.

634. Social Networks and Political Interdependence. QS, R, SS Theory of and empirical support for importance of networks and interdependent behavior in political and social processes. Methodology covered includes tools for empirical analysis of relational data as well as game theoretic and computational/behavioral modeling approaches to analyzing role of network structure. Substantive ties to literatures in political science, economics, and sociology. Instructor: Siegel. One course.

642S. Global Inequality Research Seminar. ALP, CCI, R, SS One course. C-L: see Public Policy 645S; also C-L: African & African American Studies 642S, Economics 541S, Sociology 642S, Human Rights Program-Franklin Humanities Institute 642S, Human Rights

644S. The Political Economy of Inequality. R, SS Study of the concept and measurement of inequality; evolution of inequality across concepts, space, time (developed and developing world); what explains this evolution; and political consequences of inequality. Instructor: Beramendi. 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: Staff. 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: Staff. One course.

647S. International Democratization. EI, R, SS One course. C-L: see Public Policy 513S

650S. Political Economy of International Relations. R, SS Provides an intensive investigation of the major political-economic actors and their interactions in the modern world economy: states, multinational enterprises, and international institutions. Serves as capstone experience for undergraduate students who are pursuing Political Economy or Security, Peace and Conflict as concentrations in political science, or who are pursuing a certificate in Markets and Management. Designed to help graduate students prepare for the qualifying exam in Security, Peace and Conflict and in Political Economy, and to provide them with an opportunity to conduct sustained research in these two fields. Instructor: Grieco. One course. C-L: Markets and Management Studies

651S. Theories of International Political Economy. SS Advanced discussion of core issues and the research frontier in IPE (trade, finance, economic development, globalization). Focus on theoretical debates over the source of preferences, the role of power and institutions, conflict and cooperation in the world economy. Instructor: Staff. One course. C-L: Public Policy 651S

652S. Repression and State Violence. CCI, CZ, EI, R, SS This course engages with research on state-sanctioned violence against individuals and groups. Topics covered include the relationship between repression, state violence, and political order; the perceived (il)legitimacy of different types of state violence; logics and effects of state-sanctioned violence against different segments of civilian populations in times of war and peace; patterns of human rights violations around the globe; repression in democratic and autocratic regimes; mass killings; disappearances; police violence; mass incarceration; the war on drugs; the implications of new information and communication technologies for repressive practices and surveillance. Instructor: Schubiger. One course.

658S. Political Economy of Terrorism. SS Seminar in the formal, quantitative study of subnational

terrorism. Addresses historical terror examples, aggregate and individual determinants of terrorism, mobilization and terror networks, methods of terror and counter-terror and their consequences, organization of and competition between terror groups. Focuses on unsolved problems and opportunities for research. Instructor: Siegel. One course.

659S. Civil Wars. CCI, EI, R, SS In-depth examination of internal armed conflict. Exploration of micro and macro level approaches to causes of civil wars; types of civil wars; ethnicity and conflict; warfare; repertoires and dynamics of violence in conflict; armed group organizations and their tactics; relationship between armed groups and the state; duration and termination of internal conflicts; consequences of conflict and processes of transitional justice after conflict termination. Overview of both classical and more recent works on these topics. 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: Staff. 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: Staff. 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 583S; also C-L: Environment 583S, Energy and the Environment

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. C-L: International Comparative Studies 664S

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 US. 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. C-L: Public Policy 667S

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.

670S. Contemporary United States Foreign Policy. EI, R, SS One course. C-L: see Public Policy 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. Prerequisite: Economics 205D and Economics 210D. Instructor: De Marchi and staff. One course. C-L: Economics 547S

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.

678S. Democracy and Constitutionalism. EI, R, SS Study of the essential questions of constitutional democracy and constitutional law: what makes democracy valuable and how constitutions work and are interpreted. Class will provide a strong foundation in both constitutional and political theory. Readings include works by Hamilton, Dahl, Ely, Dworkin, and Ackerman. Instructor: Kirshner. One course.

679S. The Past and Future of Capitalist Democracy I. EI, R, SS Intensive examination of theories of capitalism and democracy. Will study whether democracy and capitalism conflict; whether either is viable and self-correcting in the long term; competing theories of freedom, equality, and progress; relevance of ecological limits, sustainability, and resilience; alternative perspectives, including socialism and traditional conservatism. Attention to current debates, such as Piketty and inequality, climate change; major engagement with founding theorists of these issues, including Adam Smith, J.S. Mill, Marx, Schumpeter, with constant attention to contemporary relevance. Available for single semester but Intended as first half of yearlong course. Instructor: Purdy. One course.

680S. The Past and Future of Capitalist Democracy II. EI, R, SS Continuation of POLSCI 679S The Past and Future of Capitalist Democracy I. Intensive engagement with core texts and arguments concerning the relationship between markets and democracy, economics and politics: special attention to equality and inequality, ecological limits, and the challenges of the post-2008 crisis period. Readings include F. Hayek, K. Polanyi, J. Dewey, W. Lippmann, F. Hirsch, F. Fukuyama, T. Piketty. Instructor: Purdy. One course.

681S. Law and Philosophy. CZ, EI, SS Seminar will engage in an investigation of the concept of law. Employ both historical and conceptual analyses of several texts, both classic and contemporary. Topics include: the nature and legitimacy of law; the relationship between law and morality; the relationship between law and politics and the concept of the rule of law. Instructor: Knight. One course.

682S. Legal Analysis for Development Governance. CCI, EI, SS One course. C-L: see Public Policy 647S; also C-L: Human Rights

683S. Theology and Political Philosophy. CCI, EI Course will examine the transformation of theology and political philosophy in the period between Aquinas and Dante until Montaigne and Bacon. Understanding the changes in thinking about God, man, and the natural world during this period is essential to understanding modernity. While a knowledge of Christianity is essential in this enterprise, we obviously cannot cover all of the earlier Christian material in even the most rudimentary way in the course of the semester, we will look at some that is essential. Instructor: Gillespie. One course.

684S. Republicanism. CCI, CZ, EI, SS Study of the republican political theory and its historical tradition. Emphasis on key concepts of this tradition, including freedom as non-domination, virtue, the mixed constitution and the common good. Study and comparison of the Roman Republic, English, American, Italian and French republican trends. Readings include Cicero, Machiavelli, Milton, Montesquieu, Rousseau, Arendt and contemporary neo-republican scholarship. Instructor: Rousseliere. One course.

685S. Social Contract Theory. EI, SS Course investigates the use of social contract as a device to legitimize specific forms of social and political organization. Explores the origins of the social contract tradition, its most influential iterations in early modern philosophy and its revival in contemporary philosophy. Will study the role of social contract theory in the rise of liberalism, the question of the legitimacy of the state and the right to resistance. Course will also ask about the limits and exclusions intrinsic to the social contract as it has developed historically. Instructor: Rousseliere. One course.

686S. Injustice, Domination and Exploitation. CZ, EI, SS What is injustice? Why is it wrong if one group dominates another? How does exploitation work? Is imperialism wrong, necessarily? Recent years have witnessed a surge of theoretical and philosophical inquiry into the nature and forms of injustice including misogyny, racism and economic exploitation. Will read and discuss works by a diverse range of authors like Tommie Shelby, Kate Manne and Miranda Fricker. Will encounter classic works on the nature of justice by authors like John Rawls. Course has no prerequisites, but previous course work in political theory, philosophy and related subjects may be helpful. Instructor: Kirshner. One course.

690-1. Advanced Topics in Political Theory. Advanced topics in political theory. Instructor: Staff. One course.

690-2. Advanced Topics in Political Institutions. Advanced topics in political institutions. Instructor: Staff. One course.

690-3. Advanced Topics in Security, Peace and Conflict. Advanced topics in security, peace and conflict. Instructor: Staff. One course.

690-4. Advanced Topics in Political Behavior and Identities. Advanced topics in political behavior and identities. Instructor: Staff. One course.

690-5. Advanced Topics in Political Methodology. Advanced topics in political methodology. Instructor: Staff. One course.

690-6. Advanced Topics in Political Economy. Advanced topics in political economy. Instructor: Staff. One course.

690S-1. Advanced Topics in Political Theory. Advanced topics in political theory. Same as Political Science 690-1 except in seminar format. Instructor: Staff. One course.

690S-2. Advanced Topics in Political Institutions. Advanced topics in political institutions. Same as Political Science 690-2 except in seminar format. Instructor: Staff. One course.

690S-3. Advanced Topics in Security, Peace and Conflict. Advanced topics in security, peace and conflict. Same as Political Science 690-3 except in seminar format. Instructor: Staff. One course.

690S-4. Advanced Topics in Political Behavior and Identities. Advanced topics in political behavior and identities. Same as Political Science 690-4 except in seminar format. Instructor: Staff. One course.

690S-5. Advanced Topics in Political Methodology. Advanced topics in political methodology. Same as Political Science 690-5 except in seminar format. Instructor: Staff. Variable credit.

690S-6. Advanced Topics in Political Economy. 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, DC, 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 courses for the major; this includes Statistical Science 101 and Political Science 175/275 as the foundation requirements, three courses in one subfield concentration within the major, two courses in different subfields for breadth, and three (3) additional electives (at any level in any subfield).

Statistical Science 101 will introduce social science research methods; Political Science 175 or Political Science 275 will introduce political philosophy. A more advanced statistics course may be substituted for Statistical Science 101 with approval of the director of undergraduate studies.

The three-course subfield concentration requirement and two 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 courses in the subfield concentration must include one introduction in that subfield at the 100 level; one intermediate course at the 300 level; and one 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: Nonintroductory courses with no prerequisite.
- Political Science 300-399: Intermediate courses that require any one 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 required political science courses, at least eight must be Duke courses taught by a member of the Duke instructional staff. However, this requirement may be reduced to seven 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 The University of North Carolina at Chapel Hill 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 34.0 course 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 & Academic Credit](#)” on page [22](#).

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 Statistical Science 101 or better (Statistical Science 210 or the equivalent is recommended), the political theory requirement (Political Science 175 or Political Science 275 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; or
- have a minimum undergraduate 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 and April 1 of each year. Journal length papers are between twenty-five and thirty-five 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; or
- an independent study.

Often, the student will need to polish the paper during or after these options before submitting it to the Honors Thesis Committee.

In addition, the department staffs 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 courses in political science, at least two of which are at the 300 or higher level. Four courses must be Duke courses taught by a member of the Duke political science instructional staff, but one 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 course taken at The University of North Carolina at Chapel Hill. Courses taken Satisfactory/Unsatisfactory and Advanced Placement courses do not satisfy course requirements for the minor.

Portuguese

For courses in Portuguese, see Romance Studies on [page 734](#).

Psychology

Professor Huettel, *Chair*; Professor Marsh, *Associate Chair*; Associate Professor of the Practice Hard, *Director of Undergraduate Studies*; Lecturer Vieth, *Associate Director of Undergraduate Studies*; Professors Asher, Bennett, Bettman, Bilbo, Blumenthal, Brownell, Cabeza, Caspi, Chartrand, Costello, Dawson, De Bellis, Dodge, Egner, Fairbank, Gavan Fitzsimons, Grainne Fitzsimons, George, Groh, Hare, Hariri, Hoyle, Huettel, Kay, F. Keefe, R. Keefe, Kollins, LaBar, Larick, Levin, Madden, Marsh, Moffitt, Nicolelis, Nowicki, Payne, Putallaz, Rubin, Sherwood, Siegler, Sinnott-Armstrong, Smith-Lovin, Strauman, Swartzwelder, Tomasello, Weinfurt, C. Williams, R. Williams, Woldorff, and Yin; Associate Professors Adcock, Day, Egner, Gassman-Pines, Goldston, Linville, Rosenthal, G. Samanez-Larkin, Shah, Sommer, White, and Zucker; Assistant Professors Bergelson, De Brigard, Gaffrey, Gaither, McHenry, Overath, Puffer, and Seli; Research Professors Gold, Mazuka, Purves, Rabiner, Rezvani, Sikkema, and Suarez; Associate Research Professors Appelbaum, Ehrensaft, Meade, and Smoski; Assistant Research Professors Cogan, Pearson, and Svetlova; Professor of the Practice Bonner; Associate Professors of the Practice Compton, Hard, Schramm-Sapta and Wilbourn; Assistant Professors of the Practice Mauro, Newpher, and Ng; Lecturers Murphy and Vieth; Instructors Bauer and Houde; Adjunct Instructor Blackshear; Lecturing Fellows Batson, Gerend, and Weitzel; Professors Emeriti Coie, Cooper, Costanzo, Curry, Eckerman, C. Erickson,

R. Erickson, Hall, Hamilton, Leary, Lockhead, Palmer, Roth, Sheppard, Spenner, Staddon, and Thompson; Associate Professor Emeritus Angold; Assistant Professor of the Practice Emeritus Grimes; Lecturing Fellow Emeritus Serra

A major and a minor are 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](#).

Courses in Psychology (PSY)

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

91. General Psychology. NS, SS Broad survey of modern psychology that emphasizes biological, evolutionary, cognitive, and developmental perspectives while placing this work in its historical, social and philosophical context. This course provides credit for introductory psychology courses that are offered during summer sessions or taken at other institutions that do not meet the departmental standards for the Introductory Psychology (Psychology 101) course that is required for all majors and minors. This course does not count toward the psychology major or minor. Instructor: Staff. One course.

101. Introductory Psychology. NS, 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: Hard or staff. One course.

102. Cognitive Psychology: Introduction and Survey. NS, 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 are required to participate in psychological research. Prerequisite: Psychology 101 strongly recommended. Instructors: Cabeza, Day, Marsh, Rubin, or staff. One course.

103. Developmental Psychology: Introduction and Survey. 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: Svetlova, Tomasello, Wilbourn, or staff. One course.

103D. Developmental Psychology: Introduction and Survey. 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: Svetlova, Tomasello, Wilbourn, or staff. One course.

104. Social Psychology. 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. Students are required to participate in psychological research. Prerequisite: Psychology 101 strongly recommended. Instructor: Gaither, Shah, or staff. One course.

105. Abnormal Psychology. 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: Rosenthal, S. Samanez-Larkin, Zucker, or staff. One course.

106. Biological Bases of Behavior: Introduction and Survey. 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: Murphy, C. Williams, or staff. One course. C-L: Neuroscience 101

107. Biological Bases of Behavior (Team-Based Learning). NS One course. C-L: see Neuroscience 102

113L. Computing and the Brain. NS, QS One course. C-L: see Computer Science 103L; also C-L: Neuroscience 103L

141. Fundamentals of Decision Science. SS One course. C-L: see Duke Center for Interdisciplinary Decision Sciences 101

155FS. Vision. NS, W One course. C-L: see Neuroscience 155FS

185FS. Decoding Human Behavior. SS, STS What makes us who we are? Are we molded by our experiences, our genomes, or both? An investigation into the factors that contribute to shaping our behavior, drawing on evidence from diverse fields such as genetics, genomics, psychology and medicine. Explores recent scientific advances and examines how they further our understanding of normal and maladaptive behavior (their influence on health and wellbeing, and how this information might be used to shape lives at personal and societal levels). Course readings draw primarily from scientific literature, but will also include select book chapters and on-line resources. Open only to students in the FOCUS program. Instructor consent required. Instructor: Sugden. One course.

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.

190SA. Duke Administered Study Abroad: Special Topics in Psychology. Topics differ by section. Instructor: Staff. One course.

195FS. Intersections of the Sexual Brain. CCI, CZ, NS, STS One course. C-L: see Neuroscience 191FS; also C-L: Gender, Sexuality, and Feminist Studies 191FS, Study of Sexualities 191FS

196FS. Patient and Research Participant Activism and Advocacy. SS, STS, W One course. C-L: see Science & Society 196FS; also C-L: African & African American Studies 196FS, Global Health 196FS, Public Policy 196FS, Sociology 196FS, Cultural Anthropology 196FS, Science & Society

201L. Introduction to Statistical Methods in Psychology. 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 (one of which may be taken concurrently with Psychology 201) or one Psychology and one Neuroscience course (one of which may be taken concurrently with Psychology 201). Restriction: Not open to students who have taken Statistical Science 101, 102, 111, 250 or Mathematics 342. Instructor: G. Samanez-Larkin, Strauman, or staff. One course.

202. Research Methods in Psychological Science. 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, clinical and developmental psychology. Instructor: Asher, Bauer, Vieth, or staff. One course.

202L. Research Methods in Psychological Science. R, SS, W Same as PSY 202 but with lab sections. 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, clinical and developmental psychology. Instructor: Asher, Bauer, Vieth, or staff. 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. Satisfactory/Unsatisfactory grading only. Does not count toward the major. Department consent required. Instructor: Staff. Half course.

204L. Quantitative Research Methods and Statistics for Psychological Science 1. QS, R, SS First part of two-semester series (204L/205L). Design of research studies and use of statistical methods to become better consumers, creators, and communicators of psychological research. First semester (204L) focused on research design and measurement, ethical issues, statistical tests for observational studies (e.g., t-tests, correlation, non-parametric tests), statistical software, and communicating scientific findings. Students will develop the methodological and statistical knowledge and skills to conduct their own psychological research. Includes lab section. Required for psychology major. Recommended prerequisite: two Psychology or Neuroscience courses (one may be taken concurrently with Psychology 204L). Instructor: G. Samanez-Larkin, Strauman, Vieth, or staff. One course.

205L. Quantitative Research Methods and Statistics for Psychological Science 2. R, SS Second part of two-semester series (204L/205L). Design of research studies and use of statistical methods to become better consumers, creators, and communicators of psychological research. Second semester (205L) focused on experimental research design, ethical issues, statistical tests for experimental studies (e.g., regression, ANOVA, non-parametric tests), statistical software, and communicating scientific findings. By the end of this course series, students will have the methodological and statistical knowledge and skills to conduct their own psychological research. Includes lab section. Required for psychology major. Prerequisite: Psychology 204L (cannot be taken concurrently with Psychology 205L). Instructor: Samanez-Larkin, Strauman, or staff. One course.

206. Alcohol: Brain, Individual, and Society. NS, R, SS, STS 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. Instructor: Rezvani, Swartzwelder, or staff. One course.

207. Child Clinical Psychology. 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: Gaffrey or staff. One course. C-L: Child Policy Research

208. Behavioral Aspects of Health. SS, STS Overview of interdisciplinary field of behavioral medicine, emphasizing integration of 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. Instructor: R. Williams. One course.

209. Stress and Coping. 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. Instructor: F. Keefe. One course.

210. The Psychology of Obesity. SS Course will examine the causes and consequences of obesity at multiple levels of analysis. Heavy emphasis on understanding the influence of social, psychosocial, behavioral, and social environmental determinants of obesity. Will also examine how these factors influence sociodemographic variation in obesity within and between populations. Also examines behavioral, clinical, community, and policy-oriented solutions to the obesity pandemic. Instructor: Bennett or staff. One course.

211. The Psychology of Health Behavior Change. SS Major topics include the theory and practice of promoting healthful behavior change, use of mass, new, and social media strategies for health promotion, patient-provider communication, and the role of culture in health communication message design. Students

should have basic understanding of social science research methods. Instructor: Bennett. One course. C-L: Global Health 261, International Comparative Studies 211

212. Introduction to Forensic Psychology. CCI, SS Examine the role of clinical psychology in forensic evaluations. Introduction: mental status evaluations and assessment for competency to stand trial. Explore impact of mental health disorders on forensics process. Read and discuss related texts regarding legal and social issues related to forensics. Psychology 105 suggested prior to taking this course. Instructor: Blackshear. One course.

213. Advanced Abnormal Psychology. NS, R, SS An advanced course in the lifespan study of adult psychopathology. Lecture and readings emphasize psychological and neuroscience perspectives on disorders such as autism spectrum disorder, attention deficit hyperactivity disorder, depression and schizophrenia. Readings are primarily journal articles and other original sources. 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. Prerequisite: Psychology 105. Instructor: Gaffrey. One course.

214. Exercise and Mental Health. NS One course. C-L: see Physical Education 207

215FS. The Psychology of Crime: Scientific and Public Perspectives. EI, SS Introduction to theories of criminal behavior from developmental and psychological perspectives, with focus on scientific and public perspectives. Investigate risk and protective factors influencing the development of delinquency and crime, systemic and sociocultural factors, ethical controversies, and applied topics in criminal behavior. Students critically evaluate, synthesize, and debate cases in context of current empirical research. Interactive learning emphasized. Open only to students in the Focus Program. Instructor: Ehrensaft. One course.

220. The Psychology of Gender. 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: Kaivan, Vieth, or staff. One course. C-L: Gender, Sexuality, & Feminist Studies

221. Personality. 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: Vieth or staff. One course.

222. Motivation Theories and Applications in Psychology. SS An overview of the concept of motivation and its use in psychological theory and research. This survey course will examine psychological theory and research on core human motives, such as needs for autonomy, competence, and belonging and the role they may play in determining self-regulation, behavior, and emotional experience. In doing so, this course will also consider how motivations are addressed both deliberately and automatically, through goal setting and goal pursuit and the implications for understanding situational influences, individual difference and psychological well-being. Instructor: Shah. One course.

223. The Self and Social Identities. CCI, SS, W Course broadly explores definitions of “the self” and how different social identities develop, change, and overlap with each other across the lifespan. Using both theory and a large body of empirical research from psychology, we investigate how our own sense of self as well as our perceptions of other people’s identities guide behavior. Using media examples, peer-reviewed research, and news articles we will examine both personal and societal views of identity that contribute toward the intersectional nature of social existence. Psychology 101 or at least one other psychology course suggested before taking this course. Instructor: Gaither. One course.

225. Political Psychology. CCI, SS One course. C-L: see Political Science 240

226. Sex/Gender - Nature/Nurture: Intersections of Biology and Society. NS, STS One course. C-L: see Gender, Sexuality, and Feminist Studies 278; also C-L: Cultural Anthropology 278, Neuroscience 278, Study of Sexualities 278

230. Relationships across the Lifespan. SS This course explores the developmental changes that occur

in close relationships (e.g., parent, sibling, peer) across the lifespan, from infancy through late adulthood, and the differing roles these relationships play in the development and behavior of the individual. The impact of significant relationship events (e.g., divorce, marriage) on development will also be examined. Recommended prerequisite: Psychology 101, 102, or 104. Instructor: Putallaz. One course.

236. Psychosocial Aspects of Human Development. CCI, EI, SS One course. C-L: see Human Development 260; also C-L: Sociology 260, Ethics Elective

239. Adolescence. 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: Staff. One course. C-L: Child Policy Research

239-1. Adolescence. 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. Instructor: Bonner or staff. One course.

240. Educational Psychology. CCI, EI, SS One course. C-L: see Education 240; also C-L: Child Policy Research, Ethics Elective

240-1. Educational Psychology. CCI, EI, SS One course. C-L: see Education 240-1

240S. Educational Psychology. CCI, EI, SS One course. C-L: see Education 240S

242D. Discovering Education and Human Development I: How Social Scientists Learn from Data. EI, R, SS One course. C-L: see Economics 298D; also C-L: Education 298D, Sociology 298D

250. Myths and Mysteries of Memory. 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 for exams, remembering names, early childhood memories, amnesia, photographic memory, eyewitness testimony, and pharmacological effects. Instructor: Marsh. One course.

252. Psychology of Thinking. 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. Recommended prerequisite: one previous psychology course. Instructor: Staff. One course.

255. Human Cognitive Evolution. NS, SS One course. C-L: see Evolutionary Anthropology 260; also C-L: Neuroscience 260

256. Psychology of Language. R, SS Examination of linguistic structures and their psychological "reality," language and cognition, biological bases, animal communication, language pathologies, nonverbal communication, and bilingualism. Everyday language phenomena (such as slips of the tongue) as well as experimental and theoretical research. Emphasis on research designs, methods and reasoning used to study the role of language in cognition and action. Research proposal required. Instructor: Day, Tomasello, or staff. One course. C-L: Linguistics 207

257. Introduction to Cognitive Neuroscience. 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 first years. Prerequisite (one of the following): Neuroscience 101 or 102/Psychology 106 or 107, or Psychology 102, or Psychology 275/Neuroscience 201/Biology 224, or Neurobiology 195FS/Neuroscience 195FS, or Neurobiology 193FS/Psychology 193FS/Neuroscience 193FS, or permission of instructor. Instructor: Egner, LaBar, or Overath. One course. C-L: Neuroscience 212

257D. Introduction to Cognitive Neuroscience. 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. Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107 or Psychology 102 or Neuroscience 201/Psychology 275/Biology 224 or

Neurobiology 195FS/Neuroscience 195FS. Instructor: Egner, LaBar, or Overath. One course. C-L: Neuroscience 212D

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

273. Behavior and Neurochemistry. 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. Recommended prerequisite: Psychology 106 or 107/Neuroscience 101 or 102. Instructor: Staff. One course. C-L: Neuroscience 363

274. Drugs, Brain, and Behavior. NS One course. C-L: see Pharmacology and Cancer Biology 360; also C-L: Neuroscience 360

275. Fundamentals of Neuroscience. NS, STS One course. C-L: see Neuroscience 201; also C-L: Biology 224

276. Brain and Behavior: Translating Neuroscience. NS This course will focus on how brain mechanisms enable behavior. We will examine the neural basis of homeostatic control, voluntary actions, motivation, emotion, and decision making. We will use systems analysis to elucidate how volition, intentionality, and purpose can be emergent properties of neuronal interactions. We will also explore how different neurological and psychiatric disorders can result from specific defects in hierarchical neural networks. Prerequisite (one of the following): Psychology 106/Neuroscience 101, Psychology 107/Neuroscience 102, Psychology 275/Neuroscience 201, or Psychology 193FS/Neurobiology 193FS/Neuroscience 193FS. Instructor: Yin. One course. C-L: Neuroscience 211

277. Looking Inside the Disordered Brain. NS What brain circuits give rise to the dazzling diversity of human behavior, and how do even subtle disturbances within these circuits lead to abnormal behavior or psychopathology? This course provides students with a working knowledge of the brain circuits that create order in our social, emotional and cognitive worlds, and how disorder within these circuits leads to a broad range of psychopathology including depression, anxiety, phobias, PTSD, OCD, addiction, autism, schizophrenia, psychopathy and violence. Prerequisite: Psychology 106/Neuroscience 101 or Psychology 107/Neuroscience 102. Instructor: Hariri. One course. C-L: 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. 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. Recommended 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

280S. Social and Affective Neuroscience. CCI, NS, SS One course. C-L: see Neuroscience 352S

282. Neuroscience of Movement and Athletic Performance. NS Addresses neurobiology of movement, sports and other forms of physical performance at a variety of levels, from biochemical and physiological to cognitive and behavioral. Starting with neurophysiology of muscle development and movement and progressing through use of imagery and cognitive training, we will discuss the variety of neurobiological processes involved in athletic performance, as well as methods used to study these processes. Explores neuromuscular diseases, injuries and dysfunctions as well as use of exercise and movement as therapy for neuromuscular and non-

neuromuscular disorders. Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107. Instructor: Murphy. One course. C-L: Neuroscience 282

288S. Music as Biology. NS One course. C-L: see Neuroscience 288S; also C-L: Music 288S

290. Special Topics in Psychology - Lecture. 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. Duke Administered Study Abroad: Special Topics in Psychology. Topics differ by section. Instructor: Staff. One course.

290S. Special Topics in Psychology - Seminar. Topics vary by semester and section from the different areas of Psychology: Biological, Cognitive, Developmental or Personality/Social. This course counts toward the electives requirement, but it does not fulfill the Seminar requirement for the major. Consent of instructor and/or specific prerequisites may be required for specific offerings. Instructor: Staff. One course.

302L. Brain Waves and Cognition. NS, R, W Combined lecture/lab course on the event-related potential (ERP) method and its use in cognitive neuroscience. ERPs, which are 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 in humans. The course covers how ERPs are generated, recorded, and analyzed, and how they are used to study cognitive processes. Students gain substantial hands-on experience in the context of performing a group cognitive neuroscience experiment. Recommended: previous courses in neuroscience/psychology, proficiency with computers, sophomore or higher status. Instructor: Woldorff. One course. C-L: Neuroscience 383L

303L. Functional Neuroimaging. 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: Harshbarger and Overath. One course. C-L: Neuroscience 382L

304. Child Observation. R, SS, W Introduction of research methods used to study children (observational techniques, experimental design). Focus on developing proficiency in research methodology, communicating research findings to other psychologists, and increasing knowledge and expertise with young children. Prior courses in Developmental Psychology and Statistics strongly recommended. Open to junior and senior students only. Instructor consent required. Instructor: Svetlova. One course. C-L: Child Policy Research

305. Research Methods in Social Psychology. R, SS, W Study of empirical research methods used to study contemporary issues in social psychology, including both experimental and non-experimental strategies. Prerequisite: Psychology 104. Prior course in statistics is strongly recommended. Instructor: Vieth or staff. One course.

306. Research Methods in Clinical Psychology. R, SS, W Contemporary approaches to treatment-based research in health and mental health. Topics include measurement techniques, randomized clinical trials, survey research, data analysis, and ethical issues. Laboratory reports emphasize proper interpretation and presentation of research findings. Instructor: Compton or staff. One course.

308L. Perception and the Brain. NS, R, W 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 106/107/Neuroscience 101/102. Prior course in statistics is strongly recommended. Instructor: Groh. One course. C-L: Neuroscience 378L

309. Research Methods in Global Health. R, SS One course. C-L: see Global Health 371

310. Research Methods in Psychopathology and Psychotherapy. R, SS, W Classic and contemporary research methods for the diagnosis and investigation of psychopathology as well as for conducting psychotherapy outcome and process research. Focus on developing proficiency in research methodology, developing skill in interpreting research reports and communicating research findings to other behavioral scientists, and increasing knowledge in the content domains of psychopathology and psychosocial intervention. Prerequisites: Junior or senior status and consent of instructor. Psychology 105 and prior course in statistics are

strongly recommended. Instructor: Vieth or staff. One course. C-L: Global Health

313. Contemporary Neuroscience Methods. NS One course. C-L: see Neuroscience 376

316S. Clinical Issues for the LGBTQ Community. CCI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 235S; also C-L: Study of Sexualities 235S

317S. Coping with Catastrophic Events. R, SS, W Impact, recovery process, and treatment techniques including psychological interventions focused on individuals, groups, and community. Instructor: F. Keefe. One course.

318S. Psychology of Positive Emotion and Experience. CCI, R, SS Critical examination of the positive psychology movement, including prior contributions to the field. Measures quality of data; issues related to gender, ethnicity, and culture. Focus on application to health. Prerequisite: One prior psychology class. Instructor: Bauer or staff. One course.

319S. Virtual Avatars of Peer Health Coaching. This is a training course for students who are interested in becoming peer mental health coaches for other Duke students. As part of a Bass Connections team, we are developing a peer to peer app that uses anonymous avatars to facilitate communication from students needing help to students trained to help them. This is an intense course in which students will learn how to help an individual manage intense emotions and hopelessness in moments of need. Topics include helping a suicidal individual, helping an individual deal with the aftermath of a sexual assault, and related topics. An initial interview and subsequent permission from the instructor is required. Instructor consent required. Instructor: Zucker. One course.

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 Gender, Sexuality, and Feminist Studies 372S; also C-L: Literature 260S, Study of Sexualities 310S

323. Fundamentals of Global Mental Health. R, SS One course. C-L: see Global Health 363; also C-L: Cultural Anthropology 323

324S. Motivation Science in Social Psychology. SS Survey of motivational approaches in social psychology. Examines work on specific types of motivation (e.g., achievement, altruism, power) and the manner in which each may come to influence our actions, cognition and emotions. Also focuses on broader implications of motivational approaches for improving psychological health and well-being and for resolving interpersonal and social conflict. Instructor: Shah. One course.

325. Social Development from Childhood to Early Adulthood. CCI, R, SS, W Examines children's social development from birth to early adulthood. Attention is given to the influences of family, peers, schools, and media on social development, including parent-child attachment, achievement motivation, self-concept, sex-role development, social competence, aggression, and moral development. Throughout the course, attention is also given to major theoretical perspectives, research methodology, the applied and policy implications of research, and to children and families from diverse cultural backgrounds. Prerequisites: Psychology 103 or Psychology 104 or Psychology 221, or instructor permission. Instructor: Asher. One course. C-L: Child Policy Research

326S. Reason and Passion in Politics. SS One course. C-L: see Political Science 326S

330S. Develop Your Life: A Human Development and Human-Centered Design Approach. CCI, SS This course combines developmental psychology, human development, and human-centered design with a focus on the developing student. Students examine their past development, understand themselves in the present, and consider a plan for future career and life, leveraging their past and present. Students learn others are both like themselves and very different. Varied life experiences, family background, cultural influences, education -- all make us unique. Beyond theoretical and substantive knowledge, this course helps students to understand influences and consequences of diversity, gain empathy and appreciation for others, and maximize their own journey. Instructor: Maxson. One course.

334. Cognitive Development. NS, SS, STS Ever wonder how you came to learn and think? This course looks at the start of these cool human abilities, covering how children learn to perceive, act, talk, understand, and reason with and about the people, concepts, and categories around them. Students will actively engage in mostly primary source readings, scaffolded by lively lecture. Students will leave with the theories, methods, and key findings of cognitive development in their back pocket, ready to interpret primary and media coverage of cognitive development. This is a tech-free course (no laptops/tablets/phones once lecture starts; possible exceptions discussed in class). Recommended prerequisite: Psychology 101 or AP Psychology strongly suggested. Instructor: Bergelson. One course.

335S. Moral Development. CCI, EI, SS How do children learn to tell right from wrong? How are they socialized into ethical practices of their culture? This course explores the sources of human morality by surveying major theories of moral development and analyzing the latest research on the emergence of the moral sense. It investigates the development of early prosocial behavior, socio-moral emotions (empathy, guilt, pride), cooperation, altruism, concepts of justice, moral identity, moral evaluation, and related phenomena. In addition to age-related changes, special attention is paid to cross-cultural comparisons. Prerequisite: Psychology 103 or Psychology 235 or Psychology 325 or consent of instructor. Instructor: Svetlova. One course.

337S. Social Processes among Peers. R, SS Peers play an intense and important context for development from childhood through adolescence. This course will examine some of the most central social processes (both positive and negative) that occur among peers (e.g., aggression, victimization, rejection, group acceptance, leadership, prosocial behavior), how these processes influence the development of the individual child and adolescent, as well as their predictors and associated outcomes. Gender and ethnicity differences will also be considered. Recommended prerequisite: Psychology 103 or 104. Instructor: Putallaz. One course.

339S. Life Span Analysis of Social Relationships. R, SS The emergence of different types of relationships at different ages (for example, friendship, marital relationship, parenthood) and the developmental changes that occur in social relationships across the life span; the differing roles these relationships play in the development of the individual. The beneficial and harmful effects of social relationships at different stages in life. Prerequisite: Psychology 101 or 103 or 104 or 221. Instructor: Putallaz. One course.

340S. Educational Neuroscience. SS Introduction to an emerging field of educational neuroscience. Discussion on how understanding brain development and cognitive development can benefit practices in education. Readings are primary journal articles drawn from fields of cognitive neuroscience and education. Prior coursework in developmental psychology, education, or neuroscience recommended. Prerequisite: Psychology 102 or Psychology 106/Neuroscience 101 or Psychology 107/Neuroscience 102. Instructor: Ng or staff. One course. C-L: Neuroscience 340S, Human Development

351S. Neuroplasticity and Expertise. NS, W One course. C-L: see Neuroscience 351S

353S. Neuroplasticity and Disease: Molecules, Cells, and Circuits. NS, W One course. C-L: see Neuroscience 353S

355S. Visual Perception and the Brain. NS, W One course. C-L: see Neuroscience 355S; also C-L: Philosophy 355S

368. Behavioral Finance: A Taxonomy of Money Mistakes. SS One course. C-L: see Economics 368

368A. Behavioral Finance: A Taxonomy of Money Mistakes. SS One course. C-L: see Economics 368A

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 or staff. One course. C-L: Education 371S

375L. Functional Anatomy of the Human Brain. NS, STS One course. C-L: see Neuroscience 380L

376S. Behavioral Neuroendocrinology. NS, W The neurobiological mechanisms of hormone-brain-behavior interaction through an examination of empirical research and textbook readings. Topics include neuroendocrine systems, hormone cell signaling and physiology, neurodevelopment and sexual differentiation, sex differences in social behaviors across species (parenting and mating), stress response systems, hormone-related mood disorders; with consideration of ethical issues. Research paper required. Strong emphasis

on neurobiology. Prerequisite: Psychology 106/Neuroscience 101 or Psychology 107/Neuroscience 102. Recommended prerequisite: background knowledge gained from additional courses in neuroscience, psychology, biology, or evolutionary anthropology. Instructor: McHenry. One course. C-L: Neuroscience 366S

379L. Comparative Neuroanatomy. NS One course. C-L: see Neuroscience 379L

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. Topics differ by section. Instructor: Staff. One course.

391. Independent Study. Individual non-research directed study on a previously approved topic under the supervision of a faculty member and resulting in a significant product that promotes understanding or application of psychological science. Junior year fall. Department consent required. Instructor: Staff. One course.

392. Independent Study. Individual non-research directed study on a previously approved topic under the supervision of a faculty member and resulting in a significant product that promotes understanding or application of psychological science. Junior year spring. Department consent 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. 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. R, SS Ideas in psychology drawn from many content areas (including perception, personality, motivation, biological, social, cognitive, developmental) and approaches (including laboratory experiments, questionnaires, observation, imaging, interview, computer simulation). We will examine what makes ideas good, great, and mediocre, and also examine “bad ideas” in psychology. Course functions as a capstone experience -- an opportunity to synthesize previous knowledge, fill in missing areas, and reflect on the nature of ideas in the field. Implications for evaluating ideas in any academic discipline. Instructor: Day. One course.

410S. Community Based Prevention Intervention Research. R, SS, W 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: Staff. One course.

411S. Disorders of Anxiety. SS Provides students with a solid foundation in the DSM anxiety (and anxiety-related) disorders, focusing on presentation and correlates, as well as etiological formulations and treatments associated with multiple theoretical perspectives. Readings include journal articles, case studies, and empirically supported treatment guides; class activities include role-plays and treatment demonstrations. Open to juniors and seniors only, with priority given to psychology majors. Prerequisite: Psychology 105 and consent of instructor. Instructor: Vieth. One course.

425. The Psychology of Consumers. 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. Prerequisite: Prior course in Psychology. Instructor: Bauer, Vieth, or staff. One course. C-L: Markets and Management Studies

426. Social Psychology of Business. 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. Recommended prerequisite: Psychology 104/Sociology 104 or a Markets and Management course. Instructor: Houde, Weitzel, or staff. One course. C-L: Markets and Management Studies

435S. The Role of Race and Culture on Development. CCI, EI, 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 & African American Studies 420S, Human Development

436S. Clinical Interventions with Children and Families. SS, W 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. Prerequisites: Psychology 105 or 207, and a research methods course or statistics course. Instructor: Puffer. One course. C-L: Child Policy Research

437S. Language Development. SS Focuses on a fundamentally unique human ability: learning language. Covers how young children first learn language, including: 1) how children figure out what sounds their language includes; 2) how infants learn words & their meanings; and (3) what kind of processes help babies figure out the grammar of their particular native language. Since young children understand more than they can say, this course also covers the methods available for figuring out what they know, based on experimental and observational data. Students will discuss and present recent research articles and new study ideas. Instructor: Bergelson. One course. C-L: Linguistics 437S

438S. Children's Peer Relations. 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. Instructor: Asher. One course. C-L: Child Policy Research

444S. Neuroscience Service Learning: Brain Connections. NS, SS, STS One course. C-L: see Neuroscience 444S

450S. The Psychology of Trauma and Memory. NS, R, SS, STS Inquiry into how memory changes in and supports the effects of traumatic events, and its relation to current diagnosis and treatment of posttraumatic stress disorder. Examination of differences across cultures in understanding trauma and responses to it. Integration of behavioral theory and observation with its neural basis, including neuroimaging. Topics include ongoing debates about accuracy, narrative coherence, and involuntary memory. Levels of analysis range from neural substrates, through behavior and thought processes to the social construction of memory and trauma. Research projects use primary and secondary materials, empirical observations, or reanalysis of existing data. Instructor: Rubin. One course.

451S. Autobiographical Memory. NS, R, SS A review and critical analysis of the literature, theory, and empirical study of autobiographical memory within cognitive psychology and neuroscience. Levels of analysis from the cultural, individual, neural systems, and neurobiological are integrated. Topics include accuracy, functions including planning for future actions, and effects of neural damage. Emphasis on the reasoning, research designs, and methods used in examining autobiographical memory. Research projects use primary and secondary materials, empirical observations, or reanalysis of existing data. Instructor: Rubin. One course. C-L: Neuroscience 451S

453S. Mind Wandering and Inattention. SS Introduction to theoretical and practical aspects of research in cognitive science. Classes and readings will focus on popular topics in the domain of mind wandering and

inattention, with an emphasis on the research process. This course will focus on critically evaluating primary-source material, and on honing presentation and writing skills. Prerequisite: Psychology 102 and any one of the following courses: Psychology 201L; Statistical Science 101, 102, 104, 111, or 250; Mathematics 342; or Sociology 333. Instructor: Seli. One course.

461S. Neurobiology of Learning and Memory. NS An active, team-based learning seminar addressing the neurobiological mechanisms of learning and memory. Focusing on the cellular basis of information encoding and retrieval, this course enables you to evaluate contemporary findings, design experiments and synthesize and communicate conclusions. Prerequisite: Psychology 257, 275, 276 or Biology 223/Neuroscience 223 or permission of instructor. Instructor: Newpher. One course. C-L: Neuroscience 461S

462S. Neuroscience Applications for Everyday Decision Making. NS, SS, STS Advanced seminar that evaluates whether neuroscientific research can improve human decision making and make the world a better place for individuals and society. Focus on a broad range of decisions and behaviors related to growing up and growing old, spending money, judging and interacting with others, maintaining emotional, cognitive, and physical health, and protecting the planet. Reading and discussion of primary scientific sources and scientific reviews. Must have basic knowledge of human neuroimaging (especially fMRI). Prerequisite: Neuroscience 212/Psychology 257, Neuroscience/Psychology 258, Neuroscience/Psychology 280, or Neuroscience 382/Psychology 303. Instructor: G. Samanez-Larkin. One course. C-L: Neuroscience 462S

469S. Cognitive Control and the Prefrontal Cortex. 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 469S

470S. Cognitive Neuroscience of Memory. 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 or Psychology 107/Neuroscience 102. Instructor: Cabeza. One course. C-L: Neuroscience 470S

471S. Reward and Addiction. NS, W 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: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107 or Psychology 275/Biology 224/Neuroscience 201. Instructor: Schramm-Sapyta. One course. C-L: Pharmacology and Cancer Biology 471S, Neuroscience 471S

474S. Biological Psychology of Human Development. 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

477S. Biology of Nervous System Diseases. NS One course. C-L: see Biology 421S; also C-L: Neuroscience 421S

478S. Motivation, Action, Choice: Neural and Behavioral Mechanisms. NS, W Behavioral analysis and neural mechanisms underlying goal-directed and voluntary actions, how they are driven by needs and desires of the organism and controlled by cognitive processes that provide a rich representation of self and world. Discussion of models of behavioral and cognitive control and their neural mechanisms and implications of such models for psychiatric disorders, consciousness, free will, and responsibility. Participation in class discussion and short weekly writing assignments required. Prerequisites: Exploring the Mind courses or Prerequisite: Neuroscience 101/Psychology 106 or Neuroscience 102/Psychology 107 and at least one other psychology or neuroscience class. Instructor: Yin. One course. C-L: Neuroscience 478S

479S. Auditory Neuroscience - From Sound to Music. NS One course. C-L: see Neuroscience 425S; also C-L: Music 425S

490A. Duke Administered Study Abroad: Special Topics in Psychology. Topics differ by session. Instructor: Staff. One course.

490S. Special Topics in Psychology. Topics differ by section. Instructor: Staff. One course.

491. Independent Study. Individual non-research directed study on a previously approved topic under the supervision of a faculty member and resulting in a significant product that promotes understanding or application of psychological science. Senior year fall. Department consent required. Instructor: Staff. One course.

492. Independent Study. Individual non-research directed study on a previously approved topic under the supervision of a faculty member and resulting in a significant product that promotes understanding or application of psychological science. Senior year spring. Department consent required. 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. Distinction Thesis Workshop. W This graded course unit accompanies the writing of the Graduation with Distinction thesis. It is restricted to distinction candidates, and is specifically geared at preparing students for pursuing research at the graduate school level and beyond. Topics cover all phases of research project development, scientific article writing, and poster and oral presentation. In addition, the course includes a variety of professional development sessions, introducing the students to the publication process, graduate school considerations, and grant writing. The students are required to produce several written works and oral presentation. Department consent required. Instructor: Egner, Wilbourn, or staff. One course.

499. Current Research in Neuroscience. EI, NS, R, W One course. C-L: see Neuroscience 499

500S. The Cinematic Depiction of Psychopathology. ALP, NS Critically explore depictions of mental illness in modern cinema and television, and the extent to which they capture our emerging understanding of dysfunction in core neural circuits supporting normal behavior. Prerequisite: Psychology/Neuroscience 277. Instructor consent required. Instructor: Hariri. One course. C-L: Neuroscience 500S

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: Staff. One course.

561S. Evolution, Cognition, and Society. NS, STS One course. C-L: see Evolutionary Anthropology 561S

575. Brain and Language. NS, R 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. 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.

601S. Psychology Teaching Seminar. SS Exploration of issues relevant to teaching in psychology and related disciplines. Focus on a variety of pedagogical issues: course development, teaching strategies, preparation of materials, evaluation, classroom management. Strong emphasis also on ethical issues bearing on pedagogy. Open to undergraduates serving, or scheduled to serve, as teaching assistants in psychology, as well as to graduate students. Instructor consent required. Instructor: Hard, G. Samanez-Larkin, or staff. One course.

603S. Teachers as Scientists: Psychological Research in the Classroom. EI, R, SS, STS How can psychology help us understand and improve education? In this course, students will develop skills as both critical consumers and producers of empirical research on teaching and learning. Students will develop original, testable hypotheses in the domain of teaching and learning and design ethical studies to test those hypotheses. This is a course for undergraduate and graduate students who are interested in teaching, education more

generally, and/or in the application of psychology to real-world problems. Undergraduate students must have fulfilled P&N major requirements in methods and statistics. Prerequisite: For undergraduates, any one of the following statistics courses: Psychology 201L, Statistical Science 101, 102, 104, 111, 250 or Mathematics 342, and any one of the following methods courses: Psychology 202 or 301, 302L, 303L, 304, 305, 306, 308L, 309, 309K, 310, 313. No prerequisites for students with graduate standing. Instructor: Hard. One course.

605S. Obesity and Eating Disorders. 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: Staff. One course.

607S. Personality, Stress, and Disease. NS, SS, STS The role of psychosocial factors in the development and course of physical disease. Both epidemiological and laboratory-based research considered. Become familiar with major behavioral medicine research studies that have made significant contributions to our understanding of the role of psychosocial factors in medical illness and develop skills necessary for critical evaluation of research on psychosocial factors and disease. Appropriate for students with interests in medical careers or in health psychology. Instructor: R. Williams. 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: Staff. 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: Smoski or staff. One course.

611. Global Mental Health. CCI, NS, R, SS, STS One course. C-L: see Global Health 660; also C-L: Cultural Anthropology 611, Human Rights Program-Franklin Humanities Institute 660, Human Rights

613S. Clinical Interventions: Treating Emotion Dysregulation and Impulsivity Using DBT.

SS Introduction to the basic principles, strategies and methods of an empirically-based clinical intervention, Dialectical Behavior Therapy (DBT), a cognitive behavioral based treatment for individuals with severe emotional dysregulation and impulsivity. Seminar includes didactics, discussion, video demonstrations, skills practice, and role-plays, as well as experiential homework assignments in order to further understanding of the theoretical underpinnings of DBT, biopsychosocial model of psychopathology, case formulation, and skills needed for conducting both individual DBT therapy and the DBT skills training group (e.g., mindfulness, emotion regulation). Prerequisites: Psychology 105. Instructor: S. Samanez-Larkin. One course.

625S. Motives, Goals, and Social Behavior. 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. 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. Instructor consent required. Instructor: Staff. One course.

654S. Psychology of Aging. SS, STS An interdisciplinary approach to the study of aging. Psychological development in middle adulthood and old age as linked to disciplines such as Public Policy, Sociology, Geriatric Medicine & Psychiatry. Age-related changes in well-being, cognition, personality, and social relationships. Real-life issues that will affect most people in the future (e.g., successful retirement, decreasing one's risk of dementia). Open to undergraduate and graduate students. Prerequisites: none. Instructor: Staff. One course.

668S. Everyday Cognition. SS Key cognitive processes (e.g., attention, memory, comprehension, problem solving) and how they work in everyday settings. Cognition in classrooms, courtrooms, hospitals, grocery stores, kitchens, jobs, sports, and dance. Focus on Medical Cognition, Courtroom Cognition, and Memory for Movement. For each setting--successful vs. mediocre performance, types of errors, and applications. Visits by experts (e.g., pharmacists, doctors, judges, lawyers, chefs, choreographers) to discuss the cognitive processes essential for their jobs. Instructor: Day. One course.

670S. Language, Brain, and Human Behavior. R, SS, STS One course. C-L: see Linguistics 502S

671S. Nature and Treatment of Eating Disorders 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.

681S. Genetics and Environment in Abnormal Behavior. EI, NS, SS Introduces 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: Science & Society

684S. Hormones, Brain, and Cognition. NS, R Current research on how hormones modify and modulate cognitive processes across the lifespan. Consent of instructor required. One course. Instructor: C. Williams. One course. C-L: Neuroscience 584S

685S. Biological Pathways to Psychopathology. 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

686S. Principles of Neuroimmunology. NS Bidirectional communication between the brain and immune system, in disease and during normal function/homeostasis. Historical foundations of the field in disorders such as multiple sclerosis and HIV; the anatomy of CNS-immune connections; blood-brain-barrier function and dysfunction; leukocyte trafficking, surveillance, and infiltration of the CNS; cellular players including peripheral vs. CNS-resident immune cells and antigen presentation; neuroinflammation and neurodegenerative disease; recent literature highlighting the critical role of immune molecules in neural development and lifelong plasticity. Instructor consent required for undergraduates. Instructor: Bilbo. One course. C-L: Neuroscience 686S

690S. Special Topics in Psychology. Topics vary by semester and section from the different areas of Psychology: Abnormal, Biological, Cognitive, Developmental or 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 AB Degree

Major Requirements. Eleven courses in psychology are required for the major. The major is devised to provide breadth, a small group course in psychology, one additional upper-level course, and familiarity with the quantitative techniques and research methods used in psychology. Neither AP nor IB credit will allow students to place out of Psychology 101 (Introductory Psychology).

For **breadth**, the student is required to take Psychology 101 (Introductory Psychology) and at least three survey courses that cover major areas of the field. One of these survey courses must be Psychology 106/107 (Biological Bases of Behavior) or Psychology 102 (Cognitive Psychology), and one must be Psychology 105 (Abnormal Psychology), Psychology 103 (Developmental Psychology), or Psychology 104 (Social Psychology). Students seeking additional breadth may count up to four of these survey courses toward the major. Psychology 101 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 upper-level courses 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 one additional upper-level course, the student is to take a course at the 300 level or above. It is recommended that this course be taken in an area where a survey course was completed. Please note that neither independent study courses (Psychology 391, 392, 491, and 492) nor research independent study courses (Psychology 393, 394, 493, and 494) may be used to satisfy this requirement. In addition, the distinction thesis workshop (Psychology 496) may not be used to satisfy this requirement.

In order to satisfy the requirements for coursework in **quantitative techniques** and **research methods** in psychology, each student will take Psychology 204L (Quantitative Research Methods and Statistics for Psychological Science 1) and Psychology 205L (Quantitative Research Methods and Statistics for Psychological Science 2). Other courses may be substituted only with advance permission of the director of undergraduate studies. Neither Psychology 204L nor Psychology 205L fulfills prerequisites for advanced coursework in the Department of Statistical Science; please review the Statistical Science website for the prerequisites for courses in that department. Finally, students may not use introductory-level statistics classes taken in Statistical Science to satisfy elective requirements for the Psychology AB. Psychology 101, Psychology 204L (Quantitative Research Methods and Statistics for Psychological Science 1), and Psychology 205L (Quantitative Research Methods and Statistics for Psychological Science 2) all should be completed prior to the end of the junior year, as they provide the foundation for all subsequent coursework, and will allow students to benefit most from their upper-level courses.

Of the eleven courses required for the major, at least nine must be taken at Duke; others, if approved, may count toward the 34.0 course credits needed for graduation but will not count toward the major. Information is also available at <https://psychandneuro.duke.edu/undergraduate/majors-minors>.

For the BS Degree

The BS degree requires completion of all requirements for the AB degree plus additional courses in the quantitative studies (QS) and/or natural sciences (NS).

To satisfy the quantitative studies/natural sciences 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 courses not used to fulfill AB requirements (including up to two semesters of research 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 toward the elective requirement only with prior approval of the director of undergraduate studies. A list of currently approved classes for the quantitative studies/natural sciences elective requirement may be found in the undergraduate section of the [Psychology and Neuroscience website](#).

The Minor

Requirements. Five courses in psychology including Psychology 101 (Introductory Psychology) and at least two survey courses that cover major areas of the field. One of these survey courses must be Psychology 106/107 (Biological Bases of Behavior) or Psychology 102 (Cognitive Psychology), and one must either be Psychology 105 (Abnormal Psychology), Psychology 103 (Developmental Psychology), or Psychology 104 (Social Psychology). At least one of the remaining courses must be beyond the survey level (i.e., above 107). However, students may not use introductory-level statistical science courses to satisfy elective requirements for the psychology minor.

Independent Study

A program of individual non-research-directed study may be carried out by an arrangement with a faculty supervisor and enrollment in Psychology 391, 392, 491, or 492. This study should result in a significant product

that promotes understanding or application of psychological science. At most only two independent study courses (whether research- or non-research directed) may count toward the major.

Research 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, or 494. Psychology 203 serves as an excellent introduction to research independent study. A written plan for the program must be approved by the supervisor and the director of undergraduate studies. At most only two independent study courses (whether research- or non-research directed) 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 completion of research independent study courses. 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 only to those majoring in psychology. Applicants must have an overall GPA of 3.0 and a GPA in psychology of 3.5, without rounding, by graduation. Neither independent study classes in psychology, nor research independent study classes in psychology, nor the distinction thesis workshop, are included when calculating the GPA.

An application to the Graduation with Distinction program should be submitted by the last day of regular class registration for the term in which the thesis will be defended (for a fall defense, Fall registration in April; for a spring defense, Spring registration in November). The application must include names of the three people who will serve on the student's committee. The committee chair generally holds a primary or joint graduate training faculty appointment in the Psychology department. (Other department faculty may be able to serve as chairs with special approval from the director of undergraduate studies or with another faculty member serving as the chair of record.) The second committee member may hold a primary, joint, or secondary appointment in the Psychology department. The final committee member may be a department faculty member, a post-doc or graduate student in the Psychology department, a faculty member from another department at Duke, or a faculty member from another institution. (A current list of faculty with primary, joint, and secondary appointments may be found under the People tab at <https://psychandneuro.duke.edu/>.)

Students interested in applying for Graduation with Distinction will register for two consecutive research independent study courses (393, 394, 493, 494). Students must register for the first research independent study before submitting their application for Graduation with Distinction. Ordinarily, the same faculty member will serve as the student's mentor both semesters. Candidates for Graduation with Distinction must also enroll in 496, a full-credit course focusing on the conduct of psychological research, ethics in research, professional development, and especially science writing in order to prepare a quality thesis; 496 is only offered spring semester. Near the end of the final semester, candidates should submit copies of the thesis to their committee members. 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 are displayed at the spring undergraduate research poster fair, Visible Thinking.

Public Policy Studies

Professor Kelley, *Dean of the Sanford School of Public Policy*; Professor Napoli, *Senior Associate Dean for Faculty and Research*; Professor Krupp, *Associate Dean for Academic Programs*; Professor Gibson-Davis, *Director of Undergraduate Studies*; Senior Lecturer Admay, *Assistant Director of Undergraduate Studies*; Professors Adler (Law), Ariely (Economics), Bail (Sociology), Balleisen (History), Bradley (Law), Brownell, Chatterji (Business Administration), Clotfelter, Darity, Dodge, Feaver (Political Science), Fleishman (Law), Garrett (Law), Gennetian, Gibson-Davis, Goss, Harris (Sociology), Hillygus (Political Science), Jentleson, Keister (Sociology), Krishna, MacLean (History), McClain (Political Science), McClellan (Business Administration), Merli, Merson (Global Health), Munger (Political Science), Napoli, Nechyba (Economics), Pattanayak, Pfaff, Pizer, D. Price (Political Science), V. Price, D. Siegel (Political Science), Sitkin (Business Administration), Sloan (Economics), D.

Taylor, Thomas (Economics), Vincent (Environment), Ubel (Business Administration), Weinthal (Environment), Whetten, Wibbels (Political Science), and Wiener (Law); Associate Professors Bennear (Environment), Bermeo, Carnes, Gassman-Pines, Haga (Medicine), Jeuland, Mohanan, Mullin (Environment), Peck, Rangel, Robertson (Psychiatry), and Zafar (Medicine); Assistant Professors Barnes, Johnson, Komisarow, Meeks, Miles, Pearson, Rose, Sexton, SoRelle, Sorenson, and Wong (Pediatrics); Research Professors Lansford, Murray (Environment), and Vaupel; Associate Research Professors Babinski, Gifford, Philipsen, and Muschkin; Assistant Research Professor Boucher; Professors of the Practice Adair, A. Brown, F. Fernholz, Gill, Hoffman, Kelly, McCorkle, Pickus, Pomerantz, Rogerson, Schanzer, Shukla, T. Taylor, and Yamey (Global Health); Associate Professors of the Practice Antepli, Hildebrand, Mirovitskaya, Perault, and Profeta; Adjunct Professors Burness, Hollowell, and Kaligotla; Adjunct Associate Professor Ewing; Senior Lecturers Admay and Owen; Lecturers Mlyn and Sutherland; Senior Lecturing Fellow R. Fernholz; Visiting Professor Swartz; Visiting Assistant Professors McKethan and Schewel; Visiting Professors of the Practice Allin, Boehmer, Brook, Eacho, Hemming, Holmes, Katzenelson, Litow, Nichols, Quintero, and Schoenfeld; Visiting Associate Professor of the Practice Angrist; Adjunct Instructors Applebome, Barber, Beasley, Bowers, Clabby, Cohen, Dhakal, Dickey, Dukes, Goldsmith, Graham, Fikes, Hagy, Johnson, Katzenstein, Jaslow, Lavelle, Lempke, McHugh, McCartney, Meyer, Moreau, Nash, Owens, A. Pizer, K. Price, Sherlock, Sirota, Sisson, Sperling, Stansbury, Stencel, Sullivan, Tamari, Weddington, Wilson-Hartgrove, and Zapotoczny; Professors Emeriti Chafe (History), Conrad, Cook, Glenday, Harris, James, Joseph, Korstad, Kuniholm, Ladd, Lethem, Mickiewicz, and Schroeder (Law)

A major is available in this department.

Courses in public policy are open to all students providing that any prerequisites are met.

Courses in Public Policy Studies (PUBPOL)

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

110. Information, Society & Culture: Bass Connections Gateway. CZ, STS One course. C-L: see Information Science + Studies 110; also C-L: Philosophy 110, Computer Science 110

120. Undergraduates Internship Requirement. Field work in a 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. Recommended prerequisite: Public Policy 155D, 301, 302/equivalent, 303D/equivalent. Statistical Science 101, and approval from Internship Director. The Alternative Pathway to Internship Completion program allows students to complete their internship after completing four core courses. Instructor consent required. Instructor: Staff.

123. History of the Present. CCI, CZ, R One course. C-L: see History 124

125A. Undergraduate Internship. Field work in chosen policy area with pre-approval of the Internship Coordinator: must submit approval form, five page memo, and self-evaluation. Prerequisite: Public Policy 155, 301, 302, 303 (or equivalent), Statistical Science 101, and approval from Internship Coordinator. Instructor consent required. Instructor: Staff.

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: Staff. One course. C-L: Global Health

160. Intro to the History of Modern Warfare. CZ, EI, SS One course. C-L: see History 114

161. Introduction to the History of Law and Governance. CZ, EI, SS One course. C-L: see History 110

162. Introduction to Human Rights: Gateway for the Human Rights Certificate. ALP, CCI, CZ, EI One course. C-L: see Cultural Anthropology 104; also C-L: International Comparative Studies 113, Human Rights Program-Franklin Humanities Institute 104, Human Rights

165. Introduction to the United States Health Care System. SS Overview of 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) health care quality; (5) end-of-life issues and care in advanced stage illness; (6) the role of non-profit versus for-profit ownership of health care facilities and to what effect; (8) long term care and care-giving issues; and (9) the impact of social phenomenon such as income inequality, social class and culture on health care. Instructor: Boucher. One course. C-L: Science & Society 165

- 166D. Introduction to Security, Peace and Conflict.** CCI, SS One course. C-L: see Political Science 160D
- 167FS. Citizenship, Patriotism, & Identity.** CZ, EI, SS One course. C-L: see Study of Ethics 150FS; also C-L: Political Science 150FS
- 170S. The Documentary Experience: A Video Approach.** ALP, R, SS One course. C-L: see Documentary Studies 105S; also C-L: Cultural Anthropology 106S, History 125S, Political Science 105S, Visual and Media Studies 106S, Policy Journalism and Media Studies
- 175S. 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, African & African American Studies 133S, International Comparative Studies 183S, Human Rights Program-Franklin Humanities Institute 183S
- 176S. Gateway Seminar: The European Union: History and Prospects.** CCI, CZ, EI, R, SS One course. C-L: see History 176S
- 177. Private Wealth and Public Giving: A Modern History.** CCI, CZ, EI, SS One course. C-L: see History 123; also C-L: Study of Ethics 123, International Comparative Studies 123
- 178. Israel/Palestine: Comparative Perspectives.** CCI, EI, SS One course. C-L: see Cultural Anthropology 148; also C-L: Asian & Middle Eastern Studies 244, Environment 147, Jewish Studies 148, Political Science 159, Human Rights Program-Franklin Humanities Institute 148, Ethics Elective, Islamic Studies, Human Rights
- 181FS. Human Rights and World Politics.** EI, SS One course. C-L: see Study of Ethics 129FS; also C-L: International Comparative Studies 128FS, Political Science 176FS, Human Rights
- 182. Public Speaking: Policy Advocacy and Communication.** W One course. C-L: see Writing 182
- 183FS. Medical Ethics, Aging, and End of Life Care in the US.** ALP, CCI, EI One course. C-L: see Education 112FS; also C-L: Russian 121FS, Science & Society 112FS, Human Rights Program-Franklin Humanities Institute 112FS, Human Rights
- 184FS. Synthetic Genomics: Science, Policy and Ethics.** EI, NS, SS, STS One course. C-L: see Genome Sciences and Policy 138FS
- 185FS. Drugs and the Law.** SS One course. C-L: see Neuroscience 153FS; also C-L: Science & Society 153FS
- 186FS. Ethical Implications of Genetic and Genomic Research.** EI, SS, STS One course. C-L: see Molecular Genetics & Microbiology 120FS; also C-L: Human Rights
- 187FS. Globalization and Corporate Citizenship.** EI, SS One course. C-L: see Study of Ethics 160FS; also C-L: History 127FS, Economics 112FS
- 190A. Public Policy Special Topics Away.** Selected topics away. Transfer grading only. Instructor: Staff. One course.
- 190FS. Focus Program Introductory Special Topics in Public Policy.** Introductory and basic topics in public policy. Topics vary each semester. Open only to students in the Focus Program. Instructor: Staff. One course.
- 190S. Special Topics in Public Policy.** Topics vary each semester. Instructor: Staff. One course.
- 196FS. Patient and Research Participant Activism and Advocacy.** SS, STS, W One course. C-L: see Science & Society 196FS; also C-L: African & African American Studies 196FS, Global Health 196FS, Psychology 196FS, Sociology 196FS, Cultural Anthropology 196FS, Science & Society
- 199FS. Risks, Rewards, Rules, and Tools: Science Law and Policy.** CCI, SS, STS, W One course. C-L: see Science & Society 199FS
- 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
- 203. Introduction to Engaged Citizenship and Social Change (Gateway Course).** CCI, CZ, EI, SS One course. C-L: see Education 201; also C-L: Political Science 213, Human Rights Program-Franklin Humanities Institute 201
- 204A. Political Philosophy of Globalization.** CCI, CZ, EI, SS One course. C-L: see Philosophy 237A; also C-L: Political Science 297A, Economics 303A

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: Staff. 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: Staff. One course. C-L: History 376

206S. Introduction to Engaged Citizenship and Social Change (Gateway Course). CCI, CZ, EI, SS One course. C-L: see Education 201S; also C-L: Political Science 213S, Human Rights Program-Franklin Humanities Institute 201S, Human Rights

207. Development and Africa. CCI, CZ, SS One course. C-L: see African & African American Studies 307; also C-L: Cultural Anthropology 307, International Comparative Studies 308, Marxism and Society

208S. Language and Politics: Global Perspectives. CCI, SS One course. C-L: see Linguistics 471S; also C-L: Slavic and Eurasian Studies 484S, Sociology 471S

209S. Human Rights and Legal Redress: Seeking Justice through Human Rights. CCI, CZ, EI, SS One course. C-L: see Study of Ethics 195S

210A. Frontier City Berlin: Facing History’s Great Challenges. CCI, CZ One course. C-L: see German 366A; also C-L: History 334A, Political Science 260A

211-20. Engineering Sustainable Design and the Global Community: Structural Focus. QS, STS One course. C-L: see Civil and Environmental Engineering 315-20; also C-L: Environment 365-20, Human Rights Program-Franklin Humanities Institute 315-20

211-60. Engineering Sustainable Design and the Global Community: Environmental Focus. QS, STS One course. C-L: see Civil and Environmental Engineering 315-60; also C-L: Environment 365-60, Human Rights Program-Franklin Humanities Institute 315-60

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, Islamic Studies, International Comparative Studies

213S. Geopolitics and Culture: Islamic States from the Ottomans to ISIS. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 208S; also C-L: International Comparative Studies 217S, History 379S

214. South Africa: Past and Present. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 214; also C-L: History 208, Political Science 221, Human Rights

216S. The US Border and its Borderlands. CCI, CZ, EI, SS, W Examines the challenges and opportunities of the US border from a geopolitical perspective. Detailed review of how the current US 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: Political Science 343S, International Comparative Studies 359S, International Comparative Studies, Latin American Studies

217SA. Theory and Practice: People, Places and Policy Cases. SS Talks by Congress members, legislative staff members, interest group leaders, journalists, and other members of the public policy community

in Washington. Visits to government buildings, historical sites, and other policy-rich attractions in the nation's capital. Discussion and written assignments require analysis and linkages between "real world" of policy practice and theories and concepts from political science and public policy studies. Offered through the Duke in DC program. Instructor: Goss. One course. C-L: Political Science 240SA

218S. Conflict Analysis in Africa (Case Studies). CCI, CZ, SS One course. C-L: see African & African American Studies 310S; also C-L: Cultural Anthropology 310S, Human Rights Program-Franklin Humanities Institute 218S, Human Rights

219D. The Modern Regulatory State. CZ, EI, R, SS One course. C-L: see History 365D; also C-L: Environment 365D, Political Science 340D

220. Immigrant Dreams, U.S. Realities: Immigration Policy History. CCI, CZ, EI, SS One course. C-L: see History 352; also C-L: Human Rights Program-Franklin Humanities Institute 352, Human Rights

222. International Political Economy. CCI, R, SS Examination of the politics of international economic relations from the perspective of both advanced industrialized and developing countries. Focus on international trade; money and finance; multinational corporations and global value chains; foreign aid and the politics of development; distributional consequences of economic globalization; and the role of power and institutions in the governance of world economy. Instructor: Staff. One course. C-L: Political Science 350, International Comparative Studies 350

223. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399; also C-L: Cultural Anthropology 399, International Comparative Studies 399, Markets and Management Studies

225S. Women in the Public Sphere: History, Theory and Practice. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 385S

228. Politics of Authoritarian Regimes. CCI, R, SS One course. C-L: see Political Science 228; also C-L: International Comparative Studies

228S. Documentary and Policy: How Documentary Influences Policy. ALP One course. C-L: see Documentary Studies 272S; also C-L: Visual and Media Studies 386S, Innovation and Entrepreneurship 272S

231. Human Rights in Theory and Practice. CCI, CZ, EI, SS One course. C-L: see Political Science 272; also C-L: Philosophy 262, International Comparative Studies 272, Human Rights Program-Franklin Humanities Institute 262, Documentary Studies, Ethics Elective, Global Health, Human Rights

232S. The Insurgent South: Movements for Social Change. CZ, SS One course. C-L: see History 357S

233D. Are Things Getting Better? The Question of Progress in World Affairs. R, SS, W One course. C-L: see Political Science 234D; also C-L: International Comparative Studies 252D

233S. Influential Scientists and Policy Leaders in Science Policy. SS, STS, W One course. C-L: see Science & Society 238S; also C-L: History 301S

236. Globalization and History. CCI, CZ, SS One course. C-L: see History 201

237S. Research in 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

238SA. Media and Power in Washington. SS Examines relationship between the press and government in defining the national agenda. How does news media in Washington work? How do various centers of power—in Congress, the federal bureaucracy, lobbyists, think tanks—jostle for advantage and a voice? Follow contemporary news events, read into history of relations between government and press, and meet journalists engaged in deciphering the stream of message, policy and politics. Taught in Duke in DC program. Instructor: Staff. One course. C-L: Political Science 214SA

- 239. Ethnic Conflict. CCI, R, SS** One course. C-L: see Political Science 227; also C-L: International Comparative Studies 322
- 240. The Politics of International Economic Relations: America in the World Economy. CCI, SS** One course. C-L: see Political Science 250; also C-L: Markets and Management Studies
- 241. Multi-Method Approaches to Social and Policy Research. QS, R, SS** An overview of social research methods in public policy: principles of social research, proposal and study design, sampling and data collection, operationalization and analysis through quantitative, qualitative, and mixed-methods approaches. Preparation for independent research in social sciences and public policy. Fulfils the methods course requirement for Children in Contemporary Society certificate program. Instructor: Staff. One course. C-L: Child Policy 241
- 241A. Multi-Method Approaches to Social and Policy Research. QS, R, SS** Same as PUBPOL 241. Taught at Duke Marine Lab. Instructor: Staff. One course. C-L: Child Policy 241A
- 242S. Child Policy Research. R, SS** One course. C-L: see Child Policy 250S
- 243S. Children, Schools, and Society. CCI, EI, SS, W** One course. C-L: see Education 243S; also C-L: Child Policy Research, Ethics Elective
- 244S. School Dropout and Educational Policy. CCI, R, SS, W** One course. C-L: see Education 310S; also C-L: Cultural Anthropology 251S
- 245. Promising Paradigms: Issues and Innovations in American Classrooms. EI, SS, STS** One course. C-L: see Education 241; also C-L: Child Policy Research
- 246A. Marine Conservation Policy - A Practicum. EI, SS** One course. C-L: see Environment 346A; also C-L: Marine Sciences, Marine Science and Conservation
- 247. American Constitutional Development and Interpretation II: Individual Rights. EI, SS** One course. C-L: see Political Science 246
- 248S. History of Political Nonviolence. CCI, CZ** One course. C-L: see History 238S; also C-L: Human Rights Program-Franklin Humanities Institute 238S, Human Rights
- 249. Life Within Capitalism: A History of its Values, Measures and Struggles. CZ, EI** Examination of how capitalism has profoundly shaped people's ethical values, with focus on United States. Investigates central developments behind history of capitalism; explores key struggles that led to formation of capitalist logic (choices, values, goals); traces impact of capitalist goals and measures on ethical values and choices; examines discussions about possible future developments within capitalism. Instructor: Philipsen. One course. C-L: Study of Ethics 271, Economics 270, History 284, Political Science 252
- 250FS. Law, Ethics & Responsibility. EI, SS, STS** One course. C-L: see Linguistics 212FS; also C-L: Science & Society 212FS
- 251. American Constitutional Development and Interpretation I: The Constitutional Structure. EI, SS** One course. C-L: see Political Science 245
- 253. Martin Luther King and the Prophetic Tradition. CCI, CZ, EI, R, SS** One course. C-L: see Asian & Middle Eastern Studies 317; also C-L: Religion 234, African & African American Studies 249, Human Rights Program-Franklin Humanities Institute 249, Human Rights
- 254. America in the World Economy: The Law, Politics, and Economics of U.S. Antitrust, 1890-2015. R, SS** One course. C-L: see Political Science 255; also C-L: History 252, Study of Ethics 255, Ethics Elective, Markets and Management Studies
- 256. Social Innovation. EI, SS** One course. C-L: see Innovation and Entrepreneurship 261
- 257S. Shakespeare & Financial Markets: Why This Time is Never Different. CCI, SS** One course. C-L: see Economics 255S
- 258AS. 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: Staff. One course. C-L: Marine Science and Conservation

260S. 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: Stansbury. One course. C-L: Ethics Elective

261SA. Whose Democracy? Participation and Public Policy in the United States. SS Overview of patterns in Americans' engagement in and disengagement from civic life. Theories of why people do (and do not) participate. Differences across lines of gender, race, ideology, generation, and class. 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. Implications for equality, voice, and the health of American democracy. Classroom discussion; guest speakers; short memos. Offered through the Duke in DC program. Instructor: Goss. One course. C-L: Political Science 241SA

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 the US, 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: Staff. One course. C-L: Marine Science and Conservation

265S. Enterprising Leadership. EI, SS The central goal of Enterprising Leadership (PPS265) is to provide students with analytical competence, enterprising leadership identity, and personal agency important to exercising leadership in organizations, in communities, and in life. The course explores the many facets of leadership and leadership development including the processes by which people affect change in a variety of roles and situations. Leadership within a framework of ethics, values, and innovative action are emphasized as a basis for contributing to the process of making good things happen without reliance on formal authority. This is not a traditional course in leadership studies or leading organizations. Instructor: Brown. One course. C-L: Marine Science and Conservation

267S. Global Cold War. CCI, CZ, EI, W One course. C-L: see History 267S; also C-L: Russian 267S, Sociology 267S, Slavic and Eurasian Studies 267S, Study of Ethics 267S, Philosophy, Politics, and Economics

268. Animals and Ethics: Welfare, Rights, Utilitarianism, and Beyond. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 270

270S. Lead the Way Durham: Civic Engagement, Social Innovation, and Community Leadership in the Bull City. EI, SS This course will facilitate the exercise of innovative leadership to address important social and civic needs in Durham. We will explore and shape democracy through grassroots work by engaging with issues of participation, citizenship, equity, justice, and well-being in the Durham community. Learning about Durham's history and with the goal of helping create positive change, students will identify a need, garner the necessary resources, and develop a context specific solution to address this need for the service-learning component of the course. Through active participation and mindful reflection, students will have the opportunity to shape and refine their personal models of social change. Instructor consent required. Instructor: Kaligotla. One course. C-L: Ethics Elective

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 change maker. 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, staff. One course. C-L: Marine Science and Conservation, Ethics Elective

272S. Overlooked Children: Topics of Equity and Access in Gifted Education. CCI, EI, SS One course. C-L: see Education 272S

273T-1. Voices in Public Policy: Spanish Tutorial. Students explore how language and culture impact public policy and practice. Through authentic texts, video, and case studies in Spanish, students analyze policy issues in the Latino/a community to develop their understanding of core issues in the field. 1/2 credit. Satisfactory/Unsatisfactory. Tutorials meet for 75 minutes/week. Taught in Spanish. Prerequisite: 4 semesters of equivalent of Spanish. Instructor: Staff. Half course. C-L: Spanish 271T

274S. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI, W One course. C-L: see Education 277S; also C-L: Global Health 277S, Russian 277S, Study of Ethics 277S, Human Rights Program-Franklin Humanities Institute 277S, Human Rights

275. United States Environmental Policy. EI, SS, STS, W One course. C-L: see Environment 212; also C-L: Human Rights Program-Franklin Humanities Institute 213, Energy and the Environment, Marine Science and Conservation

278. North American Environmental History. CZ, EI, STS One course. C-L: see History 345; also C-L: International Comparative Studies 340

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, International Comparative Studies 229S, Human Rights Program-Franklin Humanities Institute 229S, Islamic Studies, Marine Science and Conservation, Human Rights

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

281A. Marine Policy. EI, SS, STS One course. C-L: see Environment 286A; also C-L: Marine Sciences, Marine Science and Conservation

282S. Social Engineering and Social Movements in Eastern Europe and Asia. CCI, CZ, EI, SS One course. C-L: see Slavic and Eurasian Studies 375S; also C-L: History 333S, Political Science 359S

283. Ethics in an Unjust World. CCI, CZ, EI, SS The course considers the question, “How can we fix poverty?” It begins by exploring the nature of poverty through a variety of descriptive metaphors (for example, poverty as a “trap” or a “disease”). It then considers the word “we,” and in doing so introduces several basic understandings of ethics (deontology, utilitarianism, virtue ethics, etc.) Finally it considers the word “fix” and offers three models for responding to poverty: working for, working with, and being with. Each model explores several examples of good practice followed by critical reflection as students engage with opportunities in Durham displaying each approach. Instructor: Hollowell. One course. C-L: Civic Engagement and Social Change 283

283S. Ethics in an Unjust World. CCI, CZ, EI, SS The course considers the question, “How can we fix poverty?” It begins by exploring the nature of poverty through a variety of descriptive metaphors (for example, poverty as a “trap” or a “disease”). It then considers the word “we,” and in doing so introduces several basic understandings of ethics (deontology, utilitarianism, virtue ethics, etc.) Finally it considers the word “fix” and offers three models for responding to poverty: working for, working with, and being with. Each model explores several examples of good practice followed by critical reflection as students engage with opportunities in Durham displaying each approach. Open only to Duke Immerse students. Instructor: Hollowell. One course.

284. Denial, Faith, Reason: Sustainability and Survival. EI This course investigates both theory and history of the concept of sustainability, and explores its various economic and political manifestations over time. What are the historical roots of the sustainability debate? What aspects of life do various concepts of sustainability entail, and how do they inform modern ethics? What, in the end, does the history of political economics teach us about the possibility of sustainable development? Instructor: Philipsen. One course. C-L: Study of Ethics 285, Economics 285, Environment 276, History 325, Sustainability Engagement 276

285S. Comparative Urban Politics and Policymaking. CCI, EI, SS One course. C-L: see Political Science 235S; also C-L: International Comparative Studies 213S, Human Rights Program-Franklin Humanities Institute 235S, African & African American Studies 234S

287. The Political History of Modern Architecture: From Revolution through Neoliberalism. ALP, CCI, CZ One course. C-L: see Art History 284; also C-L: History 263, Political Science 263

288. International Trade. CCI, SS, STS One course. C-L: see Economics 355; also C-L: Markets and Management Studies

289. Public Finance. QS, SS One course. C-L: see Economics 438

290. Selected Public Policy Topics. Instructor: Staff. One course.

290A. Public Policy Special Topics Away. Transfer grading only. Instructor: Staff. One course.

290D. Selected Topics Public Policy. Topics vary. Discussion version of Public Policy Studies 290. Instructor: Staff. One course.

290S. Selected Public Policy Topics. Seminar version of Public Policy Studies 290. Instructor: Staff. One course.

290S-1. Selected Topics in Public Policy. Satisfactory/Unsatisfactory grading only. Instructor: Staff. Half course.

290T. Selected Topics in Public Policy. Satisfactory/Unsatisfactory grading only. Instructor: Staff. Half course. Instructor: Staff. One course.

291T. Special Topics Tutorial Journalism & Media Studies. Half course. C-L: see Policy Journalism and Media Studies 290T

293AS. Studies in the United States Culture Industries. ALP, R, W One course. C-L: see Visual and Media Studies 279AS; also C-L: Documentary Studies 282AS

295S. Relations between Industrialized and Developing Countries. SS This is a survey course for students interested in learning about the major issues in international relations between industrialized and developing countries. We will move rapidly through topics such as foreign aid, trade, climate change, peacekeeping, colonial history/legacy, disease, NGOs, migration, fragile states, etc. The objective is for all students to gain a sense of the complexity of issues connecting industrialized and developing states, to understand links across issue areas, to introduce students to scholarship and policy on these issues, and to provide a chance for students to critically engage these issues. Assessment includes writing, tests, and presentations. Instructor: Bermeo. One course. C-L: Political Science 251S

298. Authentic Leadership in Private, Public, and Not-for-Profit Organizations. EI, SS Exploration of the attributes of leadership, why some leaders fail and other succeed; identification of the core values each student possesses which will bring success to organizations throughout their lives. Case study format, class participation is critical to success. Each student will develop a personal perspective on leadership, learn from examples of success and failure, look at the ethical challenges facing leaders today, learn the tools leaders use to support successful cultures, enhance self-awareness, and prepare to become successful leaders. Strong emphasis on writing skills, how to communicate briefly and effectively in written memos. Students will also work in teams. Instructor: Eacho. One course.

301. Political Analysis for Public Policy-Making. SS, W Analysis of the political and organizational processes which influence the formulation and implementation of public policy. Alternative models. Prerequisite: Public Policy 155D. Instructor: Carnes, Jentleson, Napoli, Rose, or Krishna. One course. C-L: Political Science 310

302D. Policy Choice as Value Conflict. EI, SS 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: Miles, Pearson, Peck, or Philipsen. One course. C-L: Marine Science and Conservation

303D. Microeconomic Policy Tools. SS 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: Sanders, Darity, Pfaff, Mohanan, Krupp, M. Johnson, Meeks, or staff. One course.

304. Economics of the Public Sector. SS 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: Ananat, Sexton, Bhattacharya, Pfaff, Jeuland, or staff. One course. C-L: Economics 338

306. Anthropology of Money. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 350; also C-L: Economics 309, International Comparative Studies 328, African & African American Studies 211

310. Market Power and Public Policy. QS, SS One course. C-L: see Economics 465

311S. Business and Human Rights Advocacy Lab. EI, R, W One course. C-L: see Study of Ethics 301S; also C-L: Political Science 341S, International Comparative Studies 317S, Human Rights Program-Franklin Humanities Institute 301S, Markets and Management Studies, Human Rights

312A. The Arts in New York: A Thematic Approach. ALP, R, W One course. C-L: see English 312A; also C-L: Theater Studies 213A, Visual and Media Studies 259A

313D. Religion, Restrictions, and Violence. CCI, CZ, EI One course. C-L: see Religion 301D; also C-L: Jewish Studies 301D, Political Science 303D, Study of Ethics 303D, Asian & Middle Eastern Studies 301D

314. Managing the Oceans to Solve Global Problems. EI, SS One course. C-L: see Environment 314; also C-L: Marine Science and Conservation

315. Gender and the Law. CCI, EI, SS One course. C-L: see Gender, Sexuality, and Feminist Studies 401; also C-L: Literature 430, Human Rights Program-Franklin Humanities Institute 401

317S. Illiberal Nondemocracies: Focus on Eastern Europe and Asia. CCI, CZ, SS One course. C-L: see Slavic and Eurasian Studies 388S; also C-L: History 331S, International Comparative Studies 346S, Political Science 301S

318S. Non-Profit Cultural Institutions. EI, SS One course. C-L: see Theater Studies 310S; also C-L: Economics 247S, Innovation and Entrepreneurship 310S, Visual and Media Studies 329S, Dance 208S

324. Global Health Policy: Transforming Evidence into Action. EI, SS, STS One course. C-L: see Global Health 306

326S. Racial Justice in the 20th Century US and South Africa. CCI, CZ, R, SS, W One course. C-L: see African & African American Studies 346S; also C-L: International Comparative Studies 351S, History 396S, Political Science 336S, Human Rights Program-Franklin Humanities Institute 349S, Human Rights

327S. Apartheid South Africa and the Struggles for Democracy. CCI, CZ, EI, R, SS One course. C-L: see African & African American Studies 316S; also C-L: History 386S, Political Science 337S, Human Rights Program-Franklin Humanities Institute 316S, Human Rights

330. Global Health Ethics: Policy Choice as Value Conflict. EI, SS One course. C-L: see Global Health 210; also C-L: International Comparative Studies 397, Human Rights Program-Franklin Humanities Institute 330, Global Health, Human Rights

331. Health Economics. EI, SS, W One course. C-L: see Economics 334

333. War and Public Health in Africa. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 312; also C-L: Cultural Anthropology 312, Global Health 312, Human Rights Program-Franklin Humanities Institute 312, Human Rights

335. Comparative Health Care Systems. CCI, EI, SS The interaction of historical, political, economic, cultural, and legal/ethical factors in how health care systems in high income [OECD] nations are organized and financed and to what end in terms of quality and health outcomes. Major focus on United States, England, and Canada, with select examples from other high income nations including Switzerland, the Netherlands, Japan and Singapore. Instructor: Taylor. One course. C-L: Sociology 271, Political Science 355

337SA. Marketing Québec: Policy, Marketing, and Identity. CCI, FL, R, SS One course. C-L: see French 328SA; also C-L: Markets and Management Studies

338S. Race, Class and the Rise of the American Charter School. CCI, EI, SS, W One course. C-L: see Education 338S

339A. Religion, Security and Global Citizenship in the Arab World. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 326A; also C-L: Religion 371A, International Comparative Studies 362A, Political Science 395A

340S. De/Re/Segregation in Education: A Case of Back to the Future?. CCI, EI, SS One course. C-L: see Education 303S; also C-L: Human Rights Program-Franklin Humanities Institute 303S, Human Rights

340T. Memory Bandits: Human Rights, Duke's History and a Plan to Expand History-Telling. ALP, CCI, EI, R, SS One course. C-L: see Cultural Anthropology 347T; also C-L: History 340T, Human Rights Program-Franklin Humanities Institute 346T, Human Rights

342. History of Modern America: The United States from 1930 to present. CZ, SS One course. C-L: see History 343; also C-L: Human Rights Program-Franklin Humanities Institute 343, Human Rights

343. Journalism in the Age of Data. SS, STS One course. C-L: see Policy Journalism and Media Studies 375

344. History of U.S. Social Movements. CCI, CZ, EI, SS One course. C-L: see History 344; also C-L: Human Rights Program-Franklin Humanities Institute 344, Human Rights

345. Genocide and Human Rights. CCI, CZ, EI, R, SS One course. C-L: see History 272; also C-L: Human Rights Program-Franklin Humanities Institute 272, Human Rights

346S. Family Rights/Human Rights. CCI, CZ, EI, SS One course. C-L: see History 389S; also C-L: Human Rights Program-Franklin Humanities Institute 389S, Latino/a Studies in the Global South, Human Rights

347S. The Connection between Human Rights, Memory and How Societies Create Memorials. ALP, EI One course. C-L: see Cultural Anthropology 346S; also C-L: History 350S, Human Rights Program-Franklin Humanities Institute 346S, Human Rights

348. Science and Policy of Obesity. SS, STS One course. C-L: see Science & Society 248

349. Global Environmental Politics. SS One course. C-L: see Environment 348; also C-L: Political Science 348

350S. The University as a Culture: A Survivor's Guide. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 347S; also C-L: Education 347S, History 334S, Sociology 324S, Human Rights Program-Franklin Humanities Institute 347S, Human Rights

351A. The Economic and Political History of the European Union. CCI, CZ, FL, SS One course. C-L: see French 351A; also C-L: Political Science 325A, History 331A, Economics 330A

352. U.S-Russia Relations: 1991-2016. CCI, SS One course. C-L: see Russian 415; also C-L: Political Science 415

353S. U.S. Policy in the Middle East. CCI, EI, SS One course. C-L: see Political Science 352S

354. Politics in the Developing World. CCI, R, SS One course. C-L: see Political Science 354; also C-L: International Comparative Studies, Islamic Studies

355A. Political Economy of Immigration. CCI, SS Two courses. C-L: see Political Science 294A; also C-L: Economics 434A, Sociology 294A

356A. Globalization and Deglobalization. FL, SS One course. C-L: see French 350A; also C-L: Political Science 320A, Economics 320A, International Comparative Studies 363A

357S. Watchdog Reporting in Politics. EI, W One course. C-L: see Policy Journalism and Media Studies 374S; also C-L: Political Science 374S, Study of Ethics 374S

358S. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360S; also C-L: Literature 361S, Asian & Middle Eastern Studies 360S, Sociology 360S,

International Comparative Studies 369S

359. Violent Jihad in the Twentieth Century - A Global History. CCI, CZ One course. C-L: see History 359; also C-L: Asian & Middle Eastern Studies 359, Political Science 382, International Comparative Studies 361

360S. Post-1945 America. CCI, CZ, R, W One course. C-L: see History 395S

361S. Algorithms, Journalism and the Public Interest. EI, SS, STS One course. C-L: see Policy Journalism and Media Studies 361S

363S. Legal Issues for the Performing Arts. EI, SS One course. C-L: see Theater Studies 311S; also C-L: Economics 223S, Dance 379S, Innovation and Entrepreneurship 311S

364S. Art of the Interview. R, W One course. C-L: see Policy Journalism and Media Studies 364S; also C-L: Documentary Studies 364S

365S. Video Journalism. ALP, SS One course. C-L: see Policy Journalism and Media Studies 365S; also C-L: Visual and Media Studies 305S, Documentary Studies 367S, Information Science + Studies, Policy Journalism and Media Studies

366S. Magazine Journalism. SS, W One course. C-L: see Policy Journalism and Media Studies 366S; also C-L: Documentary Studies 356S, Policy Journalism and Media Studies

367S. News Writing and Reporting. R, SS, W One course. C-L: see Policy Journalism and Media Studies 367S; also C-L: Policy Journalism and Media Studies

369S. The Intersection of Politics, Policy, and Media. SS One course. C-L: see Policy Journalism and Media Studies 386S

371. News as a Moral Battleground. EI, R, SS, W One course. C-L: see Policy Journalism and Media Studies 371; also C-L: Study of Ethics 259, Documentary Studies 371, Human Rights Program-Franklin Humanities Institute 371, Human Rights, Documentary Studies

372. Information, Technology, Ethics and Policy. EI, SS, STS One course. C-L: see Policy Journalism and Media Studies 372; also C-L: Political Science 388, Information Science + Studies, Policy Journalism and Media, Ethics Elective

373. 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: Staff. One course. C-L: Innovation and Entrepreneurship 373, Markets and Management Studies, Policy Journalism and Media

374. Contemporary Documentary Film: Filmmakers and the Full Frame Documentary Film Festival. ALP, CCI, STS One course. C-L: see Visual and Media Studies 264; also C-L: Documentary Studies 270, Political Science 276, Arts & Sciences IDEAS themes and University Course 206

375S. Public Policy Video. ALP, CCI, SS One course. C-L: see Documentary Studies 271S; also C-L: Visual and Media Studies 377S, Human Rights Program-Franklin Humanities Institute 271S, Human Rights

376D. Foreign Policy of the United States. CCI, SS One course. C-L: see Political Science 365D

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, Visual Arts 204S

379S. The First Amendment in the Digital Age. EI, SS Analysis of the role of the First Amendment in content-oriented media and communications. Examination of the relationship between American intellectual property regimes and the Bill of Rights, proscription of "any law...abridging the freedom of speech, or of the press...." Critical readings of commentary and some case law, with extensive classroom discussion in a small seminar format. Substantive topics include policy-based perspectives on digital encryption and performance, open source software, rights clearance issues, infringement theory in derivative works, dilution theory, and jurisdiction in cyberspace. Prerequisite Public Policy Studies 373S or PJMS 373S. Instructor: Staff. One course. C-L: Policy Journalism and Media

380S. 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, International Comparative Studies 342S, Human Rights Program-Franklin Humanities Institute 342S, Human Rights

382S. Refugee Policy and Practice (DukeImmerse). CCI, EI, QS, SS One course. C-L: see Study of Ethics 388S; also C-L: International Comparative Studies 355S, Political Science 357S

383S. Politics of Sexuality. CCI, CZ, R, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 386S; also C-L: Study of Sexualities 386S, Human Rights Program-Franklin Humanities Institute 386S, History 346S

386SA. Politics and Culture Between Europe and the Middle East. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 381SA; also C-L: History 378SA, International Comparative Studies 225SA

387S. Documenting Black Experiences. ALP, CCI, CZ One course. C-L: see Documentary Studies 350S; also C-L: African & African American Studies 225S, Visual and Media Studies 213S, Cultural Anthropology 262S, International Comparative Studies 368S, Human Rights Program-Franklin Humanities Institute 350S, Human Rights

388S. Human Rights and Documentary: Aesthetics, Ethics, History. ALP, CZ One course. C-L: see Documentary Studies 366S; also C-L: History 398S, Visual Arts 366S, Visual and Media Studies 368S, Human Rights Program-Franklin Humanities Institute 366S, Human Rights

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

390A. Duke-Administered Study Abroad: Advanced Special Topics in Public Policy Studies. Topics differ by section. Instructor: Staff. Variable credit.

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. ALP, SS One course. C-L: see Documentary Studies 202S; also C-L: Visual and Media Studies 211S, Child Policy Research

397S. Advanced Reporting. W One course. C-L: see Policy Journalism and Media Studies 397S

399A. Global Russia. CCI, CZ, EI, SS One course. C-L: see Russian 399A; also C-L: Cultural Anthropology 399A, International Comparative Studies 399A

401S. Capstone Course for Certificate in Civic Engagement and Social Change: Lives of Civic Engagement. CZ, EI One course. C-L: see Education 401S; also C-L: Political Science 401S, Study of Ethics 401S, Ethics Elective

406S. South African Life Histories. CCI, CZ, R, W One course. C-L: see African & African American Studies 406S; also C-L: History 450S, Political Science 406S, Human Rights Program-Franklin Humanities Institute 406S, Cultural Anthropology 406S

409. Leadership in International Relations. CCI, SS One course. C-L: see Russian 410

410. Policy Journalism and Media Studies Capstone Course. R, SS One course. C-L: see Policy Journalism and Media Studies 410

411S. Historicizing Whiteness. CCI, CZ, EI, R, SS Examines origins, historical development, and consequences of white racial identity, from the 17th century to the present, beginning with the emergence of white racial grammar among trafficked white servants and so-called “white slaves” to the creation of racialized rights and privileges for white people in Great Britain and the United States in the 19th, 20th, and 21st centuries. Instructor: Peck. One course. C-L: History 411S, Human Rights Program-Franklin Humanities Institute 411S, Human Rights

414S. Research in Human Rights. CCI, EI, R, SS Focuses on human rights issues in North Carolina, the United States, and around the world. General human rights literature along with several detailed case studies will prepare students to undertake an original piece of research on a topic of their choice. Offered through the DukeImmerse Program. Director of Undergraduate Studies consent required. Instructor: Kirk. One course. C-L: Cultural Anthropology 414S, History 414S

415. Servant Leadership in a Democracy. EI, R, SS, W Capstone course 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. C-L: Policy Journalism and Media

417S. Critical Interventions in Middle East Studies and Policy. CCI, CZ, SS One course. C-L: see Asian & Middle Eastern Studies 479S; also C-L: History 417S, International Comparative Studies 408S, Literature 417S, International Comparative Studies

420S. Multidisciplinary Approaches to Contemporary Children's Issues. R, SS One course. C-L: see Child Policy 495S

425. Intellectual Property and Innovation: Law, Policy & Entrepreneurship. EI, SS, STS One course. C-L: see Markets and Management Studies 425; also C-L: Sociology 425, Economics 295, Information Science + Studies 425

445A. Climate Change in the Marine Environment. EI, NS, STS One course. C-L: see Environment 445A; also C-L: Biology 445A, Marine Sciences, Marine Science and Conservation

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.

473S. Building a Sustainable Tomorrow. SS, STS One course. C-L: see Sustainability Engagement 498S

490S. Capstone Seminars in Special Topics in Public Policy. Selected topics for courses offering capstone experiences or advanced research. Instructor consent required. Instructor: Staff. One course.

493A. Politics and Policy Practicum for Duke in DC. R, SS In this course, students develop policy expertise and professional skills relating to their Washington internship. In their final paper, students analyze a policy issue they have encountered in their internship and develop and evaluate alternative approaches to the issues. The course also provides students with skills that enhance their internship experience and that prepare them for future research and policy work. The skill-building components may include: analyzing sources of information, interviewing for research and for policy analysis, doing sensitivity analysis, providing constructive criticism, and briefing expert and non-expert audiences. Instructor: Staff. One course. C-L: Political Science 494A

494. Honors Project: Research Independent Study. R Individual research in field of special interest under supervision of a faculty member leading to completion of an honors thesis in Public Policy Studies. First semester requires substantive paper that outlines thesis. Second semester results in paper containing significant analysis and interpretation of the topic. Open only to students seeking honors via research independent study route. Consent of instructor and honors project director required. 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.

497S. Senior Seminar Special Topics. For special topics courses that are targeted toward upper-level students and capstone experiences. Instructor: Staff. One course.

501S. American Grand Strategy. CZ, R, SS, W 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. C-L: Political Science 543

505S. National Security Decision Making. EI, SS Course explores the delicate art of national security decision-making through deeper understanding of national security apparatus, analysis of elements of national power (examination of historical examples of application), and application of analysis to assess merits of various approaches to national security decision-making. Instructor: Nichols.

506. Politics of United States Foreign Policy. EI, R, SS Focus on politics of U.S. foreign policy: which institutions and actors within the American political system play what roles and have how much influence in making U.S. foreign policy. Fundamental questions about nature and practice of democracy as manifested in politics and policy processes in making US foreign policy. Scope is both historical and contemporary. Approach combines theory and policy analysis. Complements Pub Pol 502S, Contemporary U.S. Foreign Policy, which focuses more on foreign policy strategy. Instructor: Jentleson. C-L: Political Science 547, International Comparative Studies 506

507S. Intelligence for National Security. EI, SS Addresses complex US intelligence enterprise that has been established to support our national security priorities. First, students review and discuss current structure of national intelligence apparatus. Case studies are used to evaluate effectiveness and design of intelligence agencies and their accompanying capabilities. Finally, students conduct independent research on select intelligence agencies and organizations. Instructor consent required. Instructor: Nichols.

508. Culture and Explosion: How Russian Culture Changed the World. ALP, CCI, CZ, STS C-L: see Russian 533; also C-L: Cultural Anthropology 533

510S. Science and the Media: Narrative Writing about Science, Health and Policy. STS, W C-L: see Bioethics and Science Policy 510S; also C-L: Policy Journalism and Media Studies 510S, Documentary Studies

511. Social Innovation Practicum. C-L: see Innovation and Entrepreneurship 510

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, International Comparative Studies 514S

519. International Development and Technology: The Benefits and Risks of Promoting Digitalization. C-L: see Science & Society 519

524S. Social Determinants of Health Disparities. CCI, EI, SS This course utilizes a Social Determinants of Health (SDH) perspective to explore health differences. The SDH are life enhancing resources and life compromising risks the differential distribution of which determines inter-population differences in health. The SDH perspective suggests that a range of policy decisions are systematically associated with health. Consequently, virtually all policy is health policy. The objective of this course is to have students critically examine the various processes influencing health across diverse population groups. We will examine identity construction, stratification, marginalization, inequality and the physical embodiment of lived social experience. Instructor: Pearson.

525S. Poverty Policy After Welfare Reform. EI, SS An examination of causes and consequences of poverty in the United States, reviewing major social policies used to combat poverty. Examines evidence on the effects of the 1996 welfare reform and studies the piecemeal anti-poverty programs that have risen in place of traditional welfare. Considers tradeoffs and unintended consequences present in America's safety net. Instructor: Gassman-Pines.

526S. Race and American Politics. CCI, SS C-L: see Political Science 525S; also C-L: African & 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, Human Rights Program-Franklin Humanities Institute 561, Human Rights

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 & African American Studies 551S, International Comparative Studies 529S

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 citizenship. Gender differences in individual civic engagement and in the styles and priorities of male and female elected officials. The historic evolution of women's organizational engagement in gender-specific and general-purpose public policies. The impact of globalization on women. The oppression and emancipation of women in traditional societies. The legitimacy crises facing maternal, second wave, and third wave feminism. Instructor: Goss. C-L: Political Science 521S, Gender, Sexuality, and Feminist Studies 515S

531S. Philanthropy: The Power of Money. EI, R, SS Seminar course with applied project designed to deepen understanding of role of private wealth in shaping public policy. Provides overview of philanthropy in America, emphasizing new generation of billionaires. Engages philosophical debates over obligations and opportunities of wealth in an age of income inequality and governance challenges. Discusses laws structuring politically oriented giving. Explores strategies donors use to pursue their vision of the public good, including new work at intersection of business, social sector. Evaluates why some strategies succeed while others fail. Case studies may include education reform, community development, clean energy, etc. Instructor: Goss.

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 & African American Studies 549S, Education 542S, Child Policy Research

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: Staff. C-L: Child Policy Research

555S. The Politics of Market Competition in a Global Economy. R, SS C-L: see Political Science 555S; also C-L: Study of Ethics 555S, Markets and Management Studies

556S. The Global Cold War. CCI, CZ, SS Examines key episodes and issues in the international history of the Cold War. Seminar readings will be drawn from historical literature and primary sources. Topics will extend beyond the traditional focus on US-Soviet rivalry and examine the conflict's impact on societies around the world, especially in newly independent states. Evaluation will be based on seminar participation and written assignment focused on primary source usage. Students will think about not only history, but also how the Cold War's effects are still being felt today. Instructor: Miles. C-L: Political Science 542S, History 556S

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.

560S. Philanthropy: the Theory of Practice and the Practice of Theory. R, SS Role of grantmaking foundations as engines of social, economic, and political change. Normative implications for democracy of elites using wealth to influence society. Theories of strategic vs. expressive philanthropy. Debate over time-limited vs. perpetual foundations. Cases of philanthropy's impact in realms such as education, public television, and AIDS research. New philanthropic ventures that hybridize for-profit and non-profit approaches. Consulting project to guide newly wealthy individuals in philanthropic strategy. Instructor: Goss.

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, International Comparative Studies 561

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 statuaries, 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 & 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: Staff. C-L: Child Policy 634S, Sociology 634S, Child Policy Research

564. Democracy Lab. SS The Democracy Lab involves teams of students working on finding innovative approaches to a variety of political issues. The course will largely consist of client-based projects in which the teams, coached by the professor, that produce a substantial report or the equivalent that contributes to the health of political processes. Examples of topics may include, but not be limited to: reforming redistricting processes, designing voter rules, social media and politics, student voting at Duke, money in politics, and bridging societal divides. Instructor: Staff.

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, Energy 520, Marine Science and Conservation

577. Environmental Politics. SS C-L: see Environment 577; also C-L: International Comparative Studies 577, Energy and the Environment

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 533S, Environment 543S, International Comparative Studies 580S

581S. International Environmental Regimes. EI, SS, STS C-L: see Political Science 545S; also C-L: International Comparative Studies 521S

582. 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: Environment 538, Global Health 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, Energy and the Environment

584. Resource & Environmental Economics II. SS Variable credit. C-L: see Environment 521; also C-L: Economics 531

585. Climate Change Economics and Policy. C-L: see Environment 640

590. Advanced Topics in Public Policy. Selected topics. Instructor: Staff.

590S. Advanced Topics in Public Policy. 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: Staff. C-L: Economics 521, Environment 532

596D. 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: Staff. C-L: Economics 521D, Environment 532D

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: Staff. 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, history and institutions in explaining patterns and causes of variations in growth and developmental performance of countries. Effects on growth, development, wellbeing and poverty levels of many current policy issues including HIV/AIDS, financial crises, macro-stability, foreign aid and investment, debt burdens and forgiveness, governance and corruption. Instructor: Fernholz. C-L: International Comparative Studies 598

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: Staff. 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: Staff. 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.

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.) Prerequisite: Public Policy Studies 303D or Economics 201D. 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

607. Cost-Benefit Analysis for Health and Environmental Policy. R, SS C-L: see Global Health 531; also C-L: Environment 563

608. Economics of the Family. QS, 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: Staff. C-L: Child Policy Research

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: Staff. C-L: Political Science 617S

610. 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: Staff.

613S. Technology Policy for the New Administration: Antitrust, Speech and Other Emerging Issues. SS, STS A seminar that will explore the technology policy agenda for the administration that will begin in January 2021. The course will examine how the new administration should consider policy design for technology, and will evaluate the potential impact of various policy proposals in consideration. Topics will include antitrust policy, harmful content, and free expression. Additional topics may include privacy, cybersecurity, law enforcement and national security, and artificial intelligence. The focus of the course may shift based on current events. Instructor: Perault. C-L: Science & Society 613S

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 550

634. Ethics and Policy in Genomics. EI, R, SS C-L: see Science & Society 612; also C-L: Computational Biology and Bioinformatics 612

635. The Politics of Health Care. EI, SS The history, status, and future of health care policy. Grounded in political theories such as distributive justice, altruism, and contractarianism. Focus on policy formation. Case discussions of American reform controversies in light of international experience. Instructor: Conover. C-L: Political Science 518

636. Global Health and Health Systems in Africa. SS C-L: see Global Health 671

637. Health Policy Analysis. R, SS, W Group analysis of a current health-policy problem. Project involves background research, data acquisition, analysis, writing, and presentation of a substantial policy report. Designed for candidates seeking the undergraduate certificate in health policy. Consent of instructor required. Instructor: Taylor.

638. Global Health Ethics: Interdisciplinary Perspectives. EI, SS C-L: see Global Health 540

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: Staff.

641S. Cancer in Our Lives: Film, Narrative, Fiction, History and Politics. EI, SS, STS Cancer and cancer research viewed through history, narrative, film, fiction. Covers how cancer affects the lives of individuals and families, how cancer research has changed, the politics of cancer research, and the academic-industry-government ecosystem that gives rise to new cancer diagnostics and treatments. Intended for undergrads from humanities, social sciences or sciences and grad or professional students. Heavily discussion-based. Instructor: Cook-Deegan. C-L: Science & Society 641S

642S. Designing Innovation for Global Health: From Philanthropy to People. EI, SS, STS Explores the introduction, adaptation, and globalization across borders of health technologies, with emphasis on resource-limited settings. Students will critically examine how policy can influence and funding can enable (or not) their innovation and access in low- and middle-income countries. Topics include policies to minimize inequity, systems for sharing and owning knowledge, approaches to innovative financing, and ethical issues. Instructor: Staff. C-L: Global Health 642S

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: Staff. C-L: African & African American Studies 548S

645S. Global Inequality Research Seminar. ALP, CCI, R, SS Engagement of vertically integrated research teams in projects exploring racial and ethnic disparities exhibited and expressed in six arenas: employment, wealth, health, political participation, education, and arts and culture. Each team will produce a major paper that will qualify for submission to a refereed journal in the area relevant to the focus of the study. Instructor consent required. Instructor: Staff. C-L: African & African American Studies 642S, Economics 541S, Sociology 642S, Political Science 642S, Human Rights Program-Franklin Humanities Institute 642S, Human Rights

646S. Strategic Storytelling: Narratives for Development. ALP, CCI, EI, SS With a broad array of storytelling mediums, we ask how “sticky” stories told about poverty or development strategically can add to our ability properly to understand poverty and to conduct appropriate development policies more effectively. What are the benefits and limitations of considering public policy problems by entering through the arts of storytelling and of storylistening? How do stories help readers/listeners become alive to ethical and cultural considerations previously unseen or unheard? How might these stories enable storytellers to tell stories on their own terms, opening up new and critically important terrains for public policy? Soft power strategy. Guest practitioners. Instructor: Admay. C-L: Study of Ethics 646S, International Comparative Studies 646S, Human Rights

647S. Legal Analysis for Development Governance. CCI, EI, SS Using case scenarios, we apply a legal analytical framework to development-related governance challenges in investment, trade, environment, land, community and human rights, health, corruption, corporate social responsibility, consumer literacy, children’s legal personality and other sectors. “Rules of the Game” and legal rules. Three levels: international, national (constitutional), community. De-mystify the way legal processes and legal authorities work (and don’t work) to advance development, and help public policy students and others engage effectively on the strength of this knowledge. For non-lawyers and those considering law careers. Guest practitioners. Case debriefings, briefings. Instructor: Admay. C-L: Political Science 682S, Human Rights

651S. Theories of International Political Economy. SS C-L: see Political Science 651S

667S. American Civil-Military Relations. R, SS C-L: see Political Science 667S

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: Staff. C-L: Visual and Media Studies 563, Information Science + Studies, Policy Journalism and Media

676. Media and Social Change. CCI, R, SS, STS C-L: see Policy Journalism and Media Studies 676; also C-L: Political Science 619, Russian 516, International Comparative Studies, Information Science + 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: Staff.

680S. Ethical Foundations of Innovative Technology Policy. EI, STS C-L: see Science & Society 680S

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 Economics 201D; Public Policy Studies 304 (with Public Policy Studies 303D or Economics 201D as a prerequisite); one history course; Statistical Science 101; plus four Public Policy Studies 160-699-level elective courses, one of which must be a 401-699-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: 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 noncredit, Satisfactory/Unsatisfactory 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.

Prior to beginning the internship, students must take all of the following courses: Public Policy Studies 155D, 301 or 302, and Statistical Science 199L (Global Health 210 can substitute for Public Policy Studies 302). All of these courses are listed as prerequisites for Public Policy Studies 120. 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 coursework that builds upon the knowledge gained from their internship experiences.

Departmental Graduation with Distinction

For departmental Graduation with Distinction, students are required to complete an honors seminar or independent study project and produce an honors research project. To be awarded Graduation with 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.

Religious Studies

Professor Goodacre, *Chair*; Professor Knust, *Director of Undergraduate Studies*; Professors Brettler, Chaves, Goodacre, Jaffe, Knust, Lieber, Morgan, and Peters; Associate Professors Hassan, Prasad, and Winters; Instructor Need; *Affiliated Faculty*: Professors Aers (English), Wharton (Art, Art History & Visual Studies), Beckwith (English), and Surin (Literature); Associate Professor Hacohen (History); Visiting Assistant Professors Freeman (History) and Dubois; Research Professor Kadivar

A major and a minor are available in this department.

Study in the Department of Religious Studies 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 199 include survey or general courses; courses numbered from 200 through 399 include 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 upper-class students with the consent of the instructor.

Courses in Religious Studies (RELIGION)

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: Morgan, Winters, Knust, or staff. One course.

110. Self, Society and Art in Modern 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. C-L: Asian & Middle Eastern Studies 111

120. Buddhism. CCI, CZ, EI Introduction to Buddhist texts, beliefs, rituals, and ethics in the past and present. Instructor: Jaffe or staff. One course. C-L: Asian & Middle Eastern Studies 114

140. Judaism. CCI, CZ Introduction to Judaic civilization from its origins to modern times. Instructor: Lieber or Staff. One course. C-L: Jewish Studies 140, Gender, Sexuality, & Feminist Studies

141. Judaism Through Film. ALP, CCI, CZ, EI, W An overview of major themes in Jewish practice, belief, identity, and history as presented through the medium of film. Emphasis will be on contemporary Judaism in Europe, America, and the Middle East. Instructor: Lieber. One course. C-L: Jewish Studies 141

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: Brettler or Peters. One course. C-L: Jewish Studies 145, Ethics Elective

150. Christianity. CCI, CZ, EI Introduction to Christian doctrine, ritual, social organization and ethics in the past and present. Instructor: 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: Staff. One course.

155. The New Testament. CCI, CZ, EI Examination of the major books of the New Testament, covering their contents, ethical implications, historical and social setting, authorship, date, and theology. Instructor: Goodacre, Knust, or staff. One course.

156. Scripture: Judaism, Christianity, and Islam. ALP, CCI, CZ, EI Judaism, Christianity, and Islam are characterized as religions of the book. Their sacred texts are foundational to the faiths they represent. In spite of shared histories, overlapping contents, and parallel perspectives, their Sacred Scriptures diverge in key points of content, interpretation, and uses by their communities. In this course, students will be introduced to the history, contours, and content of the Hebrew Bible/Old Testament, the New Testament, and the Qur'an and hadith, exploring issues of scripture and authority, texts and manuscripts, translation and interpretation, performance, canonicity, ethical issues, and contemporary use. Instructor: Brettler, Goodacre, McLarney. One course. C-L: Asian & Middle Eastern Studies 138, Jewish Studies 156

160. Islam. CCI, CZ, EI Introduction to Islamic theology, practice, social institutions, and ethics in the past and present. This course uses original Islamic texts, academic prose, as well as film and fiction. Two short papers, quizzes, and brief presentation are required. Instructor: Kadivar. One course. C-L: Asian & Middle Eastern Studies 160, International Comparative Studies 160, 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: Need or staff. One course. C-L: International Comparative Studies 108, Asian & Middle Eastern Studies 115

176. Japanese Religions: Buddhas, Gods, and Monsters. CCI, CZ, EI Buddhas, deities, and demons inhabit daily life in contemporary Japan, but many Japanese people insist that they are not religious. This course examines how "religion" itself is understood in Japan, as well as the various strands of Japanese religious life from prehistoric times until the present. We will explore traditions including Shinto and kami (deity) worship, Buddhism, Christianity, Confucianism, and the New Religions; and investigate the ethical, social, and political dimensions of these traditions. Instructor: Staff. One course. C-L: Asian & Middle Eastern Studies 174

180S. Migration and Human Rights in Korea: Local and Global Perspectives. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 178S; also C-L: International Comparative Studies 105S

181. Silk Roads and China, Ancient and Medieval Transformations. CCI, CZ One course. C-L: see History 135; also C-L: Asian & Middle Eastern Studies 207, Medieval and Renaissance Studies 135

185. America's Gods: Religion in the Public Square. CCI, CZ This course examines the role and manifestation of religions in American public life. It pays special attention to controversies that have shaped American legal, political, cultural, and social history. Topics include media representation of religions, public monuments, race, gender, sexuality, and religious diversity. Instructor: 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. Topics vary from semester to semester. Open only to students in the Focus Program. Instructor: Staff. One course.

190S. Special Topics Seminar. Topics and instructors to be announced. Instructor: Staff. One course.

201. Race, Film, and Sacred Value: Spike Lee and Quentin Tarantino. ALP, CCI, CZ, EI In this course we will examine and juxtapose the films of Spike Lee and Quentin Tarantino. Paying attention to stylistic and thematic matters, we will ask questions like: How do these two filmmakers represent violence, tragedy, and loss differently? How do their films become occasions for us to think about race, gender, history, and narrative in different ways? What are these filmmakers making us remember (and reimagine) and why is this important? How do themes like sacred value, redemption, and even hope function in their films? Instructor: Winters. One course.

208. Ancient Myth. ALP, CCI, CZ One course. C-L: see Classical Studies 208; also C-L: Theater Studies 228

212. Jews and Muslims, Judaism and Islam. CCI, CZ, EI One course. C-L: see Jewish Studies 256; also C-L: Medieval and Renaissance Studies 357, Asian & Middle Eastern Studies 216, History 294, Islamic Studies

213S. Shamanism and Spirit Possession. CCI, CZ, EI, R, SS Anthropological, psychological, and Religious Studies approaches to cross-cultural study of spirit possession and shamanism. Examination of in-depth case-studies and comparative works, from both literate civilizations and non-literate cultures. Engage with contemporary concerns with nature and boundaries of personhood and embodiment and their relation to leadership. Instructor: Freeman. One course. C-L: Cultural Anthropology 214S, History 215S, International Comparative Studies 256S

214S. Andalusia: Muslim, Jewish, Christian Spain. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 319S; also C-L: Jewish Studies 319S, Romance Studies 319S, Medieval and Renaissance Studies 352S

215. Greek and Roman Religion. CCI, CZ One course. C-L: see Classical Studies 264

216S. Hinduism and Judaism: Culture, Religion, and Identity. CCI, CZ Using interdisciplinary comparative frameworks, this course will study how two major world religions, Hinduism and Judaism, create a dynamic cosmos that brings abiding meaning to the daily lives of millions of believers. Explores concepts such as "ritual" and "myth" by examining Jewish and Hindu materials from early to modern times. The broader aims of the course are to understand how each tradition imagines time, space, and matter, and to explore how claims about the sacred are transformed in modernity. Ultimately, it aims to inspire reflection on how religion, identity and culture function in the modern world. Instructor: Brettler, Prasad. One course. C-L: Asian & Middle Eastern Studies 349S, Jewish Studies 215S

219S. Muslim Women Across the Ages. CCI, CZ, SS, W This course explores the diverse realities of Muslim women's lives, from the origins of Islam to the present, through autobiographical and biographical accounts situated in their social, economic, political, and cultural contexts. The women we will encounter through textual and audiovisual materials represent a wide range of personal backgrounds, including scholars, mystics, merchants, philanthropists, poets, slavegirls, feminists, and Islamists. We will metaphorically travel across the globe and time to understand the multifarious facets of Muslim women's lived experiences. Instructor: Hassan. One course. C-L: Gender, Sexuality, and Feminist Studies 209S, International Comparative Studies 365S, History 225S, Asian & Middle Eastern Studies 224S, Cultural Anthropology 224S, Human Rights Program-Franklin Humanities Institute 219S

225. Islam in the Age of Trump: Race, Immigration, and Empire. CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 225

228. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ, EI, R One course. C-L: see Asian & Middle Eastern Studies 186; also C-L: History 212, Slavic and Eurasian Studies 287, Islamic Studies

232S. Prophecy and Prophets: Then and Now. CCI, CZ Seminar version of Religion 232. Instructor: Peters. One course.

234. Martin Luther King and the Prophetic Tradition. CCI, CZ, EI, R, SS One course. C-L: see Asian & Middle Eastern Studies 317; also C-L: African & African American Studies 249, Public Policy 253, Human Rights Program-Franklin Humanities Institute 249, Human Rights

236S. Religion in Black America. CCI, CZ Seminar version of Religion 236. Instructor: Peters. One course. C-L: African & African American Studies 270S

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: Morgan or Staff. One course. C-L: Visual and Media Studies 233, Ethics Elective

238S. Activism & Christianity in Modern America. CCI, CZ, EI, W An exploration of the relation of Christian belief and practices with agitation for social change, with a focus on the United States from the colonial period to the present. Attention given to how identity, power, and suffering shape historical judgments about the intersection of religion and ethics. Close readings of primary sources drawn from autobiographies, letters, sermons, poems, and treatises. Figures may include John Wesley, Sojourner Truth, Frederick Douglass, Martin Luther King Jr., Pauli Murray, Dorothy Day, Thomas Merton, Daniel Berrigan. Instructor: Staff. One course. C-L: Study of Ethics 238S, Political Science 244S, African & African American Studies 238S

240SL. West African Rootholds in Dance. ALP, CCI, CZ One course. C-L: see Dance 335SL; also C-L: African & African American Studies 220SL

241. Dance and Dance Theater of Asia. ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Theater Studies 233, Asian & Middle Eastern Studies 246, International Comparative Studies 243

242. Kundalini Yoga and Sikh Dharma. ALP, CCI, CZ One course. C-L: see Dance 357L

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

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: Need or staff. One course. C-L: Dance 255, Asian & Middle Eastern Studies 247

248. Hip Hop and Religion. ALP, CCI, CZ, EI For many people, hip-hop and religion are incompatible. Hip-hop seems to be defined by materialism, arrogance, violence, misogyny, and a general rejection of sacred ideals and values. In this course, we will challenge these assumptions by exploring the intersections between hip hop and religion, while questioning what these terms mean and signify. We will examine aspects of hip-hop (rap lyrics, video images, cultural rituals, films) that explicitly or implicitly express religious commitments and sensibilities. Instructor: Winters. One course. C-L: African & African American Studies 248, English 299, Gender, Sexuality, and Feminist Studies 299

250. Art and Christianity: A History of Christian Visual Culture. ALP This course is an introduction to the history of Christian visual culture from the early Middle Ages to the present. Beginning with controversies concerning the nature of images and their role in Christian worship, the course moves through successive eras of Christian history, focusing on Western Europe in the medieval and early modern eras, then following Christianity around the globe in the colonial period, ending with examination of modern European and American art that draws in different ways from the history of Christian ideas and practices. Readings and discussion in class focus on objects such as reliquaries, paintings, architectural settings, illustrated books, and prints. Instructor: Morgan. One course. C-L: Art History 251

254. Christian Ethics and Modern Society. CZ, EI, W One course. C-L: see Study of Ethics 220; also C-L: Political Science 253

257. Four Funerals and a Wedding: Introduction to Chinese Religious Life. CCI, CZ, R, SS This is an introductory course on contemporary Chinese religious life. Students are encouraged to think comparatively about religious life with sociological as well as historical imagination. We examine the major religious traditions in China today—Confucianism, Buddhism, Daoism, Christianity, Islam, and popular religious traditions—through rituals and beliefs related to everyday life, such as birth, marriage, and death. Case studies include a history of the development of Confucianism; an analysis of essential concepts and practices in Daoism; a narrative of Catholicism in a Chinese village; a history of women's mosques in China; and a study of contemporary popular religious practices. Instructor: Sun. One course. C-L: Asian & Middle Eastern Studies 257

258. Religion and the Novel in Modern India. ALP, CCI, CZ, EI Indian writing in English, especially the novel, provides a unique understanding of religion in the world's largest democracy. The novel has come of

age in India, seen innovations and has influenced world literature. Indian and Indian-origin novelists have been Booker and Pulitzer winners, Commonwealth awardees, and Sahitya Akademi laureates. Course will examine how the Indian novel in English understands and mediates tradition and modernity, selfhood and society in a deeply diverse culture. Includes novels written during the twilight of British colonial rule, the Partition, and contemporary decades of rapid globalization and diasporic change. Instructor: Prasad. One course. C-L: Asian & Middle Eastern Studies 255, English 258

260. Pilgrimage and Tourism. ALP, CCI, CZ, EI, W One course. C-L: see Visual and Media Studies 336

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, English 254

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, Literature 245, History 253

263. Mystical Literature. ALP, CCI One course. C-L: see Asian & Middle Eastern Studies 322; also C-L: International Comparative Studies 323, Islamic Studies

264S. Religion & Journalism. CZ, R This course explores the many and complex ways in which religion converges with and diverges from journalism. Instructor: Carneiro. One course. C-L: Study of Ethics 264S, Policy Journalism and Media Studies 264S

266S. Harry Potter and Religion. CZ This course explores the response of many Christians to the Harry Potter book series. Some theologically conservative Protestants have claimed that the Potter books contain satanic messages, promote witchcraft, and celebrate practices of the occult. By contrast, many supporters of the books insist they positively convey Christian messages. By investigating the debate, "Harry Potter & Religion" also examines the history of thought concerning "magic" and "religion," the sometimes blurred boundaries between religion and science, and the place of technologies of enchantment in all of the above--magic, religion, and science alike. Instructor: Carneiro or staff. One course.

268. 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 268, Visual and Media Studies 269, Documentary Studies, Ethics Elective

269S. 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, Human Rights Program-Franklin Humanities Institute 308S, Human Rights

270. Black Gods and Kings: Priests and Practices of the Afro-Atlantic Religions. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 269; also C-L: African & African American Studies 269

271. Sex and Gender in the Hebrew Bible. 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: Staff. One course. C-L: Jewish Studies 271, Gender, Sexuality, & Feminist Studies

273. Astrology and Religion. CCI, CZ Introduces students to astrological divinational systems, methods and thought, with a focus on the astrology of Mesopotamian-Vedic-Greek thought 600 BCE-200 CE and Chinese I-Ching-based divination-astrological systems. Class explores these as key (persistent) examples of what Joseph Needham calls "correlative thinking," a mode of thought that attempts to make sense of the world through the prediction/identification of a fundamental, dynamic pattern that is used as a template for making sense of one's place in the world, such as the family, Yin-Yang and Five Element theories, the year and the patterns of the stars day and night, the body, numerological schemas, and so on. Instructor: Need. One course. C-L: Asian & Middle Eastern Studies 217

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: Staff. One course. C-L: Islamic Studies

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 & African American Studies 276, International Comparative Studies 294

278S. Epics of India: Ethics, Politics, and Performance Traditions. ALP, CCI, CZ Wide variety of epics across linguistic, geographical, and community orientations. Moral discourses, literary theory relating to epic form, performance traditions and media representations of epic narrative, and connections between political ideology and epic visions. Instructor: Prasad. One course. C-L: Asian & Middle Eastern Studies 253S

279. Gandhi: Image and Reflection. CCI, CZ, EI Who is Gandhi amidst the thousands of images of him? Course focuses on the writings of, and the popular imagery about, one of the most inspirational figures of modern times, who evoked Einstein’s awe and shaped Martin Luther King and Nelson Mandela. Considers Gandhi’s experiments and journeys across South Africa and India to understand his ideas of justice, method of civic protest, and way of living-with-others. First part of course studies Gandhi’s autobiography and other key writings. Second part analyses Gandhi-centered visual culture (comic books, cartoons, films, monuments) and global influence. Aims to understand visually why Gandhi has become a legend and how he is within our reach. Instructor: Prasad. One course. C-L: Asian & Middle Eastern Studies 158, Human Rights Program-Franklin Humanities Institute 279, Human Rights

280S. Religion and Peace: Case Studies in Activism and Reconciliation. CCI, CZ, EI Too often religion is cited as the root of conflict, yet often religious leaders and religiously-affiliated NGOs create the impetus for peace-making initiatives. Course uses case studies from different areas of religious conflict to examine questions of tolerance and co-existence. Asks questions about place and purpose of dialogue, activism and humanitarian involvement; readings and discussions assess responses to conflict in Africa, Europe, and the Middle East. Concepts and pedagogies for peace-making brought to practical application during trip to Jerusalem and Bethlehem. Service-learning component requires at least 20 hours of service outside of class time. Instructor consent required. Instructor: Staff. One course. C-L: Human Rights Program-Franklin Humanities Institute 280S

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, Nietzsche), reading these in relation to key mythemes of American identity and destiny in the post-War era. Instructor: Need. One course. C-L: Literature 281, English 281

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 258AS

283. History and Culture of Iran. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 123; also C-L: History 248

284. Ritual, Performance, and Religion. ALP, CCI, CZ Exposes students to theories of ritual and performance (Turner, Schechner, Grimes, Geertz, Paden) in religious and non-religious contexts; compares contexts as a way of understanding common structures and what differentiates the religious/non-religious. Guest lecturers (from religion, dance, theater, psychology, English, visual and media studies, cultural

anthropology) expose students to a range of approaches to specific kinds of ritual and performance. Possibly involves both class and individual trips to local religious events and performances for field work exercises. No prerequisites. Instructor: Need. One course. C-L: Cultural Anthropology 284, Dance 284, Visual and Media Studies 285, International Comparative Studies 266

285S. Religion and Technology. CCI, CZ, R, SS, STS Explores the production and consumption of technologies that were either inspired by spiritual views or made for religious purposes. Using primary and secondary sources, archival manuscripts, film, photography, and field trips to better understand these technologies and their place in the human imaginary. Instructor: Staff. One course. C-L: Information Science + Studies 285S

286S. Religion in Cyberspace. CZ, EI, R, STS Is cybertechnology a religion? If so, what does that mean? Rather than an analysis of how Christians, Buddhists, Jews, or Muslims use cyberspace to practice their religions, this course will take up the thesis that cyberspace has challenged the very idea of what it means to be human and, in so doing, has itself become a religion. We will look at the “canonization” of eccentric technologists like Elon Musk and Steve Jobs, examine the startling philosophical ideas about personhood embedded in artificial intelligence, study communities of cyberspace users casual and obsessive, and look at the ways in which cyberspace is reshaping the political landscapes of the contemporary United States. Instructor: Staff. One course.

287. Religion and Science. 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: Kadivar or staff. One course. C-L: Neuroscience 237, Study of Ethics 287, Marine Science and Conservation

287S. Religion and Science. 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: Kadivar or staff. One course. C-L: Neuroscience 237S, Study of Ethics 287S

288. Acts of Engagement. CCI, EI Whether called “service,” “mission,” “Seva,” “loving-kindness,” “tikkun olam,” selfless acts done in the service of others are a component of many of the world’s religious traditions. This course will explore the fundamental call to serve in a number of traditions. It will examine the works of community leaders from various religious traditions such as Dorothy Day, Abraham Heschel, Martin Luther King, Jr., and Said Nursi to unpack the elements in their traditions that led them to work with and for others. Special attention will be paid to Abrahamic traditions. The course will also put these concepts into practical service in the local community through partnerships with Durham agencies. Instructor: Staff. One course. C-L: Human Rights Program-Franklin Humanities Institute 288

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 first years 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 first years 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 first years 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 first years and sophomores with departmental approval. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

295S. Black Muslims: Race, Religion, & Culture. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 295S; also C-L: African & African American Studies 295S, International Comparative Studies 222S, Gender, Sexuality, and Feminist Studies 296S, Human Rights Program-Franklin Humanities Institute 295S, Human Rights

301D. Religion, Restrictions, and Violence. CCI, CZ, EI An examination of the historical roots and current manifestations of religiously-justified violence and disenfranchisement, with a focus on the Abrahamic traditions (Judaism, Christianity, and Islam). The violence treated will include the expressly physical as well as the more insidiously existential, including political and cultural marginalization. Major loci of exploration will include gender and sexuality; Israel-Palestine, and the intersection of contemporary identities. Topics include the nature of extremisms within each tradition, the challenges of assimilation and “modernity,” and the role and nature of citizenship and territory. Instructor: Antepli, Davis, and Lieber. One course. C-L: Jewish Studies 301D, Political Science 303D, Public Policy 313D, Study of Ethics 303D, Asian & Middle Eastern Studies 301D

320S. Modern 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 fraticide, human rights, environmental problems, economic justice, and cloning. Instructor: Jaffe or staff. One course. C-L: Asian & Middle Eastern Studies 331S, Study of Ethics 321S, Marine Science and Conservation, Ethics Elective

323. Buddhist Meditation in Transformation: Historical, Scientific, and Medical Perspectives. CCI, CZ, EI An in-depth examination of the Buddhist path and techniques of self-transformation in various Buddhist cultures, both premodern and modern. The differing conceptions of the psychophysical person and the goals of Buddhist practice assumed by these meditative techniques will be investigated. As part of the examination of Buddhist meditation, students will have an opportunity to experience a range practices and to reflect on the role of meditation in the construction of Buddhist maps of human development. Not open to students who took this course as an 89S First Year Seminar. Instructor: Jaffe. One course. C-L: Asian & Middle Eastern Studies 315

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. Students who took this course as an 89S First Year Seminar are not eligible to enroll. Instructor: Jaffe. One course. C-L: Asian & Middle Eastern Studies 315S

324. Zen Buddhism: A Survey from Its Origins to the Present Day. CCI, CZ, EI An examination of Zen Buddhism from its origins to its global spread in the nineteenth-twentieth centuries. Instructor: Jaffe. One course. C-L: Asian & Middle Eastern Studies 314

326S. Literary Islam. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 328S; also C-L: Literature 328S

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

328. Buddhism and Sexuality. CCI, CZ, EI Critical examination of the relation of religion and sexuality with special attention to Buddhism. Discusses religious interpretations of sex, sexuality, and gender; the codification and normalization of these rules through texts, symbols, and practices; and recent challenges to these interpretations. Topics include homosexuality, same-sex marriage, abortion, contraception, gender equality, clerical marriage, married clerics' wives, and clerical sexual abuse. Draws on religious theory, gender theory, and critical theory. Places Buddhism in conversation with Jewish, Christian, and Islamic traditions. Extensive class discussion. Instructor: Need or staff. One course. C-L: Asian & Middle Eastern Studies 286, International Comparative Studies 389, Gender, Sexuality, & Feminist Studies

330S. Atheism and Buddhism. CCI, CZ, EI A critical examination of atheism and religions (Buddhism), with a focus on intellectual, religious, philosophical, and scientific debates about God, the origin of the universe, morality, evolution, neuroscience, happiness, enlightenment, the afterlife, and karma. Readings to be selected from philosophical, scientific, and religious writings. Authors will include some of the following: Charles Darwin, Bertrand Russell, Christopher Hitchins, Richard Dawkins, Deepak Chopra, Sam Harris, Owen Flanagan, Stephen Batchelor, and the Dalai Lama. Instructor: Staff. One course. C-L: Asian & Middle Eastern Studies 351S

333S. Buddhism, Death, and Dying: Religious and Medical Perspectives. CCI, CZ, EI A consideration how traditional Buddhist conceptions of dying, death, and the after life have shaped 21st-century approaches to death. After examining conceptions of death and death-bed practices, in Buddhism and the medical profession, we will consider the role played by American Buddhists in reshaping contemporary attitudes towards end-of-life care. Instructor: Jaffe. One course.

340. Jewish History, 1492 to the Present. CCI, CZ, EI, SS One course. C-L: see History 251; also C-L: Jewish Studies 251, International Comparative Studies 253, Ethics Elective

342. The Holocaust. CCI, CZ, EI, STS One course. C-L: see History 297; also C-L: Jewish Studies 342, Political Science 262, Human Rights Program-Franklin Humanities Institute 297, Human Rights

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. Jesus and the Gospels. CCI, CZ, EI Investigation of Jesus as he is portrayed in the Synoptic Gospels (Matthew, Mark, and Luke) and John, looking also at literary relationships, dates, and historical contexts, with special focus on the historical Jesus, eschatology, parables, stories about the miraculous, passion narratives, and gospel women. Instructor: Goodacre. One course. C-L: Classical Studies 322, Ethics Elective

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. One course. C-L: Ethics Elective

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: Knust. One course.

354S. Christian Ethics and Modern Society. CZ, EI, W One course. C-L: see Study of Ethics 220S; also C-L: Political Science 253S

360. Jesus in Film. ALP, CCI, CZ Studies a variety of cinematic and television films that focus on Jesus; compares and contrasts documentary approaches with dramatic depictions; views the films alongside

scholarship on Christian origins and asks what these films reveal about their creators, their social locations and their source material; investigates the reception of these films in both academic and popular culture. Instructor: Goodacre. One course.

361. The End of The World: Apocalyptic Arguments from Antiquity to the Present Day. ALP, CCI, CZ, EI Traces end-time arguments, predictions, and prophecies from the second-century BCE until the present day. Why are prophecies of doom so compelling? Why must time come to a stop? What happens after the world's end? Who decides? Close study of the role of apocalyptic eschatology in Judaism, Christianity, and Islam across time and place provides a lens for interpreting more recent apocalyptic movements, texts, claims, and artistic productions. Instructor: Knust. One course.

367. Women and Sexuality in the Christian Tradition. CZ, EI, W Christian scripture, literature, and art abounds with female figures. From the Virgin Mary to female saints, the Christian tradition has memorialized extraordinary women as models for lay women. How did Christianity challenge and preserve norms for female behavior? How did ascetic women and female martyrs transgress gender expectations? This course navigates the pitfalls and opportunities that the study of women offers for understanding the development of Christian belief and institutions. We will trace how gender was theorized and normative behavior prescribed and enforced within the periods of Late Antiquity, the Middle Ages, Reformation and modern day. Instructor: Knust. One course. C-L: Study of Sexualities, Gender, Sexuality, & Feminist Studies, International Comparative Studies

368S. 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; an engagement with the interaction of magic, science, and religion; and the reasons for their continuing force and wide appeal. Instructor: Staff. One course.

370S. Understanding the Qur'an. 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 126S, Islamic Studies

371A. Religion, Security and Global Citizenship in the Arab World. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 326A; also C-L: International Comparative Studies 362A, Political Science 395A, Public Policy 339A

372. Islamic Awakening: Revival and Reform. CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 325; also C-L: History 444, Islamic Studies

373S. Islamic Mysticism. CCI, CZ, EI This course introduces the history and key concepts of Islamic spirituality through the lives, writings, institutions, and influence of Muslim sages, ascetics, and saints across Africa, Europe, Asia, and the Americas. Critical topics include Sufi origins, psychology, healing, music, poetry, politics, and the aspiration to beautify one's self and society through connection with the Divine. Instructor: Hassan. One course. C-L: International Comparative Studies 380S, Asian & Middle Eastern Studies 373S, Study of Ethics 373S, History 380S, Islamic Studies, Ethics Elective

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, Asian & Middle Eastern Studies 324S, 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 or staff. One course. C-L: Cultural Anthropology 256, History 210, Medieval and Renaissance Studies 268, Asian & Middle Eastern Studies 122, Ethics Elective, Information Science + Studies, Islamic Studies

376. Islamic Civilization II. CCI, CZ, EI Continuation of Religion 375. Instructor: Hassan or staff. One course. C-L: Cultural Anthropology 257, History 211, Medieval and Renaissance Studies 269, Asian & Middle Eastern Studies 185, International Comparative Studies, Ethics Elective, Islamic Studies

377S. Religion and Politics in Post-Revolutionary Iran. CCI, CZ, EI Examines ethical crises of Islamic regime: Did Islamic Republic promote ethics or decline morality? Analyzes tensions between secularism, democracy and theocracy; semi-democracy and semi-dictatorship; Shi'i doctrine of imamate and the theory of guardianship of the jurist; I.R.I. Constitution; the doctrine of justice versus the privileges of the ruling political order; the role of Shari'a in law making; controversial religious issues in reformist discourses; women's rights; religious and ethничal minorities; identity, diversity and power; traditionalists, reformists and fundamentalists; the administration of two supreme leaders and six presidents; Shi'a authorities and revolutionary guards. Instructor: Kadivar. One course. C-L: Asian & Middle Eastern Studies 288S, Political Science 379S, History 265S

378S. Islam in Asia. CCI, CZ, SS One course. C-L: see Russian 370S; also C-L: History 209S, International Comparative Studies 370S, Islamic Studies

379S. Islamic Media. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 329S; also C-L: International Comparative Studies 331S, Visual and Media Studies 342S

380. Muslim World: Transformations and Continuities. CCI, SS One course. C-L: see Cultural Anthropology 250; also C-L: International Comparative Studies 170, Gender, Sexuality, & Feminist Studies

381. Rumi: Mysticism and Poetry. ALP, CCI, CZ, R One course. C-L: see Asian & Middle Eastern Studies 321

382SA. Transnational Muslims in Germany: Politics of Migration, Religion, and Culture. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 380SA; also C-L: Gender, Sexuality, and Feminist Studies 323SA, International Comparative Studies 278SA, Cultural Anthropology 382SA

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 351S, African & African American Studies 274S, Asian & Middle Eastern Studies 230S, Human Rights Program-Franklin Humanities Institute 374S, Islamic Studies, Human Rights

386S. Local Islams: Islamic Communities in the Area. CCI, CZ, EI, SS One course. C-L: see Asian & Middle Eastern Studies 339S

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: Staff. One course. C-L: Asian & Middle Eastern Studies 206S, Study of Ethics 345S, Islamic Studies, Ethics Elective

390A. Duke-Administered Study Abroad: Advanced Special Topics in Religion. Topics differ by section. Instructor: Staff. One course.

390S. Junior-Senior Seminars. 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.

399S. James Baldwin and Toni Morrison. ALP, CCI, CZ, EI This course will examine the novels and essays of James Baldwin and Toni Morrison, focusing on a range of topics: blackness, gender, sexuality, the relationship between race, religion, and nation, and the relationship between anguish and hope. While considering the differences between these authors, we will explore how Baldwin and Morrison converge on a

set of ethical and existential themes and concerns. In particular, the course will focus on a shared “ethics of haunting,” a sense that a better future relies on our capacity to remember, mourn, and be unsettled by forms of racial and gendered violence that mark the past and present. Instructor: Winters. One course. C-L: English 380S, African & African American Studies 322S, Gender, Sexuality, and Feminist Studies 402S

490S. Junior-Senior Seminars. Topics and instructors to be announced. Instructor: Staff. One course.

493. Honors Research. R, W Course credit contingent upon successful completion of Religion 494. Consent of the director of undergraduate studies required. Instructor: Staff. One course.

494. Honors Research. R, W Continuation of, and required for credit for, Religion 493. Prerequisite: Religion 493. Consent of the director of undergraduate studies required. Instructor: Staff. One course.

503S. Moments in Black (Radical) Theory: From Ferguson to Rhodes Must Fall to Silent Sam. CCI, EI, SS One course. C-L: see African & African American Studies 503S; also C-L: Cultural Anthropology 503S, Political Science 589S, International Comparative Studies 504S

511S. The Fetish: The Role of Things in Spiritual, Economic, and Sexual Life. CCI, CZ, EI, SS One course. C-L: see African & African American Studies 512S; also C-L: Cultural Anthropology 511S

519S. Andalusia: Muslim, Jewish, Christian Spain. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 519S; also C-L: Jewish Studies 519S, Romance Studies 519S

526A. Religion and Civil Society in the Arab World. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 526A

527S. Islam and Human Rights. CCI, CZ, EI, R, SS The main focus of the course is inquiry about possibility of human rights for Muslims in the modern time. The notion of human rights is represented by the United Nations documents, while Islamic teachings are divided into Islamic ethics and Islamic law. The former contains universal values such as dignity, justice, mercy, love, and freedom. The latter, in its traditional iterations, suffers from issues of gender discrimination, religious intolerance, restriction of religious freedom, the problem of apostasy, and violent punishments. Students will survey major conservative and reformist Muslim approaches to human rights to foster the development of critical analytic and comparative skills. Instructor: Kadivar. One course. C-L: Human Rights Program-Franklin Humanities Institute 527S

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: Staff. One course. C-L: Jewish Studies 550

552S. 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: Classical Studies 558S, Medieval and Renaissance Studies 507S

560S. Reading Heidegger. ALP, CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 540S; also C-L: Literature 543S

564S. Toleration, Freedom of Conscience, and Religious Liberty. CCI, CZ, EI, R One course. C-L: see Classical Studies 564S; also C-L: Political Science 588S, History 564S

580S. History of Buddhist and Christian Interactions. CCI, CZ The study of the global encounter between Buddhists and Christians from the sixteenth century to the present. Topics to be covered include missionary encounters, conversion, polemical literature, inter-religious dialogue, and religious exchange, as well as the portrayal of these interactions in literature and the arts. At least one previous course in Buddhism or Asian religions and a course in religious studies is recommended. Instructor: Jaffe. One course. C-L: Asian & Middle Eastern Studies 580S

581S. Pan-Asianism, Religion, and the State in Modern Asia. CCI, CZ, EI An examination of the interaction between religious institutions and the state in modern Asia. The role of religion in the formation of pan-Asian identity in Asia also will be investigated. Instructor: Jaffe. One course. C-L: Asian & Middle Eastern Studies 581S

606S. Hebrew Biblical Texts. Select prose and poetic Hebrew biblical texts. Prerequisite: Old Testament 760 and 761 or equivalent. Instructor: Brettler. One course. C-L: Jewish Studies 606S

607. Hebrew Prose Narrative. FL Focus on the grammar, syntax, and prose style of classical Hebrew

composition; a comparative reading of modern and precritical Jewish and Christian commentary. Readings spanning the spectrum from the early Hebrew prose of Genesis and I and II Samuel to the late compositions of Chronicles and Ezra-Nehemiah. One year of classical Hebrew required. Consent of instructor required for undergraduates. Also taught as Old Testament 860. Instructor: Brettler, Chapman, Davis, Peters, or Portier-Young. One course. C-L: Jewish Studies 607

608. Classical Hebrew Poetry. FL The problem of defining and understanding what is “poetic” in classical Hebrew. Theories of Hebrew poetry from Lowth to Kugel and O’Connor illustrated with readings from Psalms, Isaiah, Job, and Jeremiah. One year of classical Hebrew required. Consent of instructor required. Also taught as Old Testament 861. Instructor: Staff. One course. C-L: Jewish Studies 608

609. Rabbinic Hebrew. FL Interpretive study of late Hebrew, with readings from the Mishnah and Jewish liturgy. Consent of instructor required for undergraduates. Instructor: Staff. One course. C-L: Jewish Studies 609

610. Readings in Hebrew Biblical Commentaries. Selected Hebrew texts in Midrash Aggadah and other Hebrew commentaries reflecting major trends of classical Jewish exegesis. Consent of instructor required for undergraduates. Instructor: Staff. One course. C-L: Jewish Studies 610

611. Studies in Apocrypha and Pseudepigraphy. CCI, CZ Selected documents of the Apocrypha and Pseudepigraphy examined exegetically and theologically in their relation to postexilic Judaism. Instructor: Staff. One course.

612. Language and Literature of Dead Sea Scrolls. A study in interpretation. Prerequisite: A knowledge of Hebrew. Instructor: Staff. One course.

613S. Introduction to Jewish Studies. One course. C-L: see Jewish Studies 601S; also C-L: History 601S

620. Exegesis of the Hebrew Old Testament. A. Pentateuch B. Historical Books C. Major Prophets D. Minor Prophets E. Writings F. Proverbs G. Genesis Consent of instructor required for undergraduates. Instructor: Staff. One course.

630-11. Exegesis of the Greek New Testament II: The Synoptic Gospels. R 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.

630-12S. Exegesis of Greek NT II: Hebrews. Consent of instructor required for undergraduates. Instructor: Staff. One course.

630-2. Exegesis of the Greek New Testament: Romans. CZ, FL Consent of instructor required. Instructor: Staff. One course.

630-6. Exegesis of the Greek New Testament: I and II Corinthians. CZ, FL Consent of instructor required. Instructor: Staff. 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: Staff. One course.

632. Origen. CZ, EI The systematic and apologetic writings of an important Alexandrian thinker and exegete of the third century. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 662

633. Augustine. CZ, EI The religion of the Bishop of Hippo in late antiquity. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 664

634. Early Christian Asceticism. CZ, EI The development of asceticism and monasticism in the first six centuries of Christianity. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 655, Study of Sexualities, Gender, Sexuality, & Feminist Studies

635S. Exegesis of the Greek New Testament: John’s Gospel. ALP, CZ, R Discussion and analysis of the Gospel of John with a special focus on historical-critical approaches, including authorship, date, sources,

theology, literary analysis, and relationship to other early Christian works. Prerequisite: two years of Greek or the equivalent. Instructor consent is required. Instructor: Goodacre. One course.

636S. Passion Narratives in Greek. This course offers a critical, historical approach to the Passion and Resurrection Narratives in the Gospels of Matthew, Mark, Luke, John and Peter. Participants in the course will analyze the texts from a variety of perspectives, focusing especially on source-criticism, form-criticism, redaction-criticism, textual criticism, feminist, and literary-critical approaches. This course is for master's students who already have familiarity with the Greek texts. Instructor: Goodacre. 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: Staff. One course. C-L: African & African American Studies 575, Medieval and Renaissance Studies 659, International Comparative Studies, Islamic Studies

663. Islam and Modernism. CCI Cultural, religious, and ideological forces that shape Muslim responses to modernism. Instructor: Staff. One course. C-L: Islamic Studies, International Comparative 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: Islamic Studies, International Comparative Studies

665S. Islamic Philosophy & Mysticism (Sufi's Approach to Philosophy). CCI, CZ, EI The course explores the critical analysis of the creative products of the human intellect in mystical experiences including the symbolic stories of Avicenna, al-Gazali, Ibn Tufail, Suhrawardi & Mulla Sadra. It covers the key points of the theoretical and practical mysticism such as nature of the man, asceticism, unity and final abode, Sufi's style of life, four spiritual journeys, light and varieties, angelology, the archetypal world, vision and intellect, knowledge & presence, the hierarchy of knowing, the semantics of the modulation of being, reality & the circle of being, diversity in unity and unity in diversity, the unity of the knower and the known, unity of existence, and salvation. Instructor: Kadivar. One course.

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. 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 religious studies independent study taken in the junior or senior year, a small group learning experience/seminar taken during the junior or senior year, or a religious studies 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 toward the major. Only one Duke Divinity School course can count toward the major, and that course cannot be equivalent to a course offered by the religious studies department. Students interested in taking Duke Divinity School courses should consult the director of undergraduate studies regarding credit toward the religious studies major.

Departmental Graduation with Distinction

The Department of Religious Studies has a program for Graduation with Distinction. This program is intended for the outstanding religious studies major whose grade point average is at least 3.5 in religious studies (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 religious studies minor offers students specializing in another department or program the opportunity to enrich their studies by engaging in the consideration of religion.

Minor Requirements. A minimum of five religious studies 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 toward the minor. Only one Duke Divinity School course can count toward the minor, and that course cannot be equivalent to a course offered by the religious studies department. Students who wish to take Duke Divinity School courses should consult the director of undergraduate studies regarding credit toward the religious studies 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

Associate Professor Eisner, *Chair*; Associate Professor Vilches, *Director of Undergraduate Studies*; Senior Lecturer Valnes Quammen, *Acting Director of French Language Program*; Professor of the Practice Paredes, *Director of the Spanish Language Program*; Associate Professor of the Practice Fellin, *Director of the Italian Language Program*; Professors Dainotto, Dubois, Hardt, Jameson, Jenson, Longino, Mignolo, Moi, Sieburth, and Solterer; Associate Professors Aidoo, Eisner, Furtado, Gabara, Milian, Rodriguez-García, Rosa, Saliot, Viego, and Vilches; Assistant Professor Ziolkowski; Professors Emeriti Bell, Dorfman, Finucci, Garcí-Gómez, Greer, Hull, Kaplan, Keineg, Orr, Stewart, and Thomas; Research Professor Garrèta

A major (in French, Italian, Portuguese, Spanish, or Romance studies) and a minor are available in this department.

Prerequisites for all courses numbered 300 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 600+ Spanish: score of 660+
or AP:	Italian or Spanish literature exam: score of 4 or 5 French or Spanish language exam: score of 5; Italian language exam: score of 4 or 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.

Courses in Romance Studies (ROMST)

89S. First Year Seminar in Romance Studies. Topics vary each semester offered. This course is restricted to first-year students. Instructor: Staff. One course.

190A. Duke-Administered Study Abroad: Special Topics in Romance Studies. Topics differ by section. Instructor: Staff. One course.

190FS. Topics in Romance Studies. Topics vary each semester offered. Open only to students in the Focus Program. Instructor consent required. Instructor: Staff. One course.

190S. Topics in Romance Studies. Topics vary each semester offered. Instructor: Staff. One course.

195FS. Cognition, Identity, and Linguistic (Human) Rights. CCI, EI, SS Explores identity with respect to cognitive or mental processes that guide social interaction and how people negotiate identity, particularly in situations of linguistic discrimination. Examines linguistic, cultural, and minority rights from a cognitive and social perspective and how people adjust their cultural competence in situations of multiculturalism and multilingualism; all in connection to the right of maintaining one's identity as well as sustaining human rights in general. Readings and case studies will focus mostly on situations involving Spanish and languages in contact with Spanish. Open only to students in the Focus Program. Department consent required. Instructor: Paredes. One course. C-L: Linguistics 195FS

201. What Is Europe?. 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, International Comparative Studies 240

201P. Europe in Theory - Preceptorial. A preceptorial, in Italian or French, requiring concurrent enrollment in Romance Studies 201. Students desiring credit toward their major or minor should enroll in their respective language focus. Further information available from instructor. Instructor: Dainotto, Solterer, or staff.

202. Imagining Europe: Arts, Culture, Politics. ALP, CCI, CZ Investigation of defining debates on European culture and the fiction which shapes them. In collaboration with Nasher Museum. Focus on literature and the visual arts of France, Italy, Portugal, Spain. Comparative analysis of key issues, including arts of migration, multilingualism, cultural and political relations within and without Europe, development of financial systems. Major authors: Marco Polo, Khatibi, Montaigne, Montesquieu, Balzac, Calvino, Némirovsky, Semprún, Saramago. Research in museum collections on major pieces. Instructor: Solterer, staff, with Nasher staff. One course. C-L: Literature 274, French 429, Art History 202, Visual and Media Studies 202

202P. Imagining Europe: Language, Culture, Politics Preceptorial. A preceptorial, in French, requiring concurrent enrollment in Romance Studies 202 or French 429. Further information available from instructor. Instructor: Solterer, staff. C-L: French 429P

205. The Problem of Love in Western Literature. ALP, CCI, CZ, R Love causes problems. It can inspire passion or madness; foster alliances, destroy friendships, provoke war, broker peace. It impacts communities and raises fundamental questions about life. Exploring amorous discourse from two millennia –Plato's erotic ascent, Virgil's deceived Dido, Ovid's rules of seduction, Boccaccio's legitimization of female desire, Michelangelo's homoerotic poetry, Leonardo's sublimated impulses, Foscolo's tragic obsession, comic uncertainties of Svevo's modern lovers, and love from afar in Montale—we will see what changes, what persists, and ultimately come to understand what we mean when we talk about love today. Instructor: Eisner. One course. C-L: Italian 225, Literature 205, Medieval and Renaissance Studies 304

205P. The Problem of Love in Western Literature - Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 205 or Italian 225. Further information available from instructor. Instructor: Eisner. C-L: Italian 225P

206. Modern European Short Fiction. ALP, CCI, CZ, EI Comprehensive examination of several important works of modern European short fiction by authors such as Kafka, Woolf, Svevo, Sartre, Joyce, Proust, Mann, Schnitzler, Gogol, and Calvino. While stories will be contextualized historically, culturally, and geographically, course is organized into thematic units, including animals, home, punishment, and love, to

facilitate comparative analysis. Students engage critically with concepts such as identity, trauma, genre, and narrative form. No prerequisites. Instructor: Ziolkowski. One course. C-L: Italian 220, German 243, Literature 244, English 244, Jewish Studies 243, International Comparative Studies 212

206P. Modern European Short Fiction Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 206 or Italian 220. Further information available from instructor. Instructor: Ziolkowski. C-L: Italian 220P

207FS. Language and Identity. CZ, R, SS Language is a central and pervasive feature of human identity through which we portray ourselves and negotiate social identities. This course examines how language and identity are linked and interact. Using examples from media, film, pop culture and ethnographic data, we will explore how speakers portray themselves and negotiate social identities through language, and how ideas about it inform our understanding and interpretation of society and speakers within it. We will look at the use of different linguistic resources (such as accent, grammar vocabulary and style) to express different identities and how society at large perceives and interprets them. Open only to Focus Program students. Department consent required. Instructor: Fellin. One course. C-L: Linguistics 218FS

217FS. Language, Thought, and Culture. CCI, CZ, SS One course. C-L: see Linguistics 217FS

220. Trauma and Global Mental Health in Haiti. ALP, CCI, CZ One course. C-L: see Global Health 323

235SL. Capoeira: Practice and Culture. ALP, CCI, SS, W One course. C-L: see Dance 235SL; also C-L: Cultural Anthropology 221SL, African & African American Studies 221SL

242A. The Creative Brain: Literature, Arts & Cognition. ALP, NS, STS Exploration of creativity and the relationships among literature, the visual and performing arts, cognition, and contemporary neuroscience. Literary and visual studies within a French context of perceptual knowledge, aesthetics, expectation, imagination, and social cognition. Close reading of literature and art in relation to progressive movements in Parisian society, and phenomenological studies of the cognitive processes involved in the creation and perception of visual and performing art forms. Instruction in English. Offered only in Duke in Paris Neurohumanities Program. Instructor: Jenson, Wardle. One course. C-L: French 342A, Neuroscience 242A, Visual and Media Studies 246A

256. Italian Baroque Art. ALP, CCI, CZ One course. C-L: see Art History 256; also C-L: Italian 256, Medieval and Renaissance Studies 246

258S. Women and Power in the Renaissance. CZ, EI, W One course. C-L: see History 258S; also C-L: Medieval and Renaissance Studies 248S, Gender, Sexuality, and Feminist Studies 258S

278. European Art 1760-1850. ALP, CCI, CZ One course. C-L: see Art History 278; also C-L: International Comparative Studies

279. European Art 1850-1900. ALP, CCI, CZ One course. C-L: see Art History 279; also C-L: International Comparative Studies

282S. Modernism and the Arts. ALP, CCI, CZ One course. C-L: see English 282S; also C-L: Art History 281S, German 282S, Literature 282S

290. Special Topics in Romance Studies. A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: Staff. One course.

290A. Duke Administered Study Abroad: Topics in Romance Studies. Topics in languages, literatures, and/or cultures related to Romance Studies. Offered as part of a Duke Administered Global Education program. Instructor: Staff. One course.

290S. Topics in Romance Studies. A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: 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.

317. The Body in Art in Early Modern Europe: Power and Limits of Corporeal Representations. ALP, CCI, CZ One course. C-L: see Art History 317; also C-L: Dance 317, Theater Studies 245, Medieval and

Renaissance Studies 217

319S. Andalusia: Muslim, Jewish, Christian Spain. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 319S; also C-L: Religion 214S, Jewish Studies 319S, Medieval and Renaissance Studies 352S

321. The Modern Caribbean after Emancipation. CCI, CZ One course. C-L: see History 321; also C-L: African & African American Studies 240, Cultural Anthropology 322, International Comparative Studies 319

327S. Romance Studies Literature and Culture. A literary, cross-cultural critique focusing on specific topics to be announced. Instructor: Staff. One course.

327SP. Romance Studies Literature and Culture Preceptorial. Offered in either French, Italian, Portuguese, or Spanish, this zero credit preceptorial requires concurrent enrollment in Romance Studies 327S. Involves extra class time and assignments in order for Romance Studies 327S to count toward a major or minor. See instructor for additional information. Instructor: Staff.

330S. Undocumented America in Literature. ALP, CCI One course. C-L: see Latino/a Studies in the Global South 330S; also C-L: Literature 329S, Cultural Anthropology 329S

337. America from Abroad: Literature and Cinema. ALP, CCI, EI, W This course explores the portrayals of America, especially the United States, from authors and directors who are not American and who often have never even seen America. We will read short stories, novels, and graphic novels and watch films. What do these works from other parts of the world have to say about dreams, race, love, immigration, and space in America? We will discuss imaginary Americas in order to understand these important works within their contexts, to examine how foreign representations of America have contributed to our idea of America, and to consider what imagined Americas suggest about us here in North Carolina. Instructor: Ziolkowski. One course. C-L: Italian 337, English 237, Jewish Studies 337, Literature 337

337P. America from Abroad: Literature and Cinema Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 337S or Italian 337S. Further information available from instructor. Instructor: Ziolkowski. C-L: Italian 337P

341S. Perspectives on the Amazon. CCI, CZ The Amazon has been a source of awe to outsiders at least since the first Europeans navigated the Amazon River in 1542. While early explorers searched the forest for a mythic city of gold, contemporary travelers, scientists, and concerned citizens look to the Amazon as the key to our endangered future. Focusing on a variety of textual and visual representations, we will deal with major themes in the history of the Amazon and consider the ways in which this vast and widely depicted region eludes representation, holding entirely different and contending meanings to distinct socio-cultural groups. Our sources include works by indigenous thinkers and cultural producers. Instructor: Furtado. One course. C-L: Portuguese 341S, Latin American Studies 341S, Literature 341S

341SP. Perspectives on the Amazon Preceptorial. A preceptorial, in Portuguese, requiring concurrent enrollment in Romance Studies 341S or Portuguese 341S. Further information available from instructor. Instructor: Furtado. C-L: Portuguese 341SP

350. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350; also C-L: Neuroscience 250, Gender, Sexuality, and Feminist Studies 350, Latino/a Studies in the Global South 350

350S. Brains, Everywhere. CZ, EI One course. C-L: see Literature 350S; also C-L: Neuroscience 250S, Gender, Sexuality, and Feminist Studies 350S, Latino/a Studies in the Global South 350S

362D. Soccer Politics. CCI, CZ, EI, SS Explores global history of soccer with focus on Europe, Africa, and Latin America. Examines development and spread of the game, institutions such as FIFA, biographies of legendary players, and economics of the sport. Examines philosophical and ethical issues raised by soccer, and ways the sport condenses, channels, and at times transforms politics. Materials include works of history, anthropology, literature, journalism, memoirs, documentary films, and footage of classic games. Students will contribute to Soccer Politics blog and pages. Students enrolled under foreign language discussion sections will do reading, writing, research, and discussion in the language. Instructor: Dubois. One course. C-L: History 266D, International Comparative Studies 204D

365S. Latino/a Popular Culture. ALP, CCI Examines connections between US Latina/o and Latin American populations mediated by contemporary popular culture and the world of the commodity. Explores sociocultural and political issues in US national culture, the ways US Latina/o cultures dialogue across the

Americas, and how Latina, Latino, LatinX, and Latin American bodies inhabit particular cultural and geographic contexts. Addresses how popular cultural forms are developed, contested, or resolved vis-à-vis issues of difference, multicultural inclusiveness, domestic history, narratives of exile and migration. Materials covered include films, documentaries, television shows, art, advertising, comic strips, food fusions, music. Instructor: Milian. One course. C-L: Latino/a Studies in the Global South 365S

379S. The Detective Novel. ALP, CZ What is a detective novel, and how does it “work”? By looking at synchronic and diachronic transformations of the genre—from British Sherlock Holmes to the South African “noir-fantastic”—the course investigates the structure of literary genres and their adaptability to different social, cultural, and civilizational contexts. The course has no prerequisites and is designed for majors and minors in Romance Studies and the humanities in general. Instructor: Dainotto. One course. C-L: English 376S, Literature 379S, Italian 379S

379SP. The Detective Novel Preceptorial in Italian. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 379S or Italian 379S. Further information available from instructor. Instructor: Dainotto. C-L: Italian 379SP

380. France and Africa: The Politics and Culture of (Post-)Coloniality. CCI, CZ One course. C-L: see African & African American Studies 380; also C-L: History 372, International Comparative Studies 364

380P. France and Africa: The Politics and Culture of (Post-)Coloniality Preceptorial. C-L: see African & African American Studies 380P

387S. Mapping Language Justice in Durham and Beyond. CCI, SS This DukeImmerse course brings together issues of language discrimination or linguicism, linguistic profiling as proxies for other types of discrimination. In the city of Durham multiple languages converge and interact, multiple dialects of these languages interact and co-exist. This environment offers a space to observe language as a source of inequities. This course examines the question of Language Justice across socio-political and economic spaces. Students will use critical discourse analysis to examine a diversity of texts. Instructor consent required. Instructor: Paredes. One course. C-L: Linguistics 387S

388S. Food, Culture, and Society. CCI, CZ, EI, SS This DukeImmerse course provides a broad overview of food as culture and its role in society. Exploration of the intersections between food and identity from gender, ethnic, class, religious, and political identities to how people use food to develop a sense of themselves as ethical beings. Food and democracy and food activism. Readings from anthropological, sociological, linguistic, and literary writings with ethnographic observations in local communities of practice. Instructor consent required. Instructor: Fellin. One course. C-L: Cultural Anthropology 389S, Sociology 388S, Italian 388S

389S. Linguistic Human Rights in the Americas. CCI, EI, SS This DukeImmerse course brings together topics of language and human rights, focusing on situations of linguistic disparities in the Americas. Explores questions of language contact, bilingualism and endangered languages from perspective of social injustices and human rights. Examines how language aids in the construct of social context and institutions and how it reflects and sustains social realities, reflecting on situations of oppression and how they are associated to sociolinguistic attitudes and behavior. Explores overlap of linguistic human rights with cultural and minority rights; all in connection to the right of maintaining one’s identity as well as sustaining human rights. Instructor consent required. Instructor: Paredes. One course. C-L: Linguistics 389S

390. Special Topics in Romance Studies. A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: Staff. One course.

390S. Special Topics in Romance Studies. A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: Staff. One course.

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.

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 students by consent of

instructor and director of undergraduate studies. Instructor: Staff. One course.

395T. Romance Studies Health Humanities Lab Tutorial. R Group independent studies of up to 5 students on research topics offered by faculty co-directors or core associated faculty members of an FHI Humanities Lab. Students work in small team-based project groups, meet once weekly in the larger unit of the number of group independent studies offered by the FHI Humanities Lab, and once weekly in a sub-group. Students encouraged to carry out their work, which will include apprentice-style learning, in the Lab. In addition to work toward the faculty-defined research deliverable, students develop a more specific topic related to small group project for an individualized final project, to be presented to tutorial group. Consent of instructor is required. Instructor: Staff. One course.

450. Second Language Acquisition and Research. NS, R, SS One course. C-L: see Linguistics 497; also C-L: Neuroscience 450

489S. Screening Europe. ALP, CCI, CZ Course debates identification of Europe as a political, historical and social entity from the standpoint of cinema. Provides students with an introduction to the notion of “European cinema” from 1945 to the present-day crisis of Brexit and migration. Explores issues concerning interactions and relations between national and transnational identities, the local and the global, post-colonialism and multiculturalism, migration and nationalism, and Eastern versus Western Europe. Instructor: Saliot. One course. C-L: French 489S, International Comparative Studies 479S, Literature 489S, Visual and Media Studies 489S

489SP. Screening Europe Preceptorial. A preceptorial, in French, requiring concurrent enrollment in Romance Studies 489S or French 489S. For French minors and majors, and all students who want to improve their linguistic skills. Students lead class discussions in French, write all their assignments in French and give an oral presentation in French. Further information available from the instructor. Instructor: Saliot. C-L: French 489SP

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. A comparative study of languages, literatures, and/or cultures related to Romance Studies. Instructor: Staff. One course.

490SP. Preceptorial in Romance Studies. A preceptorial in French, Spanish, Portuguese, Italian or Creole requiring concurrent enrollment in ROMST 490S. Further information available from instructor. Instructor: Staff.

493. 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 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.

495S. Latino/as in the Global South Capstone - Global/Local Contexts. CCI, CZ, SS One course. C-L: see Latino/a Studies in the Global South 495S; also C-L: Cultural Anthropology 495S, Latin American Studies 495S, Gender, Sexuality, and Feminist Studies 495S

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

505S. Visual Studies from the Global South. ALP, CCI, CZ, R One course. C-L: see Art History 505S

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

521S. Anthropology and History. SS One course. C-L: see Cultural Anthropology 501S; also C-L: History 572S

522S. Africa, Cuba, Brazil: Great Powers of the Black Atlantic. CCI, CZ, SS One course. C-L: see African & African American Studies 610S; also C-L: Cultural Anthropology 610S, History 610S

530. Imagining Community in Boccaccio and Christine de Pizan. ALP, CCI, CZ This comparative seminar explores the controversial and complex works of Boccaccio and Christine de Pizan. Boccaccio, illegitimate, impoverished son of a Florentine banker, and Christine de Pizan, an Italian woman isolated at court in Paris during a civil war both use literary form to construct communities—local, linguistic, national, intellectual, gendered, universal. This seminar attempts a different conception of literary community beyond national types and hierarchies offering students opportunities to explore their works and modern critical debates about them. All works available in translation. Readings in original languages and preceptorial meetings for majors and graduate students. Instructor: Eisner or Solterer. One course. C-L: French 531, Italian 531

530P. Imagining Community in Boccaccio and Christine de Pizan Preceptorial. A preceptorial in French or Italian, requiring concurrent enrollment in Romance Studies 530, French 531, or Italian 531. Further information available from instructor. Instructor: Eisner or Solterer. C-L: French 531P, Italian 531P

532S. Comparative Modernisms. ALP, CCI, R This course investigates the debated term modernism. We will explore a wide range of critical works on periodization, avant-garde movements, irony, stream of consciousness, and other key terms, to examine several major literary works of modernism, including selections from Woolf, Rilke, Marinetti, Pirandello, Musil, Joyce, and Kafka. Each student will select a representative work from a national literary tradition to contextualize for the class and research. Instructor: Ziolkowski. One course. C-L: Italian 532S, Literature 532S, German 535S

532SP. Comparative Modernisms Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 532S or Italian 532S. Enrollment allows the course to count toward the language requirement for the Italian major or minor. Further information available from instructor. Instructor: Ziolkowski. C-L: Italian 532SP

540S. Memory and Documentary Cinema in Latin America. ALP, CCI Course focuses on work of several leading Latin American filmmakers from Brazil, Chile, Argentina, and Cuba. Explores problems such as construction of memory in the wake of repressive dictatorships, relationship between revolutionary imagination and urban decay in present day Cuba, cinema's potential as a tool for cross-cultural explorations of memory and time, including relationship between past and present and our understanding of "contemporary." Instructor: Furtado. One course. C-L: Visual and Media Studies 540S, Documentary Studies 540S, Literature 544S, Latin American Studies 540S

590. Topics in Romance Studies. Topics to be announced. Instructor: Staff. One course.

590S. Seminar in Romance Studies. Topics to be announced. Instructor: Staff. One course.

590SP. Special Topics in Romance Studies - Preceptorial. A preceptorial in French, Italian, Portuguese or Spanish requiring concurrent enrollment in Romance Studies 590S. Further information available from instructor. Instructor: Staff.

612S. Theories of the Image: The Image in Walter Benjamin. ALP One course. C-L: see Literature 612S; also C-L: German 512S, Visual and Media Studies 612S

690. Topics in Romance Studies. Topics to be announced. Instructor: staff. One course.

690S. Seminar in Romance Studies: Special Topics. Topics to be announced. Instructor: Staff. One course.

Creole

Courses in 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 (restavèk). Students will acquire enough vocabulary and idioms to be able to interact with Haitians. Taught in Haitian Creole. No prerequisite. Staff: Pierre. 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 101 or a comparable level of previous Creole language experience, such as DukeEngage experience in Haiti or familial background in Creole. Taught in Haitian Creole. Instructor: Pierre. One course.

203. Intermediate Creole I. FL First semester of intermediate Haitian Creole or Kreyol. 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 debates in Haitian culture using internet resources in Creole. Pre-requisite: Creole 102 or equivalent. Taught in Haitian Creole. Instructor: Pierre. One course.

204. Advanced Intermediate Creole. FL Second semester of Intermediate Creole. Sharpens students reading and communication skills, further mastering Haitian Creole grammar at an advanced level, gaining a deeper understanding of the different components of Haitian culture while becoming familiar with the works of several Haitians artists (art, literature, poetry, and music) that play a significant role in promoting Haitian culture. Recommended prerequisite: Creole 203 or equivalent. Instructor: Pierre. One course.

390S. Special Topics in Haitian Creole Studies. Topics vary by 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, resulting in a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Open only to qualified students by consent of instructor and director of undergraduate studies. Instructor: Jenson or staff. One course.

590S. Special Topics in Haitian Creole Studies. Topics vary by semester. Instructor: Staff. One course.

French

Courses in 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, equivalent in all respects to a 300-level course in French. Completely satisfies the foreign language requirement and counts toward a major or minor in French. Topics vary. 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. 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. What Is Europe?. 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, International Comparative Studies 240

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 This advanced intermediate French course focuses on developing more sophisticated interpersonal, interpretive, presentational, and intercultural communication skills. As the semester progresses, you will learn skills in interpreting cinematographic and literary works and gain confidence in your French as you review grammar and vocabulary and learn to express yourselves and understand others in increasingly complex and abstract ways. Guided essay writing on topics related to the readings and discussion. Recommended prerequisite: French 203 at Duke, or SAT II score of 590-630, or an AP Language Test score of 4. Instructors: Florand and staff. One course.

212A. Intensive Intermediate French Language and Culture. CZ, FL This Duke in Aix-en-Provence course covers the intermediate French language curriculum (French 203, 204). 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 excerpts of nonfiction and literary texts, workshops with guest speakers, grammar and vocabulary supplements. Meets twelve hours/week, plus weekly all-day excursions conducted in French. Prerequisite: French 101-102 or 111 at Duke, or consent of director of language program. Satisfies 2 course requirements for French majors, 1 for minors. Instructor: Staff. Two courses.

268. Art & Architecture in Early Modern France. ALP, CCI, CZ One course. C-L: see Art History 268; also C-L: Medieval and Renaissance Studies 245

270T-3. Voices in Global Health: French Tutorial. Half course. C-L: see Global Health 270T-3

272T. Voices in the Environment: French. Half course. C-L: see Environment 269T-2

275T-2. Voices in Cultural Anthropology: Advertising in French. Half course. C-L: see Cultural Anthropology 275T-2

290A. Duke Administered Study Abroad: Topics in French Studies. Topics in French language, literature, and/or culture. Offered as part of a Duke Administered Global Education program. Instructor: Staff. One course.

301S. Advanced French Writing and Grammar. CCI, FL, W Development of 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, and philosophical texts. Revision and rewriting, with focus on in-class analysis and critique and individual conferences. Thematic focus of the course varies according to semester. Recommended prerequisite: French 204, or AP Language Test score of 5, or equivalent. Instructor: 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 mid-300 level courses in French studies. Examines the (re-)negotiation of the French identity through a series of texts and films that introduce students to contemporary Francophone thought. Topics include cultural practices, collective myths, sociolinguistics, and immigration. Recommended prerequisite: French 204. Not open to students who have received a 5 on the AP French Language and Culture Exam. Instructor: 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: Staff. One course.

304S. French Composition and Translation. CCI, FL, W 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. Recommended prerequisite: French 204 or equivalent. Instructor: Staff. One course. C-L: Linguistics 304S

306S. Reading Literature in French. ALP, CCI, FL, W What is literature? Why read literature today? And how do we talk about what we read? This seminar offers an initiation to literature in French from the Enlightenment to the digital age. It introduces a wide range of critical and theoretical tools to study literature and its uses, and aims at developing writing and argumentation across a range of literary genres (theater, essay, novel, poetry...). This seminar explores how most urgent political and philosophical issues of the ages can be read through and unraveled within literary texts. Authors studied may include Montesquieu, Diderot, Balzac, Baudelaire, Flaubert, Sartre, Césaire, Michaux, Duras, Fanon, Perec, and Modiano. Instructor: Saliot. One course. C-L: Literature 306S

316S. Global Humanities in French. ALP, CCI, CZ, FL, W For students with advanced or native French, a gateway to the French major focusing on global humanities in French. Key French-language humanistic cultural contributions as organized around comparative themes, regions, and eras. From Montesquieu's Enlightenment *Les Lettres persanes* to Satrapi's franco-Iranian graphic memoir *Persepolis*, the French to the Haitian Revolution, and African philosophy to French existentialism. Cultural objects including novels, films, poems, and paintings, as well as critical and historical writing—in digestible bites. Frequent, diverse writing assignments and group work. A foundation for lifelong cultural navigation/enrichment in French. Recommended prerequisite: native speaker status, AP French exam score of 5, or other advanced French preparation in secondary schooling. Instructor: Jenson. One course.

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. Prerequisite: one French course at the 300-level or instructor permission. Reserved for undergraduates. Graduate students should contact instructor for permission. Instructor: Reisinger. One course.

325S. Global Displacement: Voix Francophones. CCI, CZ, EI, FL, SS Explores migration and resettlement of Francophone refugees in North America through examination of current policy, law, and practice. Analysis of personal interviews and narratives with attention to ethical questions related to politics of listening to and speaking for other communities. Community-based language component (20 hours) engages students with refugee community in Durham. Conducted in French. Recommended prerequisite: one course at 300-level or equivalent. Instructor: Reisinger. One course. C-L: International Comparative Studies 332S, Global Health 325S, Human Rights Program-Franklin Humanities Institute 325S, Human Rights

327S. French for Freshmen and Sophomores. ALP, CCI, FL A literary, cross-cultural critique focusing on specific topics to be announced. Open only to first years and sophomores. Prerequisite: French 204, or SAT II score in French of 640 or higher, or AP score in French of 5. May be repeated. Instructor: Staff. One course.

328SA. Marketing Québec: Policy, Marketing, and 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: Public Policy 337SA, 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

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.

335. Free Speech: France-USA. ALP, CCI, CZ, EI, FL Critical history of free speech in France and the United States, from its beginnings to current controversies. Censorship by political and religious authorities; response of writers and readers. Readings of texts banned for heresy, obscenity, treason. "Causes célèbres" such as Rabelais, Voltaire, Beaumarchais, Sade. Instructor: Solterer. One course. C-L: Policy Journalism and Media Studies 335, Human Rights Program-Franklin Humanities Institute 335, Human Rights

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. C-L: Science & Society 337

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.

342A. The Creative Brain: Literature, Arts & Cognition. ALP, NS, STS Exploration of creativity and the relationships among literature, the visual and performing arts, cognition, and contemporary neuroscience. Literary and visual studies within a French context of perceptual knowledge, aesthetics, expectation, imagination, and social cognition. Close reading of literature and art in relation to progressive movements in Parisian society, and phenomenological studies of the cognitive processes involved in the creation and perception of visual and performing art forms. Instruction in English. Offered only in Duke in Paris Neurohumanities Program. Instructor: Jenson, Wardle. One course. C-L: Romance Studies 242A, Neuroscience 242A, Visual and Media Studies 246A

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.

350A. Globalization and Deglobalization. FL, SS Multidisciplinary course provides students the necessary basics to understand current international economic issues, to understand the questing of the process of globalization but at the same time the difficulties of reversing this process. Taught in French through the Duke in France Program. Instructor: Staff. One course. C-L: Political Science 320A, Economics 320A, Public Policy 356A, International Comparative Studies 363A

351A. The Economic and Political History of the European Union. CCI, CZ, FL, SS The idea in

the wake of WW II of a common Europe is still a long way from fulfilling its intended goals, with numerous challenges remaining. This multi-disciplinary course deciphers the complexities of the EU, predicts its future given its demographic, social and economic makeup, and analyzes the EU's institutions and the way they function. It examines its agricultural and industrial policies as well as investigates its monetary and economic policies. From its original six members to today's twenty-seven, the course addresses the question of the future of the EU, which in spite of multiple differences, has created a unique political and economic model. Taught at Duke in France. Instructor: Staff. One course. C-L: Political Science 325A, Public Policy 351A, History 331A, Economics 330A

352A. From Enlightenment Culture to Popular Culture. CCI, FL, SS Course constructs a sociological history of French (and partially European) culture by routinely using the city of Paris as an example. Analyzes conflicts inherited by contemporary culture in highlighting major moments that have defined it since pre-revolutionary era. Focuses on theoretical issues raised by each period, and the manner in which sociologists and critical theorists addressed them--from opposition of nature and culture just as it plays out for the pre-romantics, to the criticism of mass-culture by post-modern theorists. Sessions will be chronological, and will introduce and cover principle problems of social sciences. Taught in French through the Duke in France Program. Instructor: Staff. One course. C-L: Cultural Anthropology 352A, Sociology 252A

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 signification 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: Gender, Sexuality, and Feminist Studies 208, Literature 262

361P. The French Love Story - Preceptorial. A preceptorial, in French, requiring concurrent enrollment in French 361. Further information available from instructor. Instructor: Longino.

365. Paris: Capital of the Nineteenth Century. ALP, CCI, CZ, FL In the nineteenth century, Paris was recognized as a center of science, culture, and social thought, emblematic of the role the city was to play in new market economies where urban centers became the source of new ideas. This course will attempt to define what was special about Paris: how it was represented during the period, how it was transformed, and gained leadership in artistic and literary creation. Much of the course will be project based, with students contributing to curated, online presentations focusing on different aspects of Parisian life from urban architecture to public health, from new literary movements to new artistic movements, from fashion to food. Taught in French. Instructor: Bell. One course.

390. Topics in French Literature and Culture. FL Specific literary or cultural French or Francophone topics to be announced. May be repeated. Instructor: Staff. One course.

390A. Topics in French Literature and Culture. 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. Topics may vary. Instructor: Staff. One course.

390S. Topics in French Literature and Culture. FL Seminar on specific literary or cultural French or Francophone topics to be announced. May be repeated. Instructor: Staff. One course.

390S-1. Special Topics in French Literature and/or Culture (in English). Topics to be announced. Taught in English. 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, W One course. C-L: see Literature 410S

411. Biography, Life Writing, Autofiction. ALP, CCI, CZ, FL, R History and art of the life story, examining biography as it drives research and contemporary writing. From Montaigne to Rousseau, the biopic to the lives of troubadours, we will study modes, media and social functions: portrait, caricature, meditation, fragments, selfies. The subjects: famous or anonymous people; those who are not human, landscapes, the sea—even inanimate objects. The accounts of radical change or metamorphosis, personal epiphanies, self-conscious reflection. The aims of depicting lives as they unfold. Texts include Foucault, Augustine, Flora Tristan, Pascal, Ferraoun. Critical readings will be coupled with creative work culminating in a research project around your life. Instructor: Solterer. One course. C-L: Literature 420, History 420

412S. Laughing Through It All: French Comedy and Its Social/Political Contexts, Middle Ages to the 21st C. ALP, CCI, CZ, FL Exploration of comedy, its nature, definitions, and functions within changing social and political contexts via close readings of plays representative of the richness and variety of French comedy from the Middle Ages to the 21st Century. Readings from theoretical and critical texts ranging from Aristotle to Bakhtin and beyond, Instructor: Tufts. One course. C-L: Theater Studies 421S

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: History 295, Visual and Media Studies 310

414S. 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 311S

415. Yesterday's Classics/Today's Movies. ALP, CCI, FL Films on the French classical era, readings of related texts, and film reviews. Analysis of themes/preoccupations from seventeenth century to today. The nature of classicism and its role in shaping of a French mentalité. Instructor: Longino. One course. C-L: Visual and Media Studies 312

416A. Modern and Contemporary Art in France. ALP, CCI, FL Based on the following five units: liberation from tradition, subversion and experimentation, art and society, the new methods and new places of art, and icons of the 20th century. On these premises, course will follow in chronological order, offering a panorama of principal movements in modern and contemporary art in France (Fauvism, Cubism, Dadaism, Surrealism, Neo-realism etc.) Goal of the sessions, based on specific works, will aim to re-enroll these movements in their artistic and social context. Three mandatory museum visits complement the course. Taught in French through Duke-in-France Program. Instructor: Staff. One course.

417S. Francophone Literature. ALP, CCI, FL Modern literature in French from French-speaking Africa and the French Caribbean. Topics include tradition and modernity; colonization, cultural assimilation, and the search for identity; and women in changing contexts. Instructor: Staff. One course. C-L: Asian & Middle Eastern Studies 202S, History 387S, Latin American Studies

420S. De l'Horrible Danger de la Lecture / On the Terrible Danger of Reading. ALP, CCI, FL Voltaire's short pamphlet, *De l'horrible danger de la lecture, et autres Invitations à la Tolérance*, serves as point of departure for this in-depth exploration of the act of reading, an act we take for granted in daily life but that engages us in complex mental operations involving our imagination and memory, as well as deductive and critical faculties. Instructor: Longino. One course. C-L: Gender, Sexuality, and Feminist Studies 420S

425S. Surrealism: Aesthetics and Politics. ALP, FL, R Introduces basic principles and central issues of Surrealism investigating its relations with modernism. Examines Surrealist strategies (automatism, hypnosis, collage, found objects), themes (dreams, sexuality, dépaysement), and political agendas (Marxism, anti-colonialism, anarchism) across a wide range of verbal sources and visual artefacts and from a variety of angles: its precursors (Sade, Freud, Apollinaire), the practices in the Parisian scene in the 1920s, the European anti-fascist phase, reception of Parisian surrealism in the Caribbean, theoretical reflections by Benjamin and Adorno, the legacies (The Situationist International, May 1968, Pop Art). Conducted in French. Instructor: Saliot. One course. C-L: Visual and Media Studies 425S

426S. France-Asia: Cultural Transfers and Translations in a Globalized Context. ALP, CCI, CZ, FL, W This class explores the dynamic contemporary Franco-Asian dialogue with a specific focus on China, Japan, Vietnam, Laos and Cambodia. Seeking to go beyond the East-West divide, the seminar investigates the current stakes of this dialogue, given its growing complexity after 1945. It examines the postcolonial legacy of France's occupation of Indochina, and how East Asia has also often been viewed as an "Other," serving to crystallize French anxieties over political and cultural power. It uses an interdisciplinary perspective encompassing novels, cinema, dance, visual arts, and critical theory to trace a web of exchanges in a globalized context. Instructor: Saliot. One course. C-L: Asian & Middle Eastern Studies 426S, International Comparative Studies 413S, Literature 426S

427S. Banlieues and Peripheries in French Contemporary Literature and Cinema. ALP, CCI, CZ, FL, W This seminar explores figurations of banlieues and peripheries in contemporary French literature and cinema, and how they are inherently intertwined with a deep renewal of realist aesthetics. We will study the recent tendency to approach margins as metonymic and conflicted geopolitical configurations, articulating issues of gender, class and race. We will examine a constellation of recent films and narratives that can be anticipatory and expressive of the French social discontent in all its complexity, from the banlieues riots to the yellow vest movement. Instructor: Saliot. One course. C-L: Literature 427S

429. Imagining Europe: Arts, Culture, Politics. ALP, CCI, CZ Investigation of defining debates on European culture and the fiction which shapes them. In collaboration with Nasher Museum. Focus on literature and the visual arts of France, Italy, Portugal, Spain. Comparative analysis of key issues, including arts of migration, multilingualism, cultural and political relations within and without Europe, development of financial systems. Major authors: Marco Polo, Khatibi, Montaigne, Montesquieu, Balzac, Calvino, Némirovsky, Semprún, Saramago. Research in museum collections on major pieces. Instructor: Solterer, staff, with Nasher staff. One course. C-L: Romance Studies 202, Literature 274, Art History 202, Visual and Media Studies 202

429P. Imagining Europe: Language, Culture, Politics Preceptorial. A preceptorial, in French, requiring concurrent enrollment in Romance Studies 202 or French 429. Further information available from instructor. Instructor: Solterer, staff. C-L: Romance Studies 202P

481. Flaubert's Brain: Neurohumanities. ALP, CCI, STS 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. A preceptorial may be available for French majors/minors. Instructor: Jenson. One course. C-L: Literature 246, Neuroscience 241

481P. Flaubert's Brain: Neurohumanities Preceptorial. A preceptorial, in French, requiring concurrent enrollment in French 481. Further information available from instructor. Instructor: Jenson.

482S. Strange Masterpieces: Major Authors in French and Francophone Modernity. ALP, CCI, FL Introduction to the work of major authors from the eighteenth through twentieth centuries in the French language tradition. Topics include literary movements and their relationships to political, economic, or other social contexts; authorial personae and roles; print culture and its relation to nations, diasporas, and other social collectivities; narratology; and gender and literature. Instructor: Garreta or staff. One course. C-L: Literature 416S

489S. Screening Europe. ALP, CCI, CZ Course debates identification of Europe as a political, historical and social entity from the standpoint of cinema. Provides students with an introduction to the notion of "European cinema" from 1945 to the present-day crisis of Brexit and migration. Explores issues concerning interactions and relations between national and transnational identities, the local and the global, post-colonialism and multiculturalism, migration and nationalism, and Eastern versus Western Europe. Instructor: Saliot. One course. C-L: Romance Studies 489S, International Comparative Studies 479S, Literature 489S, Visual and Media Studies 489S

489SP. Screening Europe Preceptorial. A preceptorial, in French, requiring concurrent enrollment in Romance Studies 489S or French 489S. For French minors and majors, and all students who want to improve their linguistic skills. Students lead class discussions in French, write all their assignments in French and give an

oral presentation in French. Further information available from the instructor. Instructor: Saliot. C-L: Romance Studies 489SP

490-1. Topics in Literature and Neuroscience. Focus on the intersection of literature, culture and neuroscience. Topics vary. Taught in English with French preceptorial available. Instructor: Jenson or staff. One course. C-L: Neuroscience 290-1

490A. Advanced Topics in French and/or Francophone Literature/Culture Abroad. Topics may vary. Instructor: Staff. One course.

490S. Special Topics in French Literature. FL A cross-cultural analysis focusing on specific literary or cultural French or Francophone topics to be announced. 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, Perec, Roubaud), the documentary (Bon, Kuperman, Bergougniox, Houellebecq), and the minimalist school (Chevillard, Echenoz, Deville, Lenoir). Instructor: Staff. One course.

507S. Mimesis in Theory, Embodied Practice, and Literary Arts. ALP, CCI, CZ, FL Theoretical exploration of mimesis from Plato and Aristotle to Tarde, Lacan, Girard, Rancière, Lacoue-Labarthe, Butler, Malabou, Cassin, and Latoo. Additional emphasis on mimesis in human and animal development and social/behavioral practice, with interdisciplinary intertexts from fields ranging from neuroscience to genomics. Frequent departures from paradigmatic and empirical evidence to revel in the sensory and intuitive renewal of literary/artistic mimetic agency and apperception. Course taught in French, with occasional sources in English. Flexible language of assignments and English discussion section for graduate students outside of the French field. Instructor: Jenson. One course. C-L: Art History 509S, English 581S, Literature 507S

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: Visual and Media Studies 552, Literature 510

510P. Citizen Godard Preceptorial. A preceptorial, in French, requiring concurrent enrollment in French 510. Further information available from instructor. Instructor: Saliot.

512. Structure of French. FL Modern French phonology, morphology and syntax. Pragmatic interpretation of the current modes of use, including language levels, situationism, and interrelations. Readings in current linguistic theory. Instructor: Staff. One course. C-L: Linguistics 512

525S. Moliere: The Phenomenon of Laughter. ALP, CCI, FL Study of laughter as human reflex (what makes us laugh), and social critique (why and when), in the context of the Classical Age and through the comedy of Molière. Instructor: Longino. One course. C-L: Theater Studies 521S, Medieval and Renaissance Studies 601S

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, Chrétien 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

531. Imagining Community in Boccaccio and Christine de Pizan. ALP, CCI, CZ This comparative seminar explores the controversial and complex works of Boccaccio and Christine de Pizan. Boccaccio, illegitimate, impoverished son of a Florentine banker, and Christine de Pizan, an Italian woman isolated at court in Paris during a civil war both use literary form to construct communities—local, linguistic, national, intellectual, gendered, universal. This seminar attempts a different conception of literary community beyond national types and hierarchies offering students opportunities to explore their works and modern critical debates about them. All works available in translation. Readings in original languages and preceptorial meetings for majors and graduate students. Instructor: Eisner or Solterer. One course. C-L: Romance Studies 530, Italian 531

531P. Imagining Community in Boccaccio and Christine de Pizan Preceptorial. A preceptorial in French or Italian, requiring concurrent enrollment in Romance Studies 530, French 531, or Italian 531. Further information available from instructor. Instructor: Eisner or Solterer. C-L: Romance Studies 530P, Italian 531P

535S. L'age classique et la loi du genre. ALP, CCI, FL Rules governing French literary production and dictating standards for specific genres developed in the 17th century under the guidance of the newly formed Académie française and the influence of a number of self-designated arbiters of taste. In this introduction to French classical literature, students will gain a firm grounding in the canon, read critical theory, and explore different approaches to the question of genre. Readings drawn from a wide variety of contemporary genres and from recent criticism relating to the question of genre. Instructor: Longino. One course.

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

557. Cultural Memory. ALP, CCI, R, W Investigates invention, reconfiguration, and use of literary fictions over time. Examines major theoretical models: Assmann on cultural memory; LeGoff on history vs. memory; Rancière, Agamben on Temporality and anachrony; Benjamin, Bon on media and transmission. Readings from modern, premodern, and contemporary fiction, crossing genres and modes—narrative, poetic, dramatic, verbal, pictorial, cinematographic (including e.g. Hugo, Villon, Glissant, troubadour poetry, Aragon, Pichette, Christine de Pizan, Dreyer, Artaud, Bernard, Lamartine, Chartier, Lurçat, the Bayeux tapestry). Research projects to be developed with collaborators at European universities and archives. Taught in English. Instructor: Solterer. One course. C-L: History 557, Literature 557

557P. Cultural Memory Preceptorial. A preceptorial, in French, requiring concurrent enrollment in French 557. Further information available from instructor. Instructor: Solterer.

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. Special Topics in French Literature. A cross-cultural analysis focusing on specific literary or cultural French or Francophone topics to be announced. Instructor: Staff. One course.

590S. Seminar in French Literature. Cross-cultural analysis of literary and cultural topics focusing on specific objects of inquiry. May be repeated. Instructor: Staff. One course.

611. Biography, Life Writing, Autofiction. ALP, CCI, CZ, FL, R History and art of the life story, examining biography as it drives research and contemporary writing. From Montaigne to Rousseau, the biopic to the lives of troubadours, we will study modes, media and social functions: portrait, caricature, meditation, fragments, selfies. The subjects: famous or anonymous people; those who are not human, landscapes, the sea—even inanimate objects. The accounts of radical change or metamorphosis, personal epiphanies, self-conscious reflection. The aims of depicting lives as they unfold. Texts include Foucault, Augustine, Flora Tristan, Pascal, Ferraoun. Critical readings will be coupled with creative work culminating in a research project around your life. Same course as French 411 but with additional graduate-level work. Instructor: Solterer. One course. C-L: History 611, Literature 609

690-1. Topics in French Literature of the Eighteenth Century. **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. 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. 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

Courses in Italian (ITALIAN)

89S. First Year Seminar in Italian. Topics vary each semester offered. This course is restricted to first-year students. Instructor: Staff. One course.

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.

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.

190FS. Focus Topics in Italian Literature and Culture. 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. What Is Europe? **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, International Comparative Studies 240

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. **ALP, 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. Prepares students for 300 level Italian courses. Includes analysis of cultural and literary texts. One course.

213A. 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 112 or consent of the Italian Language Director. Offered through the Duke in Bologna program. Instructor: Fellin and staff. One course.

220. Modern European Short Fiction. ALP, CCI, CZ, EI Comprehensive examination of several important works of modern European short fiction by authors such as Kafka, Woolf, Svevo, Sartre, Joyce, Proust, Mann, Schnitzler, Gogol, and Calvino. While stories will be contextualized historically, culturally, and geographically, course is organized into thematic units, including animals, home, punishment, and love, to facilitate comparative analysis. Students engage critically with concepts such as identity, trauma, genre, and narrative form. No prerequisites. Instructor: Ziolkowski. One course. C-L: Romance Studies 206, German 243, Literature 244, English 244, Jewish Studies 243, International Comparative Studies 212

220P. Modern European Short Fiction Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 206 or Italian 220. Further information available from instructor. Instructor: Ziolkowski. C-L: Romance Studies 206P

225. The Problem of Love in Western Literature. ALP, CCI, CZ, R Love causes problems. It can inspire passion or madness; foster alliances, destroy friendships, provoke war, broker peace. It impacts communities and raises fundamental questions about life. Exploring amorous discourse from two millennia –Plato’s erotic ascent, Virgil’s deceived Dido, Ovid’s rules of seduction, Boccaccio’s legitimization of female desire, Michelangelo’s homoerotic poetry, Leonardo’s sublimated impulses, Foscolo’s tragic obsession, comic uncertainties of Svevo’s modern lovers, and love from afar in Montale—we will see what changes, what persists, and ultimately come to understand what we mean when we talk about love today. Instructor: Eisner. One course. C-L: Romance Studies 205, Literature 205, Medieval and Renaissance Studies 304

225P. The Problem of Love in Western Literature - Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 205 or Italian 225. Further information available from instructor. Instructor: Eisner. C-L: Romance Studies 205P

256. Italian Baroque Art. ALP, CCI, CZ One course. C-L: see Art History 256; also C-L: Romance Studies 256, Medieval and Renaissance Studies 246

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

290A-1. Special Topics in Italian Language, Literature, or Culture. Topics in Italian language, literature or culture. Offered in Duke in Venice. Instructor: Staff. One course.

301S. Introduction to Italian Studies: Language, Literature, Film. ALP, CCI, FL, W Introduction to Italian literature, thought and cultural practices. Focus on one or more authors, genres, social and political movements, cultural institutions, from middle ages to present, exposing students to a range of critical and theoretical tools. Engagement with social, political and philosophical issues and debates of enduring importance within literary and cultural texts and traditions. Strong emphasis on development of composition skills, writing and discourse strategies, vocabulary development, rhetorical techniques and conventions. Prerequisite: Italian 204 or equivalent. Instructor: Staff. One course.

302A. Italy 21st Century: Understanding Contemporary Italy Through Media, Film, and Literature. ALP, CCI, CZ, FL Designed to enrich students’ knowledge and understanding of contemporary Italian society and culture and to enhance their communicative skills and ability to comprehend more complex written texts and spoken language. The course examines various aspects of modern and contemporary Italian culture through the discussion of a variety of print and non-print materials: literary, journalistic and cinematic texts on contemporary Italian society, politics and culture. Offered at the Duke in Venice Program. Prerequisite: Italian 204, its equivalent or above. Instructor: Staff. One course.

302S. Italian Conversations: Explore Italy and Italians through Media, Film, Literature. ALP, CCI, CZ, FL A high-intermediate/advanced language course designed for students who wish to learn about contemporary Italy and improve their conversation skills, including their listening and speaking competencies and pragmatic sensibilities. The aim of this course is to develop students’ ability to participate in culturally nuanced discussions, successfully negotiate transactions and gain greater confidence in giving presentations. Emphasis on discussion of cultural topics explored through film, media and news, and specific student interests. Recommended prerequisite: Italian 204 or above. 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

327S. Introduction to Italian Culture. ALP, CCI, FL An introduction to Italian culture through the cross-cultural analysis of its history, literature, cinema and arts. Instructor: Staff. One course.

328S. Italian Studies Seminar. ALP, CCI An introduction to Italian culture through the cross-cultural analysis of its history, literature, cinema and arts. Through readings and discussions of primary and secondary texts, students will encounter and examine a range of Italian cultural topics. The course may be organized around a theme, like revolution, postcolonialism, or feminism in the Renaissance. Students will consider the topic from an Italian perspective, developing a greater understanding of both the theme and Italian society, culture, literature, and film. Taught in English. Instructor: Staff. One course.

332. Introduction to Italian Literature I. ALP, CCI, FL Major writers of the Italian premodern literary tradition of the thirteenth, fourteenth, and fifteenth centuries. Poetry, fiction, theater, and essay. Instructor: Eisner. One course. C-L: Medieval and Renaissance Studies 312

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: Staff. One course.

337. America from Abroad: Literature and Cinema. ALP, CCI, EI, W This course explores the portrayals of America, especially the United States, from authors and directors who are not American and who often have never even seen America. We will read short stories, novels, and graphic novels and watch films. What do these works from other parts of the world have to say about dreams, race, love, immigration, and space in America? We will discuss imaginary Americas in order to understand these important works within their contexts, to examine how foreign representations of America have contributed to our idea of America, and to consider what imagined Americas suggest about us here in North Carolina. Instructor: Ziolkowski. One course. C-L: Romance Studies 337, English 237, Jewish Studies 337, Literature 337

337P. America from Abroad: Literature and Cinema Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 337S or Italian 337S. Further information available from instructor. Instructor: Ziolkowski. C-L: Romance Studies 337P

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

342A. Dante and the Art of Hell. ALP, CZ, R Dante's *Divine Comedy*, has inspired medieval illuminations, Renaissance frescoes, Surrealist paintings, and modern sculptures. This course explores this remarkable visual history to interpret Dante's poem. What new features of Dante's world do these visual adaptations bring into focus? Visiting sites throughout Italy, we will also aim to reconstruct Dante's visual and built environment to understand what is distinctive about his vision. Taught in English. Offered through Duke in Venice and Duke in Bologna programs. Instructor: Eisner. One course. C-L: Art History 342A, Literature 342A, Medieval and Renaissance Studies 342A

350S. Italian Migration Stories. ALP, CCI, CZ, FL This course examines Italian literature that portrays and reflects on migration. We will read a range of authors who wrote in Italian but were often born elsewhere, including in Togo, Hungary, China, Egypt, India, and Somalia. We will discuss the multiple identities of Italian migrants and how they navigate between where they lived and their life in Italy. Instructor: Ziolkowski. One course.

379S. The Detective Novel. ALP, CZ What is a detective novel, and how does it "work"? By looking at synchronic and diachronic transformations of the genre—from British Sherlock Holmes to the South African "noir-fantastic"—the course investigates the structure of literary genres and their adaptability to different social, cultural, and civilizational contexts. The course has no prerequisites and is designed for majors and minors in Romance Studies and the humanities in general. Instructor: Dainotto. One course. C-L: Romance Studies 379S,

English 376S, Literature 379S

379SP. The Detective Novel Preceptorial in Italian. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 379S or Italian 379S. Further information available from instructor. Instructor: Dainotto. C-L: Romance Studies 379SP

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, Visual and Media Studies 308, Theater Studies 276

380P. Italian Cinema - Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 380. Further information available from instructor. Instructor: Dainotto.

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 from the middle ages to the early modern period, as anchors of larger geographical areas, or famed artistic centers. Taught in English. Instructor: Staff. One course. C-L: History 237, Medieval and Renaissance Studies 343, Cultural Anthropology 383

383A. 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 from the middle ages to the early modern period, as anchors of larger geographical areas, or famed artistic centers. Taught in English. Offered through Duke in Venice program. Instructor: Staff. One course. C-L: History 237A, Medieval and Renaissance Studies 343A, Cultural Anthropology 383A

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: Gender, Sexuality, and Feminist Studies 281

385. Mafia at the Movies. ALP, CCI A study of the mafia, and by extension, of Italy's "dark heart," in its historical, social, economic, cultural, and political dimensions, as represented in a wide range of Italian and American films and television productions, from documentary to comedy. Course will also consider possibilities and limits inherent to cinema in representing, and influencing cultural and social realities. In English with preceptorial for Italian majors or minors, or others desiring additional assignments and discussion in Italian. Instructor: Dainotto. One course. C-L: Literature 385, Visual and Media Studies 385, Theater Studies 375

385P. Mafia at the Movies Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 385. Further information available from instructor. Instructor: Dainotto.

386. Art in Renaissance Italy. ALP, CCI, CZ One course. C-L: see Art History 255; also C-L: Medieval and Renaissance Studies 225

386FS. Art in Renaissance Italy. ALP, CCI, CZ One course. C-L: see Art History 255FS; also C-L: Medieval and Renaissance Studies 225FS

388S. Food, Culture, and Society. CCI, CZ, EI, SS This DukeImmerse course provides a broad overview of food as culture and its role in society. Exploration of the intersections between food and identity from gender, ethnic, class, religious, and political identities to how people use food to develop a sense of themselves as ethical beings. Food and democracy and food activism. Readings from anthropological, sociological, linguistic, and literary writings with ethnographic observations in local communities of practice. Instructor consent required. Instructor: Fellin. One course. C-L: Romance Studies 388S, Cultural Anthropology 389S, Sociology 388S

390. Topics in Italian Civilization. A cross-cultural study of Italy through history, culture, people, and institutions. Topics may vary each semester. Instructor: Staff. One course.

390A. 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.

390A-1. Special Topics in Italian Language, Literature or Culture. Topics in Italian language, literature or culture. Offered through Duke in Venice. Instructor: Staff. One course.

390P. Topics in Italian Civilization: Preceptorial. Preceptorial attached to Italian 390. Please see instructor for more information. Instructor: Staff.

390S. Special Topics in Italian Studies. A cross-cultural study of Italy through history, culture, people, and institutions. Topics may vary each semester. Instructor: Staff. One course.

390SA. Topics in Italian Studies. 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.

390SP. Topics in Italian Studies: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 390S. See instructor for further details. Instructor: Staff.

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.

479S. Dante at Duke and in the World. **CCI, CZ, R** This course investigates Dante's presence at Duke and in the World, paying particular attention to his extraordinary Anglophone reception especially at Duke. Students will collaborate to create a library exhibit that shares their discoveries. Instructor: Eisner. One course. C-L: Literature 479S, Medieval and Renaissance Studies 474S

479SP. Dante at Duke and in the World Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 479S. Additional information available from instructor. Instructor: Eisner.

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, Literature 245, History 253

481P. Dante's Divine Comedy: Hell, Purgatory, and Paradise: Preceptorial. A preceptorial requiring concurrent enrollment in Italian 481. Additional information available from instructor. Instructor: Eisner.

482SA. Sex, Death, and a Little Love: Boccaccio's Decameron. **ALP, CCI, CZ, R** Ten Florentines, in the Plague's shadow, telling a hundred stories about human relationships, wit, religion, tragedy, happiness, and the power of language. For Duke in Bologna or Duke Intense Global students only. Instructor: Eisner. One course. C-L: Medieval and Renaissance Studies 454SA, Literature 482SA

483. What Machiavelli Really Says. **ALP, CZ, EI, R** Everyone knows what "Machiavellian" means, but what does Machiavelli really say? Reading his classical political texts, "The Prince," the "Discourses on Livy," and "The Art of War" in the company of his literary works, including "Mandragola," we will examine how Machiavelli's ideas about power, deception, language, ethics, and representation emerged from his reading of Plato, Livy, Ovid, and Dante, while also exploring the reception and consequences of his ideas. Just as Machiavelli searched history for answers to his own political situation, our guiding question cannot help but be "What would Machiavelli do?" Instructor: Eisner. One course. C-L: History 405, Literature 483, Political Science 483, Medieval and Renaissance Studies 473

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. 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.

531. Imagining Community in Boccaccio and Christine de Pizan. ALP, CCI, CZ This comparative seminar explores the controversial and complex works of Boccaccio and Christine de Pizan. Boccaccio, illegitimate, impoverished son of a Florentine banker, and Christine de Pizan, an Italian woman isolated at court in Paris during a civil war both use literary form to construct communities—local, linguistic, national, intellectual, gendered, universal. This seminar attempts a different conception of literary community beyond national types and hierarchies offering students opportunities to explore their works and modern critical debates about them. All works available in translation. Readings in original languages and preceptorial meetings for majors and graduate students. Instructor: Eisner or Solterer. One course. C-L: Romance Studies 530, French 531

531P. Imagining Community in Boccaccio and Christine de Pizan Preceptorial. A preceptorial in French or Italian, requiring concurrent enrollment in Romance Studies 530, French 531, or Italian 531. Further information available from instructor. Instructor: Eisner or Solterer. C-L: Romance Studies 530P, French 531P

532S. Comparative Modernisms. ALP, CCI, R This course investigates the debated term modernism. We will explore a wide range of critical works on periodization, avant-garde movements, irony, stream of consciousness, and other key terms, to examine several major literary works of modernism, including selections from Woolf, Rilke, Marinetti, Pirandello, Musil, Joyce, and Kafka. Each student will select a representative work from a national literary tradition to contextualize for the class and research. Instructor: Ziolkowski. One course. C-L: Romance Studies 532S, Literature 532S, German 535S

532SP. Comparative Modernisms Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Romance Studies 532S or Italian 532S. Enrollment allows the course to count toward the language requirement for the Italian major or minor. Further information available from instructor. Instructor: Ziolkowski. C-L: Romance Studies 532SP

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.

582. 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. Same as Italian 481/Medieval and Renaissance Studies 450/Literature 245 but with additional graduate level work. Instructor: Eisner. One course. C-L: Medieval and Renaissance Studies 603, Literature 582

582P. Dante's Divine Comedy - Hell, Purgatory, and Paradise: Preceptorial. A preceptorial requiring concurrent enrollment in Italian 582. Instructor: Eisner.

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, Literature 583S

583SP. Dante Studies: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 583S. Further information available from instructor. Instructor: Eisner.

584S. Boccaccio Studies. ALP, CCI, R Examines a particular aspect of Boccaccio's works, such as the Decameron. Issues may include Boccaccio's role in the construction of a vernacular literary community, his place in the history of literary criticism, his investigations of gender, or his relationship to the larger storytelling traditions. Taught in English with an Italian preceptorial available for majors or minors. Instructor: Eisner. One course. C-L: Literature 584S, Medieval and Renaissance Studies 618S

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: Staff. One course. C-L: Gender, Sexuality, and Feminist

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: 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

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 or Hardt. One course.

587SP. Cinema and Literature in Italy: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 587S. Further information available from instructor. Instructor: Dainotto 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. Specific aspects of Italian history, civilization, culture, and institutions. Topics may vary. Taught in English. Instructor: Dainotto, Eisner, Hardt. One course.

590S-1. Topics in Renaissance Studies. Focus on a particular aspect of the Italian or European Renaissance. Taught in English. Instructor: Dainotto, Eisner, Hardt. One course. C-L: Medieval and Renaissance Studies 690S-2

590SP. Topics in Italian Studies - Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 590S. Further information available from instructor. Instructor: Dainotto, Eisner, Hardt.

590SP-1. Renaissance Studies: Preceptorial. A preceptorial, in Italian, requiring concurrent enrollment in Italian 590S-1. Further information available from instructor. Instructor: Staff.

K'iche' Maya

Courses in K'iche' Maya (KICHE)

101. Elementary K'iche' Maya I. FL Introduction to essential elements of K'iche' Maya language and aspects of Maya culture. K'iche' Maya, a language spoken by about a million people in the western Highlands of Guatemala, is one of the major indigenous languages in the Americas. Emphasis on active language production to develop basic conversational skills for everyday interactions. Course taught at Vanderbilt University; Duke students participate through video conference and/or telepresence classroom. No pre-requisite. Instructor: Staff. One course.

102. Elementary K'iche' Maya II. FL Continuation of K'iche' Maya I. Second semester course that introduces the essential elements of K'iche' Maya language and aspects of Maya culture. K'iche' Maya, a language spoken by about a million people in the western Highlands of Guatemala, is one of the major indigenous languages in the Americas. Emphasis on active language production to develop basic conversational skills for everyday interactions. Course taught at Vanderbilt University; Duke students participate through video conference and/or telepresence classroom. Pre-requisite. K'iche' Maya 101 or equivalent. Instructor: Staff. One course.

203. Intermediate K'iche' Maya I. FL Develops greater competencies in writing in K'iche' and translation to/from K'iche'. Covers more advanced grammar (verb modalities) and broader range of scripts (colonial vs. modern orthography). Research conducted in K'iche' using the Oral History archive at the University of New Mexico (<https://laii.unm.edu/kiche.html>). Students select a story from the online archive, listen to audio, correct transcription, rewrite it in modern orthography and translate it into contemporary English to present to classmates. Taught at Vanderbilt University; Duke students participate through video conference/telepresence classroom. Prerequisite: K'iche' Maya 102 or equivalent. Instructor: Staff. One course.

204. Intermediate K'iche' Maya II. FL Students read and discuss K'iche' language socio-historical context beginning with colonial texts to the present. Primarily a translating class, students read primary sources in K'iche' going back to the 16th century using philological methods. Texts include colonial dictionaries and grammars, phrase books, wills and testaments, missionary texts from colonial period and late 19th century, dance dramas, and the Popol Wuj. Learn about the range of materials available in K'iche' and the tools and methods used to work with these sources. Taught at Vanderbilt University; Duke students participate through video conference/telepresence classroom. Prerequisite: K'iche' Maya 203 or equivalent. Instructor: Staff. One course.

Portuguese

Courses in Portuguese (PORTUGUE)

89S. 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.

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. 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: Silva. One course.

112. Accelerated Elementary Portuguese. FL Designed for highly motivated undergraduate and graduate students as well as fluent speakers of another Romance language, this course covers much of the elementary language sequence (Portuguese 101-102). Most grammar and textbook work is done outside of class, freeing class time for more communicative activities. Conversation sessions provide intensive work on grammar focused through discussion on issues raised in films, news media, reading, music. It is expected that students who take this course will be able to place directly into Portuguese 203; however, placement into Portuguese 102 may be recommended in some cases. Meets five times a week. Instructor: Silva. 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. Recommended prerequisite: Portuguese 102 or 112. Instructor: Silva or staff. One course.

203A. Intensive Brazilian Portuguese. CCI, CZ, FL Four week immersion course in Portuguese language and Brazilian culture, offered only in Duke in Brazil. Elementary language pre-requisite required. Covers intermediate language curriculum, developing aural comprehension, speaking, reading and writing skills. Provides grammar practice and development of effective strategies for oral communication in conjunction with intensive cultural program activities. Includes strong civics, social, cultural, and environmental components geared to NGOs that engage with these issues. Classes meet five days per week for four hours with additional required extracurricular activities. Instructor consent required. Instructor: Silva. 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: Silva. One course.

260. Afro-Brazilian Culture and History. CCI, CZ, R One course. C-L: see History 327; also C-L: African & African American Studies 209, Human Rights Program-Franklin Humanities Institute 327, Latin American Studies, Human Rights

290S. Topics in Lusophone Literature and Culture. Seminar exploring topics of cultural formation in the Portuguese-speaking world that emphasize autochthonous cultural theory. Topics include slavery, urban development, sexuality, social activism, and cultural production. Taught in English. Instructor: Staff. One course.

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: Silva. One course.

327S. Introduction to Portuguese Culture. ALP, CCI, FL An introduction to Portuguese culture through the cross-cultural analysis of Brazilian or Global Portuguese history, literature, cinema and arts. Instructor: Staff. One course.

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: Silva. One course.

341S. Perspectives on the Amazon. CCI, CZ The Amazon has been a source of awe to outsiders at least since the first Europeans navigated the Amazon River in 1542. While early explorers searched the forest for a mythic city of gold, contemporary travelers, scientists, and concerned citizens look to the Amazon as the key to our endangered future. Focusing on a variety of textual and visual representations, we will deal with major themes in the history of the Amazon and consider the ways in which this vast and widely depicted region eludes representation, holding entirely different and contending meanings to distinct socio-cultural groups. Our sources include works by indigenous thinkers and cultural producers. Instructor: Furtado. One course. C-L: Romance Studies 341S, Latin American Studies 341S, Literature 341S

341SP. Perspectives on the Amazon Preceptorial. A preceptorial, in Portuguese, requiring concurrent enrollment in Romance Studies 341S or Portuguese 341S. Further information available from instructor. Instructor: Furtado. C-L: Romance Studies 341SP

390S. Topics in Lusophone Literature and Culture. Seminar exploring 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. Level of Portuguese required varies with semester topic; students should consult instructor. 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 Portuguese 393. Open only to qualified juniors by consent of instructor and director of undergraduate studies. Instructor: Staff. One course.

490. Topics in Lusophone Literature and Culture. 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. Level of Portuguese required varies with semester topic; students should consult instructor. Instructor: Staff. One course.

490S. Topics in Lusophone Literature and Culture. Seminar exploring 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. Level of Portuguese required varies with semester topic; students should consult instructor. Instructor: Staff. One course.

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.

497T. Portuguese Tutorial. FL Tutorial in Portuguese. Discussion group for up to five students. Topics vary by semester. Instructor: Staff. One course.

497T-1. Tutorial in Lusophone Literature and Culture. Tutorial in Lusophone Literature and Culture. Discussion group for up to five students. Taught in English. 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: Furtado, Aidoo, and staff. One course.

590. Topics in Lusophone Literature and Culture. 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. Level of Portuguese required varies with semester topic; students should consult instructor. Instructor: Staff. One course.

590S. Topics in Lusophone Literature and Culture. 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: Furtado, Aidoo, and staff. One course.

590SP. Preceptorial in Lusophone Literature and Culture. A preceptorial in Portuguese, requiring concurrent enrollment in Portuguese 590S. Further information available from instructor. Instructor: Furtado, Aidoo, and staff.

Quechua

Course in 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

Courses in Spanish (SPANISH)

89S. 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.

92A. Culture and Language in Costa Rica. CZ Everyday culture in Costa Rica with attention to environmental topics and issues. Taught at Duke Global Education Office programs in Costa Rica. Instructor: Staff. One course.

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. Four 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 101; 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. Four 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. Instructor: Staff. Two courses.

140A. Duke in Alicante: Intensive Elementary Institute. FL Covers the basic elementary language curriculum (Spanish 101 & 102) in one summer session in Alicante, Spain. Equal attention to aural comprehension, speaking, reading, and writing skills conducted entirely in Spanish using a task-based approach. Includes exposure to aspects of Spanish-speaking cultures. 4 hours a day of classroom instruction (M-TH); required extracurricular activities. For more information see the Global Education Office website. Instructor: Staff. Two courses.

160. Introduction to Latino/a Studies in the Global South. ALP, CCI, SS One course. C-L: see Latino/a Studies in the Global South 201; also C-L: African & African American Studies 104, International Comparative Studies 106, Literature 243

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 201S; also C-L: Literature 243S, African & African American Studies 104S, International Comparative Studies 106S

190FS. Focus Topics in Spanish and Latin American Literature and Culture. 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.

205. Advanced Intermediate Spanish with Service-Learning. CZ, FL Same as Spanish 204, except with a service-learning component. Consent of instructor is required. Instructor: Paredes and staff. One course.

206. Advanced Intermediate Spanish with Community Engagement. CZ, FL Same as Spanish 204, except with community engagement. Course integrates academic language learning and interactions with the local Spanish speaking community to learn about their culture. Instructor consent required. Instructor: Paredes and staff. One course.

209. Intermediate Spanish for Heritage Learners. CCI, CZ, FL This course is the first of a two-course sequence for heritage Spanish learners. It aims to reconnect students with their linguistic and cultural heritage to further them through meaningful experiences. Activities in this course empower heritage learners to apply their bilingual/bicultural knowledge in academic and professional settings. Students have the opportunity to a) discuss topics relevant to their interests, use presentational skills to write and talk about them b) conduct sociolinguistic research, develop critical and integrative thinking skills in Spanish, and c) gain skills required to work professionally in a Spanish-speaking environment. Instructor consent required. Instructor: Munne and/or Paredes. One course.

240A. Duke in Alicante: Intensive Intermediate Institute. CZ, FL Covers intermediate Spanish language curriculum (Spanish 203, 204) in one summer session in Alicante, Spain. Builds on elements of language acquired in Spanish 101 and 102. Further development of listening, speaking, reading, writing skills. Expanding range and sophistication of grammar usage and vocabulary. Exposure to Spanish-speaking cultures. Work with comprehension and production of complex texts. Focus on ability to structure ideas in speaking and writing. Prepares students for 300-level Spanish courses. 4 hours/day classroom instruction (M-Th); required extracurricular activities. Prerequisite: Spanish 102 or 111. For more information see Global Education Office website. Instructor: Parades and staff. Two courses.

270T-1. Voices in Global Health: Spanish Tutorial. Half course. C-L: see Global Health 270T-6

271T. Voices in Public Policy: Spanish Tutorial. Half course. C-L: see Public Policy 273T-1

272T-1. Voices in the Environment: Spanish. Half course. C-L: see Environment 269T-1

275T-1. Voices in Cultural Anthropology: Advertising in Spanish. Half course. C-L: see Cultural Anthropology 275T-1

290. Special Topics in Spanish Studies. Topics in Spanish literature and culture to be announced. Instructor: Staff. One course.

301. Advanced Spanish Writing. CCI, FL, W Development of academic writing skills in Spanish with a focus on techniques for identifying a topic, conducting research, organizing information to appeal to readers, drafting, revising, and editing. Focus on improving grammatical and lexical variety and accuracy in students' writing in Spanish. Peer feedback and group work are key activities in the course. Products include a summary, an analysis written collaboratively, and a 6-8 page research paper and presentation. This course is strongly recommended before enrolling 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. C-L: Linguistics 301

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. Prerequisite: Spanish 204 or equivalent. Instructors: Paredes and staff. One course. C-L: Latino/a Studies in the Global South

305. Advanced Spanish for Heritage Learners. CCI, CZ, FL, W This course is designed for heritage or bilingual students who grew up speaking Spanish at home, but have been educated almost exclusively in English. Together we will explore, reflect, and express opinions about topics that affect the diverse Latino communities in the United States such as: identity, bilingual education, immigration, health and human rights issues. Through reading current news and literary works, and listening and watching audiovisual media, students will develop the ability to read and write in Spanish in formal contexts, and also comprehend and compare the diversity and commonality of their Hispanic heritage. Instructor: Munné and/or Paredes. One course. C-L: Latino/a Studies in the Global South 305

306. Health, Culture, and the Latino Community. CCI, FL Exploration of health issues in the Spanish-speaking world shaped by social, cultural, political, ethnic, and economic determinants. Topics: cultural competency, community beliefs, medical practices and policies, preventive medicine, mental health. Projects include presentations, writing, research, and conversations with local and global contacts. Evaluation on knowledge of content, oral and written proficiency in Spanish. One 300-level Spanish course recommended prior to enrolling. Prerequisite: Spanish 204 or equivalent. Instructor: Staff. One course. C-L: Latino/a Studies in the Global South 306, Global Health 326, Cultural Anthropology 306, Human Rights

306A. Language, Culture, and Health in Costa Rica. CCI, FL Builds proficiency in oral and written Spanish through exploration of language, culture, and issues related to health in Costa Rica. Learning through personal observations and classroom discussions based on readings and guest speakers. Interaction with community in interviews and visits to local organizations and health providers to further knowledge on issues that impact community life. Assessment based on language and content of written and oral projects. Prerequisite: Spanish 204 or equivalent. Taught in Duke-in-Costa Rica summer program. Instructor: Clifford, Fernandez, Staff. One course. C-L: Global Health 326A

307S. Issues of Education and Immigration. CCI, FL Community-based interaction with Durham Public Schools and NALEO's educational campaign: *iHágase Contar!* Censo 2020. Topics: Latino/a/x identities, educational pathways for Spanish-speakers in our community, relevant public policy and legislation, and social action. 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. Recommended prerequisite: Spanish 204 or equivalent. Instructor: Paredes and staff. One course. C-L: Education 307S, Latino/a Studies in the Global South 307S

308S. Latinx Voices in Duke, Durham, and Beyond. CCI, CZ, FL, W Construction of Latinx identity(ies) and formation of community voices through the lens of cultural, political, and social issues at local and national level. Assessment on knowledge of content, oral and written Spanish. Includes service-learning component. Recommended students take 300-level Spanish course prior to enrolling. Instructor: Staff. One course. C-L: Latino/a Studies in the Global South 308S

309S. Spanish in the U.S. CCI, FL, SS Focus on linguistic development and current presence of Spanish in the United States. Students will develop linguistic and critical awareness about the relationship between Spanish language and society, with special emphasis on topics such as language variety, language contact from a social, political and educational perspective, types of bilingualism, sociolinguistic issues, migration patterns and settlements, etc. Readings in English and in Spanish with class discussion in Spanish. Previous 300-level Spanish work strongly recommended, or bilingual or nearly bilingual proficiency in Spanish). Instructor: Munne or staff. One course. C-L: Linguistics 309S

310. Translating Spanish-English and English-Spanish. ALP, CCI, FL Introduction to theories of translation and practice translating Spanish to English and English to Spanish. Students will explore key ethical concerns related to translation and interpretation, negotiate translation of cultural references, learn about concepts such as localization and internationalization, and give each other feedback on translation drafts and editing. Products created individually or in collaboration include ads, comics, poems, newspaper articles, subtitling and dubbing for film clips, a community project, and reflections on the translation process. Prerequisite: 300-level Spanish course or equivalent, with advanced proficiency in Spanish. Consent of instructor is required. Instructor: Simmermeyer, Munne. One course. C-L: Latino/a Studies in the Global South 310, Linguistics 310

311. Intensive Summer Spanish: Food Production and Consumption in NC and Peru. CCI, CZ, FL Intensive summer course builds on elements acquired in Spanish 203 while engaging in multidisciplinary examination of food production/consumption in NC and Peru. Further development of language skills in context of comparative exploration of impacts of globalization on modes of preparation, distribution, marketing of food and how these exchanges affect perceptions of economic, political, social, cultural processes. Focus on Peruvian cuisine with excursions to restaurants, farms, markets in NC. Students engage in collaborative and individual research, presenting findings in Spanish. Instructor consent required. Prerequisite: Spanish 203. Not open to students who have taken Spanish 204 or 303. Instructor: Paredes or Staff. Two courses.

312. Community-Based Research with Spanish-Speakers. CCI, FL, SS Course partners with Duke faculty to assist them in implementing research projects in the Spanish-speaking community. Students will

volunteer a minimum of 20 hours as interpreters, survey takers, assisting in home visits, etc. as needed. Exploration of topics related to research study such as education or health to contextualize CBR. Students will also focus on research methods, cultural competency, and linguistic skills necessary to interact with Latino/a community. Students assessed on knowledge of content, oral and written Spanish, and participation in service. Pre-requisite: Spanish 204 or equivalent. Prior 300 level coursework recommended. Service-learning course. Instructor: Clifford or staff. One course.

313. Bridging Cultures: Latino Lives and Experiences in NC. CCI, FL, SS Exploration of key issues surrounding Latino communities in Durham and beyond, focusing on issues of culture and immigration, health, education, economy. Course includes a minimum of 15 hours of service-learning with a local organization, plus other out-of-class and weekend community trips. Projects promote the development of intercultural competence, as well as facilitate opportunities for building bridges with the local community. Assessment based on knowledge of content, oral and written Spanish, and community engagement. Previous 300-level course is recommended before taking this class. Minimum requirement: Spanish 204 or equivalent. Instructor: Fernandez or Staff. One course.

314A. Aproximaciones a la Gastronomía de España: Política, Sociedad y Cultura. CCI, CZ, FL This Duke in Madrid intensive course builds on the elements of the language acquired in Spanish 101 through 203, combining advanced intermediate Spanish (Spanish 204) and advanced 300-level Spanish. 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. Satisfies one course requirement for Spanish majors or minors. Instructor consent required. Recommended prerequisite: Spanish 203 or equivalent. Instructor: Staff. Two courses.

315A. Language and Culture of Entrepreneurship in Latin America. CCI, CZ, FL This Duke in Chile course focuses on learning culture through social and for-profit entrepreneurship in Latin America, with an aim at developing proficiency in Spanish through linguistic, social, and cultural immersion through interactions with the entrepreneurial community. Course builds on elements of the language acquired in Spanish 101-203, providing continued development of listening, speaking, reading and writing skills; improving range and sophistication of grammar usage and vocabulary. Students complete the equivalent of Spanish 204 and Spanish 303. Satisfies one course requirement for Spanish majors or minors. Prerequisite: Spanish 203 or equivalent. Instructor consent required. Instructor: Staff. Two courses. C-L: Innovation and Entrepreneurship 315A

316S. Global Humanities in Spanish. ALP, CCI, CZ, FL, W For students with advanced or native Spanish, a gateway to the Spanish major focusing on global humanities in Spanish. Key humanistic contributions in peninsular, Latin American, and Latinx contexts, as organized around comparative themes, regions, and eras. From colonial /indigenous encounter to border studies, Cervantes to José Martí and Rosario Castellanos to Sandra Cisneros, political economy to food studies, and natural history to decolonial arts and literatures. Novels, films, poems, and paintings, as well as critical and historical writing—in digestible bites. Frequent, diverse writing assignments and group work. A foundation for lifelong cultural navigation/enrichment in Spanish. Recommended prerequisite: native speaker status, AP Spanish exam score of 5, or other advanced Spanish training. Instructor: Vilches. One course.

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 first years 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 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. Recommended prerequisite: Spanish 301, or AP score of 5 on Spanish Language exam, or SATII score of 660+, or other equivalent experience. Students who have taken more than one course above 331S should 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 Literature is one of the many genres and media artists have used to capture on-going transformations in our ways of looking at reality. This course will focus on the dialogue that exists between literature, painting, and film. Offered through the Duke in Spain program. Prerequisite: Spanish 204 or equivalent. 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: Latin American Studies, International Comparative Studies

336. Introduction to US Latino/a Literature. ALP, CCI Survey of US Latino/a Literature from 1960s to present. Examines formation of a Latino/a literary canon, its heterogeneous voices and imaginations, thematic strands, historical and political contexts, theoretical approaches, establishing critical overview of the range of nationalities, communities, identifications, and practices falling under the Latino/a designation. Explores how Latina and Latino identities have been envisioned and manifested since the Civil Rights Movement, and how Latina- or Latino-specific cultural production continues in dialogue with US multiracial landscape. Satisfies survey requirement for Spanish major. In English; does not satisfy Trinity FL requirement. Instructor: Milian. One course. C-L: Latino/a Studies in the Global South 336, Literature 336

339. El cine político en América Latina. ALP, CCI, CZ, FL Examines question of political cinema through Latin American works from 1960s to present, including examples from 'New Latin American Cinema', with special focus on Brazil and Cuba. Emblematic films, manifestos and critical texts will define and contextualize alternate conceptions of "political" cinema. Examination of modes of production and distribution of "guerrilla" films; politics of film language inspiring experimentation of avant-garde aesthetics in fictional and documentary works; relationship between cinema and political memory; politics of gender, race, and sexual orientation; representations of social problems, including contemporary blockbuster thrillers. Conducted in Spanish. Instructor: Furtado. One course. C-L: Visual and Media Studies 383, Latin American Studies 327, Literature 339

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.

341A. Art, Cultural Identity, Social Change: Political History of Cont Spanish Art: Goya to Global Society. ALP, CCI, CZ, FL This Duke in Madrid course is a survey of Spanish contemporary art from Goya to current art practices. From an interdisciplinary perspective, including new contributions from art history, performance, cultural, visual, and women studies, the course explores the evolution of social, political, economic, and cultural contexts that have shaped Spanish art from the origins of the modernity to the present. In addition to theoretical lectures, and during visits to some important art collections, the professor will provide students with key points of discussion—artistic, but also economic, cultural and political contextual keys in order to build a collective conversation. Instructor: Staff. One course. C-L: Art History 341A

342A. From Transition to Indignation: Social Movements in Spain 1977-2013. CCI, EI, FL, SS Provides a comprehensive and panoramic critical approach to evolution of Social Movements in Spain from the political transition until today. Students gain overall view which establishes different links connecting social forms. Through texts, group sharing and direct encounters with activists, participants better understand the

recent history of Spain through the eyes of associations and groups of citizens who have been implicated in its social, cultural, political and economic reality. In addition to a rigorous theoretical and analytical approach, course possesses a strong experiential component that facilitates meaningful learning of content. Offered through Duke in Madrid program. Instructor: Staff. One course. C-L: Sociology 346A, History 353A

343A. Decentering Spanish Otherness: Visual Culture and Coloniality in Contemporary Spain.

ALP, CCI, CZ, FL This course proposes the study of visual culture in Spain from the nineteenth century to the present day from decolonial and postcolonial perspectives. It will analyze the history and cultural legacies of Spanish colonialism through photography, film, illustration and art from a transdisciplinary point of view, with special emphasis on cultural studies, visual studies and visual anthropology. Offered through Duke in Madrid program. Instructor: Staff. One course. C-L: Visual and Media Studies 278A

344A. The Politics of Salsa: Music, Urban Spaces and Globalization. **ALP, CCI, FL** This Duke in

Cuba Havana-based course investigates urban spaces through the lens of salsa music. With Havana as the focal point, students comparatively reflect on how musical and/or cultural production shapes urban spaces throughout the Caribbean (e.g., Caracas, San Juan) and US cities (e.g., Miami, New York) where Cuban and other Caribbean diasporas are at stake. It also takes into consideration the historical impact of globalization on cultural and socio-economic urban development. Readings from Cultural Studies, History, and Musicology. Original research projects using primary and secondary materials written in academic Spanish. Prerequisite: Spanish 204 or equivalent. Instructor: Villalba. One course. C-L: Music 325A, Cultural Anthropology 348A, Latin American Studies, Latino/a Studies in the Global South

361. Latin American Literature in Translation. **ALP, CCI** One course. C-L: see Literature 375; also C-L: International Comparative Studies 339

363S. The Idea of Latin America in the Global World Order. **CCI, CZ, FL** This course will investigate the multilayered implications of the term 'Latin America' and the place of the sub-continent in the current global re-ordering. From the political and social insights of Immortal Technique, to tourist industry advertising, mainstream media outlets, and film and literature from across the region we will cast a wide net to explore this question, build historical context, and in the process attempt to 'unlearn' much of the received understanding invented and maintained by colonial and imperial powers and local elites. Taught in Spanish. Prerequisite: Spanish 204 or equivalent. Instructor: Mignolo. One course. C-L: Latin American Studies 363S

364. The Art and Cultural History of Flamenco. **ALP, CCI, CZ** One course. C-L: see Dance 365L

370S. Sublime Pleasures? Chocolate and Tobacco in the Americas and across the Atlantic. **ALP, CCI, CZ, FL, R** For the indigenous cultures of Mesoamerica chocolate and tobacco inspired complex sets of myths binding humans, the environment, and the divine. For Europeans these substances were too exotic and enticing, and quickly perceived as either symbols of power, panaceas, or sublime pleasures. Students will explore the material cultures that understood these substances as either pathways to gods, or enticing pleasures. Taught in Spanish. Instructor: Vilches. One course.

373S. The Spanish Civil War in History and Literature. **ALP, CZ, EI, FL** 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 fascism in Spain, with special attention to American volunteers. Taught in Spanish. Not open to students who have taken Spanish 431S or Human Rights 431S. Recommended prerequisite: Spanish 331S or Spanish 316S, or higher, or permission of instructor. Instructor: Sieburth. One course. C-L: History 273S-1, Human Rights Program-Franklin Humanities Institute 373S

380S. Political Cinema in Latin America. **ALP, CCI, CZ, FL** What counts as "political cinema"? What are the possible relations between cinema and politics, particularly in Latin America? How can cinema not only comment on political issues but also perform politics through practices of production and aesthetic choices that are germane to film as a cultural form? This course explores these and related questions through a survey of landmark Latin American works from the mid-twentieth century to the present. Taught in Spanish. Instructor: Furtado. One course. C-L: Visual and Media Studies 420S, Literature 381S, Latin American Studies 380S

390. Topics in Spanish Studies. Topics in Spanish literature and culture to be announced. 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. FL A humanistic, cross-cultural study of Spain or Spanish America through history, culture, people, and institutions. Topics may vary. Instructor: Staff. One course.

390A. Duke-Administered Study Abroad: Advanced Special Topics. Topics differ by section. Taught in English. Instructor: Staff. One course.

390A-1. Advanced Spanish Language Abroad. Topics may vary. Instructor: Staff. One course.

390P. Topics in Spanish: Preceptorial. A preceptorial, in Spanish, requiring concurrent enrollment in Spanish 390. Further information available from instructor. Instructor: Staff.

390S. Special Topics in Spanish Studies. Topics in Spanish literature and culture to be announced. Topics vary by semester. Instructor: Staff. One course.

390S-5. Topics in Spanish Linguistics. 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.

409S. Identity and Linguistic Rights in the Spanish Speaking Americas. CCI, CZ, EI, FL This course brings together the topics of language and human rights, exploring questions of language contact, bilingualism and endangered languages from the perspective of social injustices and human rights. The focus of the course is on how language is used to shape and negotiate identities and how it reflects and sustains social realities; this course will examine and reflect on situations of oppression and how they are associated to sociolinguistic attitudes, behavior and cultural expressions. Taught in Spanish. Instructor: Paredes. One course. C-L: Linguistics 409S, Human Rights Program-Franklin Humanities Institute 409S, Human Rights

410. Spanish Literature of the Renaissance and the Baroque. ALP, CCI, FL Selected works of 16th and 17th centuries in Spain with attention to their reflection of social, religious, political, and economic currents of the age, including: Pan-European cultural influences in the Renaissance; the complex effects of the New World encounter; the prominent role of material and visual culture; conflicts of identity stemming from racial, ethnic and religious tensions; and the contest for social mobility, power, and political authority. Prerequisite: Spanish 332, 333, 334 or 335. Instructor: Staff. One course. C-L: Medieval and Renaissance Studies 458

411. Golden Age Literature: Cervantes. ALP, CCI, CZ, 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: Staff. One course. C-L: Medieval and Renaissance Studies 459

412S. Mayas, Aztecs, and Incas: The World According to the Indigenous People of Latin America. CZ, EI, FL, 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: Cultural Anthropology 367S, International Comparative Studies 460S, Latino/a Studies in the Global South 412S

414A. Urban Fiction and Collective Imagination: Madrid Through Literature and Film. ALP, CCI, CZ, FL This Duke in Madrid course offers a panoramic look at some of the most important, contemporary artistic and cultural expressions and how they represent Madrid. While looking at historical, social and artistic contexts, we will spend time reflecting and engaging in debates about issues that have been shaping the dynamics of modern cities such as multiculturalism, migration and the role of women. Also, we will look for a way to position Madrid in the face of global questions about Hispanic culture and how it is perceived in other

countries. Instructor: Staff. One course. C-L: Visual and Media Studies 414A

419A. Spanish Cinema from the Transition to the Present. ALP, CCI, FL Overview of Spanish cinema, from transition to our present days. Having undergone dramatic transformation in past years, Spanish film offers privileged area to study main features, novelties, contradictions, and tensions. Analyzes two chronological phases: the mid 70s to late 80s, characterized by intense cinematic negotiation with immediate past that unveils cracks and violences of normalizing erasure proposed from the political institutions; and the 90s until the present, a period marked by Spanish film's entrance in the global market, with its identitarian reassessment and emphasis in new pressing issues such as immigration, memory, and gender violence. Offered through Duke in Madrid program. Instructor: Canteli. One course. C-L: Visual and Media Studies 419A

420A. Poéticas de aquí y de allá / Thinking Language: Poetics from Here and There. ALP, FL An overview of current Spanish and Transatlantic poetry, with special attention to poetics (i.e. how poetry thinks the world while it thinks itself). Following critical interventions of authors like Gertrude Stein or Octavio Paz, and poems and reflections of contemporary authors like Antonio Gamoneda, Olvido García Valdés, or Eduardo Milán, course considers theoretical issues such as subjectivity, poetry's relation to thought, its formal, or the question about reality. Also explores the possibilities of language to serve as a powerful tool of resistance and memory. Students will have the opportunity to meet and converse with some of these poets. Offered through Duke in Madrid program. Instructor: Canteli. One course. C-L: Literature 420A

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 taken Spanish 373S, History 273S-1, or Human Rights 373S. Recommended prerequisite: Spanish 331S or higher, or permission of instructor. Instructor: Sieburth. One course. C-L: Human Rights Program-Franklin Humanities Institute 431S

432S. Popular Culture and Political Repression in Spain and Latin America. ALP, CCI, FL Exploration of a significant body of Spanish and Latin American fiction produced under repressive political regimes. Course explores how fictional characters and real people use popular culture as a coping mechanism in societies which impose severe political and social limitations on acceptable behavior. Also address uses of popular culture in democratic contexts including the US and draw comparisons to its uses under dictatorship. Authors include Cervantes, Galdós, Borges, Marsé, and Puig. Instructor: Sieburth. One course. C-L: Human Rights Program-Franklin Humanities Institute 432S, Latin American Studies, Human Rights, International Comparative Studies

433S. Photography in the Americas: War, Tourism, Art, and Protest. ALP, CCI, CZ, FL Since it emerged in the 19th century until today, the camera has framed our way of seeing and understanding the world. In this course, students accompany the camera in its path through major events in the Americas—North, South, and Central—and examine the profound connections between them. We discuss photography as a weapon of war, a souvenir for tourists, an instrument of protest, an illustration of history, a journalistic and ethnographic tool, and an artistic medium. Key developments in photographic processes, from half tone printing to digital imaging, offer opportunities to reflect on the relationship between visual culture and technology, and art and politics. Taught in Spanish. Instructor: Gabara. One course. C-L: Art History 433S, International Comparative Studies 459S, Visual and Media Studies 433S, Latin American Studies

434S. Capitalism in the Modern City: Men, Women and Money in 19th- and 21st-Century Madrid. ALP, CCI, FL Exploration of the new culture of nineteenth-century Madrid as a modern city, with its crowds, cafés and shop windows, and how capitalism radically changed relationships, between human beings in general, and between men and women in particular. Course concludes with a look at the crisis of capitalism that began in 2008. Authors include Larra, Galdós, Pardo Bazán, Muñoz Molina, and others. Recommended prerequisite: Spanish 332, 333, 334, or 335. Instructor: Sieburth. One course.

440A. Spain in the 21st Century. CCI, CZ, FL Political, social, cultural, historical, and literary aspects of contemporary Spain. Taught in Duke in Madrid. Instructor: Staff. One course.

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.

441A. Spain: Cultural Studies. CCI, CZ, FL Intensive course. Selected linguistic, literary, social, and political issues. Discussions on the role of the regional autonomies and the place of Spain within the European Union. (Taught in the Duke-in-Madrid and Duke-in-Spain Programs.) Instructor: Staff. One course.

490A. Spain: Special Topics Abroad. 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.

490AS. Duke in Andes: Special Topics. Various aspects of literatures and cultures of the Andes. Specific topics to be announced. Instructor: Staff. One course.

490S. Spanish Literature. 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 US Latina/o Literatures and Cultural Studies. 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 toward the core course requirement; subsequent courses would count as related courses. Counts only once for the minor. Taught in English. Instructor: Milian or staff. One course. C-L: Latino/a Studies in the Global South 490S

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.

511S. Critical Methods in Spanish Studies. R Capstone seminar. Open to seniors pursuing Graduation with Distinction. 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

538S. Revolution in the Novel/Novel of Revolution. ALP, CCI, EI, FL Exploration of Spanish novel from 1962 to 1987, a period of exceptional development highlighting ‘radical artifice’ including use of parody, multiple narrators, subplots and time schemes, as well as countless self-reflexive devices. Collectively representing a ‘revolution in the novel’, these works also provide complex and sophisticated commentaries on vexed contemporary questions concerning the direction of Spanish politics and society spanning the years of late Francoism and the transition to democracy, reflecting both ‘revolutionary’ and ‘counter-revolutionary’ trends—including the unfinished revolution of women’s emancipation addressed through key works by women authors of the period. Instructor: Rodriguez-Garcia. One course.

539S. Atlantic Constellations: Migration, Exile, Second Slavery. ALP, CCI, CZ, FL This seminar explores the collective identities of migrant and exiled Spaniards away from the homeland. They remained on the move in large numbers for two centuries, immersing themselves in the cultures of their places of arrival while giving their preexisting persuasions a new life overseas. We’ll consider four main themes: 1) Ibero-Atlantic

diasporas since the mid-nineteenth century; 2) white slavery and second slavery in Cuba; 3) Spain's unfinished revolutions; and 4) the career of María Zambrano, an expatriate intellectual who turned her banishment from Spain in 1939 into the enabling condition of her radical revision of Western philosophy. Prerequisite: 300-level or above Spanish course that meets foreign language (FL) requirement or graduate standing. Instructor: Rodríguez García. One course. C-L: History 542S, International Comparative Studies 539S

540S. Many Mexicanos. ALP, CCI, CZ, FL A fresh look at contemporary writing referencing the need for political change and the reality of social inertia caused by unexamined dogmas, sectarian violence and economic self-interest. Readings will include pre-1950 novels (Mariano Azuela, D. H. Lawrence, José Revueltas) variously engaging the “dark side” of mass movements and party politics; works drawn from the literary “saga del 68” focused on student protests of 1968, including Elena Poniatowska’s controversial *La noche de Tlatelolco* (1971); Juan Villoro’s novel *Arrecife* (2012), a window onto the rise of neoliberal markets in post-NAFTA Mexico. Primary readings subject to change. Conducted in Spanish in a jargon-free environment. Instructor: Rodriguez-Garcia. One course.

590S. Seminar in Spanish Literature. 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.

Brazilian and Global Portuguese Studies Major Requirements

Students majoring in Brazilian and Global Portuguese studies will acquire competency in spoken and written Portuguese, as well as familiarity with the literature and culture of Brazil and Portuguese-speaking regions. 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 Portuguese 203 or 203A, and 204, and to pre-approved Brazil-themed Thompson Writing Program courses). Six of the ten courses must be taught in Portuguese, or have a Portuguese preceptorial (P) component (taught in Portuguese). The four remaining courses may be taught in English, such as courses in the English-language offerings of Romance studies, or cross-listed courses with at least fifty percent of Brazilian or lusophone content offered by other departments or programs such as history, African and African American studies, arts of the moving image, cultural anthropology, English, international comparative area studies, literature, music, political science, religious studies, and theater studies. Duke-approved courses taught in Portuguese in study abroad programs may also count toward this major concentration. Consult with the undergraduate major advisor concerning approval of related courses.

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 courses must be taken at the 300 level or above. Depending on placement, French 203 and/or French 204 may count toward the requirement;² 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 courses with French-related content or nondepartmental courses with French-related content

² For transfer students, consult with the director of the language program for equivalent transfer credits.

- Students must take at least three French courses numbered above 400³ or complete a thesis.⁴

Italian Studies Major Requirements

The Italian studies major offers two concentrations: Italian studies and 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.

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 at least one course in each of the following areas: Medieval, Renaissance, Modern/Contemporary, Linguistics. 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, arts of the moving image, 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 toward this major concentration.

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 one course from two of the following areas: Medieval, Renaissance, Modern/Contemporary, Linguistics. 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 toward 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 three courses numbered above 400. 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 two continental fields, for example peninsular Spanish and Italian; two fields encompassing the diversity of cultures and engagement in the "developing" and the "developed" worlds, such Creole and French; or 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

- Five 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

³ 500-600 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.

⁴ 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.

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 one-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 two of the following international and/or experiential learning experiences related to their fields of Romance study. Each of these must be approved by the director of undergraduate studies:

- study abroad (up to two programs may be counted);
- an appropriate DukeEngage 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; or
- 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 Brazilian and Global Portuguese, French, Italian, and Spanish studies.

Brazilian and Global Portuguese Studies:

Requirements: A total of six courses from departmental Brazilian and Global Portuguese Studies offerings, three of which must be taught in Portuguese or include a preceptorial (P) component. Up to two courses in Portuguese below the 300 level may be counted (Portuguese 203, Portuguese 203A, Portuguese 204). Duke-approved courses taught in Portuguese in study abroad programs may also count toward this minor concentration.

French Studies

Requirements: The French studies minor requires a total of five courses from departmental 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 toward 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 (Spanish 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 five 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:

Department-Administered Programs

- **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.
- **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.
- **Duke-in-Madrid-Intermediate.** *Major or Minor:* Spanish 314A, Gastronomía de España, counts as one course.

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.

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.

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.

Duke-Administered Summer Programs (Office of Study Abroad)

- **Duke-Administered Summer Programs in the Language**
 - **Duke-in-Aix-en-Provence.** French 212A Intensive Intermediate French Language and Culture counts as two courses toward the major, one course toward the minor.
 - **Duke-in-Barcelona; Duke-in-Bologna; Duke-in-Spain.** *Major:* Two courses may be counted toward the core-course requirement. *Minor:* Two courses may be counted.
 - **Duke-in-Paris.** *Major:* Two courses may be counted toward the core-course requirement. *Minor:* Two courses may be counted.
 - **Duke-in-Brazil.** *Major:* Two courses may be counted.
 - **Duke-in-Mexico.** Intensive Elementary & Intermediate Spanish
 - **Duke-in-Montréal.** *Major:* One course may be counted toward the core-course requirement. *Minor:* One course may be counted.
- **Duke-Administered Summer Programs in English (Duke-in-Venice).** *Major or Minor:* One course may be counted toward the core-course requirement.

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 761](#).

Science & Society

Professor Angrist, *Director of the Science & Society Certificate*; Professor Farahany, *Science & Society Director and Director of Undergraduate Studies*

A certificate, but not a major, is available in this program.

The Science & Society Program is an undergraduate, interdisciplinary course of study that integrates science with its relationship to society. The interdisciplinary curriculum enables students to understand the social, legal, historical, and policy issues stemming from research and technological advances in both basic and applied science. In earning the certificate, students learn how to integrate different perspectives, consider ethical and policy issues, and address the societal implications of advances in science and related technologies.

Certificate Requirements

Undergraduate students must complete five courses and two research experiences, (at least one of which is credit bearing):

- Science & Society 256/GENOME 256 (core course) must be taken by the end of the junior year.
- Three elective courses (see current listings at <https://scienceandsociety.duke.edu/learn/undergraduate-programs/ss-certificate/>), including at least one course with an ethics, law, or policy component.
- Two approved research experiences consisting of either two semester long independent study courses or one semester long independent study course plus one approved summer research experience.
- Science & Society 498S/Genome 498S capstone course to be taken in the spring of senior year.

At least one elective and at least one research experience must have a science component, and at least one elective must have an ethics, law, or policy component. No more than three courses may originate in any one department; only two courses may be used to satisfy the requirements for any major, minor, or other certificate; and at least half the courses must be taken at Duke.

Courses in Science & Society (SCISOC)

112FS. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI One course. C-L: see Education 112FS; also C-L: Public Policy 183FS, Russian 121FS, Human Rights Program-Franklin Humanities Institute 112FS, Human Rights

118. Science and the Modern World: Introduction to the History of Science. CCI, CZ, STS One course. C-L: see History 106; also C-L: International Comparative Studies 118, International Comparative Studies, Energy and the Environment, Ethics Elective

140FS. On Suffering: How Science and Stories Shape Us. ALP, EI One course. C-L: see Study of Ethics 140FS; also C-L: Global Health 140FS, Sociology 140FS

153FS. Drugs and the Law. SS One course. C-L: see Neuroscience 153FS; also C-L: Public Policy 185FS

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: Marine Science and Conservation

165. Introduction to the United States Health Care System. SS One course. C-L: see Public Policy 165

165FS. Cryptography and Society. QS, STS, W One course. C-L: see Mathematics 165FS

189FS. To Boldly Go! Global Health and the American Way of Engagement. CCI, CZ, EI, STS One course. C-L: see Global Health 189FS

194FS. Science in Pop Culture. Since the dawning of the “pop culture” era (however one defines that), science and popular culture have been inextricably linked. This course will explore the relationship between the two, examining how science is, and has historically been portrayed through pop culture outlets, such as film, television, music, videogames, fashion, sports, and news/politics. It will examine how these portrayals of science

have affected public perception of, and support for science, as well as how the pop culture media have affected the “doing” of science. Conversely, it will explore how scientific/technological advances have formed and shaped pop culture. Open only to students in the Focus Program. Instructor: Weintraub. Half course.

195FS. Medical Instrumentation in the Developing World (GE). STS One course. C-L: see Biomedical Engineering 195FS

196FS. Patient and Research Participant Activism and Advocacy. SS, STS, W In the 1960s, patients appropriated the language and tactics of the civil rights movement to advance clinical and research agendas. Today patient activism is evolving, leading to new solutions, dilemmas, and organizational structures. This course will examine patient and research participant activism and the ways it challenges conventional notions of expertise, amateurism, “human subjects protections,” and minimization of risk. Students will bring the tools of journalism, anthropology, humanities scholarship, public policy and community engagement/citizen science to bear on ethical and policy questions. Open only to students in the Science & the Public Focus Program cluster. Department consent required. Instructor: Angrist. One course. C-L: African & African American Studies 196FS, Global Health 196FS, Psychology 196FS, Public Policy 196FS, Sociology 196FS, Cultural Anthropology 196FS

197FS. From Siri to Skynet: Our Complex Relationships with Technology. SS, STS From mobile phones to driverless cars, modern high-tech devices have human-facing elements that shape our relationships with technology. Some integrate seamlessly into our daily lives, others frustrate us, and some simply captivate us. Students will investigate the intersection between people and technology to better understand how design can influence performance, safety, and user satisfaction. Topics include design principles; user experience concepts; and an overview of human strengths and limitations influencing interactions with technology. Case studies will include various technologies, including emerging systems such as brain-computer interfaces, robotics and artificial intelligence. Open only to students in Focus program. Department consent required. Instructor: Lyon. One course.

198FS. Performing Science: Experimentation, Collaboration, and Artistry. ALP, R, STS Combines a historical survey of science-themed plays with an examination of sci+arts initiatives such as the University of Western Australia’s Symbiotica; the Art & Science Laboratory in New Mexico; and the UK’s Centre for Performance Science. Central course questions: How can performing arts improve public awareness and knowledge about complex scientific ideas and research? What points of view and methods of research do artists bring to scientific inquiry and vice-versa? We will pay particular attention to secondary schools, contemporary art installations, and science museums as public laboratories for experimental, embodied collaborations across the two disciplines. Open only to students in the Focus Program. Department consent required. Instructor: Odendahl-James. One course. C-L: Literature 198FS, English 198FS, Theater Studies 198FS

199FS. Risks, Rewards, Rules, and Tools: Science Law and Policy. CCI, SS, STS, W What are the government policies that support science? How is science regulated and controlled? What can science contribute to law and policy? How do the states and the federal government interact to set science policy? How do disparate regulations and law impact research and translation? How is scientific research funded? Why is there so much distrust of science? How is risk and uncertainty managed? We will explore these questions and more by looking at the various interactions of law, science, and policy. Open only to students in Focus Program. Department consent required. Instructor: Waitzkin. One course. C-L: Public Policy 199FS

201. Science, Media, & Perception: How Media Affects Our View of Science. SS, STS Examination of how media affects people’s perception of science. Explore how people consume scientific content and develop their perception, linked to the “gap” between science and the public, and how we make our choices and beliefs; discuss different forms of science communication and media, the effects of media manipulation, and how these impact society; analyze current coverage of breaking scientific topics and public perception; and evaluate the effects these have on people’s perception of science, value judgements, and decision making. Ultimately leading to the development and proposal of guidelines to reduce issues we see regarding media coverage of science. Instructor: Eily. One course.

205. Science, Technology, Ethics, and Masculinity in American Culture. CCI, CZ, EI, STS Considers ethical assumptions constituting “common sense” in the U.S. about masculinity, warfare, sports, and sex. Reviews history of scientific technology relating to myths and morality of militarism, athleticism, and virility. Anchoring analyses are *Stiffed* (Susan Faludi, 672 pp) and “Bigger, Stronger, Faster” (Chris Bell). Students write weekly close-reading papers (3 pp.) on a primary document, including images and text. Course helps

students connect humanities research with work in “hard” sciences and understand the imperative in bioethics to question what counts as normal in science, nationalism, and what makes a man a man. Instructor: Hall. One course. C-L: Gender, Sexuality, and Feminist Studies 205

210S. Stigma, Mental Illness and Ethnicity: From News Media and Pop Culture to Policy and Back. EI, SS, STS Stigma associated with mental illness, ethnicity and/or race affects individuals, families, communities and societies. This course offers cultural perspectives on how stigma associated with ethnicity, race and mental illness impacts and is impacted by media and pop culture. The course is designed for undergraduate students interested in understanding the complexity and social implications of stigma through analysis of media and pop culture. Assignments include short essays and podcast production. Instructor: Chiscop Head. One course.

212FS. Law, Ethics & Responsibility. EI, SS, STS One course. C-L: see Linguistics 212FS; also C-L: Public Policy 250FS

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 233S, History 301S

248. Science and Policy of Obesity. SS, STS An interdisciplinary course introducing students to science and policy of obesity from historical perspective beginning in mid-19th century. Study how social and cultural changes contributed to increasing prevalence of obesity in U.S. as well as how scientific advancements in human physiology, nutrition, and genetics have come to define current biological causes of obesity and how evidence has impacted social policies, local and national legislation and medical practices. Students would strongly benefit from general background in biology as well as molecular biology and genetics. Instructor: Haga. One course. C-L: Public Policy 348

256. Science and Society. EI, NS, SS, STS, W Case-based studies of scientific issues. Gives equal time to discussion of social, legal and policy issues stemming from novel scientific and technological discovery. Students will develop a final paper addressing the science and societal impact of a relevant topic. Instructor consent required. Instructor: Angrist. One course.

258D. Race, Genomics, and Society. EI, NS, SS, STS One course. C-L: see African & African American Studies 261D; also C-L: Global Health 258D, Cultural Anthropology 261D, Biology 261D, Visual and Media Studies 274D

260. Magic, Religion, and Science since 1400. CCI, CZ, EI, STS One course. C-L: see History 260; also C-L: Medieval and Renaissance Studies 287

268S. Law & Genomic Sciences. EI, SS, STS Introduction to ways genomics is affecting law and other social institutions, and, conversely, how laws in turn affect development and use of genomic knowledge. Examine legal, ethical and policy issues raised by medical applications of genetics, (genetic testing, screening, therapy); consider use and misuse of “genetics” during eugenics movement in America, (including legal system failure to protect individuals rights); examine issues raised by genetic research; and consider impact of genetic information on family law, criminal law, privacy rights, and employment. Instructor: Staff. One course.

290. Topics in Science & Society. Topics in science and society. Topics may vary. Instructor: Staff. One course.

290S. Special Topics in Genome Sciences. Topics in genome sciences and policy. Instructor: Staff. One course.

293. Research Independent Study in Science & Society. R Individual research in a Science & Society 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 Science & Society as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and Director of SS Certificate. May be repeated. Instructor: Staff. One course.

293-1. Research Independent Study in Science & Society. R Individual research in a Science & Society

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 Science & Society as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and Director of Science & Society Certificate. Instructor: Staff. One course.

294. Research Independent Study in Science & Society. R Individual research in a Science & Society 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 Science & Society as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor and Director of SS Certificate. May be repeated. Instructor: Staff. One course.

294-1. Research Independent Study in Science & Society. R Individual research in a Science & Society 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 Science & Society as well as a Research (R) mode of inquiry curriculum requirement. Open to all qualified students with consent of supervising instructor. May be repeated. Instructor: Staff. One course.

299L. Introduction to Landscape Archaeology and Cultural Landscapes. CCI, CZ One course. C-L: see Classical Studies 299L

303. Rise of Modern Science: Newton to Einstein. CZ, STS, W One course. C-L: see History 303

337. French Scientists Write. ALP, CCI, FL One course. C-L: see French 337

341. Ethics of Global Infectious Disease Control. CCI, EI, SS One course. C-L: see Global Health 341; also C-L: International Comparative Studies 299, Human Rights Program-Franklin Humanities Institute 341, Human Rights

369. History of Public Health in America. CZ, R, STS One course. C-L: see History 369

371. Feast and Famine: Food in Global History. CCI, CZ, SS, STS One course. C-L: see History 371

380S. The Scientific Revolution. CZ, STS, W One course. C-L: see Philosophy 380S; also C-L: History 388S

390. Advanced Topics in Science & Society. Topics vary each semester. Instructor: Staff. One course.

390-1. Lectures on Special Topics in Science & Society. The course will look to explore how the topics of bioethics and technology are integrated into our everyday life. The course will aim to bring in experts from different fields to discuss how these areas affect society as a whole. Additionally, students will play a role in leading class discussions by presenting information to the class, and bringing in others to speak. Instructor: Waitzkin, Krenzer. Half course.

390S. Special Topics in Science & Society. Topics will vary. Instructor: Staff. One course.

417S. Genetic Engineering and Biotechnology. NS, STS One course. C-L: see Biology 417S

439S. Neuroscience and Multilingualism. NS, R, STS One course. C-L: see Linguistics 473S; also C-L: Russian 439S, Neuroscience 439S

490. Special Topics in Genome Sciences. Topics in genome sciences and policy. Instructor: Staff. One course.

498S. Science & Society 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 science and society and to consider the issue from scientific, social, and ethical perspectives, often for the benefit of a real-world client. Teams will present their research as an oral and/or written final project. Open only to graduating seniors in the Science and Society program or by consent of instructor. Instructor: Angrist. One course.

502S. Communicating Science & Bioethics. STS Examination of the challenges and best practices for communicating scientific and bioethical issues to the public, journalists, and policymakers. Explores historical

and cultural factors that influence public understanding of and attitudes toward scientific and bioethical issues. Students will draw on communication case studies from a variety of disciplines (genetics, neuroscience, law, bioethics) and their own academic interests as a context for developing writing and speaking skills essential for clear communication of complex topics to non-specialists. Instructor: Weintraub. One course. C-L: Bioethics and Science Policy 502S

519. International Development and Technology: The Benefits and Risks of Promoting Digitalization.

Digitalization. Technology has the potential to be a great equalizer, facilitating educational, economic and creative opportunities for individuals no matter where they live. Unfortunately much of the world still lacks reliable access to technology and the internet, leading to a digital divide and sharper inequalities. This course will explore such attempts to harness technology to be a force for development, while also highlighting the potential risks associated with the rise of technology related to data collection, privacy and security, bias and more. Students will evaluate case studies to better understand which factors should be in place to ensure the success of “tech for development” strategies. Instructor: Lynch, Perault. One course. C-L: Public Policy 519

549S. Histories of Science and Technology. CCI, CZ, SS, STS One course. C-L: see History 549S; also C-L: Global Health 549S, Energy and the Environment

559. Foundational Statistics for Social Science Researchers. Foundational knowledge in statistical procedures are necessary for interpreting and describing the results of research within science. This course is designed to provide the foundational knowledge of research methodologies and the statistical concepts and tools that will allow one to understand scholarly research. Specifically, in this course you will learn the theoretical and practical use of several descriptive and inferential statistical procedures, as well as how to design strong methodological experiments. Additionally, this course will allow you to conduct basic data analysis and prepare you to better understand research as a whole. Instructor: Krenzer. One course.

590. Special Topics in Science & Society. Topics will vary. Instructor: Staff. One course.

590S. Special Topics in Science & Society. Topics will vary. Instructor: Staff. One course.

606S. Robots in Society. From drones to self-driving cars, robotic technologies are developing faster than society's ability to fully grasp their impact. Well-designed technology has the ability to make us safer and improve our productivity, but how does the complex relationship between innovators, policy-makers and the public influence how soon we can realize the benefits? Class is a mix of students from different backgrounds representing different stakeholder perspectives. Instructor: Staff. One course.

612. Ethics and Policy in 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: (1) 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: Staff. One course. C-L: Public Policy 634, Computational Biology and Bioinformatics 612

613S. Technology Policy for the New Administration: Antitrust, Speech and Other Emerging Issues. SS, STS One course. C-L: see Public Policy 613S

627. Molecular Ecology. NS, STS One course. C-L: see Environment 627; also C-L: Biology 627

641S. Cancer in Our Lives: Film, Narrative, Fiction, History and Politics. EI, SS, STS One course. C-L: see Public Policy 641S

680S. Ethical Foundations of Innovative Technology Policy. EI, STS As science and technology continue to progress at an unparalleled pace, law, ethics and policy struggle to provide regulation and oversight. This course will consider the ethical foundations which can guide the development of public policy concerning innovative technologies, including gene editing, artificial intelligence, augmented and virtual reality, neuroscience and others not yet conceived. Instructor: Perault. One course. C-L: Public Policy 680S

690. Special Topics in Science & Ethics. The specific topic addressed in each course will vary, but will focus upon the ethical issues which arise in a selected area of innovative technology, such as artificial intelligence, gene editing, the impact of social media, big data and similar issues. Instructor: Staff. One course.

Courses in Genome Sciences and Policy (GENOME)

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.

123FS. Ethics, Law, and Policy in Genomics. EI, STS Course presents a survey of ethical, social, economic, and legal issues in genomics research and applications. Includes an introduction to ethical reasoning and examination of selected issues calling for such analysis, including: special procedures for research involving human participants, respect for privacy and confidentiality of genetic information, eugenics in the US, public trust in scientists, patents, commercialization and conflicts of interest sample and data ownership, personal genomics, dual-use concerns, impact on global health, and new applications for clinical sequencing and noninvasive prenatal testing. Open only to students in the Focus Program. Instructor consent required. Instructor: Staff. One course.

128FS. Evolutionary Genomics: Who Are We, Where Have We Been, and Where Are We Going?. NS, STS We are now a decade into the genomics revolution that generated data allowing us to gaze into our past, present, and future in ways that were beyond imagining when Darwin's theory of Natural Selection was first introduced. The unification of genomic data, bioinformatics, and evolutionary theory has transformed our understanding of human history, our place within the Tree of Life, and the impact that our species is having on those with whom we share the planet. This course will use the primary literature to familiarize students with the multifaceted power of genomics, with a slant towards examining human history and disease from an evolutionary perspective. Open only to students in the Focus Program. Instructor: Yoder. One course. C-L: Biology 128FS

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. Open only to students in the Focus Program. Instructor: Haga. One course. C-L: Public Policy 184FS

148FS. Genomics of Host-Microbe Interactions: The Symbiotic Web. NS, R, STS One course. C-L: see Environment 148FS; also C-L: Biology 148FS

190FS. Focus Program: Topics in Genome Sciences. One course.

212FS. Social Structures in an Evolutionary Framework. NS, STS One course. C-L: see Evolutionary Anthropology 212FS

222FS. Genetics and Epigenetics: The Codes that Control Our Genomes. NS One course. C-L: see Molecular Genetics & Microbiology 222FS

291. Bass Connections: Enabling Precision Medicine. This is an independent research study for undergraduate students interested in Genome Sciences and Policy. Enrollment in the course requires pre-approved research topic and plan of study. Open only to students in the Bass Connections program. Instructor consent required. Instructor: Haga. One course.

Program Courses in Other Departments

African & African American Studies

196FS. Patient and Research Participant Activism and Advocacy

Biology

251L. Molecular Evolution

255. Philosophy of Biology

311. Systems Biology: An Introduction for the Quantitative Sciences

350. Complex Traits and Evolutionary Genetics

450S. Genomics of Adaptation: A Modern Look at Evolution

452S. Genes & Development

Biomedical Engineering

561L. Genome Science and Technology Lab (GE, MC)

Classical Studies

299L. Introduction to Landscape Archaeology and Cultural Landscapes

Computational Biology and Bioinformatics

520. Genome Tools and Technologies

561L. Genome Science and Technology Lab (GE, MC)

662. Computational Systems Biology

Computer Science

260. Introduction to Computational Genomics

662. Computational Systems Biology

Cultural Anthropology

196FS. Patient and Research Participant Activism and Advocacy

220FS. Global 'Mixed Race' Studies

220S. Global 'Mixed Race' Studies

Global Health

196FS. Patient and Research Participant Activism and Advocacy

302. Global Narratives of Living with HIV/AIDS

History

106. Science and the Modern World: Introduction to the History of Science

577S. Historical and Philosophical Perspectives on Science

Human Rights Program-Franklin Humanities Institute

302. Global Narratives of Living with HIV/AIDS

Information Science + Studies

670. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America

International Comparative Studies

118. Science and the Modern World: Introduction to the History of Science

295. Global Narratives of Living with HIV/AIDS

Linguistics

216FS. Neuroscience and Human Language

216S. Neuroscience and Human Language

Literature

521S. Historical and Philosophical Perspectives on Science

623. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America

Mathematics

168S. Mathematical Investigations in Genetics and Genomics

Neuroscience

116FS. Neuroscience and Human Language

116S. Neuroscience and Human Language

Philosophy

101. Introduction to Philosophy

218. Medical Ethics

314. Philosophy of Biology

541S. Historical and Philosophical Perspectives on Science

570. Body Works: Medicine, Technology, and the Body in Early Twenty-First Century America

Psychology

196FS. Patient and Research Participant Activism and Advocacy

681S. Genetics and Environment in Abnormal Behavior

Public Policy

196FS. Patient and Research Participant Activism and Advocacy

Russian

216S. Neuroscience and Human Language

Sociology

196FS. Patient and Research Participant Activism and Advocacy

Study of Sexualities

For courses in the study of sexualities, see Gender, Sexuality, and Feminist Studies on [page 404](#).

Slavic and Eurasian Studies

Associate Professor Gheith, *Chair*; Professor Andrews, *Director of Undergraduate Studies*; Professors Andrews and Holmgren; Associate Professors Gheith and Tuna; Professors of the Practice Apollonio, Maksimova, and McAuliffe; Associate Professor of the Practice Van Tuyl; *Affiliated Faculty*: Professor Miller (History); Associate Professor Hacohen (History); Visiting Professor Newcity; Adjunct Assistant Professor Zitser; Research Professor Becker (Economics)

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, Polish language and literature, semiotics, gender studies, film and media studies, legal and business Russian language, translation, Slavic linguistics, contemporary Russian and Polish literature, scientific and scholarly Russian language, stylistics, and Russian and Polish cultural history. Languages taught include Russian, Polish, and Romanian.

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 offers several Focus seminars and maintains a cooperative relationship with Duke programs in Linguistics, Global Cultural Studies in Literature, Gender, Sexuality, and Feminist Studies, and Cultural Anthropology; the Center for Slavic, Eurasian and East European Studies; and related programs at The University of North Carolina at Chapel Hill.

Courses in Slavic and Eurasian Studies (SES)

190A. Duke Administered Study Abroad: Special Topics in Slavic and Eurasian Studies. Topics vary each semester. Instructor: Staff. One course.

209FS. Geopolitics and Culture from ISIS to Afghanistan. ALP, CCI, CZ One course. C-L: see Asian & Middle Eastern Studies 208FS; also C-L: Cultural Anthropology 211S

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, International Comparative Studies 228FS

240S. Around the Bloc: Cold War Culture in the USSR and Eastern Europe. CCI, CZ, EI, SS Drawing on oral and written history, memoirs, film, fiction, and essays in anthropology and sociology, we'll resist the black/white readings imposed by the Iron Curtain and explore the dreams, fears, ethical concerns, cultural trends, and lifestyles of Cold War baby boomers in the USSR, Poland, Czechoslovakia, and Romania. Highlighted topics include: the privileges and discontents of postwar youth, the atomic age and its mutations, adventures in socialist consumer culture, gender politics and real life, making art about the socialist state of the absurd. All texts in English translation, films screened with English subtitles. Instructor: Holmgren. One course. C-L: Literature 241S, Cultural Anthropology 259S

250FS. Alien America: Immigrant Experiences in Literature and Film. ALP, CCI, CZ, EI The oft-used term "melting pot" misrepresents what happened to the cultures of the many different immigrants who settled in the United States over the last 250 years. Each new immigrant group faced tough challenges-- the achievement of equal civil rights, the rise out of poverty and winning of broader social acceptance. Individual immigrants had to decide if and how they can preserve their native cultures vis-à-vis notions of the "real American" debated in politics, taught in school, and broadcast in the media. Our course addresses these key issues as they are raised in memoirs, fiction, and film. No prerequisites. Readings in English, films in English/with subtitles. Instructor: Holmgren. One course. C-L: Literature 250FS

267S. Global Cold War. CCI, CZ, EI, W One course. C-L: see History 267S; also C-L: Russian 267S, Public Policy 267S, Sociology 267S, Study of Ethics 267S, Philosophy, Politics, and Economics

270. Spies Like Us: Screening Cold War Espionage. ALP, CCI, CZ, EI When the Cold War erupted in the wake of World War II, filmmakers were poised to screen it as propaganda, entertainment (thriller, horror, science fiction), and morally reflective realism. This course explores the films/television series produced on both sides of the Iron Curtain as well as those made after the Cold War (post-1989). Discussion will focus on ethical justifications and critiques of espionage; the characterizations of the spy and those spied on, and the interactions between these protagonists; and the changing aesthetics of screening espionage. Instructor: Holmgren. One course. C-L: Literature 225, International Comparative Studies 262, Visual and Media Studies 258

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: History 239FS, Asian & Middle Eastern Studies 179FS, Islamic Studies

279S. 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: History 239S, Asian & Middle Eastern Studies 179S

287. The Turks: From Ottoman Empire to European Union. ALP, CCI, CZ, EI, R One course. C-L: see Asian & Middle Eastern Studies 186; also C-L: Religion 228, History 212, Islamic Studies

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, Visual and Media Studies 284S, International Comparative Studies 288S

290. Special Topics in Slavic and Eurasian Studies. Subject varies from semester to semester. Instructor: Staff. One course.

290A. Special Topics in Slavic and Eurasian Studies. Subject varies from semester to semester. Instructor: Staff. One course.

290A-1. Duke-Administered Study Abroad: Special Topics in Turkish Studies. Special Topics in Turkish Studies. Topics vary by course or section. Consent of department required. Instructor: Tuna. One course.

290S. Special Topics in Slavic and Eurasian Studies. Subject varies from semester to semester. Instructor: Staff. One course.

342A. Between Europe and Asia: The Geopolitics of Istanbul From Occupation To Globalization. CCI, CZ, EI One course. C-L: see Asian & Middle Eastern Studies 389A

356. The Russian Empire. 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

370S. Islam in Asia. CCI, CZ, SS Focus on the northern tier of Muslim-inhabited lands. The early spread of Islam among continental Asia's non-Arab peoples. The evolution of Muslim religious and cultural institutions under Mongol, Central Asian, Russian and Chinese empires. Asian Muslim encounters with European modernity and experience of Muslims under and after Soviet/Chinese socialist regimes. Instructor: Tuna. One course. C-L: History 209S, Religion 378S, Russian 370S, International Comparative Studies 370S, Islamic Studies

373S. Between Moscow, Beijing and Delhi: Narratives of Europe and Asia. 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 373S, Islamic Studies

375S. Social Engineering and Social Movements in Eastern Europe and Asia. CCI, CZ, EI, SS Combining perspectives of political sociology and history, this course questions the respective roles of state policies and social movements in transforming societies. Explores concepts such as social engineering, violence, revolution, totalitarianism, social movements, non-violent resistance, collective action and many others in historically-informed case studies of: colonialism/anticolonial movements (passive resistance and nationalism) in India; revolutionary communism, socialist reconstruction of society, everyday resistance and collective dissent in the Soviet Bloc; authoritarian capitalism and dissent in the form of environmentalist and anti-corruption movements in post-Maoist China. Instructor: Tuna. One course. C-L: History 333S, Political Science 359S, Public Policy 282S

385. Language and Society. CCI, SS One course. C-L: see English 395; also C-L: Linguistics 451, Cultural Anthropology 212, International Comparative Studies 395, Human Rights Program-Franklin Humanities Institute 395, Human Rights

388S. Illiberal Nondemocracies: Focus on Eastern Europe and Asia. CCI, CZ, SS As of 2016, only 11% of the countries in the world are liberal democracies. Some insight about how illiberal regimes function is a must to understand what is going on in the world. In this course, we explore illiberal and/or nondemocratic regimes of Eastern Europe and Asia—a perfect laboratory for the subject. We develop nuanced ideas about key concepts such as elections, representation, party rule, dictatorship, populism, patronalism, authoritarianism, and totalitarianism as well as the dilemmas of freedom, security, corruption, and development. We study the regimes of countries such as Hungary, Russia, Turkey, China and follow the news to see how political regimes evolve in real time. Instructor: Tuna. One course. C-L: History 331S, International Comparative Studies 346S, Political Science 301S, Public Policy 317S

396S. Language in Immigrant America. ALP, CCI, R One course. C-L: see English 396S; also C-L: Cultural Anthropology 397S, Linguistics 396S, International Comparative Studies 396S, Human Rights Program-Franklin Humanities Institute 396S, Human Rights

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 Stories, Eastern Europe: Prague, Warsaw, Budapest, Sarajevo. CCI, CZ, SS Explores the multicultural histories, landmarks, and architectural styles of these four major European capitals. Drawing on paintings, photos, films, histories, memoirs, and fiction, we'll trace the aesthetic, religious, and political imprints of overlapping empires—Hapsburg, Russian, Ottoman, and Soviet—on these fascinating cities; consider how their urban communities accommodated influential religious minorities (Jews, Muslims, Christians); and study the roles they played in their respective nations. All readings in English translation and films screened with English subtitles. Instructor: Holmgren. One course. C-L: International Comparative Studies 423S, Visual and Media Studies 423S

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, Visual and Media Studies 435S

468S. Capstone Seminar: Literature & Terrorism. ALP, CCI, CZ, EI, R One course. C-L: see History 468S

484S. Language and Politics: Global Perspectives. CCI, SS One course. C-L: see Linguistics 471S; also C-L: Sociology 471S, Public Policy 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.

491. 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 consent required. 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

596S. 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 386S; undergraduates may enroll only with permission of instructor. Instructor: Holmgren. One course. C-L: Literature 511S

674S. Orhan Pamuk and World Literature. **ALP, CCI, CZ, EI** One course. C-L: see Asian & Middle Eastern Studies 674S

683S. The City of Two Continents: Istanbul in Literature and Film. **ALP, CCI, CZ, EI** One course. C-L: see Asian & Middle Eastern Studies 683S; also C-L: Islamic Studies

687. The Turks: From Ottoman Empire to European Union. **CCI, R** One course. C-L: see Asian & Middle Eastern Studies 687; also C-L: Islamic Studies

Balto-Finnic

Course in Balto-Finnic (BALTFIN)

490AS. Duke-Administered Study Abroad: Advanced Special Topics in Balto-Finnic. Topics differ by section. Instructor: Staff. One course.

Polish

Courses in Polish (POLISH)

101. Elementary Polish. FL Introduction to understanding, speaking, reading, and writing Polish. No preliminary knowledge of Polish necessary. Instructor: Staff. One course.

102. Elementary Polish. FL Introduction to understanding, speaking, reading, and writing Polish. No preliminary knowledge of Polish necessary. Second half of Polish 101,102. Prerequisite: Polish 101. 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, Visual and Media Studies 284S, Slavic and Eurasian Studies 288S, International Comparative Studies 288S

298S. Revealing Histories: Polish Cinema. **ALP, CCI, CZ, EI** Explores the films of four famous Polish directors—Andrzej Wajda, Andrzej Munk, Krzysztof Kieślowski, and Agnieszka Holland—whose artistic

approaches and ethical/political themes greatly influenced Polish and European cinema as well as Polish politics. Through viewing their movies and consulting biographical, historical, and critical materials, we'll examine how these directors use film to reconstruct history, challenge politically or religiously orthodox myths, and suggest new ways of valuing the complexity and spiritual capacities of the individual. All texts in English translation. All films screened with subtitles. Instructor: Holmgren. One course. C-L: Visual and Media Studies 297S, Literature 298S

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.

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, Human Rights Program-Franklin Humanities Institute 308S, Human Rights

390AS. Duke-Administered Study Abroad: Advanced Special Topics in Polish. Topics differ by section. Instructor: Staff. One course.

Romanian

Courses in Romanian (ROMANIAN)

101. Introduction to Romanian Language. FL Introduction to Romanian comprehension, speaking, writing, reading and cultural acquisition. Instructor: Staff. One course.

102. Introduction to Romanian Language. FL Continuation of Romanian 101; introduction to Romanian comprehension, speaking, writing, reading and cultural acquisition. Prerequisite: Romanian 101 or equivalent. Instructor: Staff. One course.

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.

Russian

Courses in Russian (RUSSIAN)

89S. First-Year Seminar. 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.

101SA. Elementary Russian I. FL Introduction to understanding, speaking, reading, writing and grammar. Study of contemporary Russian language and important elements of Russian culture. Taught in St. Petersburg, Russia. Course taught in Russian and English. Instructor consent required. Instructor: Andrews, Guliakova, Koshkarova, Miroshnikova. 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.

102SA. Elementary Russian II. **FL** Introduction to understanding, speaking, reading, writing and grammar. Study of contemporary Russian language and important elements of Russian culture. Taught in St. Petersburg, Russia. Course taught in Russian and English. Second half of Russian 101. Instructor consent required. Instructor: Andrews, Guliakova, Koshkarova, Miroshnikova. One 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.

112A. 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.

121FS. Medical Ethics, Aging, and End of Life Care in the US. **ALP, CCI, EI** One course. C-L: see Education 112FS; also C-L: Public Policy 183FS, Science & Society 112FS, Human Rights Program-Franklin Humanities Institute 112FS, Human Rights

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: Apollonio. 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: Apollonio. 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.

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.

216S. Neuroscience and Human Language. **NS, SS** One course. C-L: see Linguistics 216S; also C-L: Neuroscience 116S, Science & Society

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

267S. Global Cold War. CCI, CZ, EI, W One course. C-L: see History 267S; also C-L: Public Policy 267S, Sociology 267S, Slavic and Eurasian Studies 267S, Study of Ethics 267S, Philosophy, Politics, and Economics

277S. Medical Ethics, Aging, and End of Life Care in the US. ALP, CCI, EI, W One course. C-L: see Education 277S; also C-L: Global Health 277S, Public Policy 274S, Study of Ethics 277S, Human Rights Program-Franklin Humanities Institute 277S, Human Rights

290A. Duke-Administered Study Abroad: Advanced Special Topics in Russian. Intensive in-country study of Russian language and culture. Analysis of literary and journalistic texts, film, television and popular culture. Specific body of texts differs by section. Instructor: Staff. One course.

290S. Topics in Russian Studies. Topics vary each semester. 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.

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

310. 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 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.

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: Apollonio and Gheith. One course.

317S. Expressing Immigrant Experience: The Russians. ALP, CCI, EI Some of the world's greatest artistic works have emerged from the creator's experience of crossing boundaries--linguistic, geographic, cultural, and social/psychological. This course examines the particular case of Russia's emigre experience in the English-speaking world as recorded in literature and the other creative arts. Instructor: Apollonio. One course. C-L: English 318S, Literature 319S

318. Follow the Ruble: Money in Russian Literature and Culture. ALP, CZ, EI Reading Russian

literature through the lens of economics. Money as a driving plot principle in fiction from the 1600s to the present day. The profit motive underlying Russian artistic depictions of criminality. Gamblers, rogues, smugglers, thieves, tycoons, oligarchs, and “New Russian” entrepreneurs as protagonists. Swindling and black marketeering as the underside of an economic system that condemns capitalism and the “middleman.” Financial dealings as a battlefield between Russian and Western cultural values. Students are encouraged to do course projects applying economic analytical models to literary texts and films. Instructor: Apollonio. One course. C-L: Economics 213, Philosophy, Politics, and Economics, International Comparative Studies, Ethics Elective

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, Minaev, Tolstaya, Akunin, Ulitskaya and filmmakers Bodrov, Rogozhkin, Bekmambetov, Khlebnikov/Popogrebsky, Balabanov, and Sokurov. Readings and class discussions in English. Instructor: Apollonio. One course.

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: Apollonio or Gheith. One course. C-L: International Comparative Studies

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

327S. Chekhov. ALP, CCI, W Drama and prose works. Taught in English. Not open to students who have taken Theater Studies 157S/Russian 174S (Chekhov). Instructor: Apollonio. One course. C-L: Theater Studies 322S, International Comparative Studies

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 modernism, synthesis of verbal and visual art forms. Works include *The Life of Arsenyev*, *Village*, *Sun Stroke*, *Light Breathing*, *Grammar of Love*, *Transformations*, *Pure Monday*, and autobiographical and critical writings. Taught in Russian. Primary readings in Russian; secondary readings in Russian and English. Instructor: Maksimova. One course.

330. Beat Generation/Russian New Wave: Cultural Dissent in the Cold War. ALP, CCI, CZ, EI, W Exploration of identity formation and cultural dissent in US and Soviet Union during Cold War through lens of Beat Generation and New Wave literature and film; explores cultural dissent in relation to both a given culture context but also considers how such dissent is read and appropriated in comparative contexts; introduces students to key figures/features of respective movements, placing these in historical context; figures include: Kerouac, Burroughs, Ginsberg, Snyder, R. Frank, Aksyonov, Bitov, Akhmadulina, Voznesensky, Visotsky, Tarkovsky and Yevtushenko. Instructor: Gheith. One course. C-L: English 378, Literature 331

331. Demons, Rebels, Madmen, Fools: Non-Conformists in Russian Literature, Culture, and Film. ALP, CCI, CZ, EI Examines the Russian anti-hero as literary figure, social critic, religious seeker, and revolutionary. The non-conformist hero performs an ethical role in culture, speaking truth to power and suffering the consequences. The tension between hero and society produces one of the world’s great literary traditions, and offers a framework for understanding Russia’s lurid history. Subjects include the scetic monk, holy fool, anarchist, political revolutionary, Gulag prisoner, drunkard, murderer, punk poet, vampire, and demon. The course will discuss folk tales, hagiographies, stories, poems, songs, films, and multimedia. Authors will include Avvakum, Pushkin, Dostoevsky, Tolstoy, Leskov, Chekhov, Shukshin, Erofeev, Pelevin, Tolstaya, Pussy Riot, and Tarkovsky. Instructor: Apollonio. One course.

340S. Reading Chekhov in Russian. ALP, FL Close engagement with Chekhov’s stories, plays, and letters in the original. Work with Russian scholarship and scholarly format. Discussions and written assignments in Russian, including short essays and performances. Can be taken together with 327S (“Chekhov,” taught in

English), or independently. Open to students at the 300 level of language proficiency. Instructor: Apollonio. Half course.

350. Eastern Europe in Transition: Markets, Media, and the Mafia. CCI, CZ, SS The progress of political, economic, and social transformations in Eastern Europe and the former Soviet Union. Topics include: The Historical Context for Reform in Eastern Europe, Economic Reform and its Effects, Market Evolution, Eastern European Societies in Transition: Education and Culture, Eastern European Societies in Transition: Corruption and the Mafia in Everyday Life, Media and Democracy in Eastern Europe, Establishing Law-Based States in Eastern Europe. Instructor: Newcity. One course. C-L: Sociology 221, Visual and Media Studies 318, Policy Journalism and Media

351S. Directing Chekhov. ALP, CCI, EI One course. C-L: see Theater Studies 351S

352. End of Russian Socialism: History of Perestroika. CCI, CZ, EI, SS One course. C-L: see History 282

356. The Russian Empire. 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

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: Apollonio. One course.

364. Gender and Language. CCI, R, SS Theoretical approaches to the question of the interrelationship of gender and language including neurobiology, psychology, semiotics, feminist critical theory, philosophy of language, discourse analysis, and linguistic theory. Taught in English. Instructor: Andrews. One course. C-L: Cultural Anthropology 232, International Comparative Studies 207, Gender, Sexuality, and Feminist Studies 232, Linguistics 364

370S. Islam in Asia. CCI, CZ, SS Focus on the northern tier of Muslim-inhabited lands. The early spread of Islam among continental Asia's non-Arab peoples. The evolution of Muslim religious and cultural institutions under Mongol, Central Asian, Russian and Chinese empires. Asian Muslim encounters with European modernity and experience of Muslims under and after Soviet/Chinese socialist regimes. Instructor: Tuna. One course. C-L: Slavic and Eurasian Studies 370S, History 209S, Religion 378S, International Comparative Studies 370S, Islamic Studies

371S. 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. C-L: Literature 370S, International Comparative Studies

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

381. Russian Revolutionary Cinema. CCI, CZ One course. C-L: see History 281; also C-L: Visual and Media Studies 253, Marxism and Society

383. 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: Gender, Sexuality, and Feminist Studies 260, Theater Studies 323, International Comparative Studies 383

386. The Power of Pushkin: Russia, USSR, and Beyond. ALP, CCI, CZ This course, taught in English and with readings in translation, explores the literary works of Alexander Pushkin as well as Pushkin's elevated place in the culture(s) of pre-revolutionary Russia, the Soviet Union, and post-Soviet Russia. We will also study Pushkin's connection to Africa and to African American writers of the early twentieth century. Instructor: Van Tuyl. One course.

390. Special Topics in Russian Culture. Special topics in Russian culture. Topics vary each semester. Instructor: Staff. One course.

399. Global Russia. CCI, CZ, EI, SS This course will examine the process of globalization of Russian culture and institutions as manifested in political, economic, and legal institutions; religion; education; popular and academic cultural forms, including media and artistic texts, film, theatre and television; diplomacy; reproductive rights; health care; the role of censorship; views of citizenship, patriotism, and sport. We will evaluate the ethical issues, potential shift of cultural values, and their impact on 21st century Russian institutions. Instructor: Andrews and Newcity. One course. C-L: Cultural Anthropology 399, Public Policy 223, International Comparative Studies 399, Markets and Management Studies

399A. Global Russia. CCI, CZ, EI, SS Globalization of Russian culture as manifested in popular/academic cultural forms, including political ideologies, media/artistic texts, film, theater/television, markets, educational/legal institutions, historical/contemporary social movements. Examination of ethical issues in context of such topics as the relationship between church and state; evolution of a totalitarian government into a democratic state; reproductive rights; struggle against corruption in education, finance, police; role of censorship; views of citizenship, patriotism, valor, and treason; historical perspectives on prison camps, abuses of psychiatry. Offered in the Duke in Russia Program. Instructor consent required. Instructor: Andrews. One course. C-L: Public Policy 399A, Cultural Anthropology 399A, International Comparative Studies 399A

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

401A. 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.

402A. 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.

407. Soviet and Post-Soviet Economic History. CCI, CZ, W One course. C-L: see Economics 407; also C-L: History 407

410. Leadership in International Relations. CCI, SS Course analyzes the impact political leaders have on international relations by examining case studies of specific decisions dealing with events of international importance over the past 3 decades, including end of the Cold War; the Falklands War; the unification of Germany; the Gulf War; the Soviet Union collapse; restoring Russian power, the decision to invade Iraq. Considers styles of leadership by American and Russian presidents and provides a basis for comparing the styles of other leaders analyzed. Considers such questions as similarities/differences in qualities of leadership in different societies, extent to which leaders are victims of circumstance, and degree to which decisions can change things. Instructor: Matlock. One course. C-L: Public Policy 409

415. U.S-Russia Relations: 1991-2016. CCI, SS A survey of relations of United States with Russian Federation since break-up of the Soviet Union. Examines government policies, agreements and disagreements in foreign policy, internal political and economic developments in both countries, and also public opinion, cultural relations, and role of mass media. Lectures, readings (including source documents), and final research paper. Instructor: Matlock. One course. C-L: Public Policy 352, Political Science 415

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, Visual and Media Studies 435S

438AS. Neuroscience and Multilingualism. NS, R, STS One course. C-L: see Linguistics 473AS; also C-L: Neuroscience 438AS

439S. Neuroscience and Multilingualism. NS, R, STS One course. C-L: see Linguistics 473S; also C-L: Neuroscience 439S, Science & Society 439S

481. Living, Dying, Healing in Russia. CCI, EI, SS Explores ways historical, cultural, political forces shape major moments of the life course and the stories told to make sense of them. Team taught by a professor of literature and a professor of anthropology, focus is on family life, sexuality, childbearing and its prevention; biomedical health care and alternative healing; survival in gulag (concentration camp) conditions; care for the dead and dying and their families. By examining compelling works from a range of genres—short story, ethnographic case study, memoir, and novel—students will learn analytical techniques from both fields, and hone interpretive and writing skills. Knowledge of Russian is not required. Instructor: Gheith. One course. C-L: Cultural Anthropology 481, Global Health 481

490. Special Topics in Russian and American Culture. 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.

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.

493A. Research Independent Study in Russia. FL, 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 consent required. Instructor: Andrews, Guliakova, Koshkarova, Miroshnikova. One course.

494. Research Independent Study. R See Russian 493. Consent of instructor and director of undergraduate studies required. Instructor: Staff. One course.

494A. Research Independent Study in Russia. FL, 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 consent required. Instructor: Andrews, Guliakova, Koshkarova, Miroshnikova. 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 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

506S. Semiotics and Linguistics (DS4). ALP, CCI, R, SS A survey of modern semiotics, particularly the works of C. S. Peirce, Roman Jakobson, Yury Lotman, Roland Barthes and Umberto Eco. Analysis of semiotic works directly related to questions of the construction of cultural and linguistic meaning, and linguistic sign theory. Emphasis on semiotic theories from a multi-cultural perspective, especially the European, Tartu, Soviet, and American schools. Research project required. Instructor: Andrews. One course. C-L: Linguistics 506S

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, Kovalevskaia, 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: Gender, Sexuality, & Feminist Studies, International Comparative 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: Apollonio and Gheith. 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, cosmism, synthesis of the arts, and revolutionary activism. Focus on literary-philosophical thought of that period. Taught in English. Instructor: Staff. 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

516. Media and Social Change. CCI, R, SS, STS One course. C-L: see Policy Journalism and Media Studies 676; also C-L: Political Science 619, Public Policy 676, International Comparative Studies, Information Science + Studies, Policy Journalism and Media 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 Mayakovsky. Taught in English or Russian, according to students' Russian language proficiency. Russian texts. Instructor: Van Tuyl. One course.

523. Dostoevsky. ALP, CCI, W Introduction to life, works, and criticism. Readings include: *Crime and Punishment*, *The Idiot*, and *The Brothers Karamazov*. Taught in English. Readings in Russian. Instructor: Apollonio or Gheith. One course. C-L: International Comparative Studies

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: Apollonio or 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: Apollonio. One course.

528S. Bunin: Mystery of the Russian Soul and Metaphysical Memory. ALP, CCI, FL, R Same as Russian 328S, but includes additional assignments. Taught in Russian. Readings in Russian. Intensive critical component. Instructor: Maksimova. 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.

530. Apocalyptic Visions and Diabolic Drama: The Works of Mixail Bulgakov. ALP, CCI, R Critical analysis of Bulgakov's short stories, novellas, plays and novels. In-depth exposure to major critical works on Bulgakov and influential figures. Taught in English. Readings in English and Russian. Instructor: Andrews. One course.

530S. Apocalyptic Visions and Diabolic Drama: The Works of Mixail Bulgakov. ALP, CCI, FL Critical analysis of Bulgakov's short stories, novellas, plays and novels. In-depth exposure to major critical works on Bulgakov and influential figures. Taught in Russian. Readings in Russian. Instructor: Andrews. One course.

533. Culture and Explosion: How Russian Culture Changed the World. ALP, CCI, CZ, STS Examination of Russian contributions to advancements in the sciences, mathematics, and the arts (visual/textual/musical). Special attention is paid to the contributions of Mendeleev (chemistry), Vygotsky and Luria (cognitive and developmental psychology/neuroscience), Lobachevsky (non-Euclidean geometry), Sakharov

(nuclear physics, dissident), Kandinsky and Filonov (visual arts), Rachmaninoff, Shostakovich, Stravinsky, Prokofiev (composers), Zamiatin, Jakobson, Lotman, Bakhtin, Voloshinov (semiotics, theories of artistic texts). Instructor: Andrews. One course. C-L: Cultural Anthropology 533, Public Policy 508

533S. Culture and Explosions: How Russian Culture Changed the World. ALP, CCI, CZ, FL, STS Examination of Russian contributions to advancements in the sciences, mathematics, and the arts (visual/textual/musical). Special attention is paid to the contributions of Mendeleev (chemistry), Vygotsky and Luria (cognitive and developmental psychology/neuroscience), Lobachevsky (non-Euclidean geometry), Sakharov (nuclear physics, dissident), Kandinsky and Filonov (visual arts), Rachmaninoff, Shostakovich, Stravinsky, Prokofiev (composers), Zamiatin, Jakobson, Lotman, Bakhtin, Voloshinov (semiotics, theories of artistic texts). TAUGHT IN RUSSIAN. Students must be at CEFR B1 proficiency level. Instructor: Andrews. One course.

551. Classics of Russian Literature and Textual Culture. ALP, CCI, FL, W Reading and writing about the classical works of Russian literature with intensive textual analysis, including prose (short stories and povesti), poetry, essays, fiction and nonfiction of the 19th and 20th centuries. Authors include Pushkin, Gogol, Lermontov, Turgenev, L. Tolstoy, Chekhov, Bunin. Writing component will develop expository prose style and rhetorical strategies. Taught in Russian. Prerequisite: Russian 401 and 402, or consent of instructor. Instructor: Maksimova. One course.

552. Russian Culture through Literature. ALP, CCI, FL, W Reading and writing about the important works of 20th and 21st century Russian literature, with intensive textual analysis and discussion of cultural relevance of the discourse of totalitarian regimes, including prose (short stories, one novel), poetry, and essays. Authors include Kharms, Shalamov, Vodolaskin. Writing component will develop expository prose style and rhetorical strategies. Taught in Russian. Prerequisite: Russian 401 and 402, or consent of instructor. Instructor: Maksimova. One course.

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: Staff. 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: Apollonio. 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

577. Contemporary Russian Culture: Detective Novels and Film. ALP, CCI, CZ, FL Popular novelists and film/television from 1900s-early twenty first century Russia. Theories of genre, anthropological approaches to defining cultural trends, mass cultural phenomena, and impact of globalization. Authors include Marinina, Dashkova, Dontsova, Kunin, Ustinova, and Serova. Readings and films in Russian. Research paper of publishable quality required. Instructor: Andrews.

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.

627. Soviet and Post-Soviet Economic History. CCI, CZ, SS, W One course. C-L: see Economics 627; also C-L: History 627

690S. Special Topics. Seminars in advanced topics, designed for seniors and graduate students. Instructor: Staff. One course.

Serbian and Croatian

Course in Serbian and Croatian (SERBCRO)

490AS. Duke-Administered Study Abroad: Advanced Special Topics in Serbian and Croatian. Topics differ by section. Instructor: Staff. One course.

Ukrainian

Courses in Ukrainian (UKRAIN)

111. Intensive Elementary Ukrainian. Ukrainian 1 and 2 combined in one semester. Two meetings daily. Required recording-listening practice in the language laboratory. Work on understanding, speaking, reading, and writing. Survey of main elements of grammar. No preliminary knowledge of Ukrainian necessary. Director of Undergraduate Studies consent required. Instructor: Staff. Two courses.

Uzbek

Courses in Uzbek (UZBEK)

112. Accelerated Uzbek Language and Culture I. FL Accelerated study of contemporary Uzbek language and culture designed to get students to intermediate level in one semester. No previous knowledge of Uzbek required. Focus on speaking, reading, writing, grammar and listening comprehension, as well as appropriate use of cultural constructs. Instructor: Staff. One course.

213. Accelerated Uzbek Language and Culture II. CZ, FL Continuation of UZBEK 112. Accelerated intermediate level course designed to get students towards advanced level in one semester. Focus on speaking, reading, writing, grammar and listening comprehension. Language taught embedded in cultural contexts. Prerequisite: Uzbek 112 or equivalent. 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 courses, eight of which must be at the 200 level or above. Required courses are one 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 capstone seminar (Slavic and Eurasian Studies 423S) in their junior or senior year, which includes a significant research component; four language courses above the 102 level for Polish or four language courses above the 203-204 level for Russian; and four 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 and Turkish may count toward the major. The Department of Slavic and Eurasian Studies also offers Romanian on a 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.

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 Polish culture and language.

Russian Culture and Language

Requirements. Five courses, three of which must be at the 200 level or above. At least two of these courses must be Russian language courses.

Russian and East European Literature in Translation

Requirements. Five courses, three of which must be at the 200 level or above.

Polish Culture and Language

Requirements. Five courses, three of which must be at the 200 level or above. At least two of these courses must be Polish language courses.

Social Science Research Institute

Courses in Education and Human Development (EHD)

190. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

190S. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

290. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

290S. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor permission may be required. Instructor: Staff. One course.

390. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

390S. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be 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 could include a substantive paper, written report or final project containing significant analysis and interpretation of a previously approved topic. Consent of instructor required. Instructor: Staff. One course.

395. Bass Connections: Interdisciplinary Team Projects. R Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore, and develop solutions to pressing social issues. Teams may also include postdoctoral fellows, visiting fellows, and other experts from businesses, government, and the non-profit sector. A team's work may run in parallel with, or contribute to, an ongoing research project. Teams will participate in seminars, lectures, field work, and other learning experiences relevant to the project. Requires final paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. One course.

395-1. Bass Connections: Interdisciplinary Team Projects. R Half-credit version of EHD 395. Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore, and develop

solutions to pressing social issues. Teams may also include postdoctoral fellows, visiting fellows, and other experts from businesses, government, and the non-profit sector. A team's work may run in parallel with, or contribute to, an ongoing research project. Teams will participate in seminars, lectures, field work, and other learning experiences relevant to the project. Requires final paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. Half course.

396. Bass Connections: Interdisciplinary Team Projects. **R** Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing social issues. Teams may also include postdoctoral fellows, visiting fellows, and other experts from businesses, government, and the non-profit sector. A team's work may run in parallel with, or contribute to, an ongoing research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires final paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. One course.

396-1. Bass Connections: Interdisciplinary Team Projects. **R** Half-credit version of EHD 396. Teams of undergraduate and graduate students work with faculty supervisors to identify, refine, explore and develop solutions to pressing social issues. Teams may also include postdoctoral fellows, visiting fellows, and other experts from business, government, and the non-profit sector. A team's work may run in parallel with or contribute to an ongoing research project. Teams will participate in seminars, lectures, field work and other learning experiences relevant to the project. Requires final paper or product containing significant analysis and interpretation. Instructor consent required. Instructor: Staff. Half course.

490. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for additional prerequisites. Instructor permission may be required. Instructor: Staff. One course.

490S. Special Topics in Education and Human Development. Topics vary by semester. Check individual semester offerings for prerequisites. Instructor consent may be required. Instructor: Staff. One course.

Courses in Interdisciplinary Data Science (IDS)

190S. Special Topics: Discovering the Social Sciences. Introduction to research methods in the social sciences with the chance to learn about the range of research questions, methods used across various fields that study how people think, act, and impact the world. Duke faculty from a wide range of departments will discuss their own research to showcase the range of quantitative and qualitative methods. By the end of the course, students should be able to: describe a good research question and how it affects choices in analytical methods, critically evaluate examples of social science research that use the tools explored in the class, and understand where at Duke they can learn and use the different methodologies covered in the class. Instructor: Cooper. Half course.

590. Special Topics in Interdisciplinary Data Science. Topics vary by semester. Individual semester offerings may require prerequisites or consent of instructor. Instructor: Staff. One course.

590S. Special Topics in Interdisciplinary Data Science. Topics vary by semester. Individual semester offerings may require prerequisites or consent of instructor. Instructor: Staff. One course.

690. Special Topics in Interdisciplinary Data Science. Topics vary by semester. Individual semester offerings may require prerequisites or consent of instructor. Instructor: Staff. One course.

690S. Special Topics in Interdisciplinary Data Science. Topics vary by semester. Individual semester offerings may require prerequisites or consent of instructor. Instructor: Staff. One course.

Sociology

Professor Read, *Chair*; Assistant Professor of the Practice Hamil-Luker, *Director of Undergraduate Studies*; Professors Bail, Bonilla-Silva, Chaves, Gao, Harris, Healy, Keister, Lynch, Moody, Read, Ruef, Smith-Lovin, Vaisey, and Wildeman; Associate Professor Brown; Assistant Professors Harrell, Rawlings, Streib, and Yang; Professors Emeriti Cook, George, Land, Lin, McPherson, Morgan, O'Barr, O'Rand, Preiss, Simpson, Smith, Tirayakian, and Wilson; Professors of the Practice Reeves; Assistant Professor of the Practice Hamil-Luker; *Secondary Appoint-*

ments and Affiliated Faculty: Professors Duke (Pediatrics), Dupre (Population Health Sciences), Gibson-Davis (Public Policy), Gold (Psychiatry and Behavioral Sciences), Hasan (Business Administration), Lewin (Business Administration), Merli (Public Policy), Rosette (Business Administration), and Wilder (Gastroenterology); Associate Professors Baker (Cultural Anthropology), Crichtlow (African & African American Studies), Cummings (Business Administration), and Hasso (Gender, Sexuality, and Feminist Studies); Research Professors Stallard and Yashin; Associate Research Professor Shanahan (Ethics); Visiting Professor Jones; Visiting Associate Professors Hovsepian, Shamblin, and Tobin

A major and a minor are available in this department. The department also offers a minor in medical sociology.

Sociology is a field that uses scientific methodology to provide answers to questions about human behavior and society, such as: Who gets sick and why? What are the social causes of criminal behavior in America? How do social networks affect business profits? How can big data be used to understand political divides? The department prides itself on creating an engaging curriculum that develops students' analytical and communication skills, provides in-depth knowledge in a variety of research methods and substantive areas, honing the tools needed for a wide variety of professions both in and out of academia. The department fosters active involvement in the learning process through seminars, fieldwork, independent study, and honors classes.

Courses in Sociology (SOCIOL)

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

90A. Duke-Administered Study Abroad: Special Topics in Sociology. Topics differ by section. Instructor: Staff. One course.

110. Sociological Inquiry. CCI, EI, SS Introduction to social networks, groups, organizations and institutions with a focus on the contemporary US. The impact of technology on social interaction and cultural change. Investigation of cultural and social construction of individual characteristics (e.g., race, gender) as well as of scientific and professional standards. Ethical controversies surrounding health care, education, income inequality, and related topics. Course will help prepare students for the social and behavioral science portion of the MCAT exam. Instructor: Bail, Febbo, Healy, Harrell, Rawlings. One course.

140FS. On Suffering: How Science and Stories Shape Us. ALP, EI One course. C-L: see Study of Ethics 140FS; also C-L: Global Health 140FS, Science & Society 140FS

148S. Empires in Modern European History. CCI, CZ, SS One course. C-L: see History 140S; also C-L: Political Science 140S, Cultural Anthropology 140S

160. Advertising and Society: Global Perspective (DS4). CCI, SS One course. C-L: see Cultural Anthropology 170; also C-L: Linguistics 170, Visual and Media Studies 170, International Comparative Studies 169, Markets and Management Studies, Policy Journalism and Media Studies, Gender, Sexuality, & Feminist Studies

160D. Advertising and Society: Global Perspective (DS4). CCI, SS One course. C-L: see Cultural Anthropology 170D; also C-L: Linguistics 170D, Visual and Media Studies 170D, Markets and Management Studies, International Comparative Studies

167S. Gateway Seminar: Nationalism: Ideology, Technology, Globalization. CCI, CZ, SS One course. C-L: see History 167S; also C-L: Cultural Anthropology 167S

171. Business Anthropology: Anthropologists in the Workplace. CCI, SS One course. C-L: see Cultural Anthropology 171; also C-L: African & African American Studies 171, International Comparative Studies 171, Innovation and Entrepreneurship 171

176FS. Identity, Action, and Emotion. CCI, R, SS Uses mathematical models to describe how people import cultural meanings into social interactions. Explains how people maintain identities in role relationships and group interactions. Explores a theory of how people perform normal institutional roles, respond to odd situations, and try to feel good about themselves. Uses computer simulations to model self, identity and emotional processes. Involves reading academic literature, collecting evidence, giving research presentations, and writing a research proposal. Teaches how to think scientifically about routine and unexpected parts of everyday life. Instructor: Smith-Lovin. One course.

178FS. Refugees, Rights, and Resettlement. 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, Human Rights Program-Franklin Humanities Institute 178FS, Human Rights

179FS. Visualizing Society. QS, SS This class will teach you how to use modern, widely-used tools to create insightful, beautiful, reproducible visualizations of social science data. We will also put the theory and practice of visualization into context throughout the semester. By that I mean that we will think about different ways of looking at social science data, about where data comes from in the first place, and the implications of choosing to represent it in different ways. Open only to students in the Focus Program. Department consent required. Instructor: Healy. 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: Staff. One course.

190S. Seminar in Special Topics. Instructor: Staff. One course.

190S-1. Seminar in Special Topics. Half-credit version of Sociology 190S. Instructor: Staff. Half course.

195. Comparative Approaches to Global Issues. CCI, CZ, SS, W One course. C-L: see International Comparative Studies 195; also C-L: Cultural Anthropology 195, History 103, Political Science 110, Gender, Sexuality, and Feminist Studies 195, Marxism and Society

196FS. Patient and Research Participant Activism and Advocacy. SS, STS, W One course. C-L: see Science & Society 196FS; also C-L: African & African American Studies 196FS, Global Health 196FS, Psychology 196FS, Public Policy 196FS, Cultural Anthropology 196FS, Science & Society

197FS. Freedom and the Market. EI, SS, W Introduces students to three ethically distinct perspectives on the market using approaches in political philosophy from the right, left and center; explores the works of political theorists and economists such as Robert Nozick, Milton Friedman, John Maynard Keynes, Frederick Hayes and Amartya Sen; examines the ethical stances that these authors take; explores contemporary media to see how the former thinkers have influenced current debate; examines examples of when the free market fails and discuss if, when and how government should respond; investigates how culture influences the market and how globalization has either enhanced or reduced individual freedom. Open only to Focus Program students. Instructor: Reeves. One course. C-L: Markets and Management Studies 195FS, Markets and Management Studies

202. Race, Power, and Identity: From Ali to Kaepernick. CCI, EI, R, SS One course. C-L: see Education 220; also C-L: African & African American Studies 232, Human Rights Program-Franklin Humanities Institute 221, Human Rights

210. 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: Febbo. One course. C-L: Child Policy Research

211. Social 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 staff. One course. C-L: Human Rights Program-Franklin Humanities Institute 211, Human Rights, Gender, Sexuality, & Feminist Studies

212. Gender and Global Health. SS One course. C-L: see Global Health 212; also C-L: Human Rights Program-Franklin Humanities Institute 212, Human Rights

215. Sociology of Racism in America. CCI, EI, R, SS Examines social history of major racial groups in the US and relationships to contemporary standing. Discusses central concepts sociologists use to analyze racial matters. Central theme: “racism” is not mere “prejudice,” “ignorance,” or “intolerance,” but a comprehensive historical system of racial domination organized around the logic of white supremacy. Discussion of “whiteness” in the USA—how whiteness emerged as a social category, an identity based on experiences of variety of European “peoples;” how it dominated the racial structure of the US since the 17th century, how wealth has been distributed along racial lines, racialization of Asians and Latinos, and color blind racism. Instructor: Bonilla-Silva. One course. C-L: African & African American Studies 246, Latino/a Studies in the Global South 316, Human Rights Program-Franklin Humanities Institute 215, Marxism and Society, Human Rights

218. Sex, Gender, and Society. CCI, SS Nature and acquisition of sex roles. Cross-cultural variations. Developing nature of sex roles in American society. Instructor: Hovsepian or Smith-Lovin. One course. C-L: Study of Sexualities, Gender, Sexuality, & Feminist Studies, International Comparative Studies

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: Febbo or staff. One course. C-L: Child Policy Research

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: Hamil-Luker. One course.

221. Eastern Europe in Transition: Markets, Media, and the Mafia. CCI, CZ, SS One course. C-L: see Russian 350; also C-L: Visual and Media Studies 318, Policy Journalism and Media Studies

222. Inequalities in the US Criminal Justice System. CCI, EI, SS Overview of the inner workings and ethics of the US criminal justice process, including criminal legislation, police procedures, courts, and corrections. Explores case studies, empirical research, film, theories, and policies to understand and evaluate how values, culture, and the distribution of power and resources in the United States shape its punishment regime. Focuses on class, gender, ethnic, racial, nationality, and age inequalities in the justice system. Instructor: Hamil-Luker. One course.

223. Data Analytics and Visualization for Business. SS This course gives students hands-on experience working with and analyzing data. The overarching objective is to learn to use basic statistics and quantitative modeling to understand the large amount of data that are available today. Instructor: Keister. One course. C-L: Markets and Management Studies

224. Human Development (D). CCI, EI, R, SS One course. C-L: see Human Development 224

225. Intimate Inequalities: The State of American Families. CCI, R, SS Most people grow up in families, but few know much about them. Taken for granted beliefs that marriages should be based on love, that heterosexuality is an obvious identity, and that mothers want to care for their children, are recent inventions. Gender, social class, and racial inequalities within and across families. Course focuses on changes over time in family structures and roles. How families experience and generate inequality. Instructor: Streib. One course. C-L: Gender, Sexuality, & Feminist Studies, Child Policy Research

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: Staff. One course. C-L: Latin American Studies, Markets and Management Studies, Marxism and Society, International Comparative Studies

227. Leadership and Collaboration. CCI, EI, SS Leadership is essential to the success of groups, organizations, and societies. To be effective, leaders must possess a clear understanding of human behavior and social processes. This course is an introduction to the study of leadership from the perspective of the social sciences. We will draw on a range of social science research to address key questions about the process and practice of collaborative leadership and followership. The goal of the course is to not only expose students to the empirical study of leadership and followership but also stimulate them to think critically about human behavior. Instructor: Harrell. One course. C-L: Markets and Management Studies

228. Incarceration and Inequality in the United States. CCI, EI, SS Investigates the causes, consequences, experience and potential transformation of US prisons, jails, and detention centers. Stimulates critical thought, discussion, and research on alternative ethical positions on criminal justice policies, such as immigration detention, the war on drugs, prison privatization and mandatory sentencing, which have created and maintain the unequal distribution of mass incarceration. Examines the US carceral state as an institution of stratification that exacerbates social problems it is charged with tackling, prevents social mobility for the most marginalized, and solidifies disadvantages based on age, class, gender, race, ethnicity, sexuality, and citizenship. Instructor: Hamil-Luker. One course.

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: Yang or staff. One course. C-L: Gender, Sexuality, and Feminist Studies 241, Markets and Management Studies

232. Data Visualization for Social Science. QS, SS, STS This course introduces modern methods and tools for the visualization of social-scientific data. The course has a theoretical and practical element. We will explore the theory and history of efforts to visualize social data, and society more generally, examining the nature and politics of data generation and consumption, and about the implications of choosing to represent it in different ways. Practically, we will learn how to use R and related tools to produce insightful, beautiful, reproducible data visualizations. Instructor: Healy. One course.

240. Love and Loneliness: What's Happening to Relationships in the Twenty-First Century? CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 240; also C-L: International Comparative Studies 250, Study of Ethics 240

250. Medical Sociology. EI, SS Interface between sociology and health-related issues. Analysis of macro, mezzo, and micro perspectives as they apply to health and illness. Examination of the social and cultural context in which health care in the United States is delivered, particularly in terms of racial and age disparities, as well as disparities in rural and urban healthcare settings. Objective and subjective experience of health and illness, political, economic and environmental issues, including engagement with ethical issues around end of life care, physician assisted suicide, health rights versus health privileges. Exposure to these areas takes place theoretically in class, as well as in real-world settings. Instructor: Brown. One course.

250-1. Medical Sociology. EI, SS Examination of the social and cultural context in which health care in the United States is delivered, particularly in terms of racial and age disparities, as well as disparities in rural and urban healthcare settings. Objective and subjective experience of health and illness, political, economic and environmental issues, including engagement with ethical issues around end of life care, physician assisted suicide, health rights versus health privileges. Exposure to these areas takes place theoretically in class, as well as in real-world settings: course includes service-learning component, in which students spend 20 hours during the semester volunteering in a health-based care facility. Instructor: Gold. One course.

252A. From Enlightenment Culture to Popular Culture. CCI, FL, SS One course. C-L: see French 352A; also C-L: Cultural Anthropology 352A

255. Sociology of Immigration and Health. CCI, SS An in-depth exploration of how global migration processes impact population health with particular attention to the social determinants of health. Course focuses

on different immigrant groups in U.S. as well as refugee and migrant labor populations in other parts of the world, namely Middle East. Descriptive assessments of immigrant health inequalities and analytic examinations of mechanisms that contribute to disparities will be covered. Readings selected from sociological and medical writings. Not open to students who have taken Sociology 361/Global Health 340/Human Rights 362. Instructor: Read. One course.

257. From Madness to Mental Disorders: Sociology of Mental Health. CCI, EI, SS Investigates mental health processes and policies in historic, cultural, and socioeconomic context. Explains why definitions of and responses to mental illness have changed across time and place. Probes ethical dilemmas created by the medicalization of deviance. Examines how social conditions shape the development and consequences of mental disorders, treatments, and policies. Evaluates alternative theoretical explanations for how mental well-being and mental health services are linked to socioeconomic status, gender, race, ethnicity, citizenship, age, and sexuality. Assesses ability of alternative policies to improve public mental health. Instructor: Hamil-Luker. One course. C-L: Global Health 257

258. 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: Reeves, Shamblin, or staff. One course. C-L: Markets and Management Studies

260. Psychosocial Aspects of Human Development. CCI, EI, SS One course. C-L: see Human Development 260; also C-L: Psychology 236, Ethics Elective

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: Gold. One course.

264. Death and Dying. EI, SS The biomedical, economic, social, and psychological issues surrounding death and dying in the twenty-first century in America. Religious and cultural perspectives both in the Judeo-Christian ethic and in other religious frameworks. Theories of dying from sociological and social psychological perspectives. Required participation in service-learning. Instructor: Gold. One course. C-L: Global Health

265. Drug Use and Abuse: Getting High in the United States. EI, SS Explores trends in the use, abuse, and regulation of mind-altering substances in the United States. Topics include: patterns of drug use over time and across social groups; drug market creation and regulation; media promotion and condemnation of drug activities; drug policy legislation and enforcement; medicalization of deviance; rise and fall of drug panics; and critical analysis of the casualties of the current war on drugs. No prerequisites. Instructor: Hamil-Luker. One course.

267S. Global Cold War. CCI, CZ, EI, W One course. C-L: see History 267S; also C-L: Russian 267S, Public Policy 267S, Slavic and Eurasian Studies 267S, Study of Ethics 267S, Philosophy, Politics, and Economics

271. Comparative Health Care Systems. CCI, EI, SS One course. C-L: see Public Policy 335; also C-L: Political Science 355

288S. Writing in Sociology. SS, W Introduction to writing in sociology. Topics include scenes and genres of sociological writing, reading sociology research, working with sources, making sociological claims, designing figures and tables, counterarguments and concessions, citations, style. Instructor: Moskovitz. One course.

290A. Duke-Administered Study Abroad: Advanced Special Topics in Sociology. 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. **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. 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. One course.

294A. Political Economy of Immigration. **CCI, SS** Two courses. C-L: see Political Science 294A; also C-L: Economics 434A, Public Policy 355A

295S. Sex Work: The Politics of Sexual Labor. **CCI, SS** One course. C-L: see Gender, Sexuality, and Feminist Studies 352S; also C-L: Study of Sexualities 295S, Literature 295S

298D. Discovering Education and Human Development I: How Social Scientists Learn from Data. **EI, R, SS** One course. C-L: see Economics 298D; also C-L: Education 298D, Psychology 242D

323S. Social Movements in Age of Globalization. **CCI, CZ, EI, R, SS** One course. C-L: see Literature 332S; also C-L: Political Science 313S, Human Rights Program-Franklin Humanities Institute 313S, Human Rights

324S. The University as a Culture: A Survivor's Guide. **CCI, CZ, EI, SS** One course. C-L: see Cultural Anthropology 347S; also C-L: Education 347S, History 334S, Public Policy 350S, Human Rights Program-Franklin Humanities Institute 347S, Human Rights

330S. Bad Behavior. **CZ, EI, SS, STS** One course. C-L: see Literature 333S; also C-L: Gender, Sexuality, and Feminist Studies 333S

331. Women at Work: Gendered Experience of Corporate Life. **CCI, SS, STS** One course. C-L: see Gender, Sexuality, and Feminist 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. Open only to Sociology majors. Sociology minors must contact the professor for approval. Instructor: Hamil-Luker. 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 100-level (or above) statistics course. Course restricted to first and second Sociology majors. Instructor: Lynch. One course.

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, post-modernism. Instructor: Strieb or Moody. One course.

339. Marxism and Society. **CZ, EI, SS** One course. C-L: see Literature 380; also C-L: Cultural Anthropology 203, Education 239, Political Science 371, International Comparative Studies, Marxism and Society

340. Taboo Markets. **EI, SS** One course. C-L: see Study of Ethics 280; also C-L: International Comparative Studies 280

341. The United States and the Asian Pacific Region. **CCI, CZ, R, SS** Asian Pacific region is major engine of economic growth in the 21st century likely causing major shift of power and wealth in the world. Study relationships between US and various Asian Pacific nations from the end of World War II to present. Focus on impact of wars, technological development and economic development. Examine differences in various issues such as trade, human rights, environment, territory disputes between US and a variety of Asian Pacific nations. Instructor: Gao, Healy. One course. C-L: Markets and Management Studies

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: Staff. One course. C-L: Markets and Management Studies, International Comparative Studies

343. Displacements: Migration and Human Trafficking. ALP, CCI, EI, R, SS One course. C-L: see African & African American Studies 343; also C-L: Latin American Studies 343, Cultural Anthropology 342, Human Rights Program-Franklin Humanities Institute 339, Human Rights

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

345. Nations, Regions, and the Global Economy. CCI, R, SS 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: Hovsepian. One course. C-L: Islamic Studies, Markets and Management Studies, International Comparative Studies

346A. From Transition to Indignation: Social Movements in Spain 1977-2013. CCI, EI, FL, SS One course. C-L: see Spanish 342A; also C-L: History 353A

346S. Asians in American Higher Education: Trends and Issues. CCI, EI, R, SS One course. C-L: see Education 345S

347. Managing Networks: Research and Applications of Network Analysis to Business Organizations. R, SS The role that networks play in organizations. How networks affect a large number of significant behaviors and processes. Learn to harness the incredible power of social, economic, and political networks. Develop research, writing, and quantitative analysis skills with focus on business organizations. Relevant for students interested in Markets and Management and leadership positions. Instructor: Keister, Moody. One course. C-L: Markets and Management Studies

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: Staff. One course. C-L: Study of Sexualities 229, Gender, Sexuality, & Feminist Studies

351. Life and Death: Global Perspectives. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 341; also C-L: International Comparative Studies 353, Global Health 353

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.

354. Getting Rich: Financial Markets, Household Finance, and Wealth. R, SS, STS The functioning of financial markets and their effect on personal wealth and well-being. Comparison of sociological and economic approaches to markets for housing, stocks and bonds, credit, and related instruments. Major topics: market performance, wealth accumulation, social and economic stratification, personal finance, consumption and luxury fever, business cycles, economic booms and crises, and public policy related to financial markets. Instructor: Keister. One course. C-L: Markets and Management Studies

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: Harrell, Rawlings, or Yang. One course. C-L: Markets and Management Studies, Gender, Sexuality, & Feminist 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

359. The Sociology of Entrepreneurship. CCI, SS Analysis of the psychological, religious, cultural, economic, political, and historical roots of entrepreneurship. Supply side and demand side perspectives. How to interpret theories at multiple levels of analysis to understanding entrepreneurship. Examines research on new business formation and the likelihood of success. Instructor: Ruef, Yang. One course. C-L: Markets and Management Studies

360. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360; also C-L: Literature 361, Asian & Middle Eastern Studies 360, International Comparative Studies 369

360S. Global Apple: Life and Death and the Digital Revolution. CZ, EI, SS, STS One course. C-L: see Cultural Anthropology 360S; also C-L: Literature 361S, Public Policy 358S, Asian & Middle Eastern Studies 360S, International Comparative Studies 369S

361. Social Determinants of US Health Disparities. SS Introduction to how social factors influence health and well-being, with a particular focus on contemporary US 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 or Hamil. One course. C-L: Global Health 340, Human Rights, Global Health

367S. Data Science and Society. R, SS, STS Interdisciplinary field of computational social science, drawing from sociology, computer science, and related disciplines. Obtain skills to automate collection of social science data from new sources (Twitter, Facebook, Google, etc.), classify unstructured data into discrete variables, analyze them using a combination of techniques that includes screen-scraping, natural language processing and machine learning. Complex ethical and legal issues that arise when working with these novel sources of data. Students develop their imagination about new questions that can be asked with these new data sources. Reading and reproducing exemplary studies produced by computational social scientists. Instructor: Bail. One course.

370S. Global Response 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.

374. Pigging Out: The Cultural Politics of Food. CCI, EI, SS One course. C-L: see African & African American Studies 352; also C-L: International Comparative Studies 206

375S. Global Men and Masculinities. CCI, SS, W One course. C-L: see Gender, Sexuality, and Feminist Studies 374S; also C-L: International Comparative Studies 274S, History 229S, Literature 374S

388S. Food, Culture, and Society. CCI, CZ, EI, SS One course. C-L: see Italian 388S; also C-L: Cultural Anthropology 389S

389S. Field Ethics (DukeImmerse). ALP, EI, R, SS, W One course. C-L: see Study of Ethics 389S

390. Special Topics in Sociology. Topics vary each semester. Instructor: Staff. One course.

390S. Seminar in Special Topics. Instructor: Staff. One course.

390SA. Duke-Administered Study Abroad: Advanced Special Topics in Sociology. Topics vary by semester. 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.

409. Surviving Globalization: The Global South and the Development Imagination. CCI, EI, SS One course. C-L: see African & African American Studies 409; also C-L: Cultural Anthropology 409, International Comparative Studies 409, Latin American Studies 409

425. Intellectual Property and Innovation: Law, Policy & Entrepreneurship. EI, SS, STS One course. C-L: see Markets and Management Studies 425; also C-L: Economics 295, Information Science + Studies 425, Public Policy 425

430S. Women and the Professions. EI, R, SS, W One course. C-L: see Education 430S; also C-L: Ethics Elective

450S. The Global Caribbean. CCI, EI, R, SS One course. C-L: see African & African American Studies 450S; also C-L: Cultural Anthropology 450S, International Comparative Studies 418S, Latin American Studies 450S

471S. Language and Politics: Global Perspectives. CCI, SS One course. C-L: see Linguistics 471S; also C-L: Slavic and Eurasian Studies 484S, Public Policy 208S

490. Special Topics in Sociology. One course.

490S. Seminar in Special Topics. Instructor: Staff. One course.

490S-1. Research Seminar: Special Topics. 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: Febbo, Harris. One course.

496S. Sociology Honors Seminar II. SS, W Continuation of Sociology 495S. Consent of instructor required. Instructor: Febbo, Harris, Smith-Lovin. 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: Staff. One course.

502S. Race, Class, and Gender in the University. CCI, CZ, EI, SS One course. C-L: see Cultural Anthropology 502S; also C-L: History 513S

534. Topics in Population, Health, and Policy. SS, STS One course. C-L: see Public Policy 633; also C-L: Global Health 550

541. The United States and the Asian Pacific Region. CCI, CZ, R, SS Asian Pacific region is major engine of economic growth in the 21st century likely causing major shift of power and wealth in the world. Study relationships between US and various Asian Pacific nations from the end of World War II to present. Focus on impact of wars, technological development and economic development. Examine differences in various issues such as trade, human rights, environment, territory disputes between US and a variety of Asian Pacific nations. Same as Sociology 341, with additional work required. Instructor: Gao. Variable credit.

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 558S

556S. Poverty and the Visual. ALP, CCI, CZ One course. C-L: see Visual and Media Studies 570S

570S. 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. C-L: Economics 550S

590. Special Topics in Sociology. Substantive, theoretical, or methodological topics vary by semester. Instructor: Staff. One course.

594S. Cultural (Con)Fusions of Asians and Africans. CCI, CZ, SS One course. C-L: see African & 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 563S; also C-L: Child Policy 634S, Child Policy Research

636S. Experimental Communities. ALP, CCI, CZ, EI One course. C-L: see Visual Arts 554S

641S. Proseminar in Medical Sociology (Special Topics). 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, Brown, and Gold. One course.

642S. Global Inequality Research Seminar. ALP, CCI, R, SS One course. C-L: see Public Policy 645S; also C-L: African & African American Studies 642S, Economics 541S, Political Science 642S, Human Rights Program-Franklin Humanities Institute 642S, Human Rights

645S. Citizen and Subject in a Neoliberal Age. CCI, EI, SS One course. C-L: see African & African American Studies 641S; also C-L: Cultural Anthropology 641S

647. Surviving Globalization: The Global South and the Development Imagination. CCI, EI, SS One course. C-L: see African & African American Studies 646; also C-L: International Comparative Studies 647

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: Staff. One course. C-L: Economics 542S

664. Research Methods in Japanese (B). CCI, SS One course. C-L: see Japanese 650; also C-L: History 503

690. Special Topics in Sociology. Substantive, theoretical, or methodological topics vary by semester. Instructor: Staff. One course.

690S. Seminar in Selected Topics. Substantive, theoretical, or methodological topics. Instructor: Staff. One course.

699. Qualitative Methods in Sociology. R, SS This course will teach students how to use qualitative methods in sociological research. We will focus on interviewing and participant observation. Instructor: Streib. One course.

The Major

Major Requirements. Ten courses for the major, including four core courses, one research experience, and five electives at or above the 200 level. The core courses are Sociology 110 (Introduction to Sociology), Sociology 332 (Methods of Social Research), Sociology 333 (Quantitative Analysis of Sociological Data), and Sociology 338 (Theory and Society). One research experience, typically in senior year, from the following: Sociology 393 (Research Independent Study), Sociology 490S (Research Seminar: Special Topics), or Sociology 495S and Sociology 496S

(Sociology Honors Seminar I & II). Five electives at or above the 200 level. Students may substitute any 100-level or above statistical science 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.

Departmental Graduation with Distinction

The department offers work leading to Graduation with Distinction through the Honors Thesis Program. This is a two-semester class sequence (Sociology 495S and 496S) that is available to juniors with at least a 3.3 GPA and an endorsement of a faculty member. Completion of Sociology 332 (Methods of Social Research) and Sociology 333 (Quantitative Analysis of Sociological Data or equivalent) is strongly encouraged prior to enrolling in the Honors Program. Students in this program conduct original research that results in a substantive paper resembling what might appear in a professional journal. The program captures the often nonlinear process of research: how to translate an abstract idea into a sociological question that can be answered, learning to situate a topic among existing literature, identifying appropriate research methods, and applying for institutional review board approval.

The Minor

The department offers two minors, one in sociology and one in medical sociology.

The Minor in Sociology

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. Note: pre-law, pre-med and pre-business majors may want to consider courses from the Pre-Professional Course Concentrations.

The Minor in Medical Sociology

Requirements: One of the following core courses (the other course can also be used as an elective):

- Sociology 250: Medical Sociology
- Sociology 361: Social Determinants of US Health Disparities

And four of the following electives:

- Sociology 212: Gender and Global Health
- Sociology 255: Sociology of Immigration and Health
- Sociology 257: From Madness to Mental Disorders: Sociology of Mental Health
- Sociology 260: Psychosocial Aspects of Human Development
- Sociology 263: Aging and Health
- Sociology 264: Death and Dying
- Sociology 265: Drug Use and Abuse: Getting High in the United States
- Sociology 349: Sexuality and Society

NOTE: Only one transfer credit and no Advanced Placement credits may count toward either minor.

Spanish

For courses in Spanish, see Romance Studies on [page 736](#).

Statistical Science

Professor Reiter, *Chair*; Professor Herring, *Director of Undergraduate Studies*; Professors Belloni, Carin, Clark, Clyde, Dunson, Herring, Hoff, Mattingly, Miller, Mukherjee, Reiter, Rudin, West, Winkler, and Wolpert; Associate Professors Li, Ma, Schmidler, Tokdar, and Wu; Assistant Professors Chen, Heller, Mak, Reeves, Steorts, Volfovsky, and Xu; Professors Emeriti Berger, Burdick, Gelfand, and Sacks; Professor of the Practice Banks; Associate Professor of the Practice Çetinkaya-Rundel; Assistant Professors of the Practice Jiang, Rundel, Santo, and Tackett; Research Professor Iversen; Associate Research Professor Chan; Senior Lecturer Dasmohapatra

A major and a minor are 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 and data science methods and advanced mathematical statistics.

Courses in Statistical Science (STA)

20. General Statistics. Credit for Advanced Placement on the basis of College Board Examination in statistical science. One course.

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 Statistics 30. See website for placement info. Director of undergraduate studies consent required. Not open to students with Statistics AP credit, Math AP credit, or credit for Math105L or higher. Instructor: Staff. One course.

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

101L. Data Analysis and Statistical Inference. QS, R, STS Introduction to statistics as a science of understanding and analyzing data. 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, S. Wilks said, "Statistical thinking will one day be as necessary a qualification for efficient citizenship as the ability to read and write." See department website for placement information. Not open to students who have taken Statistical Science 100 or above. Instructor: Staff. One course. C-L: Information Science + Studies

101LA. Data Analysis and Statistical Inference. QS, R, STS Introduction to statistics as a science of understanding and analyzing data. 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, S. Wilks said "Statistical thinking will one day be as necessary a qualification for efficient citizenship as the ability to read and write." See department website for placement information. Not open to students with credit for Statistical Science 102 or higher. Taught in Beaufort at Duke Marine Lab. Instructor: Staff. One course. C-L: Information Science + Studies, Marine Sciences

102L. 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. See department website for placement information. Not open to students who have taken Statistical Science 100 or above. Instructor: Staff. One course. C-L: Information Science + Studies

102LA. Introduction to 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. Taught in Beaufort at Duke Marine Lab. See department website for placement information. Not open to students who have taken Statistical Science 100 or above. Instructor: Staff. One course. C-L: Information Science + Studies

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: Staff. One course.

111L. 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. Not open to students who have taken 100-level or higher Statistical Science course. Recommended prerequisite: Mathematics 21 or equivalent. Instructor: Staff. One course. C-L: Information Science + Studies

112FS. Better Living Through Data Science: Exploration and Predictive Modeling. QS, STS Combines techniques from statistics, math, computer science, and social sciences, to learn how to use

data to understand natural phenomena, explore patterns, model outcomes, and make predictions. Case studies include examples from election forecasts, movie reviews, and online dating match algorithms. Discussions around reproducibility, data sharing, data privacy will accompany these case studies. Gain experience in data wrangling and munging, exploratory data analysis, predictive modeling, and data visualization, and effective communication of results. Course will focus on R statistical computing language. No computing background necessary. Open only to students in the Focus Program. Prerequisite: Mathematics 21. Instructor: Staff. One course.

115FS. Mathematics of Data Science. QS, STS One course. C-L: see Mathematics 163FS

130L. 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 111, 250D, or 611. Recommended prerequisite: Mathematics 212 or equivalent. Instructor: Staff. One course. C-L: Information Science + Studies

199L. Introduction to Data Science and Statistical Thinking. QS, R, STS Intro to data science and statistical thinking. Learn to explore, visualize, and analyze data to understand natural phenomena, investigate patterns, model outcomes, and make predictions, and do so in a reproducible and shareable manner. Gain experience in data wrangling and munging, exploratory data analysis, predictive modeling, and data visualization, and effective communication of results. Work on problems and case studies inspired by and based on real-world questions and data. The course will focus on the R statistical computing language. No statistical or computing background is necessary. Not open to students who have taken a 100-level Statistical Science course, Statistical Science 210, or a Statistical Science course numbered 300 or above. Instructor: Staff. One course.

210L. Regression Analysis. QS, R Extensive study of regression modeling. Multiple regression, weighted least squares, logistic regression, log-linear models, analysis of variance, model diagnostics and selection. Emphasis on applications. Examples drawn from a variety of fields. Prerequisite: 100-level Statistical Science course or Statistical Science 230 or Statistical Science 240L. Interested students with a different background should discuss and seek instructor consent. Instructor: Staff. One course.

230. Probability. QS One course. C-L: see Mathematics 230; also C-L: Information Science + Studies

231. Advanced Introduction to Probability. QS One course. C-L: see Mathematics 340

240L. Probability for Statistical Inference, Modeling, and Data Analysis. QS Probability models, random variables with discrete and continuous distributions. Marginal, joint, and conditional distributions. Expectations, functions of random variables, central limit theorem. Estimators and sampling distributions, method of moments, and maximum likelihood estimation. Prerequisite: Mathematics 22, 112L, 122, 122L, 202D, 212, 222, or graduate-student standing. Not open to students who have taken Statistical Science 230/ Mathematics 230 or Mathematics 340/Statistical Science 231. Instructor: Staff. One course. C-L: Mathematics 228L

250D. 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 202, 212, or 222, and Statistical Science 230 or Mathematics 340. Instructor: Staff. One course. C-L: Mathematics 342D, Information Science + Studies

291. Independent Study. Directed readings or 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.

322. Study Design: Design of Surveys and Causal Studies. QS Investigation of study designs collecting data and their implications for statistical inference. Design and analysis of surveys of populations, including stratification, clustering, multi-stage sampling, design-based inference, considerations when analyzing convenience samples and big data. Design and analysis of causal studies including randomized experiments,

blocking, fractional factorial designs, non-randomized studies, propensity score analysis. Applications involving big data, health, policy, natural and social sciences. Not open to students who have taken Statistical Science 522. Recommended prerequisite: Statistical Science 210, 521, or the equivalent. Instructor: Staff. One course.

323D. Statistical Computing. QS, R A practical introduction to statistical programming focusing on the R programming language. Students will engage with the programming challenges inherent in the various stages of modern statistical analyses including everything from data collection/aggregation/cleaning to visualization and exploratory analysis to statistical model building and evaluation. This course places an emphasis on modern approaches/best practices for programming including: source control, collaborative coding, literate and reproducible programming, and distributed and multicore computing. Prerequisite: Statistical Science 210 and Statistical Science 240L or 230. Instructor: Staff. One course.

325L. Machine Learning and Data Mining. QS The rapid growth of digitalized data and the computer power available to analyze it has created immense opportunities for both machine learning and data mining. This course introduces machine learning and data mining methods. Topics covered include information retrieval, clustering, classification, modern regression, cross validation, boosting and bagging. Course emphasizes selection of appropriate methods and justification of choice, use of programming for implementation of the method, and evaluation and effective communication of results in data analysis reports. Prerequisite: (Statistical Science 210 and Statistical Science 240L) or (Statistical Science 210, Statistical Science 250D (may be taken concurrently), and either Statistical Science 230/Mathematics 230 or Mathematics 340/ Statistical Science 231). Instructor: Staff. One course.

340. Introduction to Statistical Decision Analysis. QS Quantitative methods for decision making under uncertainty. Probability theory, personal probabilities and utilities, decision trees, ROC curves, sensitivity analysis, dominant strategies, Bayesian networks and influence diagrams, Markov models and time discounting, cost-effectiveness analysis, multi-agent decision making, game theory. Prerequisite: Statistical Science 230, 231, or 240L. Instructor: Staff. One course.

360L. Bayesian Inference and Modern Statistical Methods. QS, STS Principles of data analysis and advanced statistical modeling. Bayesian inference, prior and posterior distributions, multi-level models, model checking and selection, stochastic simulation by Markov Chain Monte Carlo. Prerequisite: Statistical Science 210 and (Statistical Science 230, 240L, or 231) and (Mathematics 202, 202D, 212, or 222). Prerequisite or corequisite: Mathematics 216, 218, or 221. Instructor: Staff. One course.

391. Independent Study. Directed readings or 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, 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.

410L. Multilevel and Hierarchical Models. QS Variance component models with fixed and random effects. Multilevel and hierarchical models for longitudinal and/or clustered data. Focus on model fitting and interpretation. Maximum likelihood and Bayesian inference and computation. Prerequisite: Statistical Science 360. Recommended prerequisite: R programming skills. Instructor: Staff. One course.

432. Theory and Methods of Statistical Learning and Inference. QS Estimators and properties (efficiency, consistency, sufficiency); loss functions. Fisher information, asymptotic properties and distributions of estimators. Exponential families. Point and interval estimation, delta method. Neyman-Pearson lemma; likelihood ratio tests; multiple testing; design and the analysis of variance (ANOVA). High-dimensional data; statistical regularization and sparsity; penalty and prior formulations; model selection. Resampling methods; principal component analysis, mixture models. Prerequisite: Statistical Science 240L, 230, or 231. Recommended prerequisite: Statistical Science 210, 360, and (Mathematics 221, 218, or 216). Instructor: Staff. One course. C-L: Mathematics 343

440L. Case Studies in the Practice of Statistics. QS, R, W Students apply statistical analysis skills to in-depth data analysis projects ranging across diverse application areas including but not limited to energy,

environmental sustainability, global health, information and culture, brain sciences, and social networks. Students practice cutting-edge statistical methods and communicate their results both technically and non-technically via presentations and written reports. Prerequisite: Statistical Science 360. Instructor: Staff. One course.

444L. Statistical Modeling of Spatial and Time Series Data. QS, R Introduction to Bayesian modeling for data with spatial and/or time dependence. Exploratory analysis of spatial (point referenced and areal) and time series data. Gaussian processes and generalizations. Extending hierarchical Bayesian linear models and generalized linear models. Spatial models: CAR, SAR, kriging and time series models: ARM, ARMA, dynamic linear models. Computational methods for model fitting and diagnostics. Prerequisite: Statistical Science 360 or 601 or 602L. Instructor: Staff. One course.

450L. Theory and Methods for the Analysis of Social Networks. QS, STS Introduction to basic principles of analyzing relational data. Consider deterministic and probabilistic specifications of networks and graphs, studying structural blockmodels, the Erdos-Renyi model, the exponential random graph model, the stochastic blockmodel, generalizations to latent space models and to more complex relational data. Development of these models and practical understanding of how to fit them. There is no book, lectures will be supplemented with discussions of relevant papers. Prerequisite: Statistical Science 360. Instructor: Staff. One course.

465. Introduction to High Dimensional Data Analysis. QS One course. C-L: see Mathematics 465; also C-L: Computer Science 445

470S. Introduction to Statistical Consulting. EI, QS, R, W Immerses students into real world consulting, exposing them to all aspects of research including data collection, modeling, and evaluating results. Through campus-wide consulting program, students work with researchers from various disciplines providing recommendations for statistical methodologies appropriate for their research. Projects examined through lens of research ethics underlying data collection, model assumptions, analysis, reproducibility, and reporting of results. Case studies such as the recent Potti case highlight what can go wrong in interdisciplinary research when researchers are not vigilant of the highest ethical standards. Prerequisite: Statistical Science 360 or 601. Instructor: Staff. One course.

490. Special Topics in Statistics. Special topics not covered in core courses and more advanced topics related to current research directions in statistical science. Instructor consent required. Instructor: Staff. One course.

491. Independent Study. Directed readings or 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.

493. 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. Prerequisite: Statistics 360. 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, a DSS faculty mentor. Offered only in fall semesters. Department consent required. Instructor: Staff. One course.

498S. Honors Thesis Seminar. Forum for conducting original research culminating in a substantive research project suitable for submission as an honors thesis. Department consent required. Instructor: Staff. Half 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

521L. Predictive Modeling and Statistical Learning. QS An introduction to statistical learning methods for prediction and inference. Topics include exploratory data analysis and visualization, linear and generalized linear models, model selection, penalized estimation and shrinkage methods including Lasso, ridge regression and Bayesian regression, regression and classification based on decision trees, Bayesian Model Averaging and

ensemble methods, and time permitting, smoothing splines, support vector machines, neural nets or other advanced topics. The R programming language and applications used throughout. Instructor consent required. Corequisite: Statistical Science 323D or 523L and Statistical Science 360, 601, or 602L. Instructor: Staff. One course.

522. Study Design: Design of Surveys and Causal Studies. QS Investigation of study designs collecting data and their implications for statistical inference. Design and analysis of surveys of populations, including stratification, clustering, multi-stage sampling, design-based inference, considerations when analyzing convenience samples and big data. Design and analysis of causal studies including randomized experiments, blocking, fractional factorial designs, non-randomized studies, propensity score analysis. Applications involving big data, health, policy, natural and social sciences. Not open to students who have taken Statistical Science 322. Recommended prerequisite: Statistical Science 210, 521L, or an equivalent course. Instructor: Staff. One course.

523L. Programming for Statistical Science. QS Statistical programming, computation using selected languages and environments (Python, R, Matlab, and/or C/C++) and interfaces with custom code development for statistical models. Best practices and software development for reproducible results, selecting topics from: use of markup languages, understanding data structures, design of graphics, object oriented programming, vectorized code, scoping, documenting code, profiling and debugging, building modular code, and version control- all in contexts of specific applied statistical analyses. Instructor consent required. Prerequisite: Statistical Science 360, 601L, 602L, or 611 (or concurrent enrollment in any of these courses). Not open to students who have taken Statistical Science 323D. Instructor: Staff. One course.

531. Advanced Bayesian Inference and Stochastic Modeling. QS Art and science of building graphical models and stochastic simulation methods for inference and prediction. Mixture models, networks, and other latent variable probability models, i.e. hidden Markov models. Review of discrete and continuous multivariate distributions used in building graphical models, tools of linear algebra and probability calculus. Aspects of Monte Carlo methodology and related dynamical modeling theory. Statistical computing using Matlab or R. Instructor consent required. Prerequisites: Statistics 521L, 523L, 601. Instructor: Staff. One course.

532. Theory of Statistical Inference. QS Core mathematical foundations of classical and Bayesian statistical inference. Theory of point and interval estimation and testing based on efficiency, consistency, sufficiency and robustness. Maximum likelihood, moments and non-parametric methods based on exact or large sample distribution theory; associated EM, asymptotic normality and bootstrap computational techniques. Theoretical aspects of objective Bayesian inference, prediction, and testing. Selected additional topics drawn from, for example, multiparameter testing, contingency tables, multiplicity studies. Instructor consent required. Recommended prerequisite: Statistical Science 521L, 523L, 601. Instructor: Staff. One course.

540L. Case Studies in Statistical and Data Science. QS, R, W Students apply statistical analysis skills to in-depth data analysis projects in a variety of areas of application. Students design and implement a data analysis plan based on substantive questions or hypotheses and communicate their results both technically and non-technically in oral presentations and written reports. Prerequisite: Statistical Science 360, 601, or 602. Not open to students who have taken Statistical Science 440 or Statistical Science 723. Instructor: Staff. One course.

561D. Probabilistic Machine Learning. QS Introduction to concepts in probabilistic machine learning with a focus on discriminative and hierarchical generative models. Topics include directed and undirected graphical models, kernel methods, exact and approximate parameter estimation methods, and structure learning. Prerequisite: Linear algebra, Statistical Science 250 or Statistical Science 611. Instructor: Staff. One course. C-L: Electrical and Computer Engineering 682D, Computer Science 571D

563. Information Theory. One course. C-L: see Electrical and Computer Engineering 587

571. Advanced Stochastic Modeling and Machine Learning. QS Art and science of building advanced probabilistic models. EM and stochastic based algorithms will be discussed in detail for inference and prediction. Topics include mixture models and latent variable models, i.e. hidden Markov models. Review of discrete and continuous multivariate distributions used in building graphical models, tools of linear algebra and probability calculus. Aspects of Monte Carlo methodology and related dynamical modeling theory and algorithms/computation. Understanding why and when models and methods work or break will be a focus. Prerequisite: Statistical Science 601 or 602L, and Statistical Science 532. Instructor: Staff. One course.

581. ProSeminar: Becoming a Statistical Scientist. Statistical paradigms and current directions,

communication of statistical ideas and arguments, statistical ethics, overview of study designs, building a statistical network, professional societies, developing a web/social media presence, career paths. Instructor consent required. Instructor: Staff.

582L. DataFest. Students work in teams to solve this year's big data challenge on campus. Engages students with the data analysis process from the definition of research/analysis questions, to in-depth exploratory analysis, to formal modeling and computational developments, to drawing conclusions based on their findings. Students interact with multiple faculty and expert advisors, and develop and present their findings to a panel of professors and professionals. Prerequisite: Statistics 531, 532, 523L (or co-registration). Instructor: Staff.

583. Internship Writing. The aim of this course is to work with materials (report + presentation) from summer internship experience and turn them into products that are admissible for a portfolio defense. The course aims to help students produce materials that meet the bar of scientific writing without violating any non-disclosure agreements you may have signed. The course starts with an initial written piece from every student that gives a good summary of their internship project(s), then works through several rounds of revision with detailed feedback and assistance from course instructor. Instructor: Staff. Instructor consent required.

601L. 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 recommended for students with credit for Statistical Science 360. Recommended prerequisite: Statistical Science 210, 240, or both Statistical Science 230 and 250. Instructor: Staff. One course.

602L. Bayesian and Modern Statistics Analysis. QS Principles of data analysis and modern statistical modeling. Exploratory data analysis. Introduction to Bayesian inference, prior and posterior 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 who have taken Statistical Science 360. Prerequisite: Statistical Science 611 or the following: Statistical Science 210 and (Statistical Science 230 or 240L) and (Mathematics 202, 202D, 212, or 222) and (Mathematics 216, 218, or 221, any of which may be taken concurrently). Instructor: Staff. One course.

610L. Multilevel and Hierarchical Models. QS Variance component models with fixed and random effects. Multilevel and hierarchical models for longitudinal and/or clustered data. Focus on model fitting and interpretation. Maximum likelihood and Bayesian inference and computation. Prerequisite: Statistical Science 360, 601, or 602L. Recommended prerequisite: R programming skills. Not open to students who have taken Statistical Science 410L. Instructor: Staff. One course.

611. Introduction to Mathematical Statistics. QS Formal introduction to basic theory and methods of probability and statistics: probability and sample spaces, independence, conditional probability and Bayes' theorem; random variables, distributions, moments and transformations. Parametric families of distributions and central limit theorem. Sampling distributions, traditional methods of estimation and hypothesis testing. Elements of likelihood and Bayesian inference. Basic discrete and continuous statistical models. Not open to students who have had Statistical Science 250/Mathematics 342. Instructor: Staff. One course.

612. Numerical Analysis. QS, R One course. C-L: see Computer Science 520; also C-L: Mathematics 565

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. Prerequisite: Statistical Science 250. Instructor: Staff. One course. C-L: Computer Science 579

623. Statistical Decision Theory. QS Formulation of decision problems; criteria for optimality: maximum expected utility and minimax. Axiomatic foundations of expected utility; coherence and the axioms of probability (the Dutch Book theorem). Elicitation of probabilities and utilities. The value of information. 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: Staff. One course.

640. Causal Inference. QS Statistical issues in causality and methods for estimating causal effects. Randomized designs and alternative designs and methods for when randomization is infeasible: matching methods, propensity scores, longitudinal treatments, regression discontinuity, instrumental variables, and principal stratification. Methods are motivated by examples from social sciences, policy and health sciences. Prerequisite: Statistical 521L or 721. Instructor: Staff. One course.

641. Statistical Learning and Bayesian Nonparametrics. QS Nonparametric Bayesian models and methods for complex data analyses with non-linearity adjustment, flexible borrowing of information, local uncertainty quantification and interaction discovery. Focuses on computationally and theoretically efficient nonparametric regression techniques based on advanced Gaussian process models, with motivating applications in causal inference and big data genomics. Includes several illustrative examples with R codes. Basic coverage of asymptotic theory and MCMC and greedy algorithms. Prerequisite: Statistics 531, 532, 523L. Instructor: Staff. One course.

642. Time Series and Dynamic Models. QS Statistical models for modeling, monitoring, assessing and forecasting time series. Univariate and multivariate dynamic models; state space modeling approaches; Bayesian inference and prediction; computational methods for fast data analysis, learning and prediction; time series decomposition; dynamic model and time series structure assessment. Routine use of statistical software for time series applications. Applied studies motivated by problems and time series data from a range of applied fields including economics, finance, neuroscience, climatology, social networks, and others. Instructor consent required. Prerequisite: Statistics 531, 532, 523L. Instructor: Staff. One course.

643. Modern Design of Experiments. QS Classical and Bayesian design notions and techniques—experimental units, randomization, treatments, blocking and restrictions to randomization, and utility of designs. Optimal sample size determination for estimation and testing. Factorial and fractional factorial designs, response surface methods, conjoint designs, sequential designs and bandit problems used in on-line advertising. Design and modeling of complex computer experiments. Designs for multiple objectives. Computational algorithms for finding optimal designs. Prerequisite: Statistics 531, 532, 523L. Instructor: Staff. One course.

644L. Statistical Modeling of Spatial and Time Series Data. QS, R Introduction to Bayesian modeling for data with spatial and/or time dependence. Exploratory analysis of spatial (point referenced and areal) and time series data. Gaussian processes and generalizations. Extending hierarchical Bayesian linear models and generalized linear models. Spatial models: CAR, SAR, kriging and time series models: ARM, ARMA, dynamic linear models. Computational methods for model fitting and diagnostics. Prerequisite: Statistical Science 360 or 601/602L or equivalent. Instructor: Staff. One course.

650L. Theory and Methods for the Analysis of Social Networks. QS Introduction to basic principles of analyzing relational data. Consider deterministic and probabilistic specifications of networks and graphs, studying structural blockmodels, the Erdos-Renyi model, the exponential random graph model, the stochastic blockmodel, generalizations to latent space models and to more complex relational data. Development of these models and practical understanding of how to fit them. There is no book, lectures will be supplemented with discussions of relevant papers. Prerequisite: Statistical Science 601 or 602L. Corequisite: Statistical Science 532 or 732. Instructor: Staff. One course.

663L. Statistical Computing and Computation. QS Statistical modeling and machine learning involving large data sets and challenging computation. Data pipelines and data bases, big data tools, sequential algorithms and subsampling methods for massive data sets, efficient programming for multi-core and cluster machines, including topics drawn from GPU programming, cloud computing, Map/Reduce and general tools of distributed

computing environments. Intense use of statistical and data manipulation software will be required. Data from areas such as astronomy, genomics, finance, social media, networks, neuroscience. Instructor consent required. Prerequisite: Statistics 521L, 523L; Statistics 531, 532 (or co-registration). Instructor: Staff. One course.

665. Statistical Programming for Big Data. This course will extend the foundation laid in software tools for data science to allow for efficient computing involving very large data sets. This course will explore the use appropriate algorithms and data structures for intensive computations, improving computational performance by use of native code compilation, use of parallel computing to accelerate intensive computations, use appropriate algorithms and data structures for massive data set, and use of distributed computing to process massive data sets. Prerequisite: Biostatistics 821 or permission of the director of graduate studies. Instructor: Staff. Half course.

671D. Machine Learning - Introductory PhD Level. QS One course. C-L: see Computer Science 671D; also C-L: Electrical and Computer Engineering 687D

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. One course. C-L: see Mathematics 690-40

693. Research Independent Study. R Directed reading and research for master's students. Consent of instructor and director of master's program required. Instructor: Staff. One course.

The Major

The major in statistical science provides students with exposure to modern statistical reasoning and data science principles as well as the skills needed to develop, analyze, and utilize statistical techniques for addressing quantitative, data-based problems in a wide array of application domains, including but not limited to natural and social sciences and the humanities. 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 technology and 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 can 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 can facilitate linking majors to a research mentor, who works with students to develop and complete the research project. Students earn credit for their research by taking Statistical Science 393 or 493 (up to one independent study can be used towards the major or minor, with prior approval of the director of undergraduate studies).

For the AB Degree

Prerequisites. Mathematics 21 (or 111L), 122 (or 112L), 212 (or 222 or 202), and 221 (or 216 or 218). Computer Science 101L or 102L or 201 or Engineering 103L.

Major Requirements. Statistical Science 240L/Mathematics 228L or Statistical Science 230/Mathematics 230 or Statistical Science 231/Mathematics 340; Statistical Science 432/Mathematics 343; Statistical Science 210; Statistical Science 360; Statistical Science 440. Three additional courses above Statistical Science 240L (excluding 601, 602L, and 611); Statistical Science 199 is allowed. Up to one independent study in statistical science can be used toward the major. Transfer credit for up to one core or two elective courses can be used toward the major. A maximum of two grades of D+, D, or D- can be counted toward the degree.

For the BS Degree

Prerequisites. Mathematics 21 (or 111L), 122 (or 112L), 212 (or 222 or 202), and 221 (or 216 or 218). Computer Science 101L or 102L or 201 or Engineering 103L.

Major Requirements. Statistical Science 240L/Mathematics 228L or Statistical Science 230/Mathematics 230 or Statistical Science 231/Mathematics 340; Statistical Science 432/Mathematics 343; Statistical Science 210; Statistical Science 360; Statistical Science 440. Four additional courses above Statistical Science 240L (excluding 601, 602L, and 611), one of which must be a quantitatively focused course outside the department; Statistical Science 199 is allowed. Up to one independent study in statistical science can be used toward the major. One

300-level or higher course that is preapproved by the director of undergraduate studies in an applied quantitative area other than statistical science, such as computer science, engineering, mathematics, one of the natural sciences, or one of the quantitative social sciences. Transfer credit for up to one core or two elective courses can be used toward the major. Students pursuing Graduation with Distinction must complete a year-long honor's thesis in their senior year of study. A maximum of two grades of D+, D, or D- can be counted toward the degree.

Students may elect to complete requirements in specified areas of concentration. Currently available areas of concentration in the statistical science major (BS) are data science and mathematical statistics. These concentrations are subsets of the major with specific choices of prerequisites and major courses. For the data science concentration: the linear algebra prerequisite must be Mathematics 218 or 221; of the four electives, at least two should come from the group of Statistical Science 199L, 322, 323D, 325L, 393/493 with a data science focus (subject to the approval of the director of undergraduate studies), 465 , 561D, or 571, at least one of those two must come from the subgroup of Statistical Science 323D, 325L, 465, 561D, or 571, and one course should come from the group of Computer Science 216, 316, 330, 370D, 371D, 516, or 570 with others possible with pre-approval by the director of undergraduate studies. For the mathematical statistics concentration: the linear algebra prerequisite must be Mathematics 221; the multivariate calculus prerequisite must be Mathematics 212 or 222; and one of the four electives must be Mathematics 431 or 531.

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. A maximum of two grades of D+, D, or D- can be counted toward the minor.

Prerequisites. Mathematics 21 (or 111L), 122 (or 112L), and 212 (or 202).

Requirements. Statistical Science 240L/Mathematics 228L or Statistical Science 230/Mathematics 230 or Statistical Science 231/Mathematics 340; Statistical Science 432/Mathematics 343; Statistical Science 210. Two additional courses in Statistical Science at or above the 100 level, only one of which can be from 100 level.

Sustainability Engagement

Assistant Professor of the Practice Clark (Environment) and Associate Research Professor Philipsen (Public Policy), *Co-Directors*

A Type 2 experiential certificate, but not a major, is available in this program.

The goal of this program is to provide undergraduates with an opportunity to engage deeply with complex interconnections involved in sustainability-related challenges. The program requires students to connect multiple disciplines, such as environmental science, economics, public policy, and/or social justice. The program will foster critical analysis, systems thinking, and practical skills to create engaged leaders in sustainability.

Certificate Requirements

In order to complete the certificate, students must take four courses, complete two substantial experiences, and develop an e-Portfolio. The four courses include a gateway course, Sustainability Engagement 245 (Sustainability: Theory and Practice, taught in the spring) or Sustainability Engagement 276 (Denial, Faith, Reason: Sustainability and Survival, taught in the fall); two elective courses; and the capstone, Sustainability Engagement 498S (Building A Sustainable Tomorrow). The experiences must include one exceeding 300 hours and one exceeding 150 hours. The electives and experiences must share a chosen theme in the field of sustainability engagement that relates to three key dimensions of sustainability: the environment, economics, and social equity. The course of study and engagement experiences must be approved by the student's Oversight Committee. For information about the certificate, visit <https://sustainability.duke.edu/academics/certificate>. The certificate directors and advisory committee are available for additional information and guidance. Contact dirk.philipsen@duke.edu or cclark@duke.edu for assistance.

Course in Sustainability Engagement (SUSTAIN)

245. The Theory and Practice of Sustainability. EI, NS, R, SS, STS Theories and practices of sustainability explored with application to the campus environment, including economic, social and

environmental factors, and a local to global reach. The Duke campus is used as a case study to illustrate institutional practices including building design and operations, utility supply and consumption, carbon offsets design and calculation, transportation, water, sustainability education and communication, behavior change, waste production and recycling, and procurement. In a service-learning project, students might perform sustainability inventories and cost/benefit analyses, or gather behavior change data. Instructor: Clark. One course. C-L: Environment 245, Energy and the Environment

276. Denial, Faith, Reason: Sustainability and Survival. EI One course. C-L: see Public Policy 284; also C-L: Study of Ethics 285, Economics 285, Environment 276, History 325

498S. Building a Sustainable Tomorrow. SS, STS Capstone for Certificate in Sustainability Engagement open to senior undergraduates who have completed all other Certificate requirements. Interdisciplinary insights to shed light on major contemporary debates in sustainability and world's most pressing problems. Synthesis and integration of ideas, concepts, and themes from their academic coursework and experiential activities with each dimension of sustainability, enhancing their systems analysis of chosen theme. Classes include discussion, readings, and guest speakers on topics in sustainability. May include fieldwork and other learning experiences relevant to sustainability. Held in Spring semesters. Open only to Sustainability Engagement certificate students. Prerequisite: Sustainability Engagement 245/Environment 245. Instructor: Clark and Philipsen. One course. C-L: Environment 498S, Public Policy 473S

Theater Studies

Associate Professor of the Practice Bend, *Chair*; Professor Gobert, *Director of Undergraduate Studies*; Professors Beckwith, Gobert, and Lee; Associate Professor Hadjioannou; Assistant Professors D'Alessandro and Rogers; Professor Emeritus Clum; Professors of the Practice Bell, Hemphill, McAuliffe, and Storer; Associate Professor of the Practice Bend

A major, a minor, and a minor in musical theater are 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 views 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 acting, directing, design, technical theater, dramatic literature, theater history, and performance studies 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.

Courses in Theater Studies (THEATRST)

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

104. Let's Dance! Live Art and Performance. ALP, CCI, CZ One course. C-L: see Dance 165; also C-L: Music 165

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.

190A. Duke Administered Study Abroad: Special Topics in Theater Studies. Topics differ by section. Instructor: Staff. One course.

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

190S-1. Special Topics in Reading Theater. 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.

190S-2. Special Topics in Theater Studies. Topics vary. May be repeated for credit. Instructor: Staff. One course.

198FS. Performing Science: Experimentation, Collaboration, and Artistry. ALP, R, STS One course. C-L: see Science & Society 198FS; also C-L: Literature 198FS, English 198FS

202S. Introduction to Performance Studies. ALP, CCI, W Introduction to field of performance studies, with examples drawn from music, dance, theatre, performance art, protests, rituals, and everyday life. Through comparative study of global performance, we explore the usefulness of concepts of ritual, play, and performativity as they relate to performance and technology; intercultural performance and implications and ethics of appropriation and borrowing; originality and imitation; archive and repertoire; performative writing; and the performative dimensions of gender, race, and sexuality. Instructor: Staff. One course. C-L: Literature 202S, Cultural Anthropology 219S, Visual and Media Studies 205S, English 202S

204S. Performance and Social Change. ALP, EI One course. C-L: see Dance 207S; also C-L: International Comparative Studies 227S

209. Dramatic Forms of Musical Theatre. ALP This course studies the various narrative structures that have developed over the past 150 years to tell dramatic stories through music. Topics of discussion include the techniques of transforming songs into extended dramatic scenes (with an emphasis on the works of Kurt Weill, Rodgers & Hammerstein, Laurens & Sondheim); the relationship of the drama to revues, minstrel and burlesque shows, and melodrama; the development of the genre through integration, concept musicals, and popular opera; the process of adaptation required for other works to be musicalized; the relationship of musicals to comedy and plots of marriage; and the limits of musical storytelling. Instructor: Rogers. One course.

210S. American Musicals. ALP Study of American musicals, focusing on the period from Show Boat to Sondheim with attention to poetics, aesthetics, and politics. Topics include: the dramaturgical use of music and orchestration; the origins of musical theatre in burlesque, minstrelsy, and operetta; the centrality of gender, race, sexuality, and national identity to the genre; the relationship of stage to film; and the transformations of the genre by Rodgers & Hammerstein and Sondheim. There is no performance requirement, and students do not need to be able to sing or dance. Instructor: Rogers. One course. C-L: Music 243S

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: Staff. One course. C-L: Music 218, Dance 211

213A. The Arts in New York: A Thematic Approach. ALP, R, W One course. C-L: see English 312A; also C-L: Visual and Media Studies 259A, Public Policy 312A

214A. Internship in New York. One course. C-L: see English 313A; also C-L: Art History 312A, Visual and Media Studies 296A

214A-1. Internship in New York. C-L: see English 313A-1; also C-L: Visual and Media Studies 296A-1, Art History 312A-1

215A. The Business of City Life. Half course. C-L: see English 314A

216S. Writing the Musical Book. ALP, W Study and create the dramatic text of musical theater, the 'book' that creates characters, structure, and narrative thrust. Course starts with grounding in the basics of text-writing by studying outstanding examples of bookwriting, from Arthur Laurens' Gypsy to Brian Yorkey's Pulitzer-winning Next To Normal. Students write a series of short scenes (5-10 pages) to be read aloud and critiqued in class, with ultimate goal of completing an original or adapted book for a one-act musical (30-60 pages.) Instructor: Bell, Rogers. One course. C-L: English 228S, Music 220S

217SA. The Economics of Art (The Chicago Scene). ALP, CCI Introduction to Chicago and guests sharing experiences combining arts and entrepreneurship in theater, visual art, film, music, dance, marketing, and comedy. Discussion focuses on their careers and career paths, and relationships among facilities, budgets

and missions. Site visits, guest speakers, and internships help assess history and changing mission of arts organizations, evolution of site and impact on creative work, identification of audience(s), response to current economic climate, and organization of staff as a reflection of priorities/values. Includes an internship in arts administration, marketing and development, or performance. Offered through Duke in Chicago Arts and Entrepreneurship summer program. Instructor: McAuliffe. One course. C-L: Visual and Media Studies 221SA, Dance 279SA, Music 217SA, Innovation and Entrepreneurship 217SA, Markets and Management Studies

218SA. New York Scenes. ALP, R One course. C-L: see English 315SA; also C-L: Gender, Sexuality, and Feminist Studies 315SA, Art History 318SA, African & African American Studies 318SA, Jewish Studies 315SA

222. Shakespeare. ALP, EI, W One course. C-L: see English 235; also C-L: Medieval and Renaissance Studies 330

223S. Modern German Theater and Drama. ALP, CCI, FL One course. C-L: see German 335S; also C-L: International Comparative Studies

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

228. Ancient Myth. ALP, CCI, CZ One course. C-L: see Classical Studies 208; also C-L: Religion 208

232. Asian American Theatre. ALP, CCI Asian American theatre and performance traditions, including major dramatic texts and canon formation. Critical framework for discussing race, ethnicity, gender, and sexuality. Instructor: Staff. One course. C-L: English 387, Asian & Middle Eastern Studies 182

233. Dance and Dance Theater of Asia. ALP, CCI, CZ One course. C-L: see Dance 356; also C-L: Religion 241, Asian & Middle Eastern Studies 246, International Comparative Studies 243

235. Performance Art History and Theory. ALP, CCI, CZ, EI One course. C-L: see Art History 344; also C-L: Information Science + Studies 275, Literature 222, Gender, Sexuality, and Feminist Studies 276

236. Gender in Dance and Theatre. ALP, CCI, CZ One course. C-L: see Dance 368; also C-L: Gender, Sexuality, and Feminist 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: Staff. 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 (DS4). 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: Beckwith. One course. C-L: English 384AS

241. Cabaret Workshop. ALP, CCI Creation of a cabaret performance (solos 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: Hemphill. One course.

242S. The Art of Improvising. ALP We will explore techniques for spontaneous behavior, immediate creation, and developing your creativity and truth on stage. The goal of the class exercises will be to build community and collaboration, to deepen your communication skills, and to strengthen your natural sense of

humor. We will study the works of Viola Spolin, Keith Johnstone, and iO. Instructor: McAuliffe. One course. C-L: Innovation and Entrepreneurship 243S

243. Black Theater Workshop. ALP, CCI Explore race and culture in America through texts of Black playwrights. Scene study by racially diverse class to engender feedback process. Juxtaposition of playwright's race to societal standards of universal content; relevance of actor's race to playwright's intent; historical context of Black Arts "militant" plays of the 1960s-70s. Workshop culminates in public performance. Instructor: Staff. One course. C-L: African & African American Studies 332

245. The Body in Art in Early Modern Europe: Power and Limits of Corporeal Representations. ALP, CCI, CZ One course. C-L: see Art History 317; also C-L: Romance Studies 317, Dance 317, Medieval and Renaissance Studies 217

246S. Shakespeare Studio. ALP Study in approaches to acting 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 work. Students will have opportunity to act in class exercises and projects. Extensive scenework. Prerequisite: Theater Studies 145S and consent of instructor. Instructor: Staff. One course.

247. Alexander Technique for Musicians, Dancers, and Actors. ALP Half course. C-L: see Music 116; also C-L: Dance 116

248S. The Art of Public Speaking: The Natural Voice. ALP This course is open to undergraduate and graduate students at all levels of vocal exploration. It is for students who want to explore their own vocal habits and learn how each voice can be strengthened and sculpted. Whether for theater, public speaking, singing, or building confidence, this work addresses the unique possibilities of each individual voice. We will work with breathing exercises, text, tone, resonators, and movements. There will be assigned readings and presentations in class. Please note: it is up to the Director of Graduate Studies for a graduate student's academic program to allow an undergraduate course to count for a master's or doctoral degree. Instructor: Hemphill. One course. C-L: Marine Science and Conservation

249S. Understanding Mediation. ALP, CCI, CZ One course. C-L: see Literature 325S; also C-L: Visual and Media Studies 316S, English 480S, Gender, Sexuality, and Feminist Studies 325S, Documentary Studies 358S

252FS. Performance and Citizenship in Asian America. ALP, CCI, CZ, EI The course examines the relationship between performance and citizenship with case studies drawn from Asian American history. Performance has been central to the formation and expression of citizenship since the beginning of US history, and for Asian Americans, who are stereotyped as "perpetual foreigners," the experience of becoming citizens have involved complex legal and cultural challenges that question what "American" means broadly. Providing an interdisciplinary survey, the course includes studies of various forms of performances, including legal cases, activism, political campaigns, theater, film, and new media. Open only to Focus Program students. Instructor: Lee. 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: McAuliffe or Storer. 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: Bend. 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. Instructor: Staff. One course. C-L: Visual Arts 235S, Dance 276S

264S. Puppetry. ALP This course explores the conception and creation of various forms of puppetry. Students will investigate methods of building and performing puppets while looking into the strengths of different forms and styles. In addition students will be exposed to the incredible variety of contemporary world puppetry. Instructor: Bend. One course. C-L: Visual Arts 264S

272. American Dreams, American Movies. ALP One course. C-L: see English 288; also C-L: Visual and Media Studies 355

273S. Screenwriting. ALP, W Advanced writing projects for feature film. Study of existing scripts and videos, application of techniques. Instructor: Bell. One course. C-L: English 317S, Visual and Media Studies 387S

275S. Acting For the Camera. ALP Introduction to film and television acting. Consent of instructor required. Instructor: Staff. One course. C-L: Visual and Media Studies 335S

276. Italian Cinema. ALP, CCI One course. C-L: see Italian 380; also C-L: Literature 215, 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 Sweeny 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. C-L: English 274

278. Introduction to Film Studies. ALP One course. C-L: see Visual and Media Studies 289; also C-L: English 181, Literature 110, Documentary Studies 264, Policy Journalism and Media

279S. Performing Sexual Health: The Duke Sex Ed Squad. ALP, CCI One course. C-L: see Dance 215S; also C-L: Global Health 216S

280S. Dramatic Writing. ALP, W Fundamentals of writing for stage. Instructor: Staff. One course. C-L: English 226S

282S. Writing Movies and Plays: Adaptation. 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. Instructor: McAuliffe. One course. C-L: English 227S, Visual and Media Studies 321S

282SA. 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. Taught in Duke-In-New York Program. Instructor: Staff. One course. C-L: English 272SA

283S. Writing about Performance. ALP, CCI, R, W One course. C-L: see Writing 305S; also C-L: Dance 302S, Music 305S

285S. Ready for Prime Time: Writing the Dramatic TV Episode. ALP, W Some of the best dramatic writing today can now be found on television. This class will focus on one commercial prime-time drama, past or present. Beginning with a deep immersion into the world of that show—watching all of Season One—students break into groups, coming up with their own long stories to advance the plots. Each student will pitch a story for their particular version of “Season Two”—developing an outline, tracking their storylines with the other members of their group, and finally writing a draft of an hour-long TV episode. Each student will write his or her own script—but will need to share notes, thoughts and feedback with their fellow writers. Instructor: Bell. One course. C-L: English 224S, Visual and Media Studies 220S

290-1. Special Topics in Dramatic Literature. May be repeated for credit. Instructor: Staff. One course.

290-2. Special Topics in Acting. May be repeated for credit. Instructor: Staff. One course.

290-3. Special Topics in Acting. Topics vary each semester. Instructor: Staff. Half course.

290-4. Special Topics in Theater Studies Workshop. 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.

290-5. Special Topics in Mainstage Production. 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.

290-6. Special Topics in Film. Topics vary. Instructor: Staff. One course.

290S-1. Special Topics in Dramatic Literature, History, Theory, or Criticism. May be repeated for credit. Instructor: Staff. One course.

290S-2. Special Topics in Acting. May be repeated for credit. Instructor consent required. Instructor: Staff. One course.

290S-4. Special Topics in Theater Studies. Topics vary. May be repeated for credit. Instructor: Staff. One course.

290S-5. Special Topics in Arts Management. Topics in aspects of arts management. May be repeated for credit. Instructor: Staff. One course.

290S-6. Special Topics in Film. 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.

304. Thinking through the Body: Becoming an Ordinary Genius. ALP Half course. C-L: see Dance 314; also C-L: Music 314

309S. Dancing States of Mind: The Self, Social and Political Practice of Dance. ALP, R One course. C-L: see Dance 309S; also C-L: Cultural Anthropology 311S, International Comparative Studies 309S

310S. Non-Profit Cultural Institutions. EI, SS Non-profit cultural institutions are an integral part of arts communities at all levels: national, regional, local. Through readings, projects and service-learning, students gain overview of non-profit cultural organization formation, management, operational structures, governance challenges, board member responsibilities and situational ethics. Explores historical and present functions and social structures in which nonprofit tax-exempt organizations operate. Investigates how nonprofit cultural institutions have increasingly become a vehicle for fostering creativity in the arts and humanities. Students partner with local non-profit arts/cultural organizations to work on specific projects. Instructor: Ellison. One course. C-L: Economics 247S, Innovation and Entrepreneurship 310S, Visual and Media Studies 329S, Public Policy 318S, Dance 208S

311S. Legal Issues for the Performing Arts. EI, SS An overview of copyright, contract, discrimination, employment, obscenity and other laws relevant to performing arts through readings and discussion of case law, statutes, sample legal documents, news reports and other materials. Includes exposure to legal issues for non-profit boards. Cuts across these legal issues to examine creative works themselves and their interplay with the body of laws. Views legal system in a broader context that examines how our legal system is a useful tool in promoting creation of artistic works. Instructor: Ellison. One course. C-L: Public Policy 363S, Economics 223S, Dance 379S, Innovation and Entrepreneurship 311S

312S. Arts Entrepreneurship. One course. C-L: see Music 295S; also C-L: Innovation and Entrepreneurship 295S, Dance 201S, Visual and Media Studies 295S, Documentary Studies 295S, Visual Arts 295S

316SA. stARTup Project. ALP, R This project-based class challenges teams of writers, actors, dancers, visual/media artists, musicians, and managers to come together to devise, workshop, and produce an arts-based event. Students will master the elevator pitch, develop fundraising and publicity/marketing strategies, conduct production meetings, manage a budget, and present the work at the end of the term. Students will study what strategies have led to success for startup arts companies in Chicago. We will make site visits to arts companies. Open only to students in Duke In Chicago Arts & Entrepreneurship summer program. Instructor: McAuliffe. One course. C-L: Visual and Media Studies 315SA, Dance 307SA, Music 316SA, Innovation and Entrepreneurship 316SA, Markets and Management Studies

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.

320S. Movement in Question: Introduction to Critical Dance Studies. ALP, CCI, CZ, R, W One course. C-L: see Dance 318S; also C-L: Visual Arts 317S

322S. Chekhov. ALP, CCI, W One course. C-L: see Russian 327S; also C-L: International Comparative Studies

323. The Actress: Celebrity and the Woman. ALP, CCI, CZ One course. C-L: see Russian 383; also C-L: Gender, Sexuality, and Feminist Studies 260, International Comparative Studies 383

334S. Modern Drama 1880-1940. ALP, CCI, CZ, W In this course, we analyze key texts from the history of modern dramatic literature starting in the late nineteenth century and proceeding to 1940. Starting with the flourishing of realism and naturalism in Scandinavia, we trace the rapid evolution of dramatic forms that characterized playwriting in Europe, England, and the United States. We will analyze not only the scripts but also various productions of each of these significant plays by significant playwrights, ranging from Henrik Ibsen and August Strindberg to Gertrude Stein and Bertolt Brecht. Instructor: Gobert. One course.

335S. Modern Drama: 1940-2000. ALP, CCI, W In this course, we analyze key texts from the history of modern dramatic literature starting in 1940 and proceeding to the end of the twentieth century. Starting with the “non-Aristotelian” drama of Bertolt Brecht, we trace the rapid evolution of dramatic forms that characterized playwriting in Europe, England, and then the United States. We will analyze not only the scripts but also various productions of each of these significant plays by significant playwrights, ranging from Bertolt Brecht and Samuel Beckett to Tony Kushner and Sarah Kane. Instructor: Gobert. One course. C-L: English 365S

336. Shakespeare through 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

338S. Globalization and Theater. ALP, CCI, CZ, EI This course surveys the various ways in which contemporary theatre has been created and circulated in a global context. Instructor: Lee. One course. C-L: International Comparative Studies 357S, Asian & Middle Eastern Studies 338S

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

345S. Advanced Acting: Contemporary Texts. ALP Scene study based on reading, analysis, and research. Examination and development of performance/critical choices. Prerequisite: Theater Studies 145S and consent of instructor. Instructor: Staff. One course.

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. Instructor: Hemphill. One course.

349L. Mainstage Run Crew. This course will instruct students on how to run a show. Course will cover lighting, sound and backstage basics culminating in students running the department's mainstage production. Instructor: Bend. Half course.

350. 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.

351S. Directing Chekhov. ALP, CCI, EI Seminar in directing with emphasis on directing actors, demonstration and laboratory exercises, text analysis, and rehearsal techniques. Examination of rehearsal working methods, development of performance choices, exploration of material and process with emphasis on the plays of Chekhov. Explores visual and conceptual material of directing, and problems of working in performance. Includes a video project—students videotape their directing work and accomplish post-production—edit and production of a digital video file. Projects evaluated on basis of composition, visual interest, and narrative force. Pre-req: THEATRST 145S and consent of instructor. Instructor: McAuliffe. One course. C-L: Russian 351S

364. Performance and Technology: Composition Workshop. ALP, STS One course. C-L: see Dance 308; also C-L: Information Science + Studies 376, Electrical and Computer Engineering 364

370S. Moving Image Practice. ALP, STS One course. C-L: see Visual and Media Studies 261S; also C-L: Information Science + Studies

371. Artists in Healthcare: Collaborations and Complexities. ALP, CCI, CZ, EI, R One course. C-L: see Dance 371; also C-L: Visual and Media Studies 374, Music 371

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

373S. American Independent Cinema. ALP, CCI One course. C-L: see Literature 318S; also C-L: English 389S, Visual and Media Studies 332S, Documentary Studies 322S

375. Mafia at the Movies. ALP, CCI One course. C-L: see Italian 385; also C-L: Literature 385, Visual and Media Studies 385

380S. Playmaking: Collaboration from Page to Stage. ALP, W Dramatic writing—for stage, screen or film—is not meant to be read, like a novel or poem—it's meant to be performed. In this class, students explore the 'liveness' of dramatic writing by performing: not just as writers, but also as actors and directors, working with material generated in class and getting it up on its feet. Starting with writing exercises that aim at the core concept of 'dramatic action', students progress to self-generated works. During the semester each student will get to experiment with writing, directing and acting. Semester ends with public presentation of the work that's been written and brought to life on stage by the class. Instructor: Bell, Storer. One course. C-L: English 316S

390A. Duke-Administered Study Abroad: Advanced Special Topics in Theater Studies. Topics differ by section. Instructor: Staff. One course.

390S-1. Special Topics in Directing. Topics vary each semester offered. Instructor: Staff. One course.

390S-2. Special Topics in Dramatic Writing. May be repeated for credit. Instructor: Staff. One course.

390S-3. Special Topics in Design. 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. 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. Reserved for senior Theater Studies majors. Instructor: Staff. One course.

421S. Laughing Through It All: French Comedy and Its Social/Political Contexts, Middle Ages to the 21st C. ALP, CCI, CZ, FL One course. C-L: see French 412S

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

521S. Moliere: The Phenomenon of Laughter. ALP, CCI, FL One course. C-L: see French 525S; also C-L: Medieval and Renaissance Studies 601S

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: Staff. One course. C-L: Literature 520S

535S. AfroFuturism. ALP One course. C-L: see African & 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). Topics vary by semester. Consent of instructor required. Instructor: Staff. One course.

590S-1. Advanced Special Topics in Dramatic Literature (Seminar). Instructor: Staff. One course.

620S. Film-philosophers/Film-makers. ALP, CZ, STS One course. C-L: see Literature 620S; also C-L: Visual and Media Studies 622S, English 620S, Documentary Studies 620S

671S. Thinking Digital Cinema. ALP, STS One course. C-L: see Literature 614S; also C-L: Visual and Media Studies 614S

691. Independent Study. Individual directed study on advanced graduate level under supervision of a faculty member resulting in an academic or artistic product. Consent of instructor required. Instructor: Staff. 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, theater history, and performance studies; 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

- Theater Studies 115 (Theater Today)
- Theater Studies 145S (Acting)

- One 200-level or above dramatic writing class
- One 200-level or above dramatic literature class (may be 239AS Theater in London: Text)
- One 200-level or above performance studies class
- One 200-level or above theatrical design class
- Theater Studies 255S (Directing)
- Theater Studies 401S (Senior Colloquium)
- Two additional 100-level or above courses in theater studies

Departmental Graduation with Distinction

Students with at least a 3.5 average in their theater studies courses are eligible to apply for a project. Students must complete eleven courses in total to graduate with distinction in the major instead of the standard ten. All distinction courses count toward the major. Interested students should acquire the full 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 March of the student's junior year.

A student may pursue a project in writing, directing, design, acting, dramatic literature, theater history, or performance studies. All projects must have a research and a substantial written component. They may also have a production component. Students are required to take either a research independent study or a home seminar in the fall and the 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) composed 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. See the Policy for Graduation with Distinction in theater studies for specific prerequisites.

The Minor in Theater Studies

- Theater Studies 115 (Theater Today)
- Four additional 100-level or above courses in theater studies

The Minor in Musical Theater

The musical theater minor is offered to students interested in developing artistic and critical skills in the field of musical theater. Courses are offered that focus on performing, writing, and directing musical theater—as well as on the history and theory of the genre. A total of five courses are required for the minor, and students must earn grades of C- or above in all courses that count for the minor.

- Theater Studies 209 (Dramatic Forms of Musical Theater)
- Theater Studies 210 (American Musicals)
- Two required courses in practice, which may be chosen from the following courses:
 - Theater Studies 211 (Musical Theater Workshop: Performance)
 - Theater Studies 212 (Musical Theater Workshop: Creation)
 - Theater Studies 241 (Cabaret Workshop)
 - Theater Studies 248 (Voice and Speech)
 - Theater Studies 255S (Directing)
 - Theater Studies 346 (Voice and Body Gesture Theater)

And one additional course, which may be an additional course in practice or an academic seminar on a topic related to musical theater.

Visual Studies

For courses in visual studies, see Art, Art History & Visual Studies on [page 123](#).

Writing

Associate Professor Woods, *Director*; Associate Professor of the Practice Comer, *Director of First-Year Writing*; Assistant Professor of the Practice Ahern-Dodson, *Director of Outreach*; Associate Professor of the Practice Moskovitz, *Director of Writing-in-the-Disciplines*; Assistant Professor of the Practice Rego, *Director of Faculty Development and Assessment*; Assistant Professor of the Practice Schonberg, *Director of the Writing Studio*; Lecturers Corey, Klein, and Mullenneaux; Lecturing Fellows Andres, Ansley, Baletti, Bocci, Byerly, Caputo, Cannelli, Casey, Carr, Chinn, Dimpfl, Holtzman, Kalman-Lamb, LeJacq, Ossi-Lupo, Parks, Quirici, Rose, J. Smith, L. Smith, Sotelo-Miller, Thananopavarn, Wang, Welji, Welsh, Welte, Wetsel, and Whitt; Instructor B Swezey

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 writing consulting 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 consulting 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.

Courses in the Thompson Writing Program (WRITING)

65. Writing Transfer across Contexts. This course focuses on writing transfer. Students will engage with transfer by transferring a written, verbal, and/or audio project of their choosing from one context and format to a different context and format. Course theoretical concepts include writing transfer; rhetorical context; text format and design; genre; and disciplinary and writing-occasion conventions and expectations. These include global-level issues (design, audience, evidence, epistemology, organization, structure, argument, etc.) and sentence-level issues (paragraphs, clarity, powerful prose, etc.). Students will discuss drafts-in-progress, create interim project phases, and engage in intensive peer feedback. Instructor: Staff. Quarter course.

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.

89S. First-Year Seminar: Special Topics. First-Year Seminar in a topic involving an area of writing studies, such as health narratives, writing performance, science writing, etc. Topics vary each semester offered. Instructor: Staff. One course.

101. Academic Writing. Instruction in the complexities of producing sophisticated academic argument, with attention to critical analysis and rhetorical practices. Topics vary by section. Instructor: Staff. One course.

165S. Making Your Voice Heard: The Arts of Oral Communication, Critical Speaking, and Digital Rhetoric. ALP, EI From ancient storytelling and Aristotelian rhetoric to contemporary Ted talks and Vox Pop podcasts, oral communication remains one of the most varied, meaningful, and influential arts of human expression. This course introduces students to the complex traditions, legacies, and emerging landscapes for oral communication, critical speaking, and digital rhetoric in academic, professional, public, and social contexts. Of central importance will be a focus on the ethics and socio-cultural structures that shape oral communication and that impact whose voices tend to be heard and whose voices often remain less heard. Instructor: Comer. 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: Byerly. One course. C-L: Public Policy 182

190S. Special Topics: Writing in the Disciplines. Topics vary by section. Topics course. Instructor: Staff. One course.

190SA. Special Topics: Writing in the Disciplines. Topics vary by section. Topics course. Instructor: Staff. One course.

205S. Composing Oneself: Stress, Identity, and Wellness. ALP, EI, SS, W Interdisciplinary exploration of arts and science related to stress, identity, and wellness. Multi-dimensional focus fusing science, theory, art, literature, and performance to understand structural causes of stress, their physiological effects, and how stressors impact our identities and community ethics. Through text analysis and experience, students explore how arts of wellness, including yoga, mindfulness, and art therapies, impact stress, identity, and ethics. Course texts include literary and discourse theory, social science, neuroscience, and primary texts related to stress, identity, and wellness, including nonfiction, fiction, poetry, art, music, performance. Instructor: Comer and Ferney. One course. C-L: Arts & Sciences IDEAS themes and University Course 205S, Study of Ethics 205S

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: Schonberg. One course. C-L: Education 255S

259S. Student Activism, Storytelling, and Community Change. ALP, EI, W One course. C-L: see Education 259S; also C-L: Human Rights Program-Franklin Humanities Institute 259S, Human Rights

270. Composing the Internship Experience: Digital Rhetoric and Social Media Discourse. ALP, W Examines how students currently participating in an internship or other work-related experience can productively narrate their experiences using digital rhetoric and social media. Topics include theoretical perspectives on social media, examining audience, purpose, and context in digital platforms, and composing in public sphere. Students apply internship/work experience to course concepts as they produce digital writing and social media projects. Online course. Prerequisite: Writing 101. Instructor consent required. Instructor: Staff. One course.

271. Reflective Writing and the Internship/Work Experience. Study of key concepts related to reflective writing through reading, discussion, and structured writing. Students will compose reflective writing about their internship/work experiences. Prerequisite: Writing 270. Instructor: Comer. Half course.

280S. Ethics of Ethnography: In the Field and on the Page. EI, R, SS, W Inquiry into the practical and ethical considerations of ethnography as both a research method and a writing genre. Students learn to identify rhetorical strategies of ethnographic texts and interrogate the moral, political, and ethical issues in representing the ‘other.’ Frequent workshops guide students through individual research on the intersection of ‘race’ and some aspect of Durham’s social or historical context. Students develop observation and interviewing skills, conduct fieldwork in Durham, and work through several drafts of their own ethnographies, while learning to give and receive feedback. Prerequisite: Writing 101. Open only to DukeImmerse students. Instructor consent required. Instructor: Rego. One course. C-L: Cultural Anthropology 280S

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.

305S. Writing about Performance. ALP, CCI, R, W Inquiry into the concept of “performance” broadly construed--not only as it refers to “staged” concerts or plays, but also as social ritual and as self-presentation, appropriately situated in cultural context. Writing experiments aimed at capturing the ephemeral nature of live performance, with attention to how meaning is enacted through movement, sound, lighting, rhythm, voice, emotion, and audience interaction. Regular writer’s workshops and field trips to theater, dance, and musical performances. Students compose critical reviews and a research project on a performance genre, an artist’s approach, or other related topic of their choosing. Prerequisite: Writing 101. Instructor: Rego. One course. C-L: Dance 302S, Theater Studies 283S, Music 305S

591. Independent Study. Directed study in a field of special interest in Writing Studies on an approved topic under the direction of a faculty member, resulting in a substantive written product. Consent of instructor required. Instructor: Staff. One course.

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 the contacts listed with each department.

Biochemistry

Meta Kuehn, *Director of Graduate Studies*

Courses in Biochemistry (BIOCHEM)

301. Introductory Biochemistry I: Intermediary Metabolism. Chemistry of the constituents of proteins, lipids, carbohydrates, and nucleic acids and their metabolic interrelationships. Prerequisite: two semesters of organic chemistry. Instructors: Coggins and Staff. One course.

302. Introductory Biochemistry II. Structure, function, and biosynthesis of biological macromolecules and regulation of their synthesis. Intermediary metabolism and metabolic utilization of energy. Biochemistry of biological membranes, receptors, and signal transduction via membrane receptors. Prerequisite: organic chemistry and Biochemistry 301. Instructors: Greenleaf and staff. One course.

393. 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 first-year students and sophomores with consent of supervising instructor. Instructor: Staff. One course.

401. Applied Biochemistry. NS Utilizes knowledge gained from Introduction to Biochemistry to become more comfortable with its application. Augments current biochemical knowledge by delving into disease mechanisms, media-hyped health crazes, and assessing clinical trials. At conclusion of this class, you should be able to critically assess biochemical statements and validity in all mediums, whether in a class or presented by the media. Prerequisite: Intro to Biochemistry I (Summer or Fall semester) or related biology/chemistry classes with permission of instructor. Instructor: Hamilton. One course.

536. Bioorganic Chemistry. One course. C-L: see Chemistry 536

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

631. Contemporary Topics in Membrane Biology. This course will highlight modern topics regarding biological membranes and membrane proteins that are important for human physiology and disease. Topics include structure and dynamics of biological membranes, structure and function of membrane proteins that play critical roles in cell signaling, diseases related to dysfunction of membrane and membrane proteins, and current efforts on drug discovery. Major techniques used in membrane research will also be covered. The format will be a combination of lectures and discussion of primary literature. Students will be evaluated based on their class participation and performance at the final presentations. Reserved for graduate students; open to undergraduate

students by instructor permission. Instructor: Lee, Bennett, Kuehn, Rajagopal, and Yang. Half course. C-L: Cell and Molecular Biology 631, Neurobiology 631, Pharmacology and Cancer Biology 631

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, 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, allosteric, protein-protein interactions. Prerequisites: Biochemistry 658, organic chemistry, physical chemistry, and introductory biochemistry. Instructors: Zhou and staff. Half course. C-L: Cell Biology 659, Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659, University Program in Genetics 659

667. Molecular Aspects of DNA Biology. Addresses molecular aspects of DNA replication, repair, recombination, and chromosome segregation. Disease states linked to aberrations in these processes will also be considered. The course format includes background lectures by participating faculty coupled with student-led presentation and discussion of faculty-selected papers from the primary literature. Student evaluation is based on in-class presentation and participation in the related discussion. Prerequisites: undergraduate courses in biochemistry and molecular biology (or genetics). Mini-course, 1st half-semester. Instructor: Modrich, MacAlpine, Schumacher. Half course.

668. RNA Biology: Co-Transcriptional and Post-Transcriptional Control of Gene Expression.

Explores various aspects of RNA biology and function. Topics will include splicing, translation, RNA: Protein interactions, non-coding RNAs, RNA modifications, viral RNA regulation, RNA structure-function relationships, and RNA-targeted drug discovery. Students will also learn about the major techniques used in RNA research, including in vitro and in vivo methods for understanding global RNA regulation. The format will be a combination of weekly lectures which will also include discussion of primary literature. Students will be evaluated based on their participation and performance during in-class presentations. Students will also write a short mock research grant on a topic of their choosing. Instructor: Meyer. One course. C-L: Cell Biology 668, University Program in Genetics 668

681. Biophysical Methods. A survey of the theory and application of biological techniques based on physical principles. The course goal is to introduce these methods so that students can understand their application in the primary literature. Methods covered include: Optical Spectroscopy, Fluorescence, Binding, Light Microscopy, Electron Microscopy, Hydrodynamics, Kinetic Methods, Electrophysiology, Magnetic Resonance and Mass Spectrometry. Lectures on each method are presented by an expert in that area. Instructor: Oas. One course. C-L: Structural Biology and Biophysics 681

690. Advanced Topics in Biochemistry. Topics and instructors announced each semester. Instructor: Staff. One course.

695. Understanding NMR Spectroscopy. Course aimed at graduate students who have some familiarity with high-resolution NMR who wish to deepen their understanding of how NMR experiments actually ‘work’. Introduces quantum mechanical tools needed to understand pulse sequences, with emphasis on obtaining good understanding of how experiments actually work. Course also covers advanced biomolecular NMR experiments that enable structural and dynamic characterization of biomolecules. For roughly half of course, students will be expected to follow online lectures that accompany course textbook, with class meetings emphasizing concepts, group discussion, and problem solving. Prerequisites: undergraduate physical chemistry, undergraduate biochemistry, and one year of calculus. Instructor: Al-Hashimi. One course.

696. Macromolecular Structure Determination by X-Ray Crystallography: Principles and Practice. Theoretical and practical principles of macromolecular X-ray crystallography. Topics covered include crystal symmetry, space group theory and determination, diffraction theory, a practical understanding of crystallization, X-ray intensity data collection and data processing, phase determination, refinement and model validation. Prerequisites: Undergraduate physical chemistry; undergraduate biochemistry; at least one year of calculus. Instructor consent required. Instructor: Schumacher. One course.

Cell Biology

Michel Bagnat, *Director of Graduate Studies*

Sharyn Endow, *Director of Undergraduate Studies*

Courses in Cell Biology (CELLBIO)

451. Introductory Human Physiology. Focus on human organ-system physiology; cellular physiology; basic concepts and principles underlying the physiologic function of each organ system and their integration to maintain homeostasis; application of physiologic principles to interpret clinical aspects of failure of these systems; organ systems include: nervous, musculoskeletal, cardiovascular, respiratory, gastrointestinal, urinary, endocrine, and reproductive. Online course. Instructors: Carbrey and Jakoi. 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 required. Instructor: Staff. One course. C-L: Marine Sciences

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell and Molecular 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: Computational Biology and Bioinformatics 659, Structural Biology and Biophysics 659, University Program in Genetics 659

668. RNA Biology: Co-Transcriptional and Post-Transcriptional Control of Gene Expression. One course. C-L: see Biochemistry 668; also C-L: University Program in Genetics 668

Cell and Molecular Biology

Cagla Eroglu, *Director of Graduate Studies*

Courses in Cell and Molecular Biology (CMB)

631. Contemporary Topics in Membrane Biology. Half course. C-L: see Biochemistry 631; also C-L: Neurobiology 631, Pharmacology and Cancer Biology 631

640. Quantitative Approaches to Biological Problems: From Cartoon Models to System Behavior. This class is aimed at biologists who want to gain an appreciation of how mathematical approaches can supplement experimental approaches. We will teach you how to convert cartoon diagrams to differential equations, and re-familiarize you with some basic concepts from math and physics that help us develop a better intuition of how the world works. Then we will discuss how quantitative approaches can yield insights into how control systems behave. The class will use calculus at an elementary level and an occasional computer simulation, but we will focus more on concepts and applications. Instructor: Lew. One course. C-L: University Program in Genetics 640

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell Biology 658, University Program in Genetics 658, Structural Biology and Biophysics 658, Computational Biology and Bioinformatics 658

Computational Biology and Bioinformatics

Tim Reddy, *Director of Graduate Studies*

Courses in 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 from 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.

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: Science & Society

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 or Schmidler. 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

550. Computational Structural Biology. QS, R One course. C-L: see Computer Science 664; also C-L: Statistical Science 614

574. Modeling and Engineering Gene Circuits (GE, MC). One course. C-L: see Biomedical Engineering 574

590. Special Topics in Computational Biology. Instructor: Staff. One course.

591. Independent Study. Faculty directed experimental or theoretical research. Instructor: Staff. Variable credit.

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

Immunology

Weiguo Zhang, Director of Undergraduate Studies

Courses in 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.

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. Recommended prerequisite: Biology 220, 201L, or 203L. Instructor: Zhang. One course. C-L: Biology 515

601. Immunology of Human Diseases. This advanced course will cover the immune aspect of various human diseases including autoimmune diseases, allergy, tumor, inflammation and infectious diseases. The course will discuss the most recent advancement in immunology of human diseases related to mechanisms and treatments. Prerequisite: Immunology 544 or Biology 515. Other basic immunology course taken at another institution may be substituted by consent of instructor. Instructor: He. One course.

Molecular Cancer Biology

Ann Marie Pendergast, Director of Graduate Studies

Courses in Molecular Cancer Biology (MOLCAN)

533. Essentials of Pharmacology and Toxicology. One course. C-L: see Pharmacology and Cancer Biology 533; also C-L: Neuroscience 533

551L. Biomedical Optical Spectroscopy and Tissue Optics (GE, IM). One course. C-L: see Biomedical Engineering 551L

Molecular Genetics and Microbiology

David Tobin, Director of Graduate Studies

Courses in Molecular Genetics and Microbiology (MGM)

120FS. Ethical Implications of Genetic and Genomic Research. EI, SS, STS This course will examine the ethical implications raised by genetic and genomic research. Students will gain an understanding of the historical basis of human subjects' protections in the United States, the ethical pillars of research, and the issues that arise from genetics and genomics research. Case studies in genomics research will be used to illustrate various ethical implications. Readings will consist of reviews of the history of human subjects' protections, federal regulations, actual informed consent documents, and scientific papers from the primary literature. Open only to students in the Focus Program. Instructor consent required. Instructor: Haga. One course. C-L: Public Policy 186FS, Human Rights

222FS. Genetics and Epigenetics: The Codes that Control Our Genomes. NS Many inherited cellular and physiological traits in humans are not due to changes in DNA sequence, but instead are shaped by factors such as age, diet, or environment. This course will examine sequence-independent regulation of the human genome, non-genetic diseases, environmental factors that control the epigenome, and multi-generational inheritance of epigenetic information (how grandparental experiences shape descendants' genomes). Course readings will be drawn from the primary literature (historical and current) and will be anchored on human genetics, although model systems (yeast, Drosophila, plants) will also be discussed. Only open to students in the Focus Program. Department consent required. Prerequisite: AP Biology or equivalent. Instructor: Sullivan. One course. C-L: Genome Sciences and Policy 222FS

293. Research Independent Study I. R Independent Research in a field of special interest under the supervision of a faculty member. Open to sophomores with consent of supervising instructor required. Instructor: Staff. One course.

294. Research Independent Study II. R Continuation of Molecular Genetics and Microbiology 293. Independent research in a field of interest under the supervision of a faculty member. Open to sophomores with consent of supervising instructor required. Instructor: Staff. One course.

325. Current Technologies in Genomics and Precision Medicine. NS, STS One course. C-L: see Biology 325

520. Advanced Topics in Leveraging Fc-mediated Antibody Functions. NS Topics covered will include how the genetic and functional properties of the antibody Fc regions and their counterpart Fc-receptors can impact and be exploited to treat and prevent infections or cancer. The course will also cover design strategies to improve the Fc-mediated functions of monoclonal antibodies used for passive protection and treatment, as well as for vaccines to induce Fc-mediated antibody functions in active immunization strategies. The course is targeted for post-prelim students interested in state-of-the-art studies in immune responses to pathogens and malignancy. Instructor: Ferrari, Moody, Pollara. One course.

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: Luftig 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: Tobin and staff. One course.

593. Research Independent Study. R Independent research in Molecular Genetics and Microbiology. Instructor: Staff. One course.

Neurobiology

Jorg Grandl, *Director of Graduate Studies*

Courses in Neurobiology (NEUROBIO)

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.

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

631. Contemporary Topics in Membrane Biology. Half course. C-L: see Biochemistry 631; also C-L: Cell and Molecular Biology 631, Pharmacology and Cancer Biology 631

Pathology

Soman Abraham, *Director of Graduate Studies*

Course in Pathology (PATHOL)

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

Jessica Sawyer, *Director of Undergraduate Studies*

Courses in Pharmacology and Cancer Biology (PHARM)

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: Sawyer. One course.

294. Research Independent Study in Science Education. R Continuation of Pharmacology 293. Open to juniors and seniors with consent of supervising instructor. Prerequisite: Biology 25L; Chemistry 21L or 23L; Pharmacology 293. Consent of instructor required. Instructor: Sawyer. One course.

350. Pharmacology: Drug Actions and Reactions. NS 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. Recommended prerequisite: introductory biology (Biology 201L, 203L, or

equivalent) and chemistry (Chemistry 101DL or 110DL). Instructor: Sawyer. One course. C-L: Neuroscience 350

360. Drugs, Brain, and Behavior. 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

370. Pharmacogenomics and Personalized Medicine. NS Course discusses personalized drug development for several diseases and examines how genetic variations in enzymes, receptors, and transporters involved in pharmacokinetics and pharmacodynamics affect drug response. Students are introduced to modern molecular techniques (DNA & RNA sequencing, gene expression-DNA microarrays, proteomics, and metabolomics) used in the development of personalized medicine. Class participation includes presentation and discussion of current journal articles highlighting advances in pharmacogenomics and personalized medicine. Open to juniors and seniors. Prerequisite: Biology 201L. Highly recommended: Pharm 350 or 360 and Biochem 301. Instructor: Kwatra. 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. NS, W 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. One course.

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. Instructor consent required. Prerequisite: introductory biology; Chemistry 201DL; Mathematics 21 and 122. Instructor: Slotkin and staff. One course. C-L: Neuroscience 533, Molecular Cancer Biology 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: Wang or Staff. 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.

631. Contemporary Topics in Membrane Biology. Half course. C-L: see Biochemistry 631; also C-L: Cell and Molecular Biology 631, Neurobiology 631

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: Sawyer. 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: Sawyer. One course.

Structural Biology and Biophysics

Harold Erickson, *Director of Graduate Studies*

Courses in Structural Biology and Biophysics (SBB)

546S. Structural Biology and Biophysics Seminar. Weekly seminars are presented by program students, beyond their first year, faculty members, or guest speakers. (Required of all SBB Students.) Instructor: Oas.

622. Structure of Biological Macromolecules. **R** One course. C-L: see Biochemistry 622; also C-L: Computational Biology and Bioinformatics 622

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, 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, University Program in Genetics 659

681. Biophysical Methods. One course. C-L: see Biochemistry 681

682T. Advanced Physical Biochemistry. Transient kinetics, computational methods, multidimensional NMR, x-ray crystallography, thermodynamics of association. Prerequisite: Structural Biology and Biophysics or consent of instructor. Instructor: Oas. One course.

University Program in Genetics and Genomics

Don Fox, *Director of Graduate Studies*

Courses in the University Program in Genetics and Genomics (UPGEN)

522. Critical Readings in Genetics and Genomics. One course. C-L: Molecular Genetics & Microbiology 522

640. Quantitative Approaches to Biological Problems: From Cartoon Models to System Behavior. One course. C-L: see Cell and Molecular Biology 640

658. Structural Biochemistry I. Half course. C-L: see Biochemistry 658; also C-L: Cell and Molecular Biology 658, Cell Biology 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

660. Evolution from a Coalescence Perspective. **NS** One course. C-L: see Biology 660

668. RNA Biology: Co-Transcriptional and Post-Transcriptional Control of Gene Expression. One course. C-L: see Biochemistry 668; also C-L: Cell Biology 668



Jared Lazarus

Pratt School of Engineering

Professor Bellamkonda, *Dean*; Professor of the Practice Franzoni, *Associate Dean for Undergraduate Education*; Assistant Deans Cooke, Rawls, and Temiquel-McMillian

Aerospace Engineering

A certificate, but not a major, is available in this program.

The objective of this multidisciplinary 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.

Program Requirements

Seven courses must be completed to earn the aerospace engineering certificate. The certificate program focuses on upper class courses. All engineering undergraduates are eligible to participate in the program and qualify for certification. Mechanical engineering is the host department, however there is flexibility for majors in other departments to meet the program standards while maintaining program focus and quality. Two courses already required for the primary major are permitted. All students are required to take the foundation course Aircraft Performance, plus at least one course from the core aerospace electives list (aerospace structures, aerodynamics, compressible flow) plus two supporting technical electives (can include relevant independent study). One upper-level Trinity College course from history or public policy involving the impact of technology on society, or an appropriate economics course. See <https://www.mems.duke.edu/undergrad/aerospace-engineering-certificate>.

Architectural Engineering

A certificate, but not a major, is available in this program.

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 Engineering.

Program Requirements

1. Required courses:
 - Civil and Environmental Engineering 311 (Architectural Engineering I)
 - Civil and Environmental Engineering 411 (Architectural Engineering II)
 - Civil and Environmental Engineering 422L (Concrete and Composite Structures)
 - Civil and Environmental Engineering 423L (Metallic Structures)
 - Art History 285 or 285D (Modern Architecture) or Art History 286 or 286D (Contemporary Architecture)
2. One of the following elective courses:
 - Civil and Environmental Engineering 511 (Construction Management)
 - Visual Arts 515S (Representing Architecture: Means and Methods)
 - Environment 590 (Sustainable Cities and Urban Design)
 - Civil and Environmental Engineering 491 and 492¹ (Special Topics in Civil and Environmental Engineering)
 - Civil and Environmental Engineering 421L² (Matrix Structural Analysis)
 - Engineering 201L² (Mechanics of Solids)

¹ Topics for Civil and Environmental Engineering 491/492 must be appropriately related to architectural engineering and approved in advance by Certificate Director.

² Engineering 201L and Civil and Environmental Engineering 421L are only permitted for use in meeting certificate requirements for those students not enrolled in a Civil Engineering (Structures/Mechanics emphasis) degree program.

Biomedical Engineering

Professor Chilkoti, *Chair*; Associate Professor Sommer, *Director of Undergraduate Studies*; Assistant Professor of the Practice Bucholz, *Associate Director of Undergraduate Studies*; Professors Barr, Bellamkonda, Bursac, Grill, Henriquez, Izatt, Katz, Myers, K. Nightingale, Ramanujam, Rubinstein, Segura, Trahey, Truskey, Varghese, Vo-Dinh, von Ramm, Wax, West, You, and Yuan; Associate Professors Collier, Farsiu, Gersbach, Hoffman, Shen, and Wolf; Assistant Professors Dunn, Gong, Horstmeyer, Lynch, Musah, Randles, Tadross, Viventi, and Yao; Professors Emeriti Clark, Friedman, McElhaney, Neu, Reichert, and Smith; Associate Research Professor Bass; Assistant Research Professor Ding; Professors of the Practice Malkin and Saterbak; Associate Professors of the Practice Palmeri and Richardson; Assistant Professor of the Practice Rizk; Lecturer Kim; Instructors Caves, Wallace, and Ward; Senior Lecturing Fellow Fearis; Adjunct Professors Johnson and Wilson; Adjunct Associate Professor R. Nightingale; Adjunct Assistant Professor Shang

A major is available in this department.

The biomedical engineering program is accredited by the Engineering Accreditation Commission of ABET.³ We expect that after graduation, graduates of our program will be on track to become leaders in corporate, professional, and academic communities. In particular, they will:

- advance in their careers in biomedical engineering or related areas of industry, academia, and medicine;
- engage in lifelong learning, for example, by enrolling in graduate or professional degree programs or receiving advanced training for professional advancement;
- utilize their engineering experience in creating new knowledge or enabling technologies for improvement of human health and health care; and
- understand the social and ethical implications of their work.

Biomedical engineering is the discipline in which the physical, mathematical, and engineering sciences and associated technology are applied to biology and medicine. The program is flexible to match the student's interests; options exist for double majors. Each student selects 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 biomechanics and biomaterials, electrobiology, imaging and measurement systems; and molecular, cellular, and tissue engineering. Design experience is integrated throughout the curriculum and includes capstone design courses. Many students gain valuable design experience in the course of independent study projects within the research laboratories of the biomedical engineering department.

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.

Electrobiology laboratories use large-scale computer modeling, scientific visualization, and experimental data acquisition and analysis to increase basic understanding of normal and abnormal electrical activity in the brain, peripheral nerves, and heart tissue. 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 laboratories develop medical imaging methods that leverage the inherent acoustic and mechanical contrast of tissues to improve image quality and provide novel diagnostic information to clinicians. The laboratories are equipped with a variety of state-of-the-art clinical and research-dedicated ultrasound imaging systems, electronics, and acoustic output characterization tools, as well as acoustic and transducer modeling software.

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.

Molecular, cellular and tissue engineering is concerned with the regulation of the external and internal 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:

- (AC) Satisfies an Area Core Class
- (DR) Satisfies the Design requirement
- (GE) Satisfies a Biomedical Engineering General Elective
- (BB) Satisfies a Biomechanics and Biomaterials Advanced Elective
- (EL) Satisfies an Electrobiology Advanced Elective
- (IM) Satisfies an Imaging and Measurement Systems Advanced Elective
- (MC) Satisfies a Molecular, Cellular and Tissue Engineering Advanced Elective

Courses in Biomedical Engineering (BME)

195FS. Medical Instrumentation in the Developing World (GE). STS Medical devices have revolutionized healthcare in the developed world. Yet, this technology revolution has failed to reach the developing world. Compared to the estimated 1.5 million medical devices introduced in the developed world in the last 50 years, only a few dozen pieces of medical equipment have been specifically designed to be appropriate and affordable for resource poor settings. We will examine and discuss the factors that make the research, design & development, introduction & marketing, maintenance and use of medical devices in resource poor settings uniquely challenging conditions. Focus students only. Instructor: Malkin. One course. C-L: Science & Society 195FS

221L. Biomaterials. This course provides an introduction to Materials Science, with an emphasis on the materials and applications relevant to Biomedical Engineering. The course emphasizes the relationships between the structure and properties of materials, with a focus on their mechanical, biological, and surface properties. Electrical, optical, and thermal properties will also be touched upon. Classes of materials to be addressed include metals, polymers, ceramics, gels, and composites. The course will close with an introduction to biocompatibility and the foreign body response. Prerequisite: BME 244L. Instructor: Collier, Varghese. One course.

230L. Global Women's Health Technologies. STS Exploration of the intersection of technology, women's health, and global poverty. Analysis of case studies related to human-centered design and applications of engineering to solve global health challenges. Hands-on learning of engineering concepts related to circuitry and light as well as skills needed to prototype a functional light source. Application of course knowledge in a design challenge based on a need from a real-world client in a low-resource setting. Open to both Trinity and Pratt students. Instructor: Ramanujam. One course. C-L: Global Health 230L

244L. Quantitative Physiology with Biostatistical Applications. An examination of the importance of mass and energy balances, transport processes, mechanics, energetics, and electrical activity in physiological systems. Lectures cover cellular physiology, cardiovascular system, nervous system, muscle physiology, and renal physiology. Labs complement lecture topics and introduce statistical methods related to the measurement and analysis of physiological data. Statistical topics include: descriptive statistics; hypothesis testing; correlation, regression, and goodness of fit; ANOVA and post-hoc tests; power analysis and experimental design. Prerequisite: Engineering 103L and co-/prerequisite: (Biology 201L or Biology 203L) and (Mathematics 212, 216, or 353). Instructor: Wallace, Tadross, or Henriquez. 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. Corequisite: Biomedical Engineering 244L. Prerequisite: Mathematics 212 or 222; Biology 201L or 203L; or consent of the instructor. Instructor: Kim, Saterbak, Truskey, You, or Yuan. One course.

271A. 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. Prerequisite: Biomedical Engineering 253L or Electrical and Computer Engineering 110L; Mathematics 216; or consent of the instructor. Instructor: Bucholz or Malkin. One course.

271D. 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. Prerequisite: Biomedical Engineering 253L or Electrical and Computer Engineering 110L; Mathematics 216; or consent of the instructor. Instructor: Bucholz, Farsiu, Izatt, K. Nightingale, or Rizk. 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.

290L. Intermediate Topics with Lab (GE). Intermediate subjects or selective topics related to programs within biomedical engineering. The course includes laboratory exercises. Consent of instructor required. Instructor: Staff. One course.

301L. Bioelectricity (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. Prerequisite: Biomedical Engineering 244L and (Biomedical Engineering 253L or Electrical and Computer Engineering 110L) and (Mathematics 353 or 353A). Instructor: Bursac, Grill, Gong, Henriquez, or Sommer. One course. C-L: Neuroscience 301L

302L. Fundamentals of Biomaterials and Biomechanics (AC or GE). Principles of materials science and mechanics applicable to orthopedics, cell signaling, medical imaging, implant design, injury prevention and treatment, cardiovascular mechanics, and tissue engineering. Topics include: structure-function relationships of biocomposites; unique properties of biomaterial surfaces; behavior of tissues and materials in physiological environments; mechanics of human movement and physiology; dynamics and vibration; and viscoelastic models. Selected experimental measurements on biomechanical and biomaterial systems. Prerequisite: Biomedical Engineering 244L and (Mathematics 353 or 353A) and Engineering 201L and Mechanical Engineering 221L. Instructor: Hoffman, J. Luck, or Myers. One course.

303L. 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), ultrasound, and nuclear magnetic resonance imaging. Prerequisite: BME 244L; BME 271 or 271A or ECE 280L; junior or senior standing. Graduate students must get permission. Instructor: Bucholz or Yao. One course.

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. Prerequisite: Biomedical Engineering 244L, 260L, and Mathematics 353. Instructor: Katz, Randles, Truskey, Wallace, or Yuan. One course.

354L. Introduction to Medical Instrumentation. 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: Physics 152L; Mathematics 353 or 353A; BME 244L; ECE 110L or BME 253L; BME 271 or BME 271A or ECE 280L; or consent of the instructor. Instructor: Malkin, K. Nightingale, Palmeri, Trahey, Wolf, or Viventi. One course.

390L. Special Topics with a Lab. Topics vary from semester to semester. Instructor: Staff. One course.

390S. Special Topics Seminar in BME. Topics vary from semester to semester. Instructor consent required. Instructor: Staff. 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.

432L. Biomechanics and Vehicle Safety Engineering (DR). Design course dealing with contemporary issues in the biomechanics of injury and motor vehicle safety engineering. Covers international standards for safety in vehicle design. Topics also include: airbag and belt systems, structural vehicle components, accident reconstruction, the biomechanics of injury, anthropomorphic test devices, and injury risk assessment metrics. Problem-based approach where students work as teams on a current engineering problem in dummy design or injury mitigation technology. The teams set design specifications, evaluate the designs use finite element analysis and fabricate the final product using rapid prototyping. Prerequisite: BME 302L; senior standing. Instructor: J. Luck. One course.

436L. Biophotonic Instrumentation (DR). 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. Student teams are presented with a design challenge and work through the steps of engineering design, culminating in building a prototype solution. Lecture topics include engineering design, intellectual property protection, engineering ethics, and safety. Prerequisite: BME 354L; senior standing. Instructors: Izatt or Wax. One course.

460L. Devices for People with Disabilities (DR). 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. Course includes a service-learning component involving work in the community. Prerequisites: BME 354L; senior standing. Instructor: Caves. One course.

462L. Design for the Developing World (DR). 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: BME 354L; senior standing. Instructor: Malkin. One course.

464L. Medical Instrument Design (DR). 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: BME 354L; senior standing. Instructors: Wolf, Palmeri, Richardson, or von Ramm. One course.

473L. Medical Device Design I. This course is the first of a two-semester design sequence that will immerse students in a formal engineering design process. Students will work on authentic design problems identified with Duke Medical Center clinicians and local medical technology companies. Students will develop and determine design feasibility for a device, system, material or process, subject to real-world constraints, including time, money, and resources. Students will be expected to formally communicate design objectives and performance in written and oral form. Corequisite: Biomedical Engineering 354L. Instructor consent required. Instructor: Palmeri or Richardson. One course.

474L. Medical Device Design II. This course is the second of a two-semester design sequence that immerses students in a formal engineering design process working on authentic design problems identified with Duke Medical Center clinicians and local medical technology companies. This second-semester course allows the students to progress through low-to-mid-to-high fidelity prototypes and evaluate their designs in the context of industry standards. Prerequisite: Biomedical Engineering 473L. Instructor: Palmeri or Richardson. One course.

490L. Special Topics in Biomedical Engineering Design (DR). Design of biomedical devices emphasizing formal engineering design principles, as well as building and testing a prototype. Lecture topics include engineering design, intellectual property protection, engineering ethics, and safety. Oral and written reports are required. Used for new design courses in BME. Prerequisites: Senior standing and consent of the instructor. Instructor: Staff. 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.

493-1. 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. Half-credit version of BME 493. Instructor: Staff. Half 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.

494-1. Projects in Biomedical Engineering. 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. Half-credit version of BME 494. Instructor: Staff. Half 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 out using MATLAB. Prerequisites: Biomedical Engineering 301L 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. C-L: Neuroscience 504

505L. Biopotential Amplifiers and Implant Devices (GE, EL, IM). Prerequisite: BME 301L or graduate standing. Instructor: Viventi. One course.

506. Measurement and Control of Cardiac Electrical Events (GE, EL, IM). 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 301L; 354L or instructor consent. Instructor: Wolf. One course.

507. Cardiovascular System Engineering, Disease and Therapy (GE, BB, EL). Introductory and advanced topics in anatomy, physiology, pathophysiology, and modeling of the cardiovascular system. Theoretical and bioengineering concepts of heart electrical and mechanical function and circulatory system at cellular, tissue, and organ level. Computational models of cardiac electrical and mechanical activity and pressures and volumes within circulatory system. Contemporary cell, gene, and device-based therapies for treatment of cardiac and cardiovascular disease. The course enhances students' knowledge of cardiovascular system function with the emphasis of underlying engineering principles. Prerequisites: two of Biomedical Engineering 301L, 302L, 307 or graduate standing in BME. Instructor: Bursac. One course.

510. Bayesian Analysis in Biomedical Engineering (GE, EL). The application of Bayesian statistics to questions in BME broadly with a focus on electrocardiography. Topics include a brief history of Bayesian math in biology and medicine, use of likelihood functions and prior distributions, the Bayesian outlook toward medical diagnosis, the work of Cornfield, Pipberger, and Dunn on the classification of electrocardiograms, and a Bayesian framework for the cardiac inverse problem. The approaches used for these topics can be adapted to many other BME situations. Prerequisites: Senior or graduate standing. Instructor: Barr. One course.

511L. Intermediate Bioelectricity (GE, EL). Study of the origins of clinically-relevant electrical signals,

such as EEG, ECG, or EMG. Generation of biopotentials by active cells, fibers, and tissues. Transmission of biopotentials to the measuring electrodes through intervening tissues; effects of inhomogeneities and anisotropy. Students develop models of biopotentials and learn numerical and mathematical tools for solving and analyzing these models. Laboratory exercises based on computer simulations, with emphasis on quantitative behavior. Readings from original literature. Prerequisite: BME 301L or consent of the instructor. Instructor: Barr or Henriquez. One course. C-L: Neuroscience 511L

512L. Cardiac Bioelectricity (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 301L or equivalent. Instructor: Barr or Henriquez. One course.

513. Introduction to Neurodynamics (GE, EL). Behavior of neurons and neuronal networks examined with methods of nonlinear dynamics. Interpretation in phase space of excitability, spiking, bursting, phase locking, synchronization, competition, and chaos. Applications to the development of novel neurostimulation methods and to understanding dynamic mechanisms behind sensing, learning, memory, and cognition. Readings from the original literature. Instructor: Staff. One course. C-L: Neuroscience 513

515. Neural Prosthetic Systems (GE, EL, IM). Covers several systems that use electrical stimulation or recording of the nervous system to restore function following disease or injury. For each system, the underlying biophysical basis for the treatment, the technology underlying the treatment, and the associated clinical applications and challenges are examined. Systems to be covered include cochlear implants, spinal cord stimulation of pain, vagus nerve stimulation for epilepsy, deep brain stimulation for movement disorders, sacral root stimulation for bladder dysfunction, and neuromuscular electrical stimulation for restoration of movement. Prerequisite: BME 301L or ECE 110L. Instructor: Grill. One course. C-L: Neuroscience 515

517. Neuronal Control of Movement (GE, EL). Course for graduate and upper-level undergraduate students to provide them with an understanding of the neuronal circuits that move our bodies and with techniques for analysis, simulation, and modification of these circuits by neural engineers. Topics start in the periphery with muscles, the spine, and functional electrical stimulation; then proceed centrally to subcortical circuits, deep brain stimulation, and forward models; and conclude with cerebral cortical networks and population decoding. Students are expected to have background in bioelectricity and Matlab programming. Prerequisites: BME 301L or consent of the instructor. Instructor: Sommer. One course. C-L: Neuroscience 507

518L. Modern Neuroscience Tools (GE, IM, EL). QS This course introduces students to the various modern tools used to study the function of the brain, and the underlying biophysics of these tools. Content will focus on novel technologies and techniques that employ electrophysiology and optogenetics. Prerequisite: BME 301L. Instructor: Gong. One course.

521. Biomaterials: Interfaces between Materials and Biology (GE, MC, BB). An examination of the processes that occur when biomaterials are placed into physiological contexts. The course will focus first on processes that occur on the surfaces of materials when exposed to any biological media: surface energy and wettability, protein adsorption, fouling, and biofilm formation. Topics dealing with the performance of biomaterials in humans will then be presented in order of increasing complexity: blood clotting and thrombogenesis, fibrous encapsulation of bioinert materials, inflammatory processes, macrophage polarization, innate immunity, and adaptive immunity. Prerequisite: BME 302L, 307, or graduate student standing. Instructor: Staff. One course.

522. Advanced Biomaterials (GE, BB). This course will provide students with advanced knowledge of biomaterials and biocompatibility and their application in medical devices. Topics covered will include how non-covalent interactions drive protein adsorption and self-assembly of materials, cell-material interactions, bioactive biomaterials, smart materials, microfabrication, and nanotechnology. We will explore application materials in areas such as cardiovascular devices, orthopedic implants, tissue engineering and drug delivery. Prerequisite: BME 302L, graduate standing, or consent of instructor. Instructor: West. One course.

523. Biomedical Polymers (GE, BB, MC). Course covers applications of polymers in medicine, particularly

drug delivery, gene delivery, and tissue engineering. Most recent advances in the field will be discussed. Students' critical understanding of the concepts covered in the class will be evaluated through written and oral presentations. This course is primarily intended for seniors and graduate students. Prerequisites: BME 302L; graduate students need consent of the instructor. Instructor: Staff. One course.

524. Nanotechnology in Medicine (GE, BB, MC). Nanomedicine impacts biomedical sciences by applying nanotechnology to develop devices with nanoscale features for applications in therapeutics, diagnostics, and molecular tools. The course covers the application of nanotechnology to advance drug therapy, gene therapy, immunotherapy, and cell therapy and discusses engineering design and fabrication strategies for practical implementation. Most recent advances in the field will be discussed. Student's critical understanding will be evaluated through written or oral presentations. Prerequisite: BME 302L or BME 307 or permission of the instructor. Instructor: West. 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. Prerequisites: ME 221L or graduate standing in BME or ME; BME 302L recommended. Instructor: Staff. One course. C-L: Mechanical Engineering and Materials Science 518

526. Elasticity (GE, BB). One course. C-L: see Civil and Environmental Engineering 521

527. Cell Mechanics and Mechanotransduction (GE, BB, MC). An examination of 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 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 critically evaluate current literature and analyze models of cell mechanics and mechanotransduction. Prerequisites: BME 302L or BME 307; knowledge of cell biology. Instructor: Hoffman or Truskey. One course.

528. Biofluid Mechanics (GE, BB, MC). 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 or graduate student standing. Instructor: Katz. One course.

529. Theoretical and Applied Polymer Science (GE, BB). One course. C-L: see Mechanical Engineering and Materials Science 514

530. Introduction to Tissue Biomechanics (GE, BB). Introduction to the mechanical behaviors of biological tissues, cells and molecules of the musculoskeletal and cardiovascular systems. Topics to be covered include static force analysis and nonlinear optimization theory; linearly elastic models for stress-strain analysis and solutions to relevant problems in bioelasticity; models of active structures (e.g., muscles); and introductory theory for finite element analysis. Emphasis will be placed on modeling stress-strain relations with relevance to biological tissues, including experimental means to measure stress and strain in these structures. Prerequisites: Engineering 201 or equivalent; Biomedical Engineering 302 or equivalent; Mathematics 353. Instructor: Staff. 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. Prerequisite: Engineering 201L; Mathematics 353. Instructor: Myers, J. Luck. One course.

535. Biomedical Aspects of Blast and Ballistics (GE, BB). Introduction to the biomechanical basis and

medical consequences of human injury from blast and ballistics. Exploration of blast and ballistics injuries in both biomechanics and medicine covering the etiology and state-of-the-art analytic and biomechanical models of human injury. Evolution of medical opinion compared to contemporary knowledge of ballistics and blast. Focus on injuries to the head, neck, thorax, abdomen and extremities, and associated medical consequences, including shock, immune system response, traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD). Prerequisite: Biomedical Engineering 302L, graduate standing, or consent of instructor. Instructor: Bass and Capehart. 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: Biomedical Engineering 303; Engineering 103L; or instructor consent. Instructor: K. Nightingale, von Ramm, or Trahey. One course.

543L. Cardiac Ultrasound Imaging and Function (GE, IM). Course combines medical instrumentation with a contrasting engineering and clinical perspective, with a focus on ultrasound cardiac imaging and measurement. The classroom aspect covers the physical basis of ultrasound cardiac imaging and measurements. The clinical component consists of cardiac anatomy and physiology, case studies, and clinical observations. The course includes two cardiac dissections and a hands-on experience in the Human Anatomy Lab. Students are required to develop image analysis software from supplied clinical 3D images to automatically determine quantitative physical descriptors of cardiac function. Prerequisite: Biomedical Engineering 354L or instructor consent. Instructor consent required. Instructor: von Ramm. One course.

544. Digital Image Processing (GE, IM). Introduction to the theory and methods for digital image sampling, enhancement, visualization, reconstruction, and analysis with emphasis on medical applications. Course Outline: #1: Introduction, history, and applications of image processing. #2: Spatial domain image enhancement. #3: Fourier domain image enhancement. #4: Image registration. #5: Inverse problems (denoising, deblurring, interpolation, and super-resolution). #6: Wavelets and compressive sensing. #7: Biological image processing. Undergraduate courses on signals and systems, probability and statistics recommended; knowledge of Matlab required. Prerequisites: Biomedical Engineering 271 or Electrical and Computer Engineering 280L or consent of the instructor. Instructor consent required. Instructor: Farsiu. One course.

545. Acoustics and Hearing (GE, EL, 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; Mathematics 353. Instructor: Trahey. One course. C-L: Electrical and Computer Engineering 584

546. Magnetic Resonance Imaging: Physical Principles and Sequence Design (GE, IM). An in-depth exploration of the physics and engineering in developing Magnetic Resonance Imaging (MRI). Topics covered include Gradient Recalled Echo, Spin Echo, Inversion Recovery, field of view and resolution constraints/requirements, signal processing, image artifacts, the Bloch Equation, fat suppression techniques, and the derivation of MR signal equation. Prerequisite: Biomedical Engineering 303 or consent of instructor. Instructor: Buchholz. One course.

547. Medical Software Design (GE, IM). QS Software is critical in many medical devices, including device control, feedback and signal processing. This course focuses on software development skills that are ubiquitous in the medical device industry, including software version control, unit testing, fault tolerance, continuous integration testing and documentation. Experience will be gained in Python and JavaScript. The course will be structured around a project, done in small student groups, to build an Internet-connected medical device that measures and processes a biosignal, sends it to a web server, and makes those data accessible to a web client/mobile application. Prerequisite: Biomedical Engineering 271, Biomedical Engineering 271A, or graduate student standing. Instructor: Palmeri, Ward, or Wax. One course.

548L. Machine Learning and Imaging (GE, IM). Deep learning is rapidly changing how we interpret

image data. A large amount of research is now examining how we can use new machine learning tools to automatically interpret microscope, ultrasound and x-ray images, and MRI and CT scans, for example, to aid with diagnostic tasks. In this class, we will review how these machine learning tools work, with a particular focus on how they might be used in a diagnostic setting. This class will also investigate the specific question of how deep learning algorithms can be used to design imaging system hardware to improve performance, which will be the primary focus of the course final project. Prerequisite: BME 303L or graduate standing. Instructor: Horstmeyer. One course.

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 354 and 303; consent of the instructor. Instructor: Wax. One course.

551L. Biomedical Optical Spectroscopy and Tissue Optics (GE, IM). This course is designed to provide students with a working knowledge of the theoretical and experimental principles underlying the application of optical spectroscopy and tissue optics in biological and biomedical engineering. Topics covered in this course include: Absorption Spectroscopy; Scattering Spectroscopy; Fluorescence Spectroscopy; Tissue Optics; Monte Carlo Modeling; Diffusion Modeling; Spectroscopic System Design and Signal to Noise Analysis; and Molecular Imaging. This course also includes labs for each topic that is covered, journal article review on emerging technologies and a term project. Prerequisite: Physics 152L. Instructors: Izatt, Ramanujam, or Wax. One course. C-L: Molecular Cancer Biology 551L

552. Advanced Optics. QS One course. C-L: see Physics 621; also C-L: Electrical and Computer Engineering 541

555. Advances in Photonics (GE, IM). Overview of photonics techniques and their applications. The course will enhance students' understanding and knowledge of advanced techniques and introduce them to a variety of applications in photonics, the science and technology associated with interactions of light with matter. Photonics techniques include: advanced luminescence, Raman and SERS, optical coherence, advanced microscopy, near-field and confocal methods, remote sensing, and optical biosensing. Applications include: environmental sensing, medical diagnostics, assays using optical detection, optics in multispectral imaging, photonics and solar cells, and nanophotonics. Prerequisite: senior or graduate standing in BME or Chemistry. Instructor: Vo-Dinh. One course. C-L: Chemistry 630

560. Molecular Basis of Membrane Transport (GE, EL, MC). 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: BME 260L or instructor consent, Mathematics 216 or equivalent. Instructor: Staff. One course. C-L: Neuroscience 560

561L. Genome Science and Technology Lab (GE, MC). Study of the basic principles of epigenetics, genomics, and human stem cell biology as applied to medical diagnostics and tissue engineering. Focus on engineering of living systems will include collaboration with clinicians, laboratories on DNA/RNA isolation, genotyping, qPCR and stem cell culture; overview of organ on a chip technology and statistical approach to large data towards risk prediction, early detection and disease prevention. Oral and written lab reports required; select projects may be continued as independent study. Instructor consent required. Instructor: Staff. One course. C-L: Computational Biology and Bioinformatics 561L, Science & Society

562. Biology by Design (GE, MC). Engineering biological systems emphasizing synthetic biology and the application of biological/chemical principles to the design of new biomolecules and cellular pathways. Review of primary scientific literature, highlighting contemporary research in this area, including artificial amino and nucleic acids, gene regulatory systems, directed molecular evolution, recombinant antibodies, novel biosynthesis pathways, cell communication, and the design of minimal organisms. Topics are presented with applications such as drug design, discovery, productions, regenerative medicine, and bioremediation. Prerequisite: Biomedical Engineering 244L. Organic chemistry or biochemistry suggested. Instructor consent required. Instructor: Gersbach. One course.

563. Transport Processes in HIV Transmission and Prevention (GE, BB, MC). Application of transport theory to analyze processes of HIV migration to target cells in the mucosa of the lower female reproductive tract. Analysis of the introduction, transport and bioactivity of molecules that inhibit these HIV-infection processes, including those acting topically (microbicides) and those introduced in a variety of drug delivery vehicles: semi-solid materials (gels, films) and solid materials (intravaginal rings). A succession of mathematical models will describe elements of the fundamental biology of this system and analyze the performance of specific products that act prophylactically against HIV infection. Prerequisite: Biomedical Engineering 307 or graduate student standing. Instructor: Katz. One course.

565L. Environmental Molecular Biotechnology (GE, MC). One course. C-L: see 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). Theory and applications of biosensors. Basic principles of interactions between analytes and bioreceptors and various transduction techniques: optical, electrochemical, ion-selective electrode-based, voltametric, conductometric, and mass-sensitive techniques as well as novel nanotechnology-based biosensing systems including nanosensors, plasmonic nanopropes, quantum dots, carbon nanotubes, molecular beacons, and molecular sentinel systems. Applications in chemical, environmental, biological and medical sensing. Paired with Chemistry 601. Prerequisites: senior or graduate standing in BME or instructor's consent. Instructor: 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). Techniques of molecular biology through linked lectures and laboratory exercises with emphasis on molecular tools to manipulate and analyze DNA and RNA for specific molecular bioengineering applications. Lectures cover the genetic code, replication, transcription, translation, cloning vectors for *E. coli*, enzymatic manipulation of DNA, gene cloning, synthetic gene design and assembly, DNA sequencing, polymerase chain reaction, site-directed mutagenesis, overexpression and purification of recombinant proteins. Laboratory exercises, linked to lectures, cover cloning, mutagenesis and recombinant protein expression and purification. Prerequisites: BIO 201L or BME 260L or graduate standing in BME. 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: Mechanical Engineering 221L. Instructor: Chilkoti. One course.

572L. Cancer and Stem Cell Technology. NS This course introduces advanced topics in cancer and stem cell biology as well as emerging areas for clinical applications. Topics include: cancer genetics/epigenetics, signaling and regulatory pathways, tumor microenvironment, cancer metabolism, bioinformatics, precision medicine, immunotherapy, development, embryonic stem cells, adult tissue stem cells, and organoids. Students will learn to perform cancer/stem cell-related molecular and cellular assays. The course comprises lectures, student presentations, computational dry lab, and wet lab experiments. Prerequisite: BME 307. Instructor: Shen. One course.

574. Modeling and Engineering Gene Circuits (GE, MC). 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. C-L: Computational Biology and Bioinformatics 574

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 103L or Computer Science 201); or graduate standing. Instructor: Yuan. One course.

578. Quantitative Cell and Tissue Engineering (GE, BB, 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. Prerequisite: Biomedical Engineering 302L or 307 or PhD student standing. Instructor: Bursac. One course.

590. Special Topics in Biomedical Engineering. Special 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. Special Topics with Lab. To be used as a “generic” course number for any special topics course with lab sections. Instructor: Staff. One course.

601L. Introduction to Neural Engineering. Introduction to neural engineering with emphasis on the electrophysiology of neurons 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. Not open to students who have taken BME 244L, 301L, 302L, 303L, or 307. Instructor: Sommer or Grill. One course.

609. Optics and Photonics Seminar Series. C-L: see Electrical and Computer Engineering 549; also C-L: Physics 549

671L. Signal Processing and Applied Mathematics. This introductory applied mathematics course for graduate students covers the basics of linear systems theory including convolutions, Fourier Series, Fourier Transforms, and Laplace Transforms with emphasis on application to biomedical systems. Students will also get a basic understanding of how to program in MATLAB as they apply the course material to process sounds, images, and other biological signals. Not open to students who have taken BME 271. Instructor: Bucholz. One course.

The Major

The major requirements are included in the minimum total of 34.0 course credits listed under general requirements. The following specific courses or their approved alternatives must be included: Electrical and Computer Engineering 110L; Engineering 201L; Biomedical Engineering 244L, 260L, 271, 354L; Mechanical Engineering 221L; two Area of Interest core classes (Biomedical Engineering 301L, 302L, 303, 307); two Advanced Electives from one selected Area of Interest; another Advanced Elective and one General Elective in biomedical engineering; and one biomedical engineering design course (Biomedical Engineering 427L, 432L, 436L, 460L, 462L, 464L, 490L). The *BME Undergraduate Program Handbook* (available on the departmental website at <https://bme.duke.edu/undergrad/curriculum>) provides updated information and examples of course sequences that incorporate all general requirements and departmental requirements comprising the accredited biomedical engineering major.

To encourage depth in a specific area of biomedical engineering, students select two Areas of Interest in the junior year. There are four areas of interest: (1) biomechanics and biomaterials (BB), (2) electrobiology (EL), (3) imaging and measurement systems (IM), and (4) molecular, cellular, and tissue engineering (MC). Students must take one core class in each of their two selected areas followed by two Advanced Electives in one of the selected areas. All biomedical engineering elective courses have a general elective (GE) designation. Some 500-level course are designated as Advanced Electives, also, and may have one or more area of interest designations (BB, EL, IM, MC). Students are encouraged to consult with their advisors when selecting areas of interest and electives.

Students intending to study abroad should plan to travel in the fall semester of their junior year. These students should consult with both their advisor and the Global Education Office about course planning. Premed students need to take Chemistry 201L and 202L, Biology 201L or 203L, and Biochemistry 301 by the end of the junior year. These students should consult with both their advisor and the Office of Health Professions Advising about course planning. More information about study abroad and premed planning, as well as options for dual majors in electrical and computer engineering, civil engineering, and mechanical engineering, can be found in the *BME Undergraduate Program Handbook* (available at <https://bme.duke.edu/undergrad/curriculum>).

Civil and Environmental Engineering

Professor Wiesner, *Chair*; Professor of the Practice Schaad, *Associate Chair*; Professor of the Practice Nadeau, *Director of Undergraduate Studies*; Professors Aquino, Barros, Bergin, Deshusses, Di Giulio, Dolbow, Doyle, Gavin, Hinton, Hueckel, Kasibhatla, Katul, Knio, Mann, Oren, Petroski, Richardson, Vengosh, Virgin, and Wiesner; Associate Professors Boadu, Borsuk, Ferguson, Gunsch, Hench, Hsu-Kim, Kabala, Li, Meyer, Scovazzi, and Stapleton; Assistant Professors Bragg, Carlson, Guilleminot, Hunt, Jeuland, Kumar, and Veveakis; Professors Emeriti Haff, Medina, and Muga; Associate Professor Emeritus Peirce; Professors of the Practice Nadeau and Schaad; Associate Professor of the Practice Golden; Adjunct Professors Bottero, Germano, Hofmann, Kees, Porporato, Thornton, and Vallero; Adjunct Associate Professors Brasier and Rose; Adjunct Assistant Professor Auffan; Lecturer Saucedo

Two majors are available in this department: civil engineering (CE) and environmental engineering (EnvE). Both the civil engineering degree program and the environmental engineering degree program are accredited by the Engineering Accreditation Commission of ABET.⁴ The environmental engineering degree program, launched in Fall 2013, is highly interdisciplinary and brings together topics as diverse as chemistry, the life sciences, economics, fluid mechanics, and public health engineering. The degree responds to the needs of students looking for such an interdisciplinary engineering degree that prepares them to work as environmental engineers, graduate work in environmental engineering, or for advanced study in environmental law, medicine, public health, or global sanitation.

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

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Accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>.

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 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 lifelong 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 alumni of the CE and EnVE programs are expected to exhibit the following behaviors:

- conceive, communicate, and contribute to effective and sustainable solutions to professional, multi-disciplinary challenges (in, for example, engineering design, project management, consulting, finance, and academia) by utilizing fundamental principles of mathematics, science, and engineering, and employing engineering methods and judgment as needed;
- seek and engage in professional development, including advanced degrees and professional licensure, to enhance their capabilities and personal fulfillment;
- be leaders in their professional and personal communities while responding ethically and boldly when confronted with modern societal and environmental challenges.

Students may pursue either degree program in civil and environmental 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.

Courses in Civil and Environmental Engineering (CEE)

132L. Engineering the Planet. STS Four broad disciplines within civil and environmental engineering will be explored and over-arching experiential projects will apply theory and practice to real-world design problems. The course will examine the societal context of these disciplines and their contributions to and impacts on the built environment. Specifically, the course will examine air, water, land use, shelter, systems, and energy and students will be challenged with issues of economics, social impact, green engineering, sustainable design and building practices. Instructor: Schaad. One course.

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: Gunsch or Schaad. One course.

190. Special Topics in Civil and Environmental Engineering. A course on a special topic within the civil and environmental engineering department. Instructor: Staff. Variable credit.

201L. Uncertainty Design and Optimization. Principles of design as a creative and iterative process involving problem statements, incomplete information, conservative assumptions, constraining regulations, and uncertain operating environments. Parameterization of costs and constraints and formulation of constrained

optimization problems. Analytical and numerical solutions to constrained optimization problems. Evaluation of design solutions via sensitivity and risk analysis. Application to design problems in civil and environmental engineering. Prerequisite: Engineering 201L. Instructor: Borsuk, 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.

290. Special Topics in Civil and Environmental Engineering. A course on a special topic within the civil and environmental engineering department. Half course or one course. Instructor: Staff. Variable credit.

291. Independent Study in Civil and Environmental Engineering. Study arranged on a special topic by an instructor with related interests and expertise. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

292. Independent Study in Civil and Environmental Engineering. Study arranged on a special topic by an instructor with related interests and expertise. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

293. Research Independent Study in Civil and Environmental Engineering. R Research project mentored by an instructor with related interests and expertise. Course may be taken by students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

294. Research Independent Study in Civil and Environmental Engineering. R Research project mentored by an instructor with related interests and expertise. Course may be taken by students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

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: Barros, Bragg, Kabala. One course.

302L. Introduction to Soil Mechanics. Origin and composition of soils, soil structure. Flow of water through soils. Environmental geotechnology: land waste disposal, waste containment, and remediation technologies. Soil behavior under stress; compressibility, shear strength. Elements of mechanics of soil masses with application to problems of bearing capacity of foundations, earth pressure on retaining walls, and stability of slopes. Laboratory included. Prerequisite: Civil and Environmental Engineering 301L. Instructor: Boadu, Hueckel, Veveakis. One course.

311. Architectural Engineering I. ALP, STS Analysis of the building through the study of its subsystems (enclosure, space, structural, environmental-control). Building materials and their principal uses in the enclosure and structural subsystems. Computer aided design. Field trips. Prerequisite: junior or senior standing, consent of instructor for nonengineering students. Instructor: Brasier. One course.

315-20. Engineering Sustainable Design and the Global Community: Structural Focus. QS, STS Design and testing of solutions to complex interdisciplinary design products in a service-learning context with a focus on structural products. 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. Instructor: Schaad. One course. C-L: Environment 365-20, Public Policy 211-20, Human Rights Program-Franklin Humanities Institute 315-20

315-60. Engineering Sustainable Design and the Global Community: Environmental Focus. QS, STS Design and testing of solutions to complex interdisciplinary design products in a service-learning context with a focus on structural products. 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. Prerequisite: Engineering 201L or Electrical and Computer Engineering 110L or consent of instructor. Instructor: Schaad. One course. C-L: Environment 365-60, Public Policy 211-60, Human Rights Program-Franklin Humanities Institute 315-60

365. Hydrologic and Environmental Data Analysis. NS, QS One course. C-L: see Earth and Ocean Sciences 322; also C-L: Environment 322

393. Research Independent Study in Civil and Environmental Engineering. R Research project mentored by an instructor with related interests and expertise. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

394. Research Independent Study in Civil and Environmental Engineering. R Research project mentored by an instructor with related interests and expertise. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

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 and Environmental Engineering 311 or consent of instructor. Instructor: Brasier. One course.

421L. Matrix Structural Analysis. Development of stiffness matrix methods from first principles. Superposition of loads and elements. Linear analysis by hand and computer of plane and space structures comprising one-dimensional truss and beam elements. Prerequisites: Engineering 201L and Mathematics 216. Instructors: Aquino, Gavin, Guilleminot, Scovazzi, or Virgin. 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 forming the foundation of the methodology is featured. Laboratory work on properties of aggregates, concrete, and reinforced concrete. Prerequisite: Engineering 201L. Instructor: Nadeau. One course.

423L. Metallic Structures. Design of tension, compression, and flexural members. Bolted and welded connections. Design by LRFD methodology. Selected laboratory work. Prerequisite: Engineering 201L. Instructor: Nadeau. One course.

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. Environmental Aquatic Chemistry. Principles of chemical equilibria and kinetics as applied in environmental engineering and science processes. Topics include acid-base equilibrium, the carbonate system, metal complexation, oxidation/reduction reactions, mineral phase solubility and surface sorption. Applied environmental systems include water treatment, soil remediation, air pollution and green engineering. Laboratory included. Prerequisite: Chemistry 20 or 21 or 101DL or 110DL or 201DL. Instructor: Ferguson, Hsu-Kim. One course. C-L: Energy and the Environment

462L. Applied Biological Principles and Processes in Environmental Engineering. Fundamentals of microbiology as it relates to biological environmental engineering processes. Topics include microbial metabolism, microbial kinetics and stoichiometry, and bioreactor models. Applications include unit processes in wastewater treatment, bioremediation, bioreactors, waste to bioenergy. Laboratory included. Recommended for juniors and above. Instructor: Deshusses, Gunsch. One course. C-L: Energy and the Environment

463L. Water Resources Engineering. Descriptive and quantitative hydrology, hydraulics of pressure conduits and measurement of flow, compound pipe systems, analysis of flow in pressure distribution systems, open channel flow, reservoirs and distribution system storage. Groundwater hydrology and well-hydraulics. Probability and statistics in water resources. Selected laboratory and field exercises, computer applications.

Prerequisite: Civil and Environmental Engineering 301L. Instructor: Barros, Kabala, Schaad. One course.

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, 462L, and 463L. Instructor: Schaad. One course. C-L: Global Health

490. Special Topics in Civil and Environmental Engineering. A course on a special topic within the civil and environmental engineering department. Instructor: Staff. Variable credit.

491. Independent Study in Civil and Environmental Engineering. Study arranged on a special topic by an instructor with related interests and expertise. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

492. Independent Study in Civil and Environmental Engineering. Study arranged on a special topic by an instructor with related interests and expertise. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

493. Research Independent Study in Civil and Environmental Engineering. R Research project mentored by an instructor with related interests and expertise. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

494. Research Independent Study in Civil and Environmental Engineering. R Research project mentored by an instructor with related interests and expertise. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor and director of undergraduate studies required. Half course or one course. Instructor: Staff. Variable credit.

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.

502. Engineering Data Analysis. Introduction to the statistical error analysis of imprecise data and the estimation of physical parameters from data with uncertainty. Interpolation and filtering. Data and parameter covariance. Emphasis on time series analysis in the time- and frequency-domains. Linear and nonlinear least squares. Confidence intervals and belts. Hypothesis testing. Introduction to parameter estimation in linear and nonlinear dynamic systems. Prerequisite: graduate standing or instructor consent. Instructors: Boadu, Gavin. One course.

511. Construction Management. This course is a broad overview of the roles and responsibilities of the construction management engineer. Included in this is an examination of: Project Management Planning, Cost Management, Time Management, Quality Management, Contract Administration, and Safety Management. Topics covered will include: defining the responsibilities and management structure of the project management team, organizing and leading by implementing project controls, defining roles and responsibilities and developing communication protocols, and identifying elements of project design and construction likely to give rise to disputes and claims. Field trips. Instructor: Schaad. One course.

520. Continuum Mechanics. Tensor fields and index notation. Analysis of states of stress and strain. Conservation laws and field equations. Constitutive equations for elastic, viscoelastic, and elastic-plastic solids. Formulation and solution of simple problems in elasticity, viscoelasticity, and plasticity. Instructors: Hueckel or Nadeau. One course.

521. 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: Engineering 201L; Mathematics 353. Instructor: Staff. One course. C-L: 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: Aquino, Dolbow, or Scovazzi. One course. C-L: Mechanical Engineering and Materials Science 524

531. Finite Element Methods for Problems in Fluid Mechanics. An extensive introduction to finite element methods for fluid flow problems, covering methods for general transport problems, the compressible Euler and Navier-Stokes equations, the incompressible Navier-Stokes equations, and subsurface flows in porous media. Knowledge on the foundations of numerical analysis and finite elements (i.e., structural mechanics or thermal transfer problems) is advisable but not a prerequisite. Taking this course in conjunction with CEE 530 (254) "Introduction to the Finite Element Method", CEE 630 (255) "Nonlinear Finite Element Analysis", or CEE 635 (256) "Computational Methods for Evolving Discontinuities" should also be considered by students. Instructor: Scovazzi. One course.

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. One course.

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.

551. Isotopes in Earth and Environmental Sciences. NS, QS, STS One course. C-L: see Earth and Ocean Sciences 571; also C-L: Environment 570

560. Environmental Transport Phenomena. Principles of mathematical modeling of environmental systems. Mass balances, ideal reactor models for lakes, rivers, atmospheric systems, and population dynamics. Derivation of Navier-Stokes equations, advective diffusion equation, mass transfer and fluid dynamics. Conservation principles in the atmosphere and bodies of water, fundamental equations for transport in the atmosphere and bodies of water, scaling principles, simplification, turbulence, turbulent transport and boundary layers. Instructor: Wiesner. One course.

561L. Environmental Aquatic Chemistry. Principles of chemical equilibria and kinetics as applied in environmental engineering and science processes. Topics include acid-base equilibrium, the carbonate system, metal complexation, oxidation/reduction reactions, mineral phase solubility and surface sorption. Applied environmental systems include water treatment, soil remediation, air pollution and green engineering. Graduate-level requirements include specific laboratory work and written assignments. Open to graduate students; instructor consent required for undergraduates. Not open to students who have taken CEE 461L. Instructor: Ferguson, Hsu-Kim. One course. C-L: Environment 542L

562L. Applied Biological Principles and Processes in Environmental Engineering. Fundamentals of microbiology as it relates to biological environmental engineering processes. Topics include microbial metabolism, microbial kinetics and stoichiometry, and bioreactor models. Applications include unit processes in wastewater treatment, bioremediation, bioreactors, waste to bioenergy. Laboratory included. Graduate-level requirements include a term paper and/or a project. Open to graduate students; instructor consent required for undergraduates. Not open to students who have taken CEE 462L. Instructor: Deshusses, Gunsch. 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: Wiesner. 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. One course. 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: Staff. One course.

571. Control of Hazardous and Toxic Waste. Engineering solutions to industrial and municipal hazardous waste problems. Handling, transportation, storage, and disposal technologies. Biological, chemical, and physical processes. Upgrading abandoned disposal sites. Economic and regulatory aspects. Case studies. Consent of instructor required. Instructor: Staff. One course.

574. Remote Sensing in Coastal Environments. NS, QS One course. C-L: see Earth and Ocean Sciences 530; also C-L: Environment 530

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: Staff. 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: Staff. 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: Staff. 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.

621. Plasticity. Inelastic behavior of soils and engineering materials. Yield criteria. Flow rules. Concepts of perfect plasticity and plastic hardening. Methods of rigid-plasticity. Limit analysis. Isotropic and kinematic hardening. Plastic softening. Diffused damage. Thermo-plasticity. Visco-plasticity. Prerequisite: Civil and Environmental Engineering 520 or consent of instructor. Instructor: Hueckel. One course.

622. Fracture Mechanics. Theoretical concepts concerning the fracture and failure of brittle and ductile materials. Orowan and Griffith approaches to strength. Determination of stress intensity factors using compliance method, weight function method, and numerical methods with conservation laws. Cohesive zone models, fracture toughness, crack growth stability, and plasticity. Prerequisites: Civil and Environmental Engineering 520, or instructor consent. Instructor: Dolbow. 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. Derivation of equations for wave motion in simple structural shapes: strings, longitudinal rods, beams and membranes, plates and shells. Solution 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: 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 Mecahnical Engineering 344, or consent of instructor. Instructor: Staff. One course. C-L: Mechanical Engineering and Materials Science 627

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. Optimal filtering and control of stochastic systems. Continuous-time Poisson counters and Wiener processes. Introduction to stochastic (Ito) calculus. Continuous-time nonlinear and nonstationary stochastic processes, and the Fokker-Plank equations. Failure analysis and first-passage reliability analysis for continuous-time dynamic systems. Introduction to approximate analysis of nonlinear stochastic systems. Prerequisites: Statistical Science 130 and Civil and Environmental Engineering 627. Instructor: Staff. One course.

629. System Identification. Numerical linear algebra for modeling and filtering data (FFT, SVD, QR, and PCA); ordinary least squares, total least squares, and recursive least squares; measurement noise and propagation of measurement error; regularization; optimal linear filtering; state-space models, eigensystem realization, deterministic and stochastic subspace identification through projections and canonical correlation. Applications drawn from engineering, natural sciences, and finance. Instructor: Gavin. One course.

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.
Instructors: Aquino, Dolbow, or Scovazzi. 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.

641. Advanced Soil Mechanics. Characterization of behavior of geomaterials. Stress-strain incremental laws. Nonlinear elasticity, hypo-elasticity, plasticity and visco-plasticity of geomaterials; approximated laws of soil mechanics; fluid-saturated soil behavior; cyclic behavior of soils; liquefaction and cyclic mobility; elements of soil dynamics; thermal effects on soils. Prerequisite: Civil and Environmental Engineering 302L or equivalent. Instructor: Hueckel. One course.

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.

644. Inverse Problems in Geosciences and Engineering. Basic concepts, theory, methods of solution, and application of inverse problems in engineering, groundwater modeling, and applied geophysics. Deterministic and statistical frameworks for solving inverse problems. Strategies for solving linear and nonlinear inverse problems. Bayesian approach to nonlinear inverse problems. Emphasis on the ill-posed problem of inverse solutions. Data collection strategies in relation to solution of inverse problems. Model structure identification and parameter estimation procedures. Prerequisite: Mathematics 353 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.

646. Plates and Shells. Differential equation and extremum formulations of linear equilibrium problems of Kirchhoffian and non-Kirchhoffian plates of isotropic and aelotropic material. Solution methods. Differential equation formulation of thin aelotropic shell problems in curvilinear coordinates; membrane and bending theories; specialization for shallow shells, shells of revolution, and plates. Extremum formulation of shell problems. Solution methods. Prerequisites: (Civil and Environmental Engineering 421L or Mechanical Engineering 321L) and Mathematics 353. Instructor: Virgin. One course. C-L: Mechanical Engineering and Materials Science 626

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. Instructor: Virgin. One course. C-L: Mechanical Engineering and Materials Science 527

648. Multivariable Control. Synthesis and analysis of multivariable linear dynamic feedback compensators. Standard problem formulation. Performance norms. Full state feedback and linear quadratic Gaussian

synthesis. Lyapunov and Riccati equations. Passivity, positivity, and self-dual realizations. Nominal performance and robust stability. Applications to vibration control, noise suppression, tracking, and guidance. Prerequisite: a course in linear systems and classical control, or consent of instructor. Instructor: Bushnell, Clark, or Gavin. One course. C-L: Mechanical Engineering and Materials Science 548

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.

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 speciation, mineral weathering and stability, sorption and ion exchange, soil redox processes, and chemical kinetics at environmental surfaces. Prerequisites: CEE 461L or CEE 561L/ENVIRON 542L or permission of instructor. Instructor: Hsu-Kim. One course. C-L: Environment 666

667. Chemical Transformation of Environmental Contaminants. Mechanisms and principles underlying organic contaminant transformations in the ambient environment. Topics include hydrolysis, oxidation/reduction, direct and indirect photolysis, and reactions with disinfectant chemicals. Reactions will be considered in context of both natural (e.g. surface water and groundwater) and engineered (e.g. drinking water, wastewater, and groundwater remediation) systems. Approaches will include both qualitative (reaction mechanism and product identification) as well as quantitative (reaction kinetics and stoichiometry) aspects of environmental reaction chemistry. Prerequisites: CEE 563/ENVIRON 540 or one semester of organic chemistry. Instructor: Ferguson. One course. C-L: Environment 667

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: Staff. One course.

683. Groundwater Hydrology and Contaminant Transport. Review of surface hydrology and its interaction with groundwater. The nature of porous media, hydraulic conductivity, and permeability. General hydrodynamic equations of flow in isotropic and anisotropic media. Water quality standards and contaminant transport processes: advective-dispersive equation for solute transport in saturated porous media. Analytical and numerical methods, selected computer applications. Deterministic versus stochastic models. Applications: leachate from sanitary landfills, industrial lagoons and ponds, subsurface wastewater injection, monitoring of groundwater contamination. Conjunctive surface-subsurface models. Prerequisite: Civil and Environmental Engineering 301L, or consent of instructor. Instructor: Kabala. 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. Ecohydrology. 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: Staff. One course.

688. Turbulence 1. This is an introductory course on the subject of turbulence in fluids. The focus is on understanding the fundamental physical processes and mechanisms governing the behavior of turbulent flows. The course covers the following—overview of physical and mathematical properties of Navier-Stokes equation;

kinematics, dynamics and energetics of turbulent flows; Kolmogorov theories of turbulence; Richardson energy cascade; wall-bounded turbulent flows; particle dispersion, clustering and collisions in turbulent flows. Prerequisite: ((CEE 301L or ME 336L) and Mathematics 353) or graduate standing. Recommended prerequisite: an introductory course on fluid mechanics, and a course on differential equations. Instructor: Bragg. One course. C-L: Mechanical Engineering and Materials Science 634

690. Advanced Topics in Civil and Environmental Engineering. A course on an advanced topic within the civil and environmental engineering department. Instructor: Staff. Variable credit.

The Major

Civil Engineering

Major Requirements. The major requirements for civil engineering (CE) are included in the minimum of 34.0 course credits listed under general requirements and departmental requirements.

Meeting the departmental requirements together with the four engineering and applied science courses from the general requirements requires that the following courses must be included. All majors must take Engineering 101L, 201L, 244L and 305; Civil and Environmental Engineering 132L, 201L, 301L, 302L; and Statistical Science 130. All majors must complete at least one concentration: structural engineering and mechanics (S/M) or environmental engineering and water resources (E/W). Majors choosing the structural engineering and mechanics concentration (S/M) must take Civil and Environmental Engineering 421L, 422L, 423L and 429. Majors choosing the environmental engineering and water resources concentration (E/W) must take Civil and Environmental Engineering 461L, 462L, 463L and 469. To complete the engineering and applied sciences general requirement, all majors must take one of the following (electrical science, information and computer science, materials science, thermal science, and transfer processes) courses: 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 structural engineering and mechanics concentration may take Civil and Environmental Engineering 461L, 463L, or 462L; students completing the environmental engineering and water resources concentration may take Civil and Environmental Engineering 421L, 422L, or 423L). All majors must take two civil and environmental engineering electives at the 300 level, or higher. All majors have a total of two unrestricted electives.

Toward fulfilling the general requirements, the following elective options must be selected from the following courses. The natural science requirement is satisfied by completing Biology 201L, 215/215L, 275A, 311, Earth and Ocean Sciences 101, 102, 201L, 202, or 370A. At least one of the five courses used to satisfy the humanities and social sciences requirement, or an approved alternate course, must possess an ethical inquiry (EI) code.

A sample, semester-by-semester sequencing of the requirements for the major is provided in the CEE Undergraduate Handbook, which is available online at <https://cee.duke.edu/undergrad/degrees/ce-planning>. Students planning to attend graduate school are strongly advised to use the unrestricted electives to take at least one additional civil and environmental engineering elective, with at least one of them at the 500 level or higher.

Environmental Engineering

Major Requirements. The major requirements for environmental engineering (EnvE) are included in the minimum of 34.0 course credits listed under general requirements and departmental requirements.

Meeting the departmental requirements together with the four engineering and applied science courses from the general requirements requires that the following courses must be included. All majors must take Engineering 101L, 201L, and 244L; Civil and Environmental Engineering 132L, 301L, 302L, 461L, 462L, 463L, 469, 560; and Statistical Science 130. All majors must take Engineering 305 or Civil and Environmental Engineering 201L. All majors must take an approved earth science course. All majors must take an approved thermodynamics course. All majors must take two approved upper-level environmental courses. All majors have two unrestricted electives. Approved earth science electives are Earth and Ocean Sciences 101, 102, 201L, 202, 315, 323, and Civil and Environmental Engineering 666. Approved thermodynamics courses are Mechanical Engineering 331L. Approved upper-level environmental electives are Chemistry 201DL, 202L; Civil and Environmental Engineering 307, 315-60, 563, 564, 565, 566, 667, 575, 661L, 666, 667, 683, 684; Engineering 424L; and Environment 535.

Toward fulfilling the general requirements, the following elective options must be selected from the following courses. The natural science requirement is satisfied by completing an approved biology course. Approved Biology

courses are 201L, 202L, and 212L. At least one of the five courses used to satisfy the humanities and social sciences requirement, or an approved alternate course, must possess an ethical inquiry (EI) code.

A sample, semester-by-semester sequencing of the requirements for the major is provided in the CEE Undergraduate Handbook, which is available online at <https://cee.duke.edu/undergrad/degrees/enve-planning>.

Electrical and Computer Engineering

Professor Chakrabarty, *Chair*; Professor of the Practice Huettel, *Associate Chair and Director of Undergraduate Studies*; Professors Brady, A. Brown, Calderbank, Carin, Chakrabarty, Chen, Collins, Cummer, Cummings, Curtarolo, Daubechies, Donald, Fair, Glass, Grill, Izatt, Joines, Jokerst, Kim, Krolik, Lebeck, X. Li, Litchinitser, Liu, Lo, Maggs, Massoud, Nolte, Nowacek, Padilla, Pfister, Reif, Rudin, Samei, Sapiro, Smith, Sorin, Stiff-Roberts, Tarokh, and Trivedi; Associate Professors Bartesaghi, Board, Brooke, K. Brown, Farsiu, Franklin, Gehm, Lee, H. Li, Mazurowski, Mikkelsen, Peterchev, Shen, Yang, and Zavlanos; Assistant Professors Carlson, Goetz, Gong, Gorlatova, Heller, Henao, Horstmeyer, Marvian, Pajic, Pearson, Reeves, Wills, and Xu; Professors Emeriti Casey, George, Marinos, and Wang; Professor of the Practice Huettel; Associate Professors of the Practice Daily, Gustafson, Hilton, and Tantum; Assistant Professors of the Practice Bletsch, Lipp, and Younes; Research Professor Stoner; Associate Research Professors Amsden, Greenberg, Grego, and Marks; Assistant Research Professors Di Martino, Fan, Malof, and Q. Qiu; Adjunct Professors Derby, J. Qiu, and Wilson; Adjunct Associate Professor Morizio; Adjunct Assistant Professors Fahmy, Goss, Hineman, Hower, Kundtz, Larouche, Liao, Remus, Rogers, Urzumov, and Wang

The educational mission of the Department of Electrical and Computer Engineering is to graduate electrical and computer engineers who embody excellence in a broad sense. We expect our graduates to advance within industry positions or in graduate study, or to carry the attributes of an engineering education into other disciplines. The electrical and computer engineering program of study must include mathematics and basic sciences, fundamentals, and 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. Our electrical and computer engineering graduates should be able to think critically when solving problems and managing tasks and communicate effectively in multidisciplinary professional environments. 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. We aspire to have our graduates exhibit intellectual depth and creativity, uphold high ethical standards, and show a commitment to the betterment of society through service and professional work.

To this end, the specific program educational objectives that we look for in our graduates are that they

- advance professionally in their chosen field;
- contribute to their professional community and to society; and
- engage in lifelong learning in professional and personal endeavors.

The electrical and computer engineering (ECE) program is fully accredited by the Engineering Commission of ABET⁵ 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 twelve 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 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

5 Accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>.

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 more 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, and physics. Interests such as pre-medicine, pre-law, art, music, psychology, and social sciences can be accommodated through individually designed programs. Students are encouraged to take more than 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.

Courses in Electrical and Computer Engineering (ECE)

110L. Fundamentals of Electrical and Computer Engineering. Students learn core ECE concepts, providing a foundation on which subsequent courses build. Concepts include techniques for analyzing linear circuits, semiconductor and photonic devices, frequency representation, filtering, 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. Course culminates in an exciting competition in which teams of robots race to overcome challenging obstacles using sensor data acquisition and processing. Prerequisite/corequisite: (Engineering 103L or Computer Science 201) and (Mathematics 112L or 22 or equivalent). Instructor: Daily, Gustafson, Huettel, Smith, or Tantum. One course.

230L. Introduction to Microelectronic Devices and Circuits. Introduction to semiconductor materials and their corresponding electronic devices and circuits. In lab, students will perform photolithography and characterize devices and circuits. Lecture will cover: underlying physics of semiconductor materials; operation of semiconductor devices, including diodes and transistors (MOSFETs); and application of MOSFETs into digital circuits. Students will understand basic operation of semiconductor devices in a way that is foundational for the expansive semiconductor industry. Prerequisite: (Engineering 103L or Computer Science 201) and (Physics 152L or 26) and (Electrical and Computer Engineering 110L or Biomedical Engineering 253L). Instructor: Brown, Franklin, Massoud, Stiff-Roberts. One course.

250D. Computer Architecture. Computer structure, assembly language, instruction execution, addressing techniques, and digital representation of data. Computer system organization, logic design, microprogramming, cache and memory systems, and input/output interfaces. Prerequisite: Computer Science 201. Instructor: Bletsch, Board, Lebeck, Lee, Sorin, or Wills. One course. C-L: Computer Science 250D

270DL. Fields and Waves: Fundamentals of Information Propagation. Introduces the concept of fields—a mathematical description of physical quantities that vary from place to place (and potentially from time to time)—and explores the mathematical and physical reasons that oscillatory behavior is so ubiquitous across engineering and physics. Introduces the mathematical foundations, followed by specific examples in electrical circuits, electromagnetic waves, quantum mechanics, and acoustics as well as the connection to Fourier analysis methods. Intended to facilitate subsequent study in any area involving wave phenomena, including analog and microwave circuits, electromagnetics, optics, and quantum mechanics. Prerequisite: Physics 152L or 26, Mathematics 212 or 222, and ECE 110L. Instructor: Brady, Brown, Carin, Cummer, Gehm, Joines, Liu, Padilla, 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

103L or Computer Science 201) and (Electrical and Computer Engineering 110L or Biomedical Engineering 253L). Instructor: Collins, Gustafson, Huettel, or Tarokh. One course.

290. Special Topics in Electrical and Computer Engineering. Study arranged on a special electrical and computer engineering topic in which the faculty has particular interest and competence as a result of research and professional activities. Instructor consent required. Instructor: Staff. One course.

291. Projects in Electrical and Computer Engineering. Project arranged on a special topic by an instructor with related interests and expertise. For sophomore students. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Variable credit.

292. Projects in Electrical and Computer Engineering. Project arranged on a special topic by an instructor with related interests and expertise. For sophomore students. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Variable credit.

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.

330L. Fundamentals of Microelectronic Devices. Fundamentals of semiconductor device physics (semiconductor technology, dopants and carrier concentrations, carrier drift and diffusion, semiconductor equations, semiconductor device models). Principles of semiconductor device analysis (current-voltage and capacitance-voltage characteristics). Static, small-signal, and dynamic operation of semiconductor contacts, PN-junction diodes, MOS capacitors, MOS field-effect transistors (MOSFETs), and bipolar-junction transistors (BJTs). SPICE models and parameter extraction. Fabrication and electrical characterization of MOS capacitors in the Shared Materials Instrumentation Facility (SMIF). Prerequisite: ECE 230L. Instructor: Massoud. One course.

331L. Fundamentals of Microelectronic Circuits. Analysis and design of electronic circuits in bipolar and MOS technologies, with emphasis on both large-signal and small-signal methods. Circuits for logic gates, latches, and memories. Single-stage and multistage amplifiers and op amps. Circuits with feedback, including stability and frequency response considerations. Analog and mixed analog/digital circuit applications. Extensive use of SPICE for circuit simulation. Prerequisite: Electrical and Computer Engineering 230L. Instructor: Brooke, Derby, or Fair. One course.

340L. Optics and Photonics. NS One course. C-L: see Physics 320L; also C-L: Visual and Media Studies 325L

341L. Solar Cells. A broad overview of solar cells, including solar radiation, device theory, materials options, device fabrication and characterization, and system-level issues. Students participate in hands-on laboratory exercises related to the fabrication and characterization of organic, photovoltaic solar cells. Prerequisite: Physics 152L or equivalent. Instructor: Brown or Stiff-Roberts. One course.

350L. Digital Systems. Design and implementation of combinational and sequential digital systems with special attention to digital computers. The use of computer-aided design tools, hardware description languages, and programmable logic chips to facilitate larger and higher performance designs will be stressed. Laboratory exercises and group design projects will reinforce the various design techniques discussed in class. Prerequisite: Electrical and Computer Engineering 250D or Computer Science 250. Instructor: Board, Hilton, Lee, Sorin, Younes. One course. C-L: Computer Science 350L, Information Science + Studies

353. Introduction to Operating Systems. QS One course. C-L: see Computer Science 310

356. Computer Network Architecture. One course. C-L: see Computer Science 356; also C-L: Information Science + Studies

364. Performance and Technology: Composition Workshop. ALP, STS One course. C-L: see Dance 308; also C-L: Theater Studies 364, Information Science + Studies 376

380. Introduction to Random Signals and Noise. Introduction to probability and random processes with example applications to processing data with uncertainty. Probability, conditional probability, discrete and continuous random variables, expected values, characteristic functions, multiple random variables. Intro

to random processes, random discrete-time signals, power spectrum, autocorrelation, analysis of linear systems driven by wide-sense stationary random processes. Gaussian random processes, band limited white Gaussian noise. Intro to binary hypothesis testing, Bayesian signal detection, applications involving uncertain and random signals and noise. Can fulfill ECE free elective or ECE stats requirement. Prerequisite: ECE 280L, Mathematics 212. Instructor: Nolte. One course.

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. Instructor: Huettel or Nolte. One course.

382L. Control of Dynamic Systems. One course. C-L: see Mechanical Engineering and Materials Science 344L

383. Introduction to Robotics and Automation. Fundamental notions in robotics, basic configurations of manipulator arm design, coordinate transformations, control functions, and robot programming. Applications of artificial intelligence, machine vision, force/torque, touch and other sensory subsystems. Design for automatic assembly concepts, tools, and techniques. Application of automated and robotic assembly costs, benefits, and economic justification. Selected laboratory and programming assignments. Prerequisites: ECE 280L or EGR 224L. Instructor: Staff. One course. C-L: Mechanical Engineering and Materials Science 442, Information Science + Studies

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, Biology 279LA, Marine Sciences, Marine Science and Conservation

391. Projects in Electrical and Computer Engineering. Project arranged on a special topic by an instructor with related interests and expertise. For junior students. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Variable credit.

392. Projects in Electrical and Computer Engineering. Project arranged on a special topic by an instructor with related interests and expertise. For junior students. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Variable credit.

431. Power Electronic Circuits for Energy Conversion. Efficient conversion of electrical energy is critical for electric and hybrid vehicles, wind and solar energy, power grids, computers, medical devices, and portables. This course teaches analysis and design of power electronic circuits for energy conversion, including circuit operation (converter topologies, steady-state modeling, switch realization), converter control (ac modeling, small-signal transfer functions, feedback), and magnetics (inductors, transformers). The course shares lectures with ECE/Energy Engineering 531, but has fewer assignments. Prerequisite: ECE 230L or Engineering 224L or graduate student standing. Not open to students who have taken ECE 531 or Energy Engineering 531. Instructor: Peterchev. One course. C-L: Energy Engineering 431

449. Sensors and Sensor Interface Design. Teams design board-level sensing system that achieves stated specifications. Analog, digital, wireless, optical, and fluidic components. Resource planning/management, project budgeting, study of component specifications and characteristics, vendor interaction, circuit schematic design & simulation, board layout, submission to foundry, component solder assembly, system test, comparison to design specs. Cost, economic viability, ethical and environmental issues, manufacturability considered. Prerequisite: ECE 230, 250D, 270DL, and 280L and (Mathematics 353 or 356) and (Statistical Science 130L or Mathematics 230 or ECE 555 or ECE 380 or Statistical Science 240L or EGR 238L or Mathematics 238L or Mathematics 340) and (Physics 152L or 26) and (Chemistry 101DL or 20 or 21) and one of (ECE 330L or ECE 331L or ECE 340L). Instructor: Brooke, Jokerst. One course.

458. Engineering Software for Maintainability. Students will refine their ability to engineer software, with a focus on maintainability. Teams complete a large programming project whose requirements undergo evolutions during the semester. Prior to each evolution, teams submit not only their code for the current requirements, but also a written document analyzing their current design and reflecting on how past design

choices impacted their most recent work. Teams must consider appropriate engineering standards and realistic constraints. Prerequisite: ECE 230L, 250D, 270DL, and 280L and (Computer Science 308 or 307D) and (Mathematics 353 or 356) and (Statistical Science 130L or Mathematics 230 or ECE 555 or ECE 380 or Statistical Science 240L or EGR 238L or Mathematics 340) and (Physics 152L or 26) and (Chemistry 101DL or 20 or 21). Instructor: Bletsch or Hilton. 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: ECE 230L and 250D and 270DL and 280L and (ECE 350L, 331L, or 330L) and (Mathematics 353 or 356) and (Physics 152L or 26) and (Chemistry 101DL, 20, or 21) and (Statistical Science 130, Mathematics 230, ECE 555, ECE 380, Statistical Science 240L, Engineering 238L, or Mathematics 340). Instructor: Board or Pajic. One course.

461. Ocean Engineering. A challenging Ocean Engineering project will be undertaken in this class. Past examples include participation in a national XPRIZE contest to build an Ocean Sensor. Students define project scope and form task-oriented sub-teams to make significant progress toward overall class project goal. Students are expected to spend several hours per week outside of class working on the team projects. Students will need to be in teams that can all meet for at least couple of hours at the same time each week. Prerequisite: one of ECE 230L, ECE 250D, ECE 270DL, ECE 280L, Mechanical Engineering 221L, Engineering 244L, or Environment 102. Instructor: Brooke, Nowacek. One course. C-L: Environment 461, Mechanical Engineering and Materials Science 426

480. Applied Probability for Statistical Learning. This course discusses topics in Bayesian probability and its application to foundations of statistical learning. The primary objectives of the course are to provide a mathematically rigorous foundation in Bayesian probability and inference, develop strong intuition for Bayesian constructs, provide a foundation in statistical learning, and to show how Bayesian methods are fundamental to a variety of modern statistical learning techniques. Topics include probabilistic reasoning, Bayesian inference, linear models, mixture models, and model selection. Prerequisite: (Mathematics 216, 218, or 221) and (Statistical Science 130L, Statistical Science 240L, Mathematics 230, Mathematics 340, ECE 380, ECE 555, or EGR 238L) and (EGR 103L, Computer Science 101L, or Computer Science 201). Instructor: Tantum. One course.

483. Introduction to Digital Communication Systems. Introduction to the design and analysis of modern digital communication systems. Communication channel characterization. Baseband and passband modulation techniques. Optimal demodulation techniques with performance comparisons. Key information-theoretic concepts including entropy and channel capacity. Channel-coding techniques based on block, convolutional and Trellis codes. Equalization techniques. Applications to design of digital telephone modems, compact discs and digital wireless communication systems. Prerequisite: ECE 280L and one of (Statistical Science 130L or Statistical Science 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or Engineering 238L). Instructor: Calderbank or Krolik. One course.

485. Digital Audio and Acoustic Signal Processing. Fundamental concepts, theory & practice of digital audio and acoustic signal processing. Concerning the process of transducing, digitizing, filtering, transforming, coding, storing, manipulating, transmitting, distributing, analyzing & reproducing high quality music and other acoustic signals. Topics: signal quantization, discrete-time signal analysis, audio digital filtering and equalization, hearing for audio applications, audio perceptual encoding (e.g. MP3), time and pitch-scale modification, room acoustics, audio spatial effects, 3-D audio rendition, basic microphone array processing. Prerequisite: ECE 280L and one of (Statistical Science 130L or Statistical Science 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or Engineering 238L). Instructor: Krolik or Pfister. 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.

Prerequisite: Electrical and Computer Engineering 280L. Instructor: Collins or Wang. One course. C-L: Information Science + Studies

489. Advanced Robot System Design. Teams of students will design, implement, and integrate a robotic system to perform intelligent physical tasks. Example tasks might include navigation, coordinated movement, or object manipulation, among others. Perception, control, and artificial intelligence software will be applied to operate sensing and actuation hardware. Robot middleware for distributed system integration. Simulation prototyping, unit testing, and metrics for performance evaluation. Major design project. Prerequisite: ECE 230L, 250D, 270DL, 280L, and 383 and (ECE 353/Computer Science 310 or ECE 356/Computer Science 356 or ECE 382L) and (Mathematics 353 or 356) and (Statistical Science 130L or Mathematics 230 or ECE 555 or ECE 380 or Statistical Science 240L or EGR 238L or Mathematics 340) and (Physics 152L or 26) and (Chemistry 101DL or 20 or 21). Instructor: Brooke. One course.

490D. Special Topics in Electrical and Computer Engineering. Study arranged on a special electrical and computer engineering topic in which the faculty has particular interest and competence as a result of research and professional activities. Instructor consent required. One course. Instructor: Staff. One course.

490L. Special Topics in Electrical and Computer Engineering. Study arranged on a special electrical and computer engineering topic in which the faculty has particular interest and competence as a result of research and professional activities. Instructor consent required. One course. Instructor: Staff. One course.

493. Projects in Electrical and Computer Engineering. Project arranged on a special topic by an instructor with related interests and expertise. For senior students. Consent of instructor and director of undergraduate studies required. Instructor: Staff. Variable credit.

494. Projects in Electrical and Computer Engineering. Project arranged on a special topic by an instructor with related interests and expertise. For senior students. Consent of instructor and director of undergraduate studies required. 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.

499. ECE Professional Development. This required course for seniors complements their senior design experience by exposing soon-to-be graduates to aspects of life as a professional engineer, or in other fields where their undergraduate engineering training will serve them well. In a weekly interactive format, students will participate in discussions of topics selected to better prepare them for their time after Duke. Senior status required. Instructor: Staff. Quarter course.

511. Foundations of Nanoscale Science and Technology. One course. C-L: see Nanosciences 511; also C-L: Chemistry 611

512. Emerging Nanoelectronic Devices. Brief review of semiconductor device physics followed by coverage of the most prominent emerging nanoelectronic devices. Topics include: nanoelectronic logic devices (advanced silicon transistors, carbon nanotube transistors, spintronics, 2D FETs, NEMS, tunnel FETs, negative capacitance FETs and piezoelectronics), and nanoelectronic memory devices (phase change, spin transfer torque, nanomechanical, ferroelectric FET, and molecular memory). Students will understand basic operation, pros/cons of performance, and primary integration challenges. Students conduct case study project, culminating with class presentation. Prerequisite: ECE 230L or graduate student standing. Instructor: Franklin. One course.

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.

522. Introduction to Micro-Electromechanical Systems (MEMS). Design, simulation, fabrication, and characterization of micro-electromechanical systems (MEMS) devices. Integration of non-conventional devices

into functional systems. Principles of fabrication, mechanics in micrometer scale, transducers and actuators, and issues in system design and integration. Topics presented in the context of example systems. Lab covers design, simulation, and realization of MEMS devices using commercially available foundry process. Prerequisite: Electrical and Computer Engineering 230L or Mechanical Engineering 344L or equivalent. Instructor: Kim. One course.

523. Quantum Information Science. NS, QS 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 or Marvian. 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: A. Brown or 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 330L or consent of instructor. Instructor: Staff. One course.

526. Semiconductor Devices for Integrated Circuits. Basic semiconductor properties (energy-band structure, effective density of states, effective masses, carrier statistics, and carrier concentrations). Electron and hole behavior in semiconductors (generation, recombination, drift, diffusion, tunneling, and basic semiconductor equations). Current-voltage, capacitance-voltage, and static and dynamic models of PN Junctions, Schottky barriers, Metal/Semiconductor Contacts, Bipolar-Junction Transistors, MOS Capacitors, MOS-Gated Diodes, and MOS Field-Effect Transistors. SPICE models and model parameters. Prerequisites: Electrical and Computer Engineering 330L. Instructor: Massoud. One course.

527. Analog Integrated Circuits. Analysis and design of bipolar and CMOS analog integrated circuits. SPICE device models and circuit macromodels. Classical operational amplifier structures, current feedback amplifiers, and building blocks for analog signal processing, including operational transconductance amplifiers and current conveyors. Biasing issues, gain and bandwidth, compensation, and noise. Influence of technology and device structure on circuit performance. Extensive use of industry-standard CAD tools, such as Analog Workbench. Prerequisite: Electrical and Computer Engineering 526. Instructor: Staff. One course.

528. Integrated Circuit Engineering. Basic processing techniques and layout technology for integrated circuits. Photolithography, diffusion, oxidation, ion implantation, and metallization. Design, fabrication, and testing of integrated circuits. Prerequisite: Electrical and Computer Engineering 330L or 331L. Instructor: Fair. One course.

529. Digital Integrated Circuits. Analysis and design of digital integrated circuits in deep submicron MOS technology. Brief review of IC technology, MOSFETs, and interconnects. Switching characteristics (propagation delay) and power consumption in NMOS/CMOS devices and interconnects. Analysis of static and dynamic logic circuits (inverters, gates) and memory circuits (SRAMs, DRAMs, Flash). Influence of technology and device structure on performance and reliability of digital ICs. SPICE modeling. Memory array design project. Prerequisite: Electrical and Computer Engineering 331L or graduate student standing. Instructor: Massoud. One course.

531. Power Electronic Circuits for Energy Conversion. Efficient conversion of electrical energy is critical for electric and hybrid vehicles, wind and solar energy, power grids, computers, medical devices, and portables. This course teaches analysis and design of power electronic circuits for energy conversion, including circuit operation (converter topologies, steady-state modeling, switch realization), converter control (ac modeling, small-signal transfer functions, feedback), and magnetics (inductors, transformers). The course shares lectures with ECE/Energy Engineering 431, but has extended assignments. Prerequisite: ECE 230L or Engineering

224L or graduate student standing. Not open to students who have taken ECE 431 or Energy Engineering 431. Instructor: Peterchev. One course. C-L: Energy Engineering 531

532. Analog Integrated Circuit Design. Design and layout of CMOS analog integrated circuits. Qualitative review of the theory of pn junctions, bipolar and MOS devices, and large and small signal models. Emphasis on MOS technology. Continuous time operational amplifiers. Frequency response, stability and compensation. Complex analog subsystems including phase-locked loops, A/D and D/A converters, switched capacitor simulation, layout, extraction, verification, and MATLAB modeling. Projects make extensive use of full custom VLSI CAD software. Prerequisite: [(ECE 330L or 331L) and ECE 230L and 250D and 270DL and 280L and (Mathematics 353 or 356) and (Statistical Science 130L or Mathematics 230 or ECE 555 or ECE 380 or Statistical Science 240L or EGR 238L or Mathematics 340) and (Physics 152L or 26) and (Chemistry 101DL or 20 or 21)] or graduate-student standing. Instructor: Morizio. One course.

533. Biochip Engineering. A problem-solving course in which students consider technology options for a complete lab-on-a-chip design. Lectures cover the basics of analog flow microfluidic devices, digital microfluidic devices, fabrication technologies for discrete devices, system integration issues, and a significant emphasis on biological applications for analysis, sample preparation, and detection issues. Technologies covered will include microfluidic devices, electrophoresis, analytical methods used in genetics, sample preparation methods, and analyte detection. Prerequisites: Biology 201L, Chem 101DL, and Physics 152L (or equivalents). Instructor: Fair. 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 equipment, 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 350L 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 350L or equivalent. Instructor: Chakrabarty. One course.

539. CMOS VLSI Design Methodologies. Emphasis on full-custom digital ASIC design using CMOS technology. Extensive use of CAD tools for IC design, simulation, and layout verification. Includes techniques for designing high-speed, low-power, easily-testable circuits. Semester design project: Student groups design and simulate simple custom IC using Mentor Graphics CAD tools. Formal project proposal, written project report, and formal project presentation required. Prerequisite: [ECE 350L, 331L, 230L, 250D, 270DL, and 280L and (Mathematics 353 or 356) and (Statistical Science 130L or Statistical Science 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or EGR 238L) and (Physics 152L or 26) and (Chemistry 101DL or 20 or 21)] or graduate-student standing. Instructor: Chakrabarty or Morizio. One course.

541. Advanced Optics. QS One course. C-L: see Physics 621; also C-L: Biomedical Engineering 552

545. Foundations of Nanoelectronics & Nanophotonics. Theory and applications of nanoelectronics and nanophotonics. Quantum dots and wells, metal nanoparticles, organic-inorganic interfaces, graphene, next generation transistors, light emitters, and sensors. Prerequisite: Electrical and Computer Engineering 230L and 270DL or equivalent. Instructor: Brown or Litchinitser. One course.

546. Optoelectronic Devices. Devices for conversion of electrons to photons and photons to electrons. Optical processes in semiconductors: absorption, spontaneous emission and stimulated emission. Light-emitting diodes (LEDs), semiconductor lasers, quantum-well emitters, photodetectors, modulators and optical fiber networks. Prerequisite: Electrical and Computer Engineering 526 or equivalent. Instructor: Jokerst or Stiff-Roberts. One course.

550D. Fundamentals of Computer Systems and Engineering. Fundamentals of computer systems and engineering for master's students whose undergraduate background did not cover this material. Topics covered include: Digital logic, assembly programming, computer architecture, memory hierarchies and technologies, IO, hardware implementation in VHDL, operating systems, and networking. Undergraduates may not take this course and should take ECE 250D, 353, and/or 356 instead. Corequisite: ECE 551D. Instructor: Hilton. One course.

552. Advanced Computer Architecture I. QS, R One course. C-L: see Computer Science 550

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 250D or equivalent. Instructor: Sorin. One course. C-L: Computer Science 554

555. Probability for Electrical and Computer Engineers. Basic concepts and techniques used stochastic modeling of systems with applications to performance and reliability of computer and communications system. Elements of probability, random variables (discrete and continuous), expectation, conditional distributions, stochastic processes, discrete and continuous time Markov chains, introduction to queuing systems and networks. Prerequisite: Mathematics 216. Instructor: Trivedi. One course. C-L: Computer Science 555, Information Science + Studies

556. Wireless Networking and Mobile Computing. Theory, design, and implementation of mobile wireless networking systems. Fundamentals of wireless networking and key research challenges. Students review pertinent journal papers. Significant, semester-long research project. Networking protocols (Physical and MAC, multi-hop routing, wireless TCP, applications), mobility management, security, and sensor networking. Prerequisites: Electrical and Computer Engineering 356 or Computer Science 310. Instructor: Staff. One course. C-L: Computer Science 515

557. Performance and Reliability of Computer Networks. Methods for performance and reliability analysis of local area networks as well as wide area networks. Probabilistic analysis using Markov models, stochastic Petri nets, queuing networks, and hierarchical models. Statistical analysis of measured data and optimization of network structures. Prerequisites: Electrical and Computer Engineering 356 and 555. Instructor: Trivedi. One course. C-L: Information Science + Studies

558. Advanced Computer Networks. QS, R One course. C-L: see Computer Science 514

559. Advanced Digital System Design. Fundamentals of advanced digital system design, and the use of a hardware description language, VHDL, for their synthesis and simulation. System examples include the arithmetic/logic unit, memory, and microcontrollers. Team-based project incorporates engineering standards and realistic constraints, and also considers most of the following: Cost, environmental impact, manufacturability, health and safety, ethics, social and political impact. Prerequisite: [ECE 350L, 230L, 250D, 270DL, and 280L and (Mathematics 353 or 356) and (Statistical Science 130L or Statistical Science 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or EGR 238L) and (Physics 152L or 26) and (Chemistry 101DL or 20 or 21) and ECE 331L (prerequisite or corequisite)] or graduate-student standing. Instructor: Derby. One course.

560. Computer and Information Security. An intense trip through many facets of computer and information security. Includes discussion and practical exercises in risk management, threat modeling, applied cryptography, malicious software, network security, intrusion detection and prevention, software and OS security, auditing and forensics, reverse engineering, and social engineering. Includes many hands-on security assignments. Prerequisite: Computer Science 310, ECE 353, or ECE 650. Instructor: Bletsch. One course.

561. Datacenter Architecture. Advanced topics in data centers with emphasis on computer architecture and systems. Surveys recent advances in processor, memory, network, storage, and modern software systems that run in computing clouds. Discussion-oriented classes focus on in-depth analysis of readings. Students will learn

to reason about datacenter performance and energy efficiency. Students will complete a collaborative research project. Prerequisite: ECE 250D or Computer Science 250D or ECE 550D. Instructor: Lee. One course.

562. Energy-Efficient Computer Systems. Advanced topics in energy-efficient computing with an emphasis on computer architecture and systems. Surveys recent advances in diverse platforms, ranging from high-performance, enterprise domains to low-power, mobile domains. Discussion-oriented classes focus on in-depth analysis of readings. Students will learn to reason about energy efficiency across the hardware/software interface and across a range of system components. Students will complete a collaborative research project. Prerequisite: ECE 250D or Computer Science 250D or ECE 550D. Instructor: Lee. One course.

563. Cloud Computing. In a seminar format, explore a number of the underlying technologies, business models, and innovations underpinning current widespread deployment of “cloud” computing systems, services, and applications. Each student will be expected to choose a relevant subject, identify appropriate advance readings for the class, and lead one discussion on topics of interest to the group. There will be a project component to the course; some projects may be in the form of literature reviews and papers, others will involve practical experience creating and deploying a useful service or application in a cloud environment. Instructor: Board. One course.

564. Mobile Application Development. Explores the world of mobile application development with focus on needs of engineers. Centered on Apple environment, with the development environment being on OS X and the target environment being an iOS device – iPad, iPhone, iPod Touch or Apple Watch. Real world context focused on the common programming “patterns” for engineers in academia or business – standalone apps, apps connected to other systems, apps connected to the cloud. Covers fundamentals essential to understanding all aspects of app development. Taught in a team environment. Students required to present their project proposals and deliver an app as a final project. Prerequisite: Computer Science 308 or ECE 551D. Instructor: Telford. One course.

565. Performance Optimization & Parallelism. Analyzing and optimizing the performance of software, in both a single- and multi-threaded setting. Apply knowledge of hardware, programming, and assembly to both tasks. Single-threaded performance topics include code profiling & analysis, loop transformation, analysis of interaction of code & memory hierarchy, assembly level instruction scheduling impacts. Multi-threaded topics include scalability & load balance. For students with strong foundation of programming skills in high-level languages, assembly language, and computer architecture & design. Prerequisite: [(ECE/Computer Science 250D and [Computer Science 310 or ECE 353]) or (ECE 550D and ECE 551D)] and ECE 552 (may be taken concurrently). Recommended prerequisite: ECE 650. Instructor: Rogers. One course.

566. Enterprise Storage Architecture. Study the design and deployment of massive storage systems of the sort used in large enterprises (banks, major IT departments, service providers, etc.). Includes coverage of hard disk and flash design, RAID, SAN and NAS topologies, filesystem design, data center architectures for high availability, data deduplication, business continuity, and the economics of data storage with respect to cloud computing. Includes a few homeworks and a semester-long programming project. Prerequisite: graduate students: ECE 650; undergraduate students: Computer Science 310 or ECE 353. Instructor: Bletsch. One course.

567. Cyber-Physical System Design. Complex interactions between information technology and physical world in Cyber-Physical Systems (CPS) challenge standard design methods that ignore cross-cutting constraints. This course addresses CPS design challenges by exploiting theory and methods from embedded systems, controls, and formal methods. Course covers topics related to the integration of system modeling, analysis, and automatic synthesis into design frameworks that ensure closed-loop safety and performance under known and unknown operating conditions. Balances establishing a working knowledge of CPS design and analysis methods with understanding the theory behind them. Prerequisite: ECE 350L and Computer Science 310/ECE 353, or graduate-student standing. Instructor: Pajic. One course.

568. Engineering Robust Server Software. In this course, students learn about important principles in server software design and development. These principles include topics such as handling asynchronous behavior, design for failure, basic security principles, scalability, and resilience. Students will put these ideas into practices by developing software reflecting the ideas learned in class. Prerequisite: ECE 551D and corequisite ECE 650, or Computer Science 308 and ECE 353 and ECE 356. Instructor: Hilton or Rogers. 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 270DL. Instructor: Carin, Joines, Liu, Padilla, or Smith. One course.

572. Electromagnetic Communication Systems. Review of fundamental laws of Maxwell, Gauss, Ampere, and Faraday. Elements of waveguide propagation and antenna radiation. Analysis of antenna arrays by images. Determination of gain, loss, and noise temperature parameters for terrestrial and satellite electromagnetic communication systems. Prerequisite: Electrical and Computer Engineering 270DL or 571. Instructor: Joines. 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 270DL 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. Prerequisite: Electrical and Computer Engineering 270DL. Instructor: Cummer. One course.

575. Microwave Electronic Circuits. Microwave circuit analysis and design techniques. Properties of planar transmission lines for integrated circuits. Matrix and computer-aided methods for analysis and design of circuit components. Analysis and design of input, output, and interstage networks for microwave transistor amplifiers and oscillators. Topics on stability, noise, and signal distortion. Prerequisite: Electrical and Computer Engineering 270DL or equivalent. Instructor: Joines. 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.

578. 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.

580. Introduction to Machine Learning. Introduction to core concepts in machine learning and statistical pattern recognition, with a focus on discriminative and generative classifiers (nearest-neighbors, Bayes, logistic regression, linear discriminant, support vector machine, and relevance vector machine). Dimensionality reduction and feature selection. Classifier performance evaluation, bias-variance tradeoff, and cross-validation. Prerequisite: (Mathematics 216, Mathematics 218, Mathematics 221, or ECE 586) and (Computer Science 201 or ECE 551D) and (ECE 480 or ECE 581). Not open to students who have taken Computer Science 671D. Instructor: Collins, X. Li, or Tantum. One course.

581. Random Signals and Noise. Introduction to mathematical methods of describing and analyzing random signals and noise. Review of basic probability theory; joint, conditional, and marginal distributions; random processes. Time and ensemble averages, correlation, and power spectra. Optimum linear smoothing and predicting filters. Introduction to optimum signal detection, parameter estimation, and statistical signal processing. Prerequisite: one of (STA 130L or STA 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or EGR 238L) or graduate student standing. Instructor: Collins or Nolte. 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, or Nolte. One course. One course.

584. Acoustics and Hearing (GE, EL, 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.

586. Vector Space Methods with Applications. Covers key concepts from advanced linear algebra that are used regularly in ECE/CS journal papers on signal processing, communications, circuit design, and machine learning (e.g., logic, topology, vector spaces, optimization). Key mathematical ideas/proofs will be presented and applied. Uses application topics such as Markov chains, alternating projections, and pattern classification to illustrate important mathematical topics. Background in linear algebra, a high-level programming language, and probability is assumed. Prerequisite: [(Mathematics 216, 221, or 218) and (Engineering 103L or Computer Science 201) and (STA 130 or STA 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or EGR 238L) and ECE 280L] or graduate student standing. Instructor: Pfister. One course.

587. Information Theory. Information theory is the science of processing, transmitting, storing, and using information. This course provides an introduction to mathematical measures of information and their connection to practical problems in communication, compression, and inference. Entropy, mutual information, lossless data compression, channel capacity, Gaussian channels, rate distortion theory, Fisher information. Useful for researchers in a variety of fields, including signal processing, machine learning, statistics, and neuroscience. Appropriate for beginning graduate students in electrical engineering, computer science, statistics, and math with a background in probability. Instructor: Reeves or Carin. One course. C-L: Statistical Science 563

588. Image and Video Processing: From Mars to Hollywood with a Stop at the Hospital. Intro to image formation, image compression, image enhancement & image segmentation. Covers geometric and non-geometric tools, as well as spatial and non-spatial operations. Extension to color images and video. Addresses recent progress in the area, including image inpainting (how to remove objects from images and video), image processing via sparse modeling & compressed sensing, geometric partial differential equations for image analysis, image processing for HIV & virus research, image processing for neurosurgery & other medical applications. Prerequisite: [ECE 280L and (Mathematics 216, 221, or 218) and (STA 130L or STA 240L or Mathematics 230 or Mathematics 340 or ECE 380 or ECE 555 or EGR 238L)] or graduate student standing. Instructor: Sapiro. 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 consent required. Instructor: Staff. One course.

590-1. Advanced Topics in Electrical and Computer Engineering. Opportunity for study of advanced subjects in electrical and computer engineering. 1 unit. Instructor: Staff.

590D. 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. Has discussion. Instructor: Staff. One course.

611. Nanoscale and Molecular Scale Computing. Students study the design and analysis of nanoscale computing systems. Topics include nanoelectronic devices (e.g., graphene and carbon nanotube transistors, quantum dots, etc.), computational paradigms (conventional von Neumann, quantum cellular automata, quantum computing, etc.), microarchitecture and instruction set design specific to nanoscale systems, defect and

fault tolerance, fabrication techniques (e.g., self-assembly), modeling and simulation methods. This course relies on current literature and student discussion. Prerequisites: Electrical and Computer Engineering 350, Electrical and Computer Engineering 511. Instructor: Lebeck. One course. C-L: Computer Science 624

650. Systems Programming and Engineering. Focuses on a range of topics that are central to both the design of operating systems and the programming system-level software. Students will apply knowledge of basic concepts in operating systems, networking, and programming towards these two areas. Topics covered will include concurrency, process management, hypervisors, networking, security, databases, and file systems. Students will be expected to demonstrate their understanding in these areas through a series of programming assignments covering these topics. Prerequisite: ECE 550D and (ECE 551D or ECE 751D). Instructor: Younes. One course.

651. Software Engineering. Teaches students about all steps of the software development lifecycle: requirements definition, design, development, testing, and maintenance. The course assumes students are skilled object-oriented programmers from prior courses, but will include a rapid introduction to Java. Students complete team-based semester-long software project which will progress through all phases of the software lifecycle. Prerequisite: ECE 551D. Instructor: Daily or Hilton. One course.

652. Advanced Computer Architecture II. QS One course. C-L: see Computer Science 650

675. Optical Imaging and Spectroscopy. Wave and coherence models for propagation and optical system analysis. Fourier optics and sampling theory. Focal plane arrays. Generalized and compressive sampling. Impulse response, modulation transfer function and instrument function analysis of imaging and spectroscopy. Code design for optical measurement. Dispersive and interferometric spectroscopy and spectral imaging. Performance metrics in optical imaging systems. Prerequisite: Electrical and Computer Engineering 270DL and 280L. Instructor: Brady. One course.

676. Lens Design. Paraxial and computational ray tracing. Merit functions. Wave and chromatic aberrations. Lenses in photography, microscopy and telescopic. 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 project report and a formal design review. Prerequisite: Electrical and Computer Engineering 340L or 375. Instructor: Brady. 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 Tantum. One course.

682D. Probabilistic Machine Learning. QS One course. C-L: see Statistical Science 561D; also C-L: Computer Science 571D

683. Digital Communication Systems. Digital modulation techniques. Coding theory. Transmission over bandwidth constrained channels. Signal fading and multipath effects. Spread spectrum. Optical transmission techniques. Prerequisite: Electrical and Computer Engineering 581 or consent of instructor. Instructor: Staff. One course.

684. Natural Language Processing. Introduction to algorithmic and analytic methods specific to textual data. Subject areas covered are speech recognition, optical character recognition, text parsing, and document analysis. Analysis tools taught include sentiment analysis/topic models, auto-correct, auto-complete, and translation systems. Applications to brain-computer interface communication systems, intelligent personal assistants, and plagiarism detection systems. Prerequisite: STA 130L, STA 240L, Mathematics 230, Mathematics 340, ECE 380, ECE 555, ECE 580, ECE 581, ECE 682D, EGR 238L, or ECE 551D. Instructor: Wang. One course.

685D. Introduction to Deep Learning. Provides an introduction to the machine learning technique called deep learning or deep neural networks. A focus will be the mathematical formulations of deep networks and

an explanation of how these networks can be structured and “learned” from big data. Discussion section covers practical applications, programming, and modern implementation practices. Example code and assignments will be given in Python with heavy utilization of PyTorch (or Tensorflow) package. The course and a project will cover various applications including image classification, text analysis, object detection, etc. Prerequisite: ECE 580, ECE 681, ECE 682D, Statistical Science 561D, or Computer Science 571D. Instructor: Tarokh. One course.

686. Adaptive Filters. Adaptive digital signal processing with emphasis on the theory and design of finite-impulse response adaptive filters. Stationary discrete-time stochastic processes, Wiener filter theory, the method of steepest descent, adaptive transverse filters using gradient-vector estimation, analysis of the LMS algorithm, least-squares methods, recursive least squares and least squares lattice adaptive filters. Application examples in noise canceling, channel equalization, and array processing. Prerequisites: Electrical and Computer Engineering 581 and 582 or consent of instructor. Instructor: Krolik. One course.

687D. Machine Learning - Introductory PhD Level. QS One course. C-L: see Computer Science 671D; also C-L: Statistical Science 671D

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: Krolik. One course.

The Major

The requirements for the electrical and computer engineering major are included in the minimum total of 34.0 course credits listed under the general requirements and departmental requirements. The following specific courses or their approved alternatives must be taken: Electrical and Computer Engineering 110L; Electrical and Computer Engineering 230L, 250D, 270DL, 280L; Computer Science 201; four approved electrical and computer engineering concentration electives, in two different areas with at least two courses in one of the elected areas; two elective electrical and computer engineering courses at the 300-level or higher; and one electrical and computer engineering design course. Currently, Electrical and Computer Engineering 449, 458, 459, 489, 559, 532, and 539 are approved as electrical and computer engineering design electives. To fulfill the fourth natural science requirement (of the general engineering requirements), students must take an approved biology course (Biology 201L, 202L, 275A, or 311) or a 300-level course from a natural science or engineering department. A statistical science course is also required (Statistical Science 130, Mathematics 230, Electrical and Computer Engineering 380, or Electrical and Computer Engineering 555).

To encourage depth and breadth in electrical and computer engineering, students must select a minimum of four upper-level courses in at least two areas of concentration, with no less than two courses in one of the elected areas. There are five areas of concentration: (1) computer engineering and digital systems, (2) signal processing, communications, and control systems, (3) solid-state devices and integrated circuits, (4) electromagnetic fields, and (5) photonics. Students are encouraged to consult with their advisors when selecting areas of concentration and electives.

A sample, semester-by-semester sequencing of the requirements for the major is available online at <https://ece.duke.edu/undergrad/degrees/planning>.

The Minor

The requirements for the minor in electrical and computer engineering is composed of five courses in electrical and computer engineering including three core courses selected Electrical and Computer Engineering 110L, Electrical and Computer Engineering 230L, Electrical and Computer Engineering 250D, Electrical and Computer Engineering 270DL, and Electrical and Computer Engineering 280L; and two additional electrical and computer engineering courses at the 300 level or above. Courses that are used to fulfill the student's primary major may not be double-counted toward the minor. In addition, electrical and computer engineering courses with

content substantially equivalent to courses in the student's primary major may not be counted toward the minor. Students with credit for any of the core courses (e.g., exact or equivalent course taken to satisfy a requirement of the primary major) may substitute additional upper-level electrical and computer engineering courses, with approval from the director of undergraduate studies in electrical and computer engineering.

Engineering (Interdepartmental)

Courses in Engineering (EGR)

79S. Thrive. Students engage in small group discussions and activities to explore knowledge of self, build resilience, create a community, and develop personal well-being. Students apply wellness strategies to everyday life, as well as coping strategies for life's challenges. Additional topics include: personal values, healthy relationships, stress and mental health, self-awareness, personality types, team dynamics, and accessing campus resources. Course is intended to help engineering students thrive at Duke University. Open only to first-year engineering students. Instructor: Walker, Pittman.

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

90L. 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. Instructor: Franzoni. Half course.

95FS. First Year seminar in Focus. NS, SS, STS Topics vary each semester offered. Focus students only. Instructor: staff. One course.

101L. Engineering Design and Communication. Students work in a team to learn and apply the engineering design process to solve an open-ended, client-based problem drawn from a community partner. In this class, students learn to apply the engineering design process to meet the needs of a client, iteratively prototype using tools and materials appropriate to the solution, work collaboratively on a team, and communicate the critical steps in the design process in written, oral, and visual formats. First-year Pratt students only. Trinity first-year students may take the course with instructor consent. Instructor: Saterbak, Santillan. One course.

102L. Design to Deliver. Students work in a team to apply the engineering design process to complete an open-ended, client-based problem drawn from a community partner. Prerequisite: Engineering 101L. Instructor: Saterbak. Half course.

103L. 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.

120L. 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.

121L. Engineering Innovation. Introduces first years 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.

190. 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.

190A. Duke-Administered Study Abroad: Special Topics in Engineering. Topics vary by semester. Instructor consent required. Instructor: Staff. One course.

190AS. Duke-Administered Study Abroad: Special Topics in Engineering. Topics vary by semester. Instructor consent required. Instructor: Staff. One course.

190L. Special Topics in Engineering with Lab Component. Study arranged on special engineering topics in which the faculty have particular interest and competence as a result of research or professional activities. This course contains a laboratory component. Instructor: Staff. One course.

201L. 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 112 and Physics 151L. Instructor: Aquino, Boadu, Dolbow, Franzoni, Gavin, Guillemot, Hueckel, Nadeau, Scovazzi, or Virgin. One course.

206. 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 103L and Writing 101 or equivalent. Instructor: Kabala. Half course.

224L. 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. Prerequisite: (Engineering 103L or Computer Science 201); (Mathematics 112L or 22 or equivalent); and (Physics 152L or equivalent). Instructor: Gustafson. One course.

238L. Fundamentals of Data Analysis and Decision Science. This course provides a mathematically rigorous and broad foundation for key concepts in probability and statistics, as well as the application of probability and statistics to the mathematical modeling of non-deterministic systems. The main motivation of the course is to show how these concepts are fundamental to a variety of current data analysis techniques, and to demonstrate applications of these techniques in situations relevant to all engineering majors. Prerequisite: (Mathematics 216, 218, or 221) and (Engineering 103L or Computer Science 101L). Instructor: Tantum. One course.

244L. 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 201L and Mathematics 212 or consent of instructor. Instructor: Dowell, Hall, Knight, or Virgin. One course.

305. 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. Pratt students may not use this course toward the SS/H degree requirement. Corequisite: Mathematics 216. Instructor: Borsuk, Gavin. One course. C-L: Economics 212

355. 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.

391. 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.

393. Research Projects in Engineering. R Individual research projects in engineering under the guidance and 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. Variable credit.

424L. 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: Civil Engineering 160L, Environment 330 and Mechanical Engineering 461. One course. One course.

491. 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.

505. Oral English Communications for Engineers. Designed for graduate engineering students who are non-native English speakers. Gain the skills necessary to confidently navigate the use of oral English. Learn social and academic norms needed for academic success and build interactional competence. Learn to deliver a self-introduction, brief overview of research/degree program/professional experience, and navigate small talk and social interactions through the development of cultural contexts and an understanding of conversational mechanics. Build the skills needed to actively participate in classes, seek help from multiple sources, and navigate productive interactions with faculty. Open only to Pratt graduate students. Instructor: Fletcher, Bowers. One course.

506. Introductory English Writing for Engineers. This writing course is designed for graduate engineering students who are non-native English speakers. The focus will be on writing and revising such that the results are clear and concise. Students will produce a variety of academic and professional documents pertinent to engineers. Additionally, students will analyze the written work of peers and provide relevant feedback. Open only to Pratt graduate students. One course.

590. Special Topics in Engineering. Subjects of an interdepartmental nature in engineering tailored to the advanced undergraduate student or first- or second-year graduate student. Instructor consent is required. Half course or one course. Instructor: Staff. Variable credit.

590-1. Special Topics in Engineering. Subjects of an interdepartmental nature in engineering tailored for entry-level graduate students. Instructor: Staff. Variable credit.

Energy Engineering

The energy engineering minor at Duke adds breadth, depth, and diversity to enrolled students' educational experience by providing rigorous exposure to fundamentals of energy engineering. The program's objective is to prepare graduates to

- engage in engineering careers in diverse areas with particular emphasis on energy-related matters;
- pursue graduate education and research in energy engineering or energy-related fields; and
- integrate energy concepts in their primary engineering discipline and/or optimize the use of energy within their professional pursuits and in society.

Energy Engineering Steering Committee

Neal Simmons (*Chair*), Mechanical Engineering and Materials Science; Marc Deshusses (*Program Director*), Civil and Environmental Engineering; Nico Hotz, Mechanical Engineering and Materials Science; Nan Jokerst, Electrical and Computer Engineering; Josiah Knight, Mechanical Engineering and Materials Science

Eligibility

All Duke engineering undergraduates are eligible to participate in the energy engineering program and qualify for the minor. Completion of the minor is noted on the student's academic transcript.

Minor Requirements

Five unique courses and one capstone design course must be completed to earn the minor in energy engineering. The requirements for the minor are:

Core Course

One required: Energy Engineering 310 (Introduction to Energy Generation, Delivery, Conversion and Efficiency) or Mechanical Engineering 461 (Energy Engineering and the Environment).

Energy Engineering Area Courses

Four courses required, at least one in each category, up to two outside Duke.

Generation and Delivery

Energy Engineering 490.xx (Special Topics-Bioenergy); Energy Engineering 490.xx (Special Topics-Renewable Energy Technologies); Energy Engineering 490.xx (Special Topics-Modern Power Systems); Electrical and Computer Engineering 341 (Solar Cells); Mechanical Engineering 516 (Thin-Film Photovoltaic Technology).

Conversion and Efficiency

Energy Engineering 490.0xx (Special Topics-Energy for the Built Environment); ECE 431/Energy Engineering 431 (Power Electronic Circuits for Energy Conversion); Energy Engineering 490.xx (Energy Engineering 370) (Special Topics-Transportation Energy); Mechanical Engineering 490.xx (Power for Mechanical Systems).

Other courses not listed here can be considered to fulfill the area course requirements. They are to be approved by the energy engineering program director on an individual basis with consideration given to the engineering content and relevance to the field. Please contact the program director before enrolling.

Capstone Design

Energy 490L (Energy and Environment Design) or departmental capstone if the project is energy-related, with prior approval by the energy engineering program director.

For more information, see <https://energy.pratt.duke.edu/>.

Courses in Energy Engineering (ENRGYEGR)

310. Introduction to Energy Generation, Delivery, Conversion and Efficiency. An overall introduction to energy issues as they relate to generation, delivery, conversion and efficiency. Topics include efficiencies of both new and established energy generation and conversion methods, electricity generation by fossil fuels, nuclear, solar, wind and hydropower and alternative energy technologies. Other topics include space heating and cooling by traditional methods and by solar, transportation energy in automobiles, mass transit and freight. Topics are evaluated quantitatively by modeling and using principles of fluid mechanics, thermodynamics and heat transfer. The environmental consequences of energy choices on local, national and global scales, including toxic emissions, greenhouse gases and resource depletion are also discussed in integrated throughout the course. Prerequisite: Mechanical Engineering 331L, or Mechanical Engineering 512, or Physics 311, or similar thermodynamics, or consent of instructor. One course. C-L: Energy 310. Course is not open to students who have taken Mechanical Engineering 461. Instructors: Cocks and Knight. One course. C-L: Energy 310, Energy and the Environment

431. Power Electronic Circuits for Energy Conversion. One course. C-L: see Electrical and Computer Engineering 431

490. Special Topics in Energy Engineering. Study arranged on a special topic in which the instructor has particular interest and competence. Consent of instructor and director of energy engineering program required. Half course or one course each. Topics vary by section. Instructor: Staff. Variable credit.

531. Power Electronic Circuits for Energy Conversion. One course. C-L: see Electrical and Computer Engineering 531

Energy and the Environment

For courses in energy and the environment, see [page 338](#).

Global Development Engineering

For courses in global development engineering, see [page 416](#).

Mechanical Engineering and Materials Science

Professor Gall, *Chair*; Associate Professor Bliss, *Director of Undergraduate Studies*; Assistant Professor of the Practice Hotz, *Associate Director of Undergraduate Studies*; Professors Aquino, Bejan, Brinson, Chilkoti, Cocks, Cummings, Curtarolo, Dolbow, Dowell, Gall, Gavin, Glass, Hall, Huang, Hueckel, Mann, Marszalek, Mitzi, Needham, Nelson, Rubinstein, Varghese, Virgin, West, Witelski, Zauscher, and Zhong; Associate Professors Arya, Bliss, Blum, Chen, DeFrate, Delaire, Hauser, Howle, Knight, Lad, Payne, Scovazzi, Wiley, Yellen, and Zavlanos; Assistant Professors Bridgeman, Buckland, Codd, Frank-Ito, Guilleminot, Haravifard, Hsu, and Randles; Professor of the Practice Franzoni; Associate Professors of the Practice Kielb and W. Simmons; Assistant Professors of the Practice Hotz, Santillan, and R. Simmons; Instructor Lipp; Assistant Research Professors Huang, Kopper, Stepp, Thomas, and Toher; Research Scientist Tang; Adjunct Professors Ferrari, Laursen, Lorente, and Rubinstein; Adjunct Assistant Professors Culver, Jerald, Manson, and Miller; Professors Emeriti Garg, Hochmuth, Shaughnessy, Tan, Vann, and Wright

A major in mechanical engineering is available in this department. The mechanical engineering program is accredited by the Engineering Accreditation Commission of ABET.⁶

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, devices, and mechanical, thermal, and electro-dynamic systems, and through better understanding of dynamic processes involving these systems. They have a wide involvement in many industries including aerospace, automotive, energy and power generation, biomechanical and biomedical engineering, construction, electronics, manufacturing, national defense, and transportation systems. 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. Our goal is to graduate mechanical engineers who embody excellence in a broad sense. We expect our graduates to move to industry positions or on to graduate study, or to carry the attributes of an engineering education into other disciplines. The mechanical engineering program of study must include mathematics and basic sciences, fundamentals and 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. Our mechanical engineering graduates should be able to think critically when solving problems and managing tasks and communicate effectively in multidisciplinary professional environments. 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. We aspire to have our graduates exhibit intellectual depth and creativity, uphold high ethical standards, and show a commitment to the betterment of society through service and professional work.

To this end, the specific program educational objectives that we look for in our graduates are that they:

- advance professionally in their chosen field;
- contribute to their professional community and to society; and
- engage in lifelong learning in professional and personal endeavors.

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. The overall program requirements are summarized following the list of courses.

Courses in Mechanical Engineering (ME)

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: Blum, Curtarolo, Delaire, Simmons, West, or Zauscher. One course.

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 methods of analysis, such as finite elements analysis are covered. Prerequisites: Engineering 121L, 201L, 244L, and Mathematics 353. Instructor: Franzoni, Howle, or Simmons. One course.

331L. Thermodynamics. The principal laws of thermodynamics for open and closed systems and their application in engineering. Properties of the pure substance, relationships among properties, mixtures and reactions. Power and refrigeration cycle analysis. Prerequisite: Mathematics 212 and Physics 151L. Instructor: Bejan, Knight, or Marszalek. 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: Knight or Zhong. One course.

344L. Control of Dynamic Systems. Model dynamic systems, characterize time and frequency domain response with respect to particular inputs. Characterize systems in terms of rise-time, settling-time, bandwidth. Identify the difference between stable and unstable system. Apply feedback control to modify response of dynamic systems. Develop methods of designing compensators for single-input, single-output, and multiple-input, multiple-output dynamic systems. Introduces optimal control theory, the linear quadratic regulator problem, the linear quadratic Gaussian problem. Gain a physical understanding of role of feedback control in modifying the dynamics of a system. Prerequisite: (Engineering 224L or ECE 280L) and Mathematics 216. Not open to students who have taken ECE 382. Instructor: Bridgeman or Zavlanos. One course. C-L: Electrical and Computer Engineering 382L

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, Simmons. 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.

426. Ocean Engineering. One course. C-L: see Electrical and Computer Engineering 461; also C-L: Environment 461

431L. Heat and Mass Transfer. A rigorous development of the laws of mass and energy transport as applied to a continuum. Energy transfer by conduction, convection, and radiation. Free and forced convection across boundary layers. Application to heat exchangers. Selected laboratory work. Prerequisite: Mechanical Engineering 331L, Mechanical Engineering 336L, and Mathematics 353. Instructor: Chen, Hotz, Howle, 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 + Studies

461. Energy Engineering and the Environment. Efficiencies of both new and established energy sources and conversion methods. Evaluation of alternative energy technologies by statistical information and by modeling using principals of fluid mechanics, thermodynamics and heat transfer. Electricity generation by fossil fuels, nuclear, solar, wind and hydro. Space heating and cooling by traditional methods and by solar. 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. Prerequisite: Mechanical Engineering 331L Thermodynamics. Instructors: Cocks and Knight. One course. C-L: Energy and the Environment

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 336L. Instructor: Hall. One course.

473. Aerospace Structures. A rigorous course covering the analysis of aerospace structures. Basic elasticity, the stiffness method, plate and box-like structures, buckling, vibrations, loads, materials, design. Some project work and use of software. Prerequisite: EGR 201L, EGR 244L, Math 216. Use of Sakai. Text: Megson, ‘Aircraft Structures’, Eslevier, 2012. Instructor: Virgin. 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.

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.

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. o.o Credit. S/U. Permission of Instructor.

510. Diffraction and Spectrometry of Materials. This course focuses on the fundamentals and applications of x-ray/neutron/electron scattering for the study of materials, with an emphasis on crystalline solids. The class will cover topics in diffraction for the study of the atomic structure of materials, as well as spectrometry to investigate microscopic dynamics and composition. The students should have a background in solid state physics/chemistry, quantum mechanics, materials science, and mathematics including Fourier transforms and complex numbers, convolution product. Open to graduate students; instructor consent required for undergraduate students to enroll. Instructor: Delaire. One course.

511. Computational Materials Science. This course will cover modern computational techniques for the prediction of materials properties, beginning from the scale of electrons and atoms and connecting to materials challenges in experiments today. Subjects covered will include Schrödinger's equation and density functional theory, molecular dynamics, and so-called multiscale approaches to connect quantities computed at the nanoscale to macroscopic properties. The class will incorporate specific examples as explicit computer exercises. The course is expected to provide an atomic-scale understanding of materials for both students with a primarily computational interest and those students whose research is primarily experimental. Open to graduate students; instructor consent required for undergraduate students to enroll. Instructor: Blum. One course.

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: Staff. One course.

513. Nanobiomechanics. The course consists of didactic lectures and many laboratory demonstrations and real experiments done by the students themselves. Topics include: Principles of single-molecule force spectroscopy (SMFS), SMFS experimental techniques, resolution and resolution limitations; Entropic and enthalpic elasticity of (bio)polymers; Structure and nanomechanics of DNA, polysaccharides, and proteins; Mechanisms of spontaneous folding, misfolding and refolding of proteins; Chaperones-assisted protein refolding; Principles of computer modeling of biopolymer mechanics; Development and characterization of novel, protein-based nanostructured, rationally designed biomaterials with unique mechanical properties. Open to graduate students; instructor consent required for undergraduate students to enroll. Instructor: Marszalek. One course.

514. Theoretical and Applied Polymer Science (GE, BB). An intermediate course in soft condensed matter physics dealing with the structure and properties of polymers and biopolymers. Introduction to polymer syntheses based on chemical reaction kinetics, polymer characterization. Emphasizes (bio)polymers on surfaces and interfaces in aqueous environments, interactions of (bio)polymer surfaces, including wetting and adhesion phenomena. Instructor: Zauscher. One course. C-L: Biomedical Engineering 529

515. Electronic Materials. An advanced course in materials science and engineering dealing with materials important for solid-state electronics and the various semiconductors. Emphasis on thermodynamic concepts and on defects in these materials. Materials preparation and modification methods for technological defects in these materials. Prerequisite: Mechanical Engineering 221L. Instructor: Curtarolo. One course.

516. Thin-Film Photovoltaic Technology. This course will focus in on a promising class of solar cells based on thin-film absorbers, some of which are already commercialized (e.g., CdTe, CIGS), while others are on the cutting edge of new photovoltaics technology (e.g., perovskites). The course will employ a combination of lecture, directed reading and hands-on approaches. The hands-on component of the course will involve fabricating PV devices and employing contemporary characterization and modeling tools to evaluate device performance. Specific techniques and the intellectual framework are more generally applicable to other PV and electronic devices. Recommended prerequisite: ECE 230 or related familiarity with electronic properties of materials. Open to graduate students; instructor consent required for undergraduate students to enroll. Instructor: Mitzi. 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: Staff.

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: see Civil and Environmental Engineering 530

525. Nonlinear Finite Element Analysis. One course. C-L: see Civil and Environmental Engineering 630

527. Buckling of Engineering Structures. One course. C-L: see Civil and Environmental Engineering 647

531. Engineering Thermodynamics. Axiomatic formulations of the first and second laws. General thermodynamic relationships and properties of real substances. Energy, availability, and second law analysis of energy conversion processes. Reaction and multiphase equilibrium. Power generation. Low temperature refrigeration and the third law of thermodynamics. Thermodynamic design. Instructor: Bejan. One course.

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.

535. Biomedical Microsystems. The objective of the course is to introduce students to the interdisciplinary field of biomedical microsystems with an emphasis on biomedical microelectromechanical systems (bioMEMS) and microtechnologies. Topics include Scaling laws, Micropatterning of substrates and cells, Microfluidics, Molecular biology on a chip, Cell-based chips for biotechnology, BioMEMS for cell biology, Tissue microengineering, and Microfabricated implants and sensors. Open to graduate students; instructor consent required for undergraduate students to enroll. Instructor: Huang. 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 336L or equivalent. Instructor: Hotz. 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 336L or equivalent. Instructor: Staff. One course.

538. Physicochemical Hydrodynamics. An introduction to the fundamental principles of physicochemical hydrodynamics with an emphasis on the coupling between transport processes and interfacial phenomena. Topics include Brownian motion and molecular diffusion, electrokinetics and electrohydrodynamics, capillary and wetting. Through homework sets and a course project, the students will develop physical intuition and scaling tools to single out the dominant physicochemical process in a complex system. Prerequisite: Mechanical Engineering 336L or consent of instructor. Instructor: Chen. One course.

539. Interfacial Transport Phenomena for Energy Technologies. The main topics are transport phenomena taking place on interfaces in renewable/sustainable energy technology. These transport phenomena comprise of charge transport (ions, electrons), heat transfer, and mass transfer (e.g. diffusion), sometimes coupled with chemical reactions (e.g. catalytic, electrochemical, photochemical.). We will study these transport phenomena at interfaces, especially in the micro- and nano-scale and apply this knowledge to energy conversion and storage processes. These interfacial transport phenomena are essential for photovoltaic cells, fuel cells, batteries, solarthermal devices, thermoelectric devices, and many others. Open to graduate students; instructor consent required for undergraduate students to enroll. Recommended prerequisite: Mechanical Engineering 431 or equivalent. Instructor: Hotz. One course.

541. Intermediate Dynamics: Dynamics of Very High Dimensional Systems. Dynamics of very high dimensional systems. Linear and nonlinear dynamics of a string as a prototypical example. Equations of motion of a nonlinear beam with tension. Convergence of a modal series. Self-adjoint and non-self-adjoint systems. Orthogonality of modes. Nonlinear normal modes. Derivation of Lagrange's equations from Hamilton's Principle including the effects of constraints. Normal forms of kinetic and potential energy. Component modal analysis. Asymptotic modal analysis. Instructor: Dowell or Hall. One course. C-L: Civil and Environmental Engineering 625

542. Modern Control and Dynamic Systems. Dynamic modeling of complex linear and nonlinear physical systems involving the storage and transfer of matter and energy. Unified treatment of active and passive mechanical, electrical, and fluid systems. State-space formulation of physical systems. Time and frequency-domain representation. Controllability and observability concepts. System response using analytical and computational techniques. Lyapunov method for system stability. Modification of system characteristics using feedback control and compensation. Emphasis on application of techniques to physical systems. Instructor: Staff. One course.

543. Energy Flow and Wave Propagation in Elastic Solids. One course. C-L: see 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: Staff. 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 111 or 216. Consent of instructor required. Instructor: Staff. One course.

548. Multivariable Control. One course. C-L: see 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 336L or equivalent, 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.

581. Introduction to Scientific Computing. Topics include: Discrete representation of floating-point numbers; integration of ODEs and systems of DEs; classification and numeric solution of PDEs; accuracy, consistency, and stability; integration and spectral representation of functions; introduction to finite difference, finite volume, and finite element methods; roots of equations; elements of linear algebra and conjugate gradient methods for sparse linear systems; programming methods; graphical user interfaces; arrays and collections; input-output and serialization; generics and lambda expressions; object oriented programming; 2D and 3D computer graphics; threading and parallelization; unit testing; third party numeric libraries. Open to graduate students; instructor consent required for undergraduate students to enroll. Instructor: Howle. One course.

591. Research Independent Study in Mechanical Engineering or Material Science. Research project mentored by an instructor with related interests and expertise. The project is expected to be graduate-level work. Instructor consent required. Instructor: Staff. One course.

592. Research Independent Study in Mechanical Engineering or Material Science. Research project mentored by an instructor with related interests and expertise. The project is expected to be graduate-level work. Instructor consent required. Instructor: Staff. One course.

593. Research Independent Study in Mechanical Engineering or Material Science. Research project mentored by an instructor with related interests and expertise. The project is expected to be graduate-level work. Instructor consent required. Instructor: Staff. One course.

594. Research Independent Study in Mechanical Engineering or Material Science. Research project mentored by an instructor with related interests and expertise. The project is expected to be graduate-level work. Instructor consent required. Instructor: Staff. One course.

626. Plates and Shells. One course. C-L: see Civil and Environmental Engineering 646

627. Linear System Theory. One course. C-L: see Civil and Environmental Engineering 627

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: Chen. One course.

632. Advanced Fluid Mechanics. Flow of a uniform incompressible viscous fluid. Exact solutions to the Navier-Stokes equation. Similarity methods. Irrotational flow theory and its applications. Elements of boundary layer theory. Prerequisite: Mechanical Engineering 631 or consent of instructor. Instructor: Chen. One course.

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.

634. Turbulence 1. One course. C-L: see Civil and Environmental Engineering 688

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.

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.

671. Advanced Aerodynamics. Advanced topics in aerodynamics. Conformal transformation techniques. Three-dimensional wing theory, optimal span loading for planar and nonplanar wings. Ground effect and tunnel corrections. Propeller theory. Slender wing theory and slender body theory, transonic and supersonic area rules for minimization of wave drag. Numerical methods in aerodynamics including source panel and vortex lattice methods. Prerequisite: Mechanical Engineering 571. Instructor: Hall. 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.

674. Fundamentals of Shock Wave Lithotripsy. This course will cover fundamental physics and engineering topics in shock wave lithotripsy (SWL), a non-invasive medical treatment of kidney and upper urinary track stone disease. A historical review of the development of SWL will be provided. Shock wave generation, focusing, coupling, and propagation in biological tissues will be discussed, as well as state-of-the-art measurement techniques for characterization of lithotripter field and shock wave-stone-tissue interaction. Methodology and technologies to enhance therapeutic gain while reducing collateral tissue injury will be discussed, with laboratory projects to develop the basic concepts and essential skills for independent research. Prerequisite: Mechanical Engineering 336L, Mechanical Engineering 572, or BME 542. Instructor: Zhong. One course.

676. Advanced Acoustics. Analysis methods in acoustics including wave generation, propagation, reflection, absorption, and scattering; sound propagation in a porous material; coupled structure acoustic systems; acoustic singularities: monopoles, dipoles, quadrupoles; radiation from flat surfaces; classical radiation and scattering solutions for cylinders and spheres; Green's functions, Radiation conditions, Modal analysis; sound fields in rooms and enclosures: energy methods; dissipation in fluid media; introduction to nonlinear effects. This course is open only to graduate students with some prior background in acoustics and applied mathematics. Prerequisites: Mechanical Engineering 572 or equivalent. Instructor: Bliss. One course.

The Major

The major requirements for mechanical engineering are included in the minimum total of 34.0 course credits listed under general requirements. The following specific courses or their approved alternatives must be included. Engineering courses: Engineering 121L (Engineering Innovation), Engineering 201L (Mechanics of Solids), Engineering 224L (Mechatronics), Engineering 244L (Dynamics); mechanical engineering courses: Mechanical Engineering 221L (Materials), Mechanical Engineering 321L (Analysis for Design), Mechanical Engineering 331L (Thermodynamics), Mechanical Engineering 336L (Fluid Mechanics), Mechanical Engineering 344L (Control Systems), Mechanical Engineering 421L (Mechanical Design), Mechanical Engineering 424L (Mechanical Systems Design), Mechanical Engineering 431L (Heat Transfer); two upper-level mechanical engineering electives to encourage depth in areas of particular interest. In addition, the program allows for four additional general electives, two of which must be upper level and can be used for further breadth or depth. Students are encouraged to consult with their advisors when selecting areas of interest and electives.

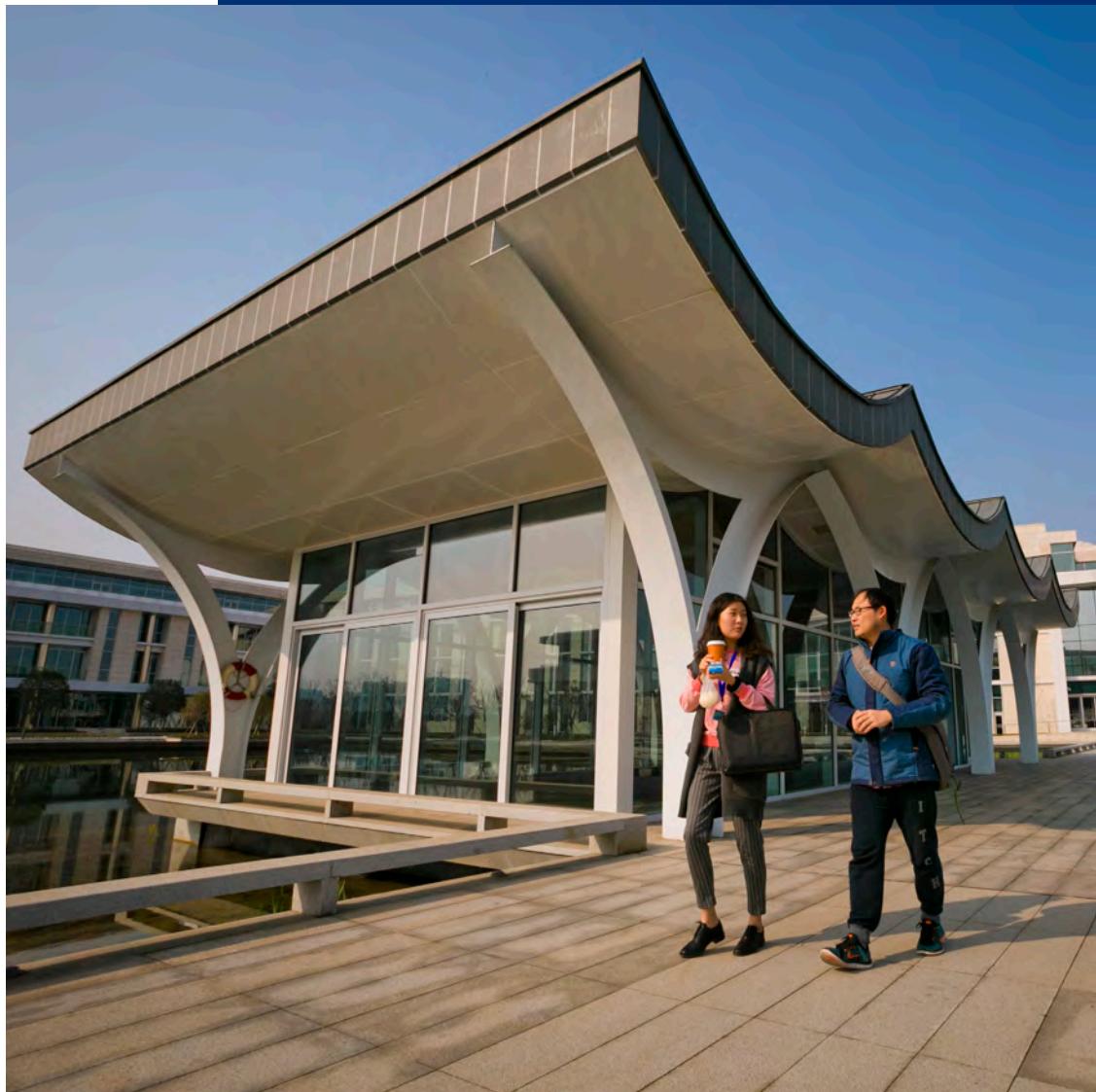
The *MEMS Undergraduate Program Handbook* (available on the departmental website at <https://mems.duke.edu/undergrad/degrees/planning>) provides examples of course sequences that incorporate all general requirements and departmental requirements comprising the accredited mechanical engineering major. In addition, a downloadable MEMS Curriculum Flow Chart and MEMS Annotated Check Sheet are also available on the website, and provide precise summaries of the curriculum requirements and prerequisite structure.

Usually students intending to study abroad should plan to travel in the fall semester of their junior year. Typically these students are expected to take two courses abroad that are approved as equivalent to required mechanical engineering courses and/or mechanical engineering electives. Students should consult their advisor, the Office of Global Education, and the mechanical engineering and material science director of undergraduate studies.

Options for a certificate in aerospace engineering, a certificate in energy and the environment, a minor in energy engineering, a minor or second major in electrical and computer engineering, or a second major in biomedical engineering are described in the *MEMS Undergraduate Program Handbook* (available at <https://mems.duke.edu/undergrad/degrees/planning>). Mechanical engineering and material science adheres strictly to the Pratt major and minor requirements described in the front portion of this bulletin. Students interested in second majors and minors with departments in Trinity College should seek information from the department of interest.



Duke Kunshan University Dual-Degree Program



Chris Hildreth

Overview

Duke Kunshan University

Duke Kunshan University (Duke Kunshan) is a US-China partnership of Duke University (Duke), Wuhan University, and the Municipality of Kunshan in Jiangsu province to create a world-class liberal arts and research university offering a range of academic programs for students from China and throughout the world. A nonprofit, joint-venture institution, Duke Kunshan University was granted accreditation approval by China's Ministry of Education (MOE) in September, 2013. Duke Kunshan welcomed its inaugural class of graduate students in August 2014 and launched the dual-degree undergraduate program in August 2018.

Duke Kunshan University Mission Statement

Duke Kunshan is a highly selective research-oriented, liberal arts and sciences university located in China, whose primary mission is to enable students from around the world to lead purposeful and productive lives. By delivering the highest quality undergraduate and graduate education that is truly interdisciplinary, Duke Kunshan prepares students for professional, intellectual and societal leadership roles across the globe. The core of the educational offering is a four-year undergraduate dual-degree program featuring an integrated and multi-disciplinary curriculum, with an effective blend of Chinese, American, and global techniques and values and a culture of academic excellence and freedom. World-class faculty pursue knowledge in service to society, involving students in innovative scholarship and research programs. As a premier US-China joint-venture university, Duke Kunshan embraces the integration of global, national and local traditions of thought and experience and promotes cross-cultural understanding and cross-border collaborations.

Duke Kunshan Animating Principles

Duke Kunshan aspires to provide a twenty-first century liberal arts education that helps students develop a sense of social responsibility and global citizenship, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings.

The overarching goals are embedded in the seven animating principles that are expressed throughout the curriculum:

1. **Rooted Globalism:** To cultivate informed and engaged citizens who are knowledgeable about each other's histories, traditions of thought, and affiliations; and skilled in navigating among local, national, and global identities and commitments.
2. **Collaborative Problem-Solving:** To instill the habits of collaboration and the ability to synthesize disparate insights in solving complex challenges.
3. **Research and Practice:** To enhance the ability to forge links between theory and practice in the many-sided and rapidly changing world of human need.
4. **Lucid Communication:** To develop the ability to communicate effectively, both orally and in writing, and to listen attentively to different viewpoints in coming to mature judgments.
5. **Independence and Creativity:** To nurture free inquiry, deep reflection and a drive to ask interesting questions and find compelling answers.
6. **Wise Leadership:** To shape thinkers and doers who possess the moral compass to guide communities and institutions toward a common good and who have the wisdom and technical competence to deal effectively with complexity.
7. **A Purposeful Life:** To form reflective scholars who test their core beliefs, who connect their course of study to big questions of meaning, and who build the capacity for lifelong learning and exploration.

Duke Kunshan is accredited by the MOE. Duke is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) in the United States to award baccalaureate, master's and doctorate degrees. Duke Kunshan is not accredited by SACSCOC and the accreditation of Duke does not extend to or include Duke Kunshan or its students.

Kunshan City

Kunshan, located in the southeastern part of Jiangsu province, is a satellite city in the greater Suzhou region and adjacent to Shanghai municipality, two of the largest and most developed metropolitan areas in China. Kunshan is regarded as one of the most economically successful county-level administrations in China. It was ranked first in the "25 Best County-level Cities in China" study by Forbes China for the sixth year running in 2014. With an immigrant population larger than the number of its permanent residents, Kunshan is the winner of the UN-HABITAT Scroll of Honor Award 2010 along with Singapore and Vienna, the most prestigious award given by the United Nations in recognition of work carried out in the field of human settlements development, for its innovative approach to granting migrants the right to essential services in the city. It also carries titles and awards such as National Hygiene City, Excellent Tourism City of China, and National Garden City, as well as National Model City of Environment Protection and National Model Zone of Ecology.

Kunshan is culturally significant as the origin of Kunshan diao, the melody which ultimately evolved into Kunqu Opera, one of China's eldest extant theater arts, which has been listed as one of the World Intangible Culture Heritages by UNESCO. In history, famous figures include Zu Chongzhi, Gong Xian, Gu Yanwu, Gui Youguang, and Zhu Bailu.

Duke's Office of Duke Kunshan Programs

The Duke Office of Duke Kunshan Programs, located on Duke's campus in Durham, North Carolina, coordinates the academic and programmatic elements of Duke Kunshan programs from the perspective of Duke's faculty and administration.

Duke's Office of Duke Kunshan Programs works in conjunction with [Duke Kunshan leadership](#) and senior Duke administrators to plan and develop academic, research, and training programs at Duke Kunshan, and to oversee the study at Duke experience of Duke Kunshan students in the following ways:

- developing collaborative opportunities for Duke faculty and students at Duke Kunshan,
- ensuring the quality of academic programs at Duke Kunshan and ensuring that Duke Kunshan programs meet relevant U.S. accreditation requirements pursuant to the awarding of Duke degrees,
- coordinating review of courses and faculty appointments at Duke Kunshan on behalf of the Duke faculty,
- working across campus to plan and implement study at Duke for Duke Kunshan students who elect to study abroad at Duke,
- working with Duke faculty to develop new academic programs at Duke Kunshan,
- publicizing Duke Kunshan activities and collaborations to members of the Duke community, and
- coordinating the Duke components of the four-year undergraduate program at Duke Kunshan.

The office helps cultivate and facilitate Duke faculty involvement in Duke Kunshan and in China by providing support and funding for course development, research, workshops and other events that promote collaboration across the institutions. In addition, the office works with Duke and Duke Kunshan administrators to support Duke Kunshan students while they study at Duke and to help Duke students who attend Duke Kunshan integrate the experience into their curriculum planning.

Duke's Office of Duke Kunshan Programs is located on the second floor of the Flowers Building on Duke's West Campus. Students can reach the office by using the information below or by contacting a staff member directly.

Mailing Address

Office of Duke Kunshan University Programs
Box 90036
Durham, NC 27708

Physical Address

Office of Duke Kunshan University Programs
404 Chapel Drive
Flowers Building, Suite 214
Durham, NC 27708

Phone: (919) 684-1958
Fax: (919) 668-7860
Email: dkuprograms@duke.edu

Admissions

Per Duke's Collaboration Agreement with Duke Kunshan University (Duke Kunshan) for the dual-degree framework, Duke collaborated with Duke Kunshan to establish and approve standards for admissions that are consistent with those at Duke now and in the future, while also meeting China's Ministry of Education requirements.

Duke Kunshan strives to attract a high caliber, diverse and talented group of students from around the world. The admission criteria are similar to those at Duke University. While academic excellence and accomplishments, broadly defined, are important factors for admissions consideration, Duke Kunshan highly values a student's 'adventurous' spirit, global orientation, ability to overcome obstacles, and potential to positively impact the campus and community life.

Early Decision: The application deadline is November 2, 2020. International applications will be reviewed by an Admissions Committee and select applicants will be invited for video interviews in late November 2020. Admission offers will be released by late December 2020.

Regular Decision: The application deadline is January 2, 2021. International applications will be reviewed by an Admissions Committee. Select applicants will be invited for video interviews between January and March 2021. Admission offers will be released by the end of March 2021.

CSS Profile Deadlines: Students who want to be considered for financial aid should complete a CSS Profile application with their admissions application. Final deadlines are November 15 for Early Decision applicants and February 1 for Regular Decision applicants.

All admitted international students will be invited to the Duke Kunshan campus in April 2021 for the International Admitted Student Experience. Lodging, transportation to and from Kunshan, and meals will be provided.

Candidates from China participate in a one-day campus interview in March and applicants from Hong Kong, Macao, and Taiwan are invited to interview via tele-conference. All interviews are conducted in English. Shortlisted applicants will typically be notified of their status in April and final offers will be made once Gaokao scores are announced in June and July.

How to Apply

International students applying to Duke Kunshan University must complete the Common Application. No application fee is charged. On the Common Application, international students select a decision plan (Early Decision or Regular Decision), which determines when their applications for admission are due as well as when they will be notified of an admission decision. Students can select only one of the decision plans when submitting application, and those who have selected Early Decision will not be considered during the Regular Decision cycle if an admissions decision is made during the Early Decision round. International applicants are required to submit either their SAT or ACT test scores. The Duke Kunshan University CEEB code is 16406.

Applicants with Chinese citizenship apply through Slate and are required to take the Gaokao test, regardless of where their high school is located.

For information on tuition, financial support, as well as more in-depth information about Duke Kunshan University, please visit <https://dukekunshan.edu.cn/en/admissions>.

Students who apply to Duke and not to Duke Kunshan are not eligible for the dual-degree program.

Standards and Policies

In general, students participating in the dual-degree program are subject to academic procedures, standards, and policies of the institution the student is enrolled in at the time. While enrolled in courses on the Duke campus, Duke instruction courses or participating in a Duke-In study abroad program, students are subject to the majority of Duke's Trinity College of Arts & Sciences academic policies and procedures. However, the following policies and procedures directly related to transfer, registration restrictions, and application of academic credits were modified to better suit the unique nature of the dual-degree academic program.

1. Academic Concerns of Students

Teaching and learning is based on collaboration between instructors and students. Occasionally, however, the student-faculty dynamic in a course can inhibit successful teaching and learning. When this occurs, students often need assistance in resolving the issue, and should not hesitate to seek assistance from faculty and administrative officers in resolving problems.

Students who have questions about the content of a course taken on the Duke campus or as a part of a Duke-in study abroad academic program, about an instructor's methods of presentation of material, the level of discourse, criteria for evaluation of students, or administrative procedures in the course, should contact the course instructor. Even if a student doubts that a productive discussion with the instructor is possible, he/she is best positioned to address student concerns and is often the best first point of contact before a matter is referred to the director of undergraduate studies or, in his or her absence, to the chair of the department. Students should be able to resolve most course-related academic concerns thorough direct consultation with the instructor.

However, in exceptional cases in which a problem remains unresolved after informal discussions have taken place, students can appeal the matter to the senior associate dean of Trinity College or the senior associate dean for education in the Pratt School of Engineering. The senior associate dean will request information about the nature of the issue and about the earlier efforts students have made to resolve them. If the problem concerns a specific course, it should be directed to the senior associate dean of the college or school in which the course is taught.

- If a student concern involves a departmental policy rather than an individual course, students should confer with the director of undergraduate studies in the department; a list for Trinity can be found at <https://trinity.duke.edu/directory/directory> and a list for Pratt can be found at <https://pratt.duke.edu/undergrad/students/policies/3495>. When necessary, the director of undergraduate studies can refer a student to the department chair. Students can also contact their academic dean if they are in doubt about how to proceed with a matter of concern.
- If a student's concern involves a Duke instruction course or academic policy on the Duke Kunshan campus, students should refer to the relevant Duke Kunshan academic policies.

Finally, if a student's academic concern arises from a poor course grade submitted by an instructor at the end of the semester for a course taken at Duke or as part of a Duke-in study abroad academic program, there is a separate procedure established for handling [grade complaints](#).

2. Courses: Course Load at Duke

Students are admitted to full-time study and responsible to make certain that their course load conforms to academic requirements, including the requirement to enroll in at least 4.0 course credits during a semester at Duke, except when expressly authorized to enroll in an underload by their [academic dean](#) (see below). This policy is strictly enforced.

Normal Load: A normal course load is defined as four (4.0) course credits and, as noted above, students are expected to enroll in at least this many course credits each semester.

Overload: Dual-degree students are free to enroll in a course overload of 4.5 course credits.

Underload: Dual-degree students are not eligible for an underload.

3. Courses: Repeating

Students in the dual-degree program should generally follow the [course repeating policy](#) in Trinity. An exception for the dual-degree program is that students may repeat a course taken at Duke at Duke Kunshan with approval.

4. Courses: Course Load at Duke

Students in the dual-degree program follow the Trinity [policy on course grading and the satisfactory/unsatisfactory \(S/U\) option](#) when enrolling in courses at Duke and follow the Duke Kunshan policy on course grading and the credit/no credit (CR/NC) option when enrolling in courses at Duke Kunshan. Students are not allowed to change a letter grade of a course taken at Duke to CR/NC when they return to Duke Kunshan.

5. Credit: Limitations and Restrictions

There are specific requirements concerning course credits in the dual-degree program and how these course credits apply to graduation requirements.

- a. 34.0 Duke course credits are required for graduation.
- b. At least 25% of the 34.0 Duke credits (8.5 Duke course credits) must be Duke-originated courses, defined as courses offered through Duke University or taught by Duke or Duke-affiliated faculty, and all are subject to the approval processes by relevant Duke course committees. Duke-originated courses include those taught at Duke University, the Duke University Marine Laboratory, Duke Kunshan University, and Duke-originated courses that are offered in Duke-In study away programs.
- c. Up to 75% of the 34.0 Duke course credits may be non-Duke originated course credits and can include any combination of the following:
 - Two pre-matriculation credits, i.e., AP, International Placement Credit (IPC), and pre-matriculation Course Credit (PMC). If a student has more than two AP/IPC/PMC credits, Duke will record all of them on the Duke transcript and the student may use all for placement into higher-level coursework and to satisfy departmental major or minor requirements to the extent allowed by the individual department, but only 2.0 credits will count toward the 34.0 credits needed for graduation. If a student intends to graduate early, they may apply additional AP/IPC/PMC credits toward the 34.0 credits required for graduation, but the student is still subject to the required number of Duke-originated courses taken post-matriculation.
 - Two institutional transfer credits arranged by the student on their own at another accredited, four-year university or college in the United States or abroad.
 - Transfer credits the student takes through Duke Kunshan.

6. Summer Session and Policies

Students are allowed to enroll in the six-week term and register for one, two, or three courses as long as students do not exceed 2.5 course credits in one term. However students may not register for more than one natural science laboratory course in any one term. Please note that students on a J-1 visa are required to enroll in 2.0 course credits in the six-week term. Contact the Duke Visa Services office with any questions about requirements for maintaining visa status. For additional more information on Trinity's summer session policies, see <https://trinity.duke.edu/undergraduate/academic-policies/summer-sessions-and-policies>.

7. Transfer Credit

After matriculation, dual-degree undergraduates may receive a limited amount of transfer credit for courses taken at other approved degree-granting institutions. Credit may be earned in two ways:

1. Through direct non-Duke instruction courses at Duke Kunshan.
2. Through a limited amount of institutional enrollment, where students are not engaged in a Duke-approved study abroad program and instead enroll on their own at another four-year college or university in or outside of the United States. This type of transfer credit is subject to approval from the relevant academic dean at Duke.

8. Graduation: Requirements

Duke/Duke Kunshan dual-degree undergraduates may earn one of two Duke degrees:

- Bachelor of Arts (AB); or
- Bachelor of Science (BS).

The Duke Kunshan University curriculum is designed to meet the requirements outlined for both the Duke and Duke Kunshan undergraduate degrees. A total of 136.0 Duke Kunshan credits is required for graduation with

a Duke Kunshan bachelor's degree and 34.0 Duke course credits (1.0 Duke course credit is equivalent to 4.0 Duke Kunshan credits) is required for graduation with a Duke bachelor's degree. At least 25 percent of the credit hours required for the undergraduate degree must be completed through Duke-originated courses.

To meet the 136.0 credit requirement, students need to take elective courses. The curriculum is designed to enable a wide range of flexibility for students. Some may elect to use their full range of electives to go wide and broad while others may elect to dive deep into their areas of disciplinary study.

There are additional credit-bearing requirements for the Duke Kunshan degree for students from the Chinese mainland, Hong Kong, Macau, and Taiwan per Chinese Ministry of Education requirements. The details of these requirements are listed in Part 3: The Curriculum of the [Duke Kunshan Undergraduate Bulletin](#).

Duke University and Duke Kunshan University each confer separate degrees on candidates recommended by the faculty of the interdisciplinary majors and approved by the trustees (or other top-level governing body) at each respective academic institution.

9. Leave of Absence: Medical or Personal

While studying at Duke, students in the dual-degree program may request a medical or personal leave. If a student is contemplating a medical leave, consult with their academic dean as soon as possible. The academic dean will work with the dean of undergraduate studies at Duke Kunshan to process the request. A student must resubmit a Duke Kunshan University Study at Duke program application to return for study at Duke.

10. Withdrawal: Voluntary

While studying at Duke, students may choose to withdraw for health or financial issues, or for personal reasons. To withdraw, students must meet with their academic dean, and their academic dean will work with the dean of undergraduate studies at Duke Kunshan to process the request. A student must resubmit a Duke Kunshan University Study at Duke program application to return for study at Duke.

11. Withdrawal: Disciplinary Suspension

While studying at Duke, if a student violates university expectations as outlined in [The Duke Community Standard in Practice: A Guide for Undergraduates](#), the student may be subject to suspension (an involuntary withdrawal or dismissal from the university for a specified number of semesters) or permanent expulsion. If a student is found responsible for a conduct violation that leads to a suspension from the university, the Office of Student Conduct will notify the student and the academic dean of that decision. The student's academic dean will work with the dean of undergraduate studies at Duke Kunshan to withdraw the student from both Duke and Duke Kunshan, close the student's student record, and notify the advisors, instructors, and all appropriate offices. The withdrawal will be entered on the student record.

Curriculum Components

The Duke Kunshan curriculum begins from liberal arts principles and is imbued with the hallmarks of a Duke education blended with Chinese tradition: interdisciplinary approaches, engagement with research questions, problem-based and team-based learning, and opportunities for students to craft individual pathways and deepen their intellectual engagement over time. It is a kind of education that builds critical and problem-solving skills, simultaneously conferring a broad base of knowledge and fostering the ability to interrogate that knowledge and apply it flexibly. It is also deeply cross-cultural in its orientation: Duke Kunshan gives all participants the continual experience of learning to see from multiple points of view and to work together across cultural boundaries—a crucial skill for the future.

A Liberal Arts College Experience

The small-scale residential setting at Duke Kunshan offers significant opportunities for innovative and integrated forms of learning, an especially close connection between faculty and students, and the intermixing of students with different interests. In addition, Duke Kunshan offers creative alignment between its undergraduate curriculum and selected areas of research strength at Duke Kunshan and at Duke University.

The Kunshan Campus

The Duke Kunshan Campus is located in the newly developed west side of Kunshan. It is approximately a twenty-minute drive to the city center of Kunshan.

All students are required to live in on-campus housing for the first year and designated off campus housing for the rest of their study. Graduate students may live off campus after approval from Residence Life.

The Duke Kunshan campus features six buildings: the Academic Center, the Student Residence, the Faculty Residence, Services Building, the Conference Center and the Innovation Building. The buildings surround a tranquil lake with walkways over water that join at a central pagoda. A second phase of campus construction will include the main library, additional classrooms, research building, student and faculty housing and athletic facilities.

Academic Building

With offices and classrooms over three floors, the building houses teaching programs and administrative staff, as well as an auditorium, library, ballroom, cafeteria, dining room, and cafe. An open central atrium serves as a campus “living room,” emblematic of Duke Kunshan’s emphasis on collaboration and community. The atrium and roof terraces provide views of the campus and a lake to the west.

Innovation Building

Over three stories, the building houses laboratories set up with cutting-edge equipment, classrooms, faculty offices, and conference rooms.

Library Resources

The Duke Kunshan Library is currently located on the first and second floors of the Academic Building. It operates in collaboration with Duke University Libraries (DUL) on the Durham campus and supports the research, instruction, and learning needs of Duke Kunshan faculty, staff, and students.

The Duke Kunshan Library website (<https://dukekunshan.edu.cn/en/academics/library>) provides access to the library’s resources and services provided by the Duke Kunshan Library.

Additional Resources

The Duke Kunshan campus offers a vast number of academic support services, amenities, housing, and other campus-based resources. A complete list of campus-based resources can be found in the Duke Kunshan University Student Handbook, which can be found online at https://dukekunshan.edu.cn/sites/default/files/u102705/duke_kunshan_university_student_handbook_2020-2021-updated_september_4_2020.pdf.

Curriculum Overview

In line with the definition of dual-degree agreements as defined by the Southern Association of College and Schools Commission on Colleges, students who complete Duke Kunshan University’s four-year undergraduate curriculum will receive two degrees, one from Duke University (accredited by the Southern Association of Colleges and Schools Commission of Colleges), and one from Duke Kunshan University (approved by the Ministry of Education of China), and will be alumni of both institutions. All students must fulfill the requirements for both the Duke University and the Duke Kunshan University degrees.

The undergraduate academic program at Duke Kunshan is organized by three divisions, rather than by traditional academic departments:

- 1. Natural Sciences**
- 2. Arts and Humanities**
- 3. Social Sciences**

Students take foundational courses in their division as well as broad, integrated interdisciplinary courses and disciplinary courses to gain specific expertise for their major. Depending on division and language proficiency, eight to thirteen of students’ courses are electives. These courses enable them to deepen their interests or explore more broadly.

Students can choose their majors based on their interests by combining different forms of specialized training with their overall integrated plan of study. This structure allows students to follow a unique academic path that suits their intellectual drive.

For a complete list of majors offered at Duke Kunshan University, visit <http://undergrad.dukekunshan.edu.cn/majors/>.

To meet Duke Kunshan's rigorous academic requirements for graduation, all students must complete the Common Core and language course requirement as well as demonstrate proficiency in communication skills.

Curriculum Components

1. **Common Core (3 courses).** These courses create a common platform for cross-cultural engagement, ensuring that all students share the same experience. They focus on the big questions, critical challenges, and issues with which all students must be prepared to engage. Students take one course each year for the first three years.
 - **China in the World** focuses on historical and contemporary commercial, intellectual, and scientific exchanges between China and other nations.
 - **Global Challenges in Science, Technology, and Health**, which addresses key developments in fields such as biotechnology, nanotechnology, and information technology, highlights the global environmental challenges of our time, and teaches strategies for critically evaluating scientific claims.
 - **Ethics, Citizenship, and the Examined Life** examines traditional Asian and Western ideals and contemporary analyses of morality, pluralism, and democracy.
2. **Language (2-4 courses depending on proficiency).** One of Duke Kunshan University's goals is for students to graduate with strong skills in multiple languages, especially English and Chinese. To this end, all students are required to take 2-4 foreign language courses appropriate to their needs
3. **Communication (Writing, Speaking, and Listening).** In the twenty-first century, success in both career and civic life requires the ability to communicate effectively. To ensure that Duke Kunshan students develop these abilities, guided practice in writing, speaking, and listening will be a component in the majority of courses.
4. **The Semester Term.** The semester is divided into two intensive 7-week sessions. Students typically take two courses in each session. Classes are held Monday-Thursday. Fridays and mini-sessions falling between the 7-week sessions are intended for experiential learning including field trips, internships, and civic engagement.
5. **Mini-Session Courses.** All students are required to take one ungraded mini-session course. These are intensive courses that typically last a week and provide a focused exposure to a single topic about which a student might have curiosity but no experience.
6. **Signature Work.** During their sophomore year, students work with their faculty mentors to begin identifying the major questions, problems, or issues on which they would like to focus. Students create a project e-portfolio to demonstrate their progress and the new products they create for scholarly, private sector, and public audiences. These products will be drawn from a number of experiences inside and outside of the classroom including mentored research, creative expression, internships, community-based fieldwork, and other civic projects.
7. **Research.** All undergraduate students have opportunities to participate directly in advanced academic research. Advisors and faculty mentors help match students to research projects that are complementary to their areas of study.

Courses

Course credit at Duke Kunshan University follows the same standard as Duke University in terms of instruction hours and off class study hours. Of the 34 course credits required for graduation, a maximum of two course credits passed with a D grade (D, D+, D-) can be used toward the 34 course credit requirement. The 34 course credits may include (1) no more than 0.5 course credits in physical education activity courses (i.e., two activity PE courses); (2) no more than four elective courses taken on a Pass/Fail grading basis (not including courses offered only on that basis); (3) no more than 10 course credits combining any allowable transfer credits including AP/IPC/PMC, transfer credits for study abroad, etc.; and (4) no more than 6.0 course credits in the graduate and professional school. These courses include those offered by Duke Kunshan University's MMS, MP, and iMEP programs; Duke University schools of business, law, divinity, and nursing; and all Duke University graduate courses numbered 500 and above. These courses are generally not open to undergraduates and require special permission to enroll.

Duke Instruction Courses at Duke Kunshan University

Duke Kunshan students have the opportunity to take classes from Duke faculty on the Kunshan campus. The Duke Instruction coursework appears on both the Duke Kunshan transcript and the Duke transcript. The Duke transcript will reflect the Duke course and the corresponding grade for the particular term completed. The list below represents the current Duke instruction courses at Duke Kunshan.

Courses in Arts and Humanities (K_ARHU)

101. The Art of Interpretation: Written Texts. Training in close reading and analysis of text remains a foundational skill in the arts and humanities, whether the text is literary or documentary. This core course combines practical training in close reading of a variety of texts, with strategies of analysis that are theoretically informed without, however, offering a comprehensive treatment of theory per se. The course will focus both on reading and analysis of literary texts, and on the nuanced unpacking of documents (official, unofficial, personal) with a view to historical method. One course.

102. The Art of Interpretation: Images and Sound. This class will train students to develop skill and sophistication in viewing and analysis of images, including art objects, film, and new media; and in sound studies, including sonic culture, film music, and traditional musical arts. The goal is audiovisual literacy – the creation and interpretation of sound and image that

has become central to the ways we experience and understand the world. This core course combines practical training (how to see, how to hear) with a variety of modes of analysis. One course.

Courses in Biology (K_BIOL)

110. Integrated Science - Biology. Introduces major concepts in eukaryotic cell biology with a focus on molecular biology. A major emphasis is placed on transcription, translation, protein targeting and transport. In addition, the structure and function of organelles and how they function in metabolism and energetics will be examined. The role of the cytoskeleton and extra cellular matrix in governing cell shape and motility will be addressed as well as the genetic regulation of DNA replication and its place in the cell cycle and how disruption of either can lead to cancer. The laboratory portion of the class would introduce common laboratory molecular biology techniques like DNA isolation, PCR, cloning, sequencing, immunocytochemistry and fluorescent microscopy. One course.

201. Cell and Molecular Biology. Introduces major concepts in eukaryotic cell biology with a focus on molecular biology. A major emphasis is placed on transcription, translation, protein targeting and transport. In addition, the structure and function of organelles and how they function in metabolism and energetics will be examined. The role of the cytoskeleton and extra cellular matrix in governing cell shape and motility will be addressed as well as the genetic regulation of DNA replication and its place in the cell cycle and how disruption of either can lead to cancer. The laboratory portion of the class would introduce common laboratory molecular biology techniques like DNA isolation, PCR, cloning, sequencing, immunocytochemistry and fluorescent microscopy. One course.

203. Molecular, Behavioral and Social Evolution: Evolution of Genomes, Traits, Behaviors and Societies.

Looks through the lenses of different disciplines to examine Darwin's theories on natural selection and evolution, and explore current ideas about the evolution of complex social behaviors and societies. This course starts with an introduction to the key concepts of biological evolution; variation, inheritance, fitness, natural selection and the modification of physical traits, followed by an examination of how simple behaviors evolved in animals and humans. Discussion of these topics also considers ideas from other disciplines that influenced Darwin, such as those of economist, Thomas Malthus and geologist, Charles Lyell. The second part of the course investigates how Darwin's theories might also explain the evolution of social behaviors such as cooperation, altruism and language, and considers some contemporary theories about the evolution of societies. Finally, the course will end with an investigation of Darwin's influence on important ideas within other disciplines such as those o One course.

Courses in Chemistry (K_CHEM)

110. Integrated Science - Chemistry. With an integrated approach, this course examines basic concepts and fundamental principles in chemistry based on the laws of physics. The course starts with an introduction to the static structures of atoms, molecules and matter including life itself, followed by an exploration of the dynamical and collective processes during chemical reactions. It explains how atoms, the basic building blocks of matter, interact with each other and construct the world around us, how subatomic electrons modulate the chemical properties of elements, and how the rearrangement of atoms during chemical reactions gives rise to astonishing phenomena in nature. Centered on topics in chemistry, this course not only prepares students for upper-level disciplinary courses, but also helps students develop an interdisciplinary molecular perspective, which allows them to tackle problems in various fields such as condensed matter physics, molecular biology, medicine, materials science and environmental science. Whil One course.

120. Core Concepts in Chemistry: An Environmental Perspective. Current challenges and opportunities in environmental science require a foundational knowledge of core concepts in chemistry. In this course, students will learn core chemical concepts including properties of gases and solutions, thermodynamics, kinetics, equilibrium, electrochemistry and nuclear chemistry as they apply to the understanding of ozone depletion, photochemical smog, climate change, acid deposition, dissolved oxygen, pH, alkalinity and alternative energy sources. One course.

210. General Chemistry II. This course is the continuation of the Integrated Science - Chemistry continuum, including intermolecular forces, states of matter, aqueous ionic equilibrium and solubility equilibrium, dynamics (kinetics and thermodynamics), electrochemistry, and nuclear chemistry. Lab experiments verifying related theories and utilizing data analysis are also part of the course. One course.

Courses in Chinese (K_CHN)

101. Beginning Chinese 1. This course is for students with little or no knowledge of the Chinese language, and is designed for building basic communicative proficiency in Mandarin Chinese. The course teaches speaking, listening, reading, and writing skills, but it places special emphasis on the oral communication skills needed for daily life interactions in Chinese, and students will be required to practice using Chinese for daily life tasks outside class. Students will begin learning to read basic high-frequency characters, and learn how to write characters properly with correct stroke order. Additionally students will learn about Chinese culture, especially as it relates to managing the daily tasks of life in China. One course.

101A. Beginning Chinese 1 - A. This course is for students with little or no knowledge of the Chinese language, and is designed for building basic communicative proficiency in Mandarin Chinese. The course teaches speaking, listening, reading,

and writing skills, but it places special emphasis on the oral communication skills needed for daily life interactions in Chinese, and students will be required to practice using Chinese for daily life tasks outside class. Students will begin learning to read basic high-frequency characters, and learn how to write characters properly with correct stroke order. Additionally students will learn about Chinese culture, especially as it relates to managing the daily tasks of life in China. Half course.

101B. Beginning Chinese 1 - B. This course is for students with little or no knowledge of the Chinese language, and is designed for building basic communicative proficiency in Mandarin Chinese. The course teaches speaking, listening, reading, and writing skills, but it places special emphasis on the oral communication skills needed for daily life interactions in Chinese, and students will be required to practice using Chinese for daily life tasks outside class. Students will begin learning to read basic high-frequency characters, and learn how to write characters properly with correct stroke order. Additionally students will learn about Chinese culture, especially as it relates to managing the daily tasks of life in China. Half course.

102. Beginning Chinese 2. This course continues teaching basic communicative proficiency in Mandarin Chinese. As with CHINESE 101, the course teaches speaking, listening, reading, and writing skills. Special emphasis will be placed on learning the oral communication skills needed for daily life interactions in Chinese, and students will be expected to practice using Chinese for daily life tasks outside class. Students will learn to read high-frequency characters and learn how to write characters properly with correct stroke order. Additionally students will learn about Chinese culture, especially as it relates to managing the daily tasks of life in China. One course.

131. First Year Chinese for Heritage Learners 1. This course is designed for CSL track students who were raised in a Chinese-speaking environment and learned to speak Chinese at home but have little or no ability to read or write in Chinese. This course introduces basic Chinese reading and writing skills. One course.

132. First Year Chinese for Heritage Learners 2. This course is a continuation of CHINESE 131. This course will continue developing students' reading and writing ability in Chinese, improving their pronunciation and their grasp of the grammatical structures of Mandarin, and expanding vocabulary beyond daily life. Students will develop these skills both through curricular activities (such as pair work, writing essays and diaries, and group work) and extracurricular activities (such as Chinese Table and Language Partners). Topics of the course will vary from home and social life to cultural and social issues. One course.

201. Intermediate Chinese 1. This course is designed to help students continue building communicative proficiency in Mandarin Chinese. The primary emphasis is on oral communication skills, with a focus on conversations in Chinese, and students will be expected to find opportunities outside class to practice using their Chinese for social interaction. Students will also learn to read dialogues that provide good models of social interaction in Chinese, and will practice writing simple texts. Additionally students will learn about Chinese culture, especially as it relates to Chinese life and society. One course.

201A. Intermediate Chinese 1 - A. This course is designed to help students continue building communicative proficiency in Mandarin Chinese. The primary emphasis is on oral communication skills, with a focus on conversations in Chinese, and students will be expected to find opportunities outside class to practice using their Chinese for social interaction. Students will also learn to read dialogues that provide good models of social interaction in Chinese, and will practice writing simple texts. Additionally students will learn about Chinese culture, especially as it relates to Chinese life and society. Half course.

201B. Intermediate Chinese 1 - B. This course is designed to help students continue building communicative proficiency in Mandarin Chinese. The primary emphasis is on oral communication skills, with a focus on conversations in Chinese, and students will be expected to find opportunities outside class to practice using their Chinese for social interaction. Students will also learn to read dialogues that provide good models of social interaction in Chinese, and will practice writing simple texts. Additionally students will learn about Chinese culture, especially as it relates to Chinese life and society. Half course.

202. Intermediate Chinese 2. This course is designed to help students continue building basic communicative proficiency in Mandarin Chinese. The primary emphasis is on oral communication skills, with a focus on social conversations in Chinese, and the course includes assignments in which students will find opportunities outside class to practice using their Chinese for social interaction. Students will also continue building their ability to read dialogues that provide good models of social interaction in Chinese, and practice writing simple texts. Additionally students will learn about Chinese culture, especially as it relates to Chinese life and society. One course.

301. Advanced Intermediate Chinese 1. This course reinforces what students have learned in the Intermediate Chinese courses, and continues to expand and refine their skills in listening, speaking, reading, and writing by learning a variety of texts that are written with advanced vocabulary (including academic vocabulary and vocabulary denoting abstract concepts), complex grammatical structures, and formal language uses. In addition, students will be introduced to current social issues in China (such as parenting, demographics, marriage, etc.) and different aspects of Chinese culture (such as courtesy, family relationships, ethics, etc.). Through learning and discussing these social and cultural issues, students are expected to deepen their understanding of Chinese society and culture. Students will further practice their spoken Chinese outside class by conversing with Chinese speakers about the topics studied in class. One course.

301A. Advanced Intermediate Chinese 1 - A. This course reinforces what students have learned in the Intermediate Chinese courses, and continues to expand and refine their skills in listening, speaking, reading, and writing by learning a

variety of texts that are written with advanced vocabulary (including academic vocabulary and vocabulary denoting abstract concepts), complex grammatical structures, and formal language uses. In addition, students will be introduced to current social issues in China (such as parenting, demographics, marriage, etc.) and different aspects of Chinese culture (such as courtesy, family relationships, ethics, etc.). Through learning and discussing these social and cultural issues, students are expected to deepen their understanding of Chinese society and culture. Students will further practice their spoken Chinese outside class by conversing with Chinese speakers about the topics studied in class. Half course.

301B. Advanced Intermediate Chinese 1 - B. This course reinforces what students have learned in the Intermediate Chinese courses, and continues to expand and refine their skills in listening, speaking, reading, and writing by learning a variety of texts that are written with advanced vocabulary (including academic vocabulary and vocabulary denoting abstract concepts), complex grammatical structures, and formal language uses. In addition, students will be introduced to current social issues in China (such as parenting, demographics, marriage, etc.) and different aspects of Chinese culture (such as courtesy, family relationships, ethics, etc.). Through learning and discussing these social and cultural issues, students are expected to deepen their understanding of Chinese society and culture. Students will further practice their spoken Chinese outside class by conversing with Chinese speakers about the topics studied in class. Half course.

302. Advanced Intermediate Chinese 2. This course transitions students toward reading authentic texts relating to Chinese society (e.g., newspaper and magazine articles), with emphasis on learning relevant vocabulary. It also builds students' ability to comprehend authentic media resources (e.g., television programs, documentaries, etc.) on similar topics. Oral skills will be built through discussion of these topics, and students will also be expected to practice their spoken Chinese outside class by conversing with Chinese speakers about the topics studied in class. Students will also continue to build their writing skills by writing short papers in Chinese relating to the topics studied. One course.

401. Advanced Chinese - Issues in Modern China 1. In this course students will learn about social and cultural issues in China through study of authentic texts in Chinese and authentic media resources (e.g., television programs, documentaries, etc.). Oral skills will be built through discussion of these topics, and students will also be expected to practice their spoken Chinese outside class by talking with Chinese speakers about the topics studied in class. Students will also continue to build their writing skills by writing short papers in Chinese relating to the topics studied. One course.

401A. Advanced Chinese - Issues in Modern China 1 - A. In this course students will learn about social and cultural issues in China through study of authentic texts in Chinese and authentic media resources (e.g., television programs, documentaries, etc.). Oral skills will be built through discussion of these topics, and students will also be expected to practice their spoken Chinese outside class by talking with Chinese speakers about the topics studied in class. Students will also continue to build their writing skills by writing short papers in Chinese relating to the topics studied. Half course.

401B. Advanced Chinese - Issues in Modern China 1 - B. In this course students will learn about social and cultural issues in China through study of authentic texts in Chinese and authentic media resources (e.g., television programs, documentaries, etc.). Oral skills will be built through discussion of these topics, and students will also be expected to practice their spoken Chinese outside class by talking with Chinese speakers about the topics studied in class. Students will also continue to build their writing skills by writing short papers in Chinese relating to the topics studied. Half course.

402. Advanced Chinese - Issues in Modern China 2. The Advanced Chinese course sequence is designed to build students' ability to read authentic texts in Chinese, such as newspaper texts; it also builds students' ability to watch and listen to authentic media programs (e.g., television programs, documentaries, etc.). Students will be introduced to the following themes: popular culture, social change, cultural traditions, history and politics. Through study and discussion, students will be able to better understand the social and cultural issues in China, improve reading and listening abilities, and deliver detailed and organized presentations on these topics. One course.

406. Debating Issues in Contemporary China. In this course students will read research issues in contemporary China, primarily using Chinese language resources, and develop advanced speaking skills through debating these issues. One course.

Courses in Chinese Society and Culture (K_CHSC)

101. Chinese Humanistic Spirit and Institutions. This course explores the humanistic spirit inherent in Chinese culture and the forms and changes of historically influential political systems. Topics will be closely linked to two aspects of the humanistic spirit and social institutions. On the one hand, it allows students to understand the philosophical spirit and moral reasoning characteristic of Chinese culture, as well as the Chinese political system along with its changes. On the other hand, it enables students to appreciate the intrinsic spirit of Chinese culture featuring introspection, learning, tolerance and constant change, therefore revealing the internal spiritual forces for China's social institution reforms as well as the universality and uniqueness of contemporary China's social, political and legal institutions. One course.

102. Chinese Humanistic Spirit and Institutions. This course explores the humanistic spirit inherent in Chinese culture and the forms and changes of historically influential political systems. Topics will be closely linked to two aspects of the humanistic spirit and social institutions. On the one hand, it allows students to understand the philosophical spirit and moral reasoning characteristic of Chinese culture, as well as the Chinese political system along with its changes. On the other hand, it enables students to appreciate the intrinsic spirit of Chinese culture featuring introspection, learning, tolerance and constant

change, therefore revealing the internal spiritual forces for China's social institution reforms as well as the universality and uniqueness of contemporary China's social, political and legal institutions. One course.

Courses in Computer Science (K_CMPSCI)

101. Introduction to Computer Science. As an introductory course for computer science, this course will bring you not only the fundamental knowledge on a variety of CS topics, but also the essential computational problem-solving skills with hands on programming experience. Successfully completing this course will serve a solid foundation for other courses in the computer science or data science major. It can also bring new concepts and tools to other domains in social science, arts humanities and natural science. This course is an elective course open to everyone, and no specific prerequisite required. One course.

201. Introduction to Programming and Data Structures. This course covers data and representations, functions, conditions, loops, strings, lists, sets, maps, hash tables, trees, stacks, graphs, object-oriented programming, programming interface and software engineering. One course.

Course in Cultural Anthropology (K_CULANT)

101. Introduction to Cultural Anthropology. This course introduces the key concepts and debates within Cultural Anthropology with topics such as racism and essentialism, kinship, gender and sexuality, globalization, etc. In an age where debates addressing migration, robotics, genetic engineering, and ecological crises abound, questions about how humanity is experienced and defined have become more pertinent than ever before. One course.

106. Home, House, and Housing: An Anthropological Exploration of Human Dwellings. This course will explore the home as a site of attachment, the house as a place that emerged from social relationships, and housing an infrastructure whose construction is shaped by politico-economic forces. The interrelationship between the home, the house, and housing will be discussed. The course will cover contemporary issues of housing such as gentrification, segregation, and eviction. The course will provide broader and deeper understandings of the meanings of home and our relationship to the built environment. One course.

Course in Cultures and Movements (K_CULMVE)

101. Cultures of Globalization. This course traces the histories of global exchange and explores how they intersect with various cultures of globalization in the present-day. This course analyzes how early exploration and colonial trade relate to global connections in the contemporary period. This course shows how historical and anthropological approaches have shed light on the importance of border-crossings and cross-cultural encounters in shaping social identities and differences; spatial cores and peripheries; and hierarchies and societal transformations. Attention to global encounters allows us to deepen our understanding of trade, civilization, state-building, labor, and global food chains. Together, these aspects of everyday life and social organization reveal the diversity and dynamism of globalization. One course.

Course in Data Science (K_DATASC)

293. Research Independent Study in Data Science. Research project mentored by an instructor with related interests and expertise, and the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor required. Variable credit.

Courses in English for Academic Purposes (K_EAP)

101. Writing about Language Learning. This is a content-based academic English skills course focused on writing, designed for first semester EAP-track students. In this course students will study one or more issues related to language learning (e.g., how to sustain motivation); then they will write course papers presenting their views on these issues. Students will learn how to research an issue, and how to appropriately quote and/or cite sources. They will learn how to plan and write course papers that summarize the views of others, state clear positions in response, and make cases for those positions. Students will also practice making short presentations. Additionally, students will design and carry out plans to improve the accuracy of their written English. This course, required for EAP-track students, is normally taken Year 1, Semester 1. There is no prerequisite. One course.

101A. Writing about Language Learning - A. This is a content-based academic English skills course focused on writing, designed for first semester EAP-track students. In this course students will study one or more issues related to language learning (e.g., how to sustain motivation); then they will write course papers presenting their views on these issues. Students will learn how to research an issue, and how to appropriately quote and/or cite sources. They will learn how to plan and write course papers that summarize the views of others, state clear positions in response, and make cases for those positions. Students will also practice making short presentations. Additionally, students will design and carry out plans to improve the accuracy of their written English. This course, required for EAP-track students, is normally taken Year 1, Semester 1. There is no prerequisite. Half course.

101B. Writing about Lang Learning - B. This is a content-based academic English skills course focused on writing, designed for first semester EAP-track students. In this course students will study one or more issues related to language learning (e.g., how to sustain motivation); then they will write course papers presenting their views on these issues. Students will learn how to research an issue, and how to appropriately quote and/or cite sources. They will learn how to plan and write course papers that summarize the views of others, state clear positions in response, and make cases for those positions. Students will also practice making short presentations. Additionally, students will design and carry out plans to improve the accuracy of their written English. This course, required for EAP-track students, is normally taken Year 1, Semester 1. Half course.

102. Writing about Culture Learning. This is a content-based academic writing course for EAP-track students that further builds written and oral communication skills introduced in EAP 101. In this course students will study generalizations that are often made about significant aspects of a Western culture (e.g., the idea that U.S. culture is relatively individualistic); then they will write papers in which they analyze and critically examine these generalizations. Students will practice researching issues and appropriately making use of resource materials. They will practice planning and writing course papers in which they take a stand on an issue and then make a case for their position. Students will also share ideas by making presentations. This course, required for EAP-track students, is normally taken Year 1, Semester 2. One course.

110. Presenting Ideas to Global Audiences. This theme-based seminar course emphasizes oral presentation, and part of the course will be devoted to study and analysis of effective presentations (e.g., selected TED talks). The specific theme of the course will vary according to instructor. Half course.

Courses in Economics (K_ECON)

101. Economics Principles. A survey of basic tools in economics. Examination of how commodity demand is determined, what affects supply of the commodity, how price is determined, when optimal market allocation of resources and failure occur, and basic topics concerning the aggregate economy. Students will apply these principles to contemporary social science issues. One course.

201. Intermediate Microeconomics I. 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. One course.

202. Intermediate Microeconomics II. Calculus-based generalization of the theory of demand and supply developed in Intermediate Microeconomics I. 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. One course.

Courses in Environment (K_ENVIR)

101. Introduction to Environmental Sciences. 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. The course includes field trips to local sites as relevant. One course.

102. Dynamic Earth and Oceans: Physical and Biological Sciences for the Environment. Introduction to the dynamic processes that shape the Earth, the oceans, and the environment and their impact upon society. Earth science topics might include volcanoes, earthquakes, seafloor spreading, floods, landslides, groundwater, seashores and geohazards. Ocean sciences topics might 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 formulation and testing of hypotheses, quantitative assessment of data, and technological developments that lead to understanding of the biosphere dynamics and associated current and future societal issues. One course.

204. Global Environmental Issues and Policies. This course examines problems associated with the interaction of humans with their environment. This course mainly focuses on various global environmental concerns, such as climate change, biodiversity, environmental pollution, and natural resources. This course explores case studies illustrating specific problems in different regions and countries and the proper role of local governments and intergovernmental organizations in the regulation of the environment. Students will also be expected to participate in discussions or debates on climate and environment-related issues including role play. Half course.

393. Research Independent Study in Environmental Science and Policy. Research project mentored by an instructor with related interests and expertise, and the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor required. Variable credit.

Courses in Ethics and Leadership (K_ETHLDR)

101. Ethics and Leadership. This interdisciplinary course draws on philosophy, sociology and public policy to explore ethical leadership in the twenty-first century. From the challenges facing governments to decisions students confront daily, this course seeks to create and evaluate solutions to ethical dilemmas in a global world. Does a government have the right to insist on another government's adherence to human rights standards? Should a museum be forced to return artifacts that were stolen centuries before the museum acquired them? Do corporations have an obligation to invest in their local communities? Do we have an obligation to help the poor and if so why? One course.

203. Conceptions of Democracy and Meritocracy. This course will examine democracy and meritocracy, exploring specifically the components, strengths, and liabilities of each. Particular focus will be on intersections between virtuosity, democracy and meritocracy. Readings will come from philosophy, political theory, history, and sociology. Potential application of these theories to the United States and to China, among other countries, will be discussed. One course.

204. Environmental Ethics. This course addresses the morality of respecting the natural world, including plants, animals and all forms of planetary life for their own sake. Is pollution of air and water wrong in itself, and not simply because it damages resources that present and future generations of human beings need? Does the suffering of nonhuman animals impose a moral claim upon human beings? Do all species have a claim to survive in the face of human development? Different philosophical theories as well as a variety of cultural traditions of thought about the environment will be studied and discussed. One course.

209. The Psychology of Justice. What are the conditions under which people come to perceive their societies as just or unjust? What effects does living under conditions of injustice have on human psychology? This course will examine these questions through consideration of three topic areas. In Unit I, "Distributive Justice", asking what justice in distribution of basic human resources consists in. In Unit II, "Social Justice", exploring some of the psychological influences that contribute to prejudice and oppression, and how those influences shape the psychology of minority groups. In Unit III, "Restorative Justice", examining the psychological underpinnings of a system of restorative justice that focuses on rehabilitation and reconciliation, and will examine the psychological complexities of instituting such a system under conditions of inequality. One course.

Courses in Global China Studies (K_GCHINA)

101. China in the World. China in the World focuses on the historical and contemporary commercial, intellectual, and scientific exchanges between China and multiple locations around the world. The course invites students to think about the engagement of China in the world and the world in China from an interdisciplinary perspective. We investigate how contemporary China has been shaped by key historical events and processes including science, trade and war. Finally, we consider together how these histories will influence China's future engagement with the wider world. One course.

201. From Empire to Nation. This course examines concepts and theories of empire, imperialism, colonialism, and the nation-state, with a particular focus on their circulation and impact in East Asia and China. We trace the history of Western theories of "nation," looking at what the term meant prior to the European nation-state and the imperialist and colonial projects of the 19th and early 20th centuries, and we examine what they mean in the present era of multiculturalism and globalization. We explore how historically Chinese conceptions of civilization and empire were transformed in post-imperial era. We look also at how related concepts of race, ethnicity, religion, gender, and culture have traveled from the West, through the Soviet Union, to China and beyond. One course.

203. Visual China. From film's first appearance at a Shanghai teahouse in August 1896 to Jackie Chan's latest transnational stardom, the history of modern Chinese cinema has always sought to raise questions of national and cultural identity. How do Chinese films between the two fins-de-siècle create the spectacle of "China," narrate its history, and represent its increasingly diversified cultural landscapes both at home and abroad? Students will study photography, documentary film, cinema and social media in China from the 1930s "Leftist" films to present. One course.

Course in Global Cultural Studies (K_GCULS)

105. Critical Comparative Studies. What is "culture"? Where can we observe it and how can we study it? And, most importantly for a globalizing world: Can we compare "cultures"? What are the assumptions and parameters that would make such comparison possible in the first place? This course addresses the forces and concerns central to understanding culture and cultural difference. Discussions will pay attention to both the global and local/regional levels on which culture can be observed and compared. Understandings of culture touch upon many forces and concerns, including questions of gender, ideology, religion, nationalism and colonialism. By building a firm understanding of the theoretical approaches to culture, this course will explore the toolbox of comparative cultural studies. One course.

Courses in Global Health (K_GLHLTH)

101. Introduction to Global Health. This course introduces students to the essential features of global health from the varying perspectives of natural science, social science, and the humanities, drawing from a variety of conceptual frameworks at different scales (individual, community, country, and global). This course examines the global burden of diseases, how this burden is measured, and debate the utility of interventions used for disease mitigation and prevention. This course also

introduces the state of the world's global health infrastructure and explores how that infrastructure might or should adapt to the future world. One course.

293. Research Independent Study in Global Health. Research project mentored by an instructor with related interests and expertise, and 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. Variable credit.

301. Global Health Research Methods. This course introduces research methods in global health. Global health is a multi-disciplinary field, so the course considers approaches common to the behavioral and social sciences, public health, and medicine. Primary interest is the study of causal inference. Global health researchers, practitioners, and donors need to know what programs and interventions "work" and why. To answer questions of impact, the course explores randomized controlled trials, a mainstay of medical research, and spends significant time helping students understand the rationale, process, and limitations of field experiments. Randomization is not always possible or advisable, however, and researchers must build a causal argument using non-experimental methods. The course reviews several approaches, considers relevant threats to causal inference, and discusses how to improve non-experimental research designs. The course also covers research basics, such as developing and testing theory, asking good questions, u One course.

Course in Global Challenges in Sci (K_GLOCHA)

201. Global Challenges in Science, Technology and Health. Science and technology play a vital role in addressing today's challenges such as environmental, energy, health issues, and resources management at both the local and global scale. Key developments in fields such as biotechnology, nanotechnology and information technology are important to address these challenges. Novel technologies are being applied to health in many ways, such as linking mobile phones to low-cost peripherals allows for portable, fast and cheap diagnosis of common diseases, especially in low income countries; bio-pharmaceuticals manufactured in living organisms through the use of recombinant technology, and stem-cell based tissue replacement and repair enabled by advances in biotechnology. The rapid change in environmental setting due to social and economic development and the global migration of rural populations to mega-cities has also created health issues associated with air pollution, water contamination, and inadequate sanitation. In many parts of the world, one One course.

Courses in History (K_HIST)

101. Ancient Chinese History. This course examines the origin stories of Chinese civilization as found in the historical documents and archeological evidence from the Warring States period. Students use primary source material and historical evidence to interpret the theories of Confucius, Mozi, Laozi, Zhuangzi, and Han Feizi in their historical, social and political contexts, with special regard to the their understanding of the state, the role of government, the military, and civil education. The course then examines the attempts to forge a unified empire, finally achieved under the Qin, and the subsequent policies of the Han dynasty that aimed to make the unified empire last. The course involves visits to local archeological sites where relevant. One course.

104. American History to 1876. This course will survey the history of the present-day United States from precolonial times (pre-1500) to 1876. This was a tumultuous era of American, and world history, fraught with conquest and enslavement, revolutions and civil wars, mass migrations and democratization. This course will particularly investigate indigenous societies, European colonization and African slavery, the American Revolution and the founding of the US nation-state, social movements, sectional conflicts, expansionism and the American Civil War, as well as the reconstruction of American democracy in the wake of the Civil War. Throughout, the course will emphasize the place of the US in global history, the growth of American capitalism, tensions between race and democracy, and the various contributions of women, slaves, merchants, planters, Native Americans, and workers to American culture and politics. One course.

106. Art History 1. Rather than aiming at a comprehensive survey, this course offers an introduction to key moments in the intersection of history, politics and visual art in the world before 1900s. It places art in a global context, highlighting themes from European, Asian, African and Indigenous art and focuses on art as the exercise of cultural power, and the way that artists have both promoted and resisted these entanglements with elite authority. In each case studied, students will gain sufficient historical background to understand the art in question, but will also engage in the comparative study of art to highlight issues of power, religion, class, and gender. One course.

107. Gandhi and Moral Leadership. Central to Mohandas Karamchand Gandhi's thought and activism was the principle of "moral force." It formed the basis of his unique method of activism, satyagraha (quest for truth), his concept of non-violence, his life-style choices including vegetarianism, his idea of religion and politics, state-building and economics. This course explores the various meanings of the "moral force" in Gandhian thought and examines its salience within the history of the political milieu – especially, anti-colonial movements in India that he belonged to. This course also discusses the legacies of Gandhi and the relevance of his "moral force" for the twenty-first century world. One course.

108. Shanghai Nightscapes: A Nocturnal History of the City. This interdisciplinary course combining the fields of history, sociology, urban studies and urban ethnography examines Shanghai, China's most modern and dynamic city since the 19th century, through the lens of its nighttime leisure pursuits. It explores how the city's nightlife has contributed to its identity and image as a global cosmopolitan metropolis. Half course.

110. Historical Perspectives on Contemporary Global Issues. This course takes a comparative historical approach to contemporary global issues in various temporal and geographical contexts. Students will focus on issues that emerged in the modern era and may include such topics as terrorism and national security, environmental protection and degradation, resource distribution and trade, health and welfare, and cultural and religious diversity. Students explore the nature of historical change and continuity and will apply historical methods of research and analysis as they investigate the formation and development of particular global issues. The specific case studies and themes in the course will vary by term and instructor. One course.

115. Brides of the Sea: Trading Cities in the Indian Ocean World, 200BCE to 2000CE. Seaborne trade linked the port cities of the Indian Ocean World and Southeast Asia to each other and the world beginning as early as 200BCE. Our class will examine the rise and fall of Asia and Africa's coastal trading cities; the transcultural character of Indian Ocean trading entrepot; the life of merchants; labor migration; and cultural and religious exchange. Student will explore ancient and modern networks of interconnections through group projects on one or more of the global commodities that animated Asian trade, such as silk, slavery, cinnamon, opium, rubber, prostitution, nutmeg, palm oil, bird's nests, black pepper, etc. Half course.

116. Mughal India Through the Eyes of European Travelers. This course will survey the history of one of the greatest empires in Indian history, the Mughal empire through the lens of European travel writing between the fifteenth and eighteenth centuries. Some of the questions we will explore are: How are European travelogues important sources for studying Indian history? Is European perspective on Indian society monolithic or is there a variety of European perspectives? Apart from introducing basic history of Mughal India, the course will explore themes such as early Orientalism and the history of the early modern world. Half course.

121. Pan-Africanism: Global Story of an American Idea. Pan-Africanism began as an idea among ex-slaves and antislavery reformers in America, who believed that Africans and people of African descent across the world had common histories, common experiences, and common struggles against various forms of racism and marginalization. Pan-Africanism, which meant different things to different people, would go on to influence numerous intellectuals and social movements, from Negritude poets to African/Caribbean Independence and the American Civil Rights Movement. This course would survey the growth of this idea in a variety of facets, by looking at its influence upon history-writing, philosophy, poetry, political thought and social movements. Half course.

201. Methods of Historical Research. This course offers an introduction to theories, methods and approaches to historical inquiry and research including the use of archives, the interpretation of visual and textual documents, and the recording of oral histories. Students will be exposed to both the humanist and the social scientific approaches to historical research, as well as broader theoretical questions of history and historiography. As such, students learn what is history, how is it made, and what constitutes valid scholarly approaches to historiography. Students will apply their learning by conducting original historical research on a topic of their own choosing and writing a research paper. One course.

202. World History and Global Interactions. This course offers a survey of the history of the world, by which is meant a historical overview of major processes and interactions in the development of human society since its early development some 60,000 years ago, going beyond the fundamental questions and concerns of area studies (such as East Asian studies, South Asian studies). In explaining the large scale processes such as empire building, commerce and religious practices, this course will show how various forms of human interactions, especially migration played a key role. This course will provide deep historical understanding for some of the pressing issues of the contemporary world such as migration, globalization, and imperialism. One course.

204. Asia in World History. Asia as the largest continent of the world comprises of 30 percent of world's land surface and 60 percent of the world's population. But what are the parameters for understanding Asia as a unified, identifiable place? Was there ever an Asian identity in history? Is this identity cultural, economic, political or a mix of all three? Since, all identities are formed in relation to other identities, was an Asian identity formed in reaction to other forms of existing identities in the world? Taking the period between 500 CE and 1950CE as the point of reference, this course exams the above questions in reaching an understanding of what are the various ways and the various historical moments in which we can think of Asia as a shared space amongst an extremely diverse population. Moreover, the course will discuss whether the historical processes that went into the creation of Asian identities were world historical in nature, or in other words, whether these processes had any effect in shaping One course.

205. Shanghai: From Treaty Port to Global Metropolis. Since the late 19th century, Shanghai has emerged as the leading metropolis in China in many respects. It has served as the breeding grounds and model for the social, political, economic and cultural modernization, and urbanization of China over the century that followed. Through a combination of lectures, readings, film screenings, field trips, and research projects, this course explores the history of Shanghai and connects the colorful legacy of the treaty port era (1842-1943) with the re-emergence of Shanghai as a global metropolis since the 1990s. While focusing mainly on those two eras, which have been the subjects of the bulk of scholarship in the emerging field of "Shanghai Studies," we also examine the relatively neglected history of Shanghai prior to the 1840s, as well as the Mao Years of 1949-1976 when Shanghai became a bastion for the violent politics of the Cultural Revolution. One course.

Course in Innovation (K_I&E)

190. Innovation & Entrepreneurship - Fundamentals and Global Immersion. Innovation & Entrepreneurship have been given great attention within world's two largest and most dynamic economies. Innovation is about how new ideas are translated into new products and services and how new business models are created. Entrepreneurship is about how individuals together create new business value by mobilizing capital and taking risk. Half course.

Courses in Integrated Science (K_INTGSC)

101. Integrated Science 1. This course focuses on the concept of energy and its relevance for explaining the behavior of natural systems. The conservation of energy and the transformations of energy from one form to another are crucial to the function of all systems, including familiar mechanical devices, molecular structures and reactions, and living organisms and ecosystems. By integrating perspectives from physics, chemistry, and biology, this course helps students see both the elegant simplicity of universal laws governing all physical systems and the intricate mechanisms at play in the biosphere. Topics include kinetic energy, potential energy, quantization of energy, energy conservation, cosmological and ecological processes. One course.

102. Integrated Science 2. This course focuses on the collective behavior of systems composed of many interacting components. The phenomena of interest range from the simple relaxation of a gas into an equilibrium state of well-defined pressure and temperature to the emergence of ever increasing complexity in living organisms and the biosphere. The course provides an overview of some fundamental differences between traditional disciplines as well as indications of how they complement each other some important contexts. Topics include thermodynamic (statistical mechanical) equilibrium, fundamental concepts of temperature, entropy, free energy, and chemical equilibrium, driven systems, fundamentals of biological and ecological systems. One course.

Courses in Literature (K_LIT)

102. Introduction to Literary Theory Writ Large. What are the philosophical, historical, political and aesthetic formations of literature? Can the genre such as the novel be universalized across time and space? What is the relationship between literature and society, arts and politics, form and content? Rather than exclusively focusing on Western literary theory, this course takes a global approach and includes a representative diversity of traditions and theorists of literature and aesthetics: Walter Benjamin (Germany); Alain Locke (US); Lu Xun, Wang Hui (China); Natsume Soseki, Karatani Kojin (Japan); Chikwenye Okonjo Ogunyemi (Nigeria, US); Gloria Evangelina Anzaldúa (Chicana, US), etc. The aim is to pluralize our point of reference on how literature is defined and implicated in the process of colonialism, neocolonialism and postcolonialism. One course.

105. The Epic of America (the Novel). This course introduces a range of works from the US canon that engage the concept of travels in relation to the themes of race and slavery, gender and sexuality, and citizenship and empire. Through reading some great American novels, we will explore travels and mobility from pre-Civil War to modern America, and from the slaveholding south to multiracial and multicultural metropolises both within and beyond the US borders. By drawing connections between these great American novels, we will discuss how they collectively cross and challenge national, geographical, and political boundaries of the color line---and importantly--how they resonate with DKU's core concept of "rooted globalism." One course.

107. From Data to Narrative: A Workshop in Non-fiction Writing. In our daily lives we are overrun with data, endless bits of information about our environment, health, location, preferences and social contacts. Walter Benjamin has decried this as a modern condition of being bombarded with data, but with no ability or effort to synthesize it into the narrative form in which humans can process and intake it. This course will explore the genre of non-fiction writing as a means to effectively communicate various forms of data. Readings will include examples of leading non-fiction writers such as Sven Lindqvist in cultural studies and history, and Simon Singh in science. The course will also cover basic conventions of citation and reference. Students will practice researching and writing historical, biographical or other fact-based information into narrative form. During the semester, student will also workshop their own researched narrative piece. Half course.

211. Politics and Literature. In the past, the poet was regarded, not as an antipolitical bohemian nor as a political partisan, but rather as a wise teacher who could help us to understand the drama of human life as a whole and the drama of political life in particular. The goal of this course is to investigate the nature of politics and human nature by studying a number of masterpieces of classical literature. As we study these works, we will consider such themes as the equality of the sexes, democracy and aristocracy, science and politics, religion and politics, love and politics, and ambition and politics. One course.

291. Independent Study in Literature. Individual non-research directed study in a field of special interest arranged on a special topic by an instructor with related interests and expertise, under the supervision of a faculty member, resulting in a significant academic product. Consent of instructor required. Variable credit.

Courses in Mathematics (K_MATH)

101. Calculus. This course covers the elements of basic calculus using introductory Newtonian physics both as a source of example problems and as the paradigmatic application of calculus to the description of natural phenomena. Newton's

fundamental laws of motion are framed in mathematical terms involving derivatives, so calculus techniques are essential to the analysis and prediction of natural phenomena. The application of calculus to Newtonian physics also serves as a platform for analogous reasoning about models of social, political, and economic systems. Familiarity with standard elements of algebra, geometry, and elementary functions (trigonometric, exponential, and logarithmic) at the high school level, or Consent of the Instructor. One course.

201. Multivariable Calculus. Main topics of this course include vectors and vector functions, the geometry of higher dimensional Euclidean spaces, partial derivatives, multiple integrals, line integrals, vector fields, Green's Theorem, Stokes' Theorem and the Divergence Theorem. One course.

202. Linear Algebra. 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. One course.

205. Mathematical Foundations 3. The fundamental concepts and tools of calculus, probability, and linear algebra are essential to modern sciences, from the theories of physics and chemistry that have long been tightly coupled to mathematical ideas, to the collection and analysis of data on complex biological systems. Given the emerging technologies for collecting and sharing large data sets, some familiarity with computational and statistical methods is now also essential for modeling biological and physical systems and interpreting experimental results. MF3 is an introduction to probability and statistics with an emphasis on concepts relevant for the analysis of complex data sets. It includes an introduction to the fundamental concepts of matrices, eigenvectors, and eigenvalues. One course.

293. Research Independent Study in Math. Research project mentored by an instructor with related interests and expertise, and 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. Variable credit.

Courses in Media and Arts (K_MEDART)

101. Introduction to Media Studies and the Arts. Media Studies and the Arts explores the cultural significance of the media in the contemporary world. It is a cross-disciplinary field that draws on communication studies, art history, literature, sociology, psychology and philosophy, among others. Particular attention is paid to new media and digital media including those enabled by the technological revolution of the Internet age. One course.

103. Introduction to Moving Image Practice. Like any craft, making movies is something that takes time, study, and, more importantly, practice. Each film is a unique challenge. What works for one film may not work for another. This is what makes learning about filmmaking an ongoing process. This course includes reading, discussing, and studying of the fundamental elements of video production. Strongest emphasis is in the several short exercises to guide students towards a solid understanding of the building blocks of different types of video production. Student will learn to use digital video cameras and audio equipment, learn basic video editing , and create original work. One course.

207. Creative Writing and Elements of Story. Stories and storytelling surround us. They have existed since pre-history and continue to fill an essential place in our lives. What goes into telling a story? This is a beginning creative writing course that focuses on igniting the sparks for ideas and shaping ideas into a story. We will emphasize the hands-on exploration of sources for inspiration, idea-formation, building ideas, work-shopping and refining them to form them into a script. We will study the fundamentals of story, structure, character development, genre, building scenes, dialogue, and how to utilize them to write a script for media output including the screen, a podcast, and the stage. One course.

212. Editing for Film and Video. Two questions a film editor must always ask are: What shot comes next? And, why this shot and not that? In this course, students explore answers for these questions by studying and editing different genres, styles, and forms of film and video. The goal is achieved through expanding students' understanding of editing as both a viewer and as a working editor. To that end, in addition to classroom discussion, readings, and screenings of feature films and excerpts, students will complete several editing projects on digital video. These projects are designed to provide both real-world challenges to solve as well as opportunities to experiment. Knowledge of a video editing program is not necessary at the beginning of the class; by the end you should be extremely comfortable with Final Cut Pro X. One course.

293. Research Independent Study in Media and Art. Research project mentored by an instructor with related interests and expertise, and the major product of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. Course may be taken by junior and senior students who have demonstrated aptitude for independent work. Consent of instructor required. Variable credit.

Course in Military Science (K_MILSCI)

101. Military Theory. Military Theory Half course.

Course in Music (K_MUSIC)

210. Chamber Ensemble. Music is said to be the universal language. This course is designed for students to utilize their knowledge of this language to further their understanding of this performing art and gain a deeper insight into group

performance. Students will explore new or old repertoire with fellow musicians during the course of the semester under the guidance of the instructor, and will perform in various venues around Kunshan and Shanghai area. Students are required to join weekly rehearsals with assigned groups and all groups will perform in a concert at the end of the semester. This course will also invite guest musicians as coaches to help each individual groups. Previous experience in learning and performing a musical instrument is recommended. Consent of the instructor is required. Half course.

Courses in Philosophy (K_PHIL)

101. Introduction to Western Philosophy. This course focuses on the origins of the European philosophical tradition, with an emphasis on metaphysics, theory of knowledge, ethics and politics. The course reads primary texts of Plato, Aristotle, Lucretius and Epicurus and other key western thinkers in English translation. The course examines the significance of these key approaches to philosophy in the later development of the European philosophical tradition, and considers their relevance for the contemporary global context. One course.

102. Introduction to Classical Chinese Philosophy. This course introduces the foundations of Chinese thought with a focus on the Warring States period (475-221 B.C.E.), a period in which schools of thought like Confucianism, Mohism, and Daoism originally flourished. Students will read selections from the most famous classical Chinese philosophy texts in English translation. The course emphasizes close reading of texts, with a view to understanding their key concepts and issues, as well as forms of argumentation. In so doing, students will think through the key questions that animated intense debate between key schools of philosophy, and examine how these key debates have influenced the development of Chinese culture right through to the present day. One course.

103. Chinese and Mediterranean Philosophy. The early Mediterranean civilizations (Mesopotamia, Egypt, Greece, Rome) and dynastic China have been profoundly influential in the development of world civilizations, and in how human civilization is conceived. How do they compare in their traditions of thought about how one ought to live, theories of government and governance, and methods and aims in study of the natural world? This course offers a basic introduction to early Chinese and Western thought through examination of selected primary texts in English translation. As well as analyzing these approaches to philosophy in their historical and cultural context, the course debates their continuing relevance in a global context. One course.

106. Global Philosophy. The Global Philosophy course offers a gateway for students to critically engage with the diverse philosophical traditions that inform the making of the increasingly pluralistic modern world. The aim of the course is to cultivate deep appreciation of diversity and to help students develop a culturally sensible map of the world's philosophical traditions that will help them deal with the compelling challenges in this multicultural age. One course.

107. What's the Right Thing to Do? Ethics and Justice in the Modern World. This course examines classical and contemporary theories of justice in Western philosophical ethics and applies them to modern dilemmas that have dominated political and cultural conflict in the modern West. These topics include questions of economic justice in relation to capitalism and communism; the question of human rights as a supreme and universal value that cuts across all social and cultural contexts; the profound challenges of slavery, colonialism and racial justice that haunt American politics in the present day; the continuing quest for gender equality; and contemporary issues of gender politics including same-sex marriage and the recognition of transgender and nonbinary identities. One course.

108. Philosophy and Ethics of Artificial Intelligence. Recent progress in Artificial Intelligence, via machine learning techniques that leverage big data, has made breakthroughs in a variety of domains. While some believe AI is still nothing but a tool, others believe we are on the verge of a technological singularity – the invention of an artificial superintelligence that will trigger exponential technological advancement that will change humanity in unpredictable ways. In this course we will begin with philosophical reflection on the nature of AI and then consider ethical issues that lie on a spectrum from highly speculative projections regarding the future of AI to highly practical issues that are being generated by actual AI applications being deployed today: internet usage, profiling, and autonomous vehicles among others. Half course.

111. Non-Human Animal Ethics. This course examines the morality of our treatment of nonhuman animals. We will start by considering the cognitive and emotional capacities of some nonhuman animals. After that, the course will be divided into 3 units. Unit 1 will cover ethical questions surrounding the use of animals for food. Unit 2, on animal companionship, will consider what moral responsibilities we have to our animal companions, and how they compare to the responsibilities we have towards our human friends. Finally, Unit 3, on animal captivity, will address moral issues associated with the human practice of using animals for the purpose of entertainment. Half course.

Courses in Physical Education (K_PHYEDU)

101. Basketball. This course is designed to develop fundamental basketball skills for beginner students, and enhance the skills of those students with some basketball background. Partial credit course.

102. Softball. This course introduces the rules of softball and helps students develop fundamental skills and strategies for playing softball. Quarter course.

103. Volleyball. This is an introductory course teaching the fundamental skills of playing volleyball including passing,

serving, setting and spiking. Students will learn rules, court strategy, and significant emphasis will be placed on total fitness and recreational skills. Quarter course.

104. Fencing. This course is intended to provide students with the fundamentals of fencing, including footwork, bladework, bouting and refereeing. It will allow students to develop the ability to analyze a fencing bout, and will promote creativity in applying acquired skills in a fencing bout. Quarter course.

105. Soccer. This course is designed to enhance technical and tactical game knowledge and students' playing skills. Students will engage in a variety of soccer training methods emphasizing fundamental and technical skills, tactical knowledge and playing ability. Partial credit course.

106. Badminton. This course introduces the fundamentals and techniques used in badminton with theoretical emphasis on rules and playing etiquette. Partial credit course.

107. Table Tennis. This course is designed to equip the students with the rules and basic skills for playing recreational or competitive table tennis outside of class. This course will give students a chance to improve or learn how to play table tennis effectively. Partial credit course.

109. Tai Chi. Tai Chi is an ancient Chinese traditional martial art practiced worldwide. It is used as part of defense training, meditation, exercise program or for its various health benefits. This course aims to help students learn the basic forms of Tai Chi and become comfortable in practicing independently. Partial credit course.

110. Pilates. Pilates is a method of exercise that consists of low-impact flexibility, muscular strength and endurance movements. Pilates routines emphasizes proper postural alignment, core strength and muscle balance. This course introduce work on posture, breathing, balance, coordination, strength and flexibility. Partial credit course.

111. Yoga. This class will explore the practice and application of yoga and meditation and will introduce students to various breathing techniques and forms that additionally promote strength and flexibility. Partial credit course.

113. Body Step Aerobics. Step aerobics is designed primarily to attain, improve and/or maintain healthy fitness level of students through their participation in the class. Students will also learn various fitness concept and principles and their application as part of the healthy lifestyle. The course will provide the tools to create and follow a personalized aerobics exercise regimen as part of a healthy lifestyle. Quarter course.

114. Jogging/Walking. This course emphasizes walking/jogging mechanics and physiological effects of cardiovascular activity and general benefits of exercise. This course provides the knowledge and skills necessary to improve cardiovascular endurance and fitness through walking and jogging. Partial credit course.

115. Mixed Martial Arts. Mixed Martial Arts (MMA) is an eclectic martial arts based training class that incorporates learning of various martial arts forms and skills with conditioning training. This course will focus on beginner techniques, and in contrast to traditional mixed martial arts, it will not involve ground techniques or grappling. Therefore, the focus of this course is on learning fundamentals of various martial arts forms accompanied by conditioning training routines. Partial credit course.

116. Stick Stretching/Yoga. Stick stretching is a hybrid blend of traditional yoga poses, tai chi and soft martial arts, which is designed to improve mobility, flexibility, balance, strength, coordination and postural awareness. Hence, the focus of stick yoga is on spinal health and correcting body mechanic. Sticks are used to provide support, guide and leverage stretching, strengthening and balance forms. Quarter course.

117. Swimming. Swimming course is designed to teach variety of swimming strokes for students with little or no swimming experience. However, considering that swimming ability depends not only on basic strokes, but also being comfortable in the aquatic environment, this class will also emphasize correct breathing skills, water threading and survival floating. Quarter course.

118. Taekwondo. Taekwondo is Korean martial art that emphasizes various forms of kicking. However, considering its name - Way (Do) of kicking (Tae) and punching (Kwon) – students will also learn various punching forms. This class is designed to introduce basic Taekwondo forms and techniques and prepare them for the yellow belt test given at the end of the class. Quarter course.

119. TRX Suspension Training. TRX is an innovative suspension weight training used by various populations to improve strength, endurance, body tone and overall health and wellness. It is based on seven fundamental movements: push, pull, plank, rotation, hinge, lunge and squat, from which numerous variations and types of workouts are designed to target a specific goal. In this course, you will learn these fundamental movements, and how to create your own routines and adopt them to fit your own goals using TRX. Quarter course.

120. Weight Training. In weight training course, you will learn various strength training concepts, recommendations, techniques, and programs through discussions, handouts, and hands on demonstrations. While some theoretical background will be provided before each class, majority of class time will be conducted in a fitness center and hands on experience with primary aim to complete a full workout. Considering weight training can be used for various purposes we will introduce goal-

specific workout recommendations such as muscle gain, body toning, functional weight training, sport specific training, weight loss and general health. In addition, we will dispel various myths about weight training and workout safety in order to provide you with independence and comfort to make weight-training part of your healthy lifestyle. Partial credit course.

121. Integrated Fitness and Wellness. Integrated Fitness and Wellness course emphasizes learning concepts of fitness and wellness through participation in a range of physical activities offered on and off-campus. The course is designed to encourage students to attend different fitness, sports and recreational activities, and using concepts covered in class, learn how to create individualized fitness and wellness goals based on activities they enjoy and fit their lifestyle. In this class, there is no set class time and students are expected to participate in any three fitness activities per week lasting at least 45 minutes. Hence, students are welcome to attend any open fitness class offered on campus, go hiking, jogging, cycling or swimming with friends or play any sport throughout the week. You will use heart rate monitors to keep track of your activities, intensity, goals and participation. Students will have 1 discussion class every 2 weeks where theoretical concepts of fitness and wellness are class progress are discuss Partial credit course.

123. Kendo. Kendo is a form of martial art that focuses on the use of bamboo sword as its integral part. With the rise of sports and recreation participation, Kendo is once again emerging as a popular traditional martial art offered in schools and universities around China. Kendo integrates strategic thinking and methodology with physical agility and responsiveness, and as such is mentally and physically stimulating activity. Subsequently, students in this course have a unique opportunity not only to learn about Kendo as a physical activity, but also its significance in cultivating social and personal values in traditional China. Quarter course.

Courses in Physics (K_PHYS)

101. Frontiers of 21st Century Physics. Frontiers of 21st Century Physics explore the major subdisciplines of modern physics and their (potential) applications in industry/research. Students learn why society invests so much in physics and what it gets in return, from the origins of electronic devices and novel materials tackling the energy crisis to the large-scale structure of our universe. Students will build up an understanding that modern technologies are developed based on physics, i.e., application of laser in autopilot, magnetic levitation, etc. This course serves as an introductory course to freshman students to give them a taste of modern physics and to inspire their interest in physics. One course.

121. Integrated Science - Physics. This course is about how to view the world from the perspective of classical mechanics, based on an understanding of the core concepts and theoretical laws. As a science foundation course, it helps students appreciate the elegant simplicity of the universal laws governing the complex systems surrounding us, and it teaches an important approach to identifying, formulating, and solving problems encountered in the physical world. The course begins with the core concepts of classical mechanics – time, space, mass, force, work, energy, momentum – and the physical laws that link them with each other. Students first learn Newton's laws and the universal law of gravitation as they apply to point mass systems. Subsequently, basic concepts of oscillation and waves, rigid body motion, fluid mechanics, thermodynamics and statistical mechanics are introduced, illustrated with real-life examples (e.g., physics of cooking, biosphere as a thermal engine) to help students integrate different scienc One course.

122. General Physics II: Electricity, Magnetism and Light. This course is the second of a series of two general physics courses that are highly interactive and illustrated with applications from different perspective of sciences and everyday life. Core topics: electric fields, circuits, magnetic fields, Faraday's law, Maxwell's equations, electromagnetic waves, properties of light, geometric optics, wave optics. Additional possible topics: optical instrumentation, quantum physics, selected applications. One course.

201. International Political Economy. This course is an introduction to international political economy, the study of how and why international economic policies are formed, and how the international economy influences domestic politics and economic performance. Course will include a significant amount of economic theory. The approach of the course is a mix of history and current events. We will examine the development of the international political-economic order since the 18th century and simultaneously compare “lessons from history” to present-day issues. We will also consider the extent to which the current global order fundamentally differs from the previous period of globalization (1815-1914). Topics covered include: foreign trade, capital flows, foreign direct investment and multinational corporations, monetary policy and exchange rates, immigration, and international organizations such as the WTO and IMF. One course.

Courses in Political Science (K_POLSCI)

103. American Ideas and the Idea of America. What is the story of the United States? What fundamental ideas of America have been formed as a nation and as an empire? Are there connections we can draw between the US today and its past? What relevance does the US have in China historically and in the present day? What place does the US have in the Chinese imagination? In this course, we address these questions by examining a variety of texts, ranging from important founding documents, political speeches, autobiographies, and travelogues to excerpts of American novels. Through class discussions, team projects, and role plays, we will discuss fundamental concepts of America, its past and present, and explore themes such as politics and religion, race and slavery, immigration and identity, women and economics, and education and citizenship. We will also consider how America is being perceived in the world specifically within the Chinese context. One

course.

105. Contemporary Political Ideologies. The goal of this course is to understand the fundamental alternative political ideologies or theories that have shaped our world and to consider which political theories may shape our world in the future. To accomplish this goal we will 1) Investigate the theories at the foundation of liberal democracy, capitalism, Marxism, fascism, and anti-liberal Islam; 2) Consider how each of these theories addresses such fundamental human questions as: What is the best form of government? What is the nature of human beings? 3) Study through close textual analysis the principal arguments both for and against each of these theories. Half course.

208. Political and Social Inequality. How do different groups with different levels of political power shape political outcomes? How do gender, racial, environmental, and social inequalities express themselves through the political system? What is a ‘fair’ level of inequality? How do different institutional designs shape and channel inequality? This class introduces students to readings, arguments, and concepts that begin to explore the answers to these questions. One course.

211. Politics and Literature. In the past, the poet was regarded, not as an antipolitical bohemian nor as a political partisan, but rather as a wise teacher who could help us to understand the drama of human life as a whole and the drama of political life in particular. The goal of this course is to investigate the nature of politics and human nature by studying a number of masterpieces of classical literature. As we study these works, we will consider such themes as the equality of the sexes, democracy and aristocracy, science and politics, religion and politics, love and politics, and ambition and politics. One course.

Courses in Psychology (K_PSYCH)

101. Introductory Psychology. Broad survey of the field of modern psychology. The main goal of this course is to provide students with an introduction to the important topics, theories, research, and applications in psychology. One course.

110. Mindfulness, Stress, and Health: Eastern and Western Perspectives. Mindfulness-based therapies are based in Eastern and Western philosophies, theories, and research. They have been shown to be significantly helpful for stress-related problems, mental health problems, and medical disorders. Mindfulness-based therapies are also revolutionizing the way that psychologists think about and treat human suffering. In this course, we will explore the theories, techniques, and research on mindfulness-based therapies from Eastern and Western traditions. A combination of lecturing, class discussion, and experiential exercises will be used to help students gain a well-developed understanding of this important area of psychological research and practice. Students will also acquire basic skills in how to use mindfulness-based techniques to reduce stress and distress. Half course.

Courses in Public Policy (K_PUBPOL)

101. Introduction to Policy Analysis. Basic concepts of analytical thinking including quantitative methods for assessing the probabilities of outcomes and appraising policy alternatives. Students learn how to define policy options, find sources of information; apply basic qualitative and quantitative measures (e.g., cost benefit analysis) to compare policy options. One course.

209. The Politics of Environmental Crises. This course helps students understand what happens during and after a disaster in terms of politics and policy. It is structured around five themes: crisis detection; decision-making and coordination; crisis communication; accountability; and learning and policy change. During the course, we will apply each of these themes to case studies of environmental crises, for example oil spills and chemical leaks. Readings will be a combination of theory and case studies from around the world. Half course.

Courses in Religious Studies (K_RELIG)

101. Comparative Religious Studies. The category of “religion” is arguably a Western concept that is applied to Eastern traditions of thought and practice such as Confucianism, Daoism, Buddhism, and Hinduism. What are the differences, and as well as the similarities that might be hidden by the broad application of this concept, if we compare these traditions of thought and practice with the Abrahamic religions of Judaism, Christianity and Islam? How do ethical values get related to conceptions of human salvation or enlightenment and the ultimate source of the natural order? Is there a conception of free will that exists across these traditions? Is there a distinction between the realms of the secular and the sacred that runs across these traditions? One course.

107. Readings in Religious Literature. This course introduces students to a variety of religious literature and sacred texts from across the world. Students learn how to read and interpret these texts and in this way come to reflect on the nature of religion and its function in human societies. In addition discussing fundamental theological questions about the nature of existence, the course will also examine the practical ways in which religions shape the embodied lives of religious practitioners across the world. Half course.

204. The Problem of Evil. This courses explores the problem of evil for Eastern and Western religious thought and discusses several attempts to confront the reality of evil, to square that with one’s worldview, and to find a way of living with that worldview. This courses examines theological, philosophical, psychological, and popular cultural conceptions and responses. One course.

Courses in Sociology (K_SOCIOL)

104. Love, Marriage, and Family in Comparative Perspective. This course explores the process of family transformation in contemporary East Asia and the U.S. from a comparative perspective. It introduces different concepts, theories, and frameworks to explain the slow but noticeable family changes in East Asian societies and some distinct characteristics in the US. It will draw literature from sociology, demography, anthropology, and economics to study love, passion, marriage, cohabitation, mate selection, same-sex couples, and divorce across social contexts. One course.

105. Theory and Society. This course exposes students to major classical and modern social theorists from the Enlightenment to the present. The course pays particular attention to theories seeking to follow models of the natural sciences and those seeking a more critical and interpretive understanding of modern society. Topics also include examining how sociological theory relates to other modern currents, such as conservatism, socialism, existentialism, anti-colonialism, feminism, post-modernism. One course.

110. Sociological Inquiry. This course introduces you to the world of sociology. Sociologists study the social relationships, social interactions, and the influence of structural forces upon us. In this course, students will be exposed to various concepts and theories to address the sociological questions. This course is a broad survey course covering a wide variety of sociological topics. The course will focus on the relationship between individual and society, important social institutions in our society, and various social inequalities. One course.

Courses in Social Science (K_SOSC)

101. Foundational Questions in Social Science. People everywhere ponder and debate fundamental questions: What does it mean to be human? How is society to be ordered? What is a moral life? Our ancestors asked such questions as well: it is likely that those questions lie at the origins of humanity itself. They also provide the foundations for much of the most important research in the social sciences today. This course examines the ways in which social scientists from a diversity of disciplines approach these fundamental questions. Study material for the course will include foundational texts from across the social sciences, as well as cutting-edge research from the present day. This course will not attempt to answer these vast questions, or provide neat solutions for students: rather, we want to excite students about the social sciences and whet their appetites for further study. One course.

102. Introduction to Research Methods. This course provides students with an understanding of research designs and research methods used in the social sciences. Students will learn about the scientific method, research methods and design, measurement, and ethical issues. Topics include quantitative and qualitative approaches, as well as mixed methods. One course.

110. Innovation and Creativity. The overall goal of this course is to develop and enhance the creative potential of the students and assist them to engage in innovation-driven activities through hands-on projects. The design of the course focuses on the core principles of project-based learning, creative thinking, and interdisciplinary collaboration. First, students will gain fundamental knowledge regarding the concepts and processes of creativity and innovation. Second, students will learn various tools to unlock their creativity, improve the flexibility and originality of their ideas, collaborate and contribute to a creative team. And third, students will practice what they have learned via inspiring exercises and projects on both an individual and group level. Half course.

Courses in Statistics (K_STATS)

101. Introduction to Applied Statistical Methods. This course will introduce students to common statistics used in social science research articles and the media with the goal of making them informed and critical consumers of research results reported by various sources. Students will gain understanding of the conceptual basis and purpose of different statistics, as well as the formulas for deriving them. The relationship of statistical analysis to other components of the research process will be explicated. The course will be taught using team-based learning with an emphasis on the application of new concepts, knowledge, and skills in the classroom. Application activities will include interpreting statistics presented in tables and graphics in research articles and the media, critiquing conclusions drawn from statistics, and using statistical software, such as SPSS or Stata, to conduct statistical tests and generate tables and graphics. One course.

102. Introduction to Data Science. As an introductory course in data science, this course will show students not only the big picture of data science but also the detailed essential skills of loading, cleaning, manipulating, visualizing, analyzing and interpreting data with hands on programming experience. One course.

Courses in Third Language (K_TLANG)

191. Independent Study in Third Language 1. This is a guided independent study course in which learners will learn basic skills in the target language. The specific goals and other aspects of the course (e.g., materials, learning methods) to be determined through discussion between the learner and instructor, but normally learners in this course will learn how to introduce themselves, manage daily interactions, and deal with daily life issues; in other words, the course will cover the amount and type of material normal for a first semester language course. The target language must be one which faculty in the Language Learning Studio are able to speak and can provide coaching for. This course is for students whose Third Language

track students, i.e. those whose English and Chinese language proficiency is such that they need no further study of these languages. One course.

192. Independent Study in Third Language 2. In this guided independent study course students will master the skills and language knowledge normally covered in a second semester language course. While the specific goals and other aspects of the course (e.g., materials, learning methods) will be determined through discussion between the learner and instructor, normally learners in this course will learn how to carry on social conversation about themselves and their lives. The target language must be one which faculty in the Language This is a guided independent study course in which learners will learn basic oral and/or written skills for managing common social interactions in the target language. The specific goals and other aspects of the course (e.g., materials, learning methods) to be determined through discussion between the learner and instructor, but essentially the course will cover the amount and type of material normal for a second-level language course. The target language must be one which faculty in the Language Learnin One course.

291. Independent Study in Third Language 3. In this guided independent study course students will master the skills and language knowledge normally covered in a third semester language course. While the specific goals and other aspects of the course (e.g., materials, learning methods) will be determined through discussion between the learner and instructor, normally learners in this course will learn how to communicate about topics such as school life, work, travel and so forth. The target language must be one which faculty in the Language Learning Studio are able to speak and can provide coaching for. This course is for is for Third Language track students. One course.

Courses in Written and Oral Communication (K_WOC)

110. Should We Care About Endangered Languages. This course examines the issue of endangered languages, in particular whether or not it is important to be concerned about the decreasing number of languages in the world. Through studying this issue, staking out positions, and making cases for those positions, students will build their ability to present clear and effective arguments in papers and oral presentations. Half course.

190. Special Topics in Writing. This is a theme-based writing seminar course through which students strengthen their creative or expository writing skills through exploration of a topic chosen by the instructor. This course is open to all undergraduate students. Half course.

201. Writing Across Cultures. This is a theme-based writing seminar course that has an emphasis on cross-cultural inquiry. It provides guided practice in intellectual reading and writing of the sort expected in courses across the academy and in civic and professional life beyond the university. The specific theme of the course will vary according to instructor. One course.

290. Special Topics: Writing Across Cultures. This is a theme-based writing seminar course that has an emphasis on cross-cultural inquiry. It provides guided practice in intellectual reading and writing of the sort expected in courses across the academy and in civic and professional life beyond the university. The specific theme of the course will vary according to instructor. One course.

Major and Degree Requirements

Duke/Duke Kunshan University dual-degree undergraduate majors foster learning communities of students and faculty whose intellectual interactions revolve around two groups:

1. Interdisciplinary study, which laterally spans a variety of disciplines. The big questions at the core of each interdisciplinary community will probe a variety of disciplines, voices, viewpoints and expertise.
2. Disciplinary study, which is akin to, or even entirely aligned with, a traditional vertical discipline. This community provides discipline-specific training in methods, knowledge, and skills.

The dual structure is also flexible to accommodate a variety of student goals and outcomes. Some students might choose to pursue a less deep path in the disciplinary study while focusing more on developing broad expertise in the questions underlying the interdisciplinary study—and in that case the outcome can be a powerful integrative education for students whose goal is not graduate school or specialized study. This approach allows for a highly integrative, team-based approach to problem-solving and knowledge acquisition. For students oriented toward graduate study, the integrative and outward-looking approach in the interdisciplinary study broadens and enriches their deeper specialist expertise. Our expectation is that a student with deep expertise who also has interacted in a significant, deep way with an interdisciplinary group focused on big questions will be more, not less, appealing to graduate schools or other specialty pursuits. For certain disciplines, students oriented towards graduate school may also need to use some electives, guided independent studies, online courses, and study abroad courses to deepen expertise beyond the seven courses required for the disciplinary study.

Curricular and Credit Requirements

The Duke Kunshan University curriculum is designed to meet the requirements outlined for both the Duke and Duke Kunshan undergraduate degrees. A total of 136 Duke Kunshan credits is required for graduation with a Duke Kunshan bachelor's degree and 34 course credits (1 Duke course credit is equivalent to 4 Duke Kunshan credits) is required for graduation with a Duke bachelor's degree. At least 25 percent of the credit hours required for an undergraduate degree must be completed through Duke University courses.

To meet the 136-credit requirement, students need to take elective courses. The curriculum is designed to enable a wide range of flexibility for students. Some may elect to use their full range of electives to go wide and broad while others may elect to dive deep into their areas of disciplinary study.

There are additional credit-bearing requirements for the Duke Kunshan degree or students from mainland China, Hong Kong, Macau, and Taiwan per Chinese Ministry of Education requirements. The details of these requirements are listed in Part 3: The Curriculum of the Duke Kunshan Undergraduate Bulletin.

Duke University and Duke Kunshan University each confer separate degrees on candidates recommended by the faculty of the interdisciplinary majors and approved by the trustees (or other top-level governing body) at each respective academic institution.

These components are reflected in specific requirements:

General Education	3 common core courses 2-4 language courses depending on proficiency 3 electives as distributional requirements 1 Quantitative Reasoning course
Major	16-19 courses (foundation, interdisciplinary, disciplinary, and signature work)
	Interdisciplinary BA: All subplan requirements that map to the BA degree
	Interdisciplinary BS: All subplan requirements that map to the BS degree
Electives	8-13 courses depending on division and language proficiency, which include the three electives as distributional requirements and a Quantitative Reasoning course in General Education

Courses required for each major include **Divisional Foundation courses**, **Interdisciplinary Studies courses**, **Disciplinary Studies courses**, **Signature Work**, and **Experiential Education**. The detailed course requirement for each major is listed in Part 9: Majors of the [Duke Kunshan Undergraduate Bulletin](#). Students are responsible for meeting the requirements of a major as stated in the bulletin for the year in which they matriculated; however, they have the option of meeting requirements in the major changed subsequent to the students' matriculation.

Divisional Foundation Courses

Divisional Foundation courses provide opportunities to develop knowledge and skills essential to advanced work in each division. Each set of Divisional Foundation courses also provide instruction and guided practice in specialized communication skills.

Interdisciplinary Studies Courses

Interdisciplinary courses are characterized by distinct curricular pathways spanning several traditional disciplines. These are broad but defined areas of study that encourage integrative and multidisciplinary habits of inquiry and knowledge acquisition. The interdisciplinary component of a major serves as a primary definition of the student's academic community. It requires 4 to 7 courses and might be problem-focused, comparative and cross-cultural, or innovatively fused within or across divisions. In the social sciences and the arts and humanities communities, students in their third and/or fourth years will undertake advanced seminars that enable them to integrate their studies from more specialized areas.

Disciplinary Studies Courses

Students will also develop a disciplinary study, which will often map to the tools and methods of a traditional discipline and further enable students to be competitive for graduate school or other advanced work.

Signature Work and Experiential Education

Duke Kunshan University graduates will have experience addressing complex problems outside the classroom as well as within, developing these skills through Signature Work. Signature Work encourages students to seek creative alignments between curricular pathways and to engage in experiential learning that leads to the creation of knowledge and products for scholarly, private sector and public audiences.

Signature Work calls for each student to identify one or more questions, problems, or issues that are of particular importance to him or herself and to society, and to investigate these through a combination of curricular and related co-curricular experiences. Students develop guided pathways, identify questions, and undertake projects early in their academic career. During the sophomore year students work with their advisors and faculty mentors to begin identifying the major questions, problems, or issues on which they would like to work, and to develop a pathway that includes three thematically linked courses drawn from students' interdisciplinary studies, disciplinary studies or electives, one or more co-curricular experiences, and two capstone courses in which a student creates a substantial scholarly or creative signature product. The co-curricular experiential learning component (e.g., internships, practica, community-based fieldwork or other civic projects) must comprise no fewer than 150 hours of work, and will be reflected on the transcript as non-credit, Practice-Oriented Education (POE). The signature product will vary across fields and disciplines, but will always include substantial writing, reflection on learning, and publicly visible results. A student's pathway will be developed by the end of the sophomore, or beginning of the junior year, at the latest. In the junior and senior years, a student will create an e-portfolio that captures both the signature product a student has produced and a narrative explaining the larger inquiry informing their pathway.

Dual-Degree Major and Degree Comparisons

Undergraduate dual-degree majors at Duke Kunshan University map to single major (Interdisciplinary Studies), and either a bachelor of arts or science degree. While the interdisciplinary and disciplinary academic content areas are listed as "majors" as Duke Kunshan, they are listed as tracks and areas of focus at Duke. The following chart illustrates how Duke and Duke Kunshan University majors map between institutions.

Duke University	Duke Kunshan University
Interdisciplinary Studies – Bachelor of Arts	Cultures and Movements/Sociology – Bachelor of Literature
	Cultures and Movements/Cultural Anthropology – Bachelor of Literature
	Cultures and Movements/History – Bachelor of Literature
	Environmental Science/Public Policy – Bachelor of Science
	Ethics and Leadership/Religious Studies – Bachelor of History
	Ethics and Leadership/Philosophy – Bachelor of History
	Ethics and Leadership/Public Policy – Bachelor of Law
	Global China Studies/History – Bachelor of History
	Global China Studies/Political Science – Bachelor of Law
	Global China Studies/Economics – Bachelor of Economics
	Global China Studies/Philosophy – Bachelor of History
	Global China Studies/Religious Studies – Bachelor of History
	Global Cultural Studies/Literature – Bachelor of Literature
	Global Cultural Studies/History – Bachelor of Literature
	Global Health/Public Policy – Bachelor of Science
	Institutions and Governance/Economics – Bachelor of Economics
	Institutions and Governance/Political Science – Bachelor of Law
	Institutions and Governance/Public Policy – Bachelor of Law

Duke University	Duke Kunshan University
Interdisciplinary Studies – Bachelor of Arts	Media & Arts/History – Bachelor of Arts Media & Arts/Creative Practice – Bachelor of Arts Political Economy/Political Science – Bachelor of Law Political Economy/Economics – Bachelor of Economics Political Economy/Public Policy – Bachelor of Law US Studies/History – Bachelor of Literature US Studies/Literature – Bachelor of Literature US Studies/Political Science – Bachelor of Law US Studies/Public Policy – Bachelor of Law
Interdisciplinary Studies – Bachelor of Science	Applied Mathematics and Computational Science/Math – Bachelor of Science Data Science – Bachelor of Science Environmental Science/Biology – Bachelor of Science Environmental Science/Biogeochemistry – Bachelor of Science Environmental Science/Chemistry – Bachelor of Science Global Health/Biology – Bachelor of Science Material Sciences/Physics – Bachelor of Engineering Material Sciences/Chemistry – Bachelor of Engineering Molecular Bioscience/Biogeochemistry – Bachelor of Science Molecular Bioscience/Genetics and Genomics – Bachelor of Science Molecular Bioscience/Cell & Molecular Biology – Bachelor of Science Molecular Bioscience/Biophysics – Bachelor of Science

Interdisciplinary Tracks and Areas of Focus

For detailed information regarding interdisciplinary tracks and areas of focus specific to each major, please follow the links below.

- [Applied Mathematics and Computational Science with area of focus in Math](#)
- [Cultures and Movements with areas of focus in Cultural Anthropology, Sociology, and History](#)
- [Data Science](#)
- Environmental Science with areas of focus in Chemistry, and [Public Policy](#)
- [Ethics and Leadership with areas of focus in Philosophy, Religious Studies, and Public Policy](#)
- [Global China Studies with areas of focus in History, Philosophy, Religious Studies, Economics, and Political Science](#)
- [Global Cultural Studies with areas of focus in Literature and History](#)
- [Global Health with areas of focus in Biology and Public Policy](#)
- [Institutions and Governance with areas of focus in Economics, Political Science, and Public Policy](#)
- [Material Sciences with areas of focus in Physics and Chemistry](#)
- [Media and Arts with areas of focus in Creative Practice and History](#)
- [Molecular Bioscience with areas of focus in Cell and Molecular Biology, Genetics and Genomics, Biogeochemistry, Biophysics](#)
- [Political Economy with areas of focus in Economics, Political Science, and Public Policy](#)
- [US Studies with areas of focus in History, Literature, Political Science, and Public Policy](#)

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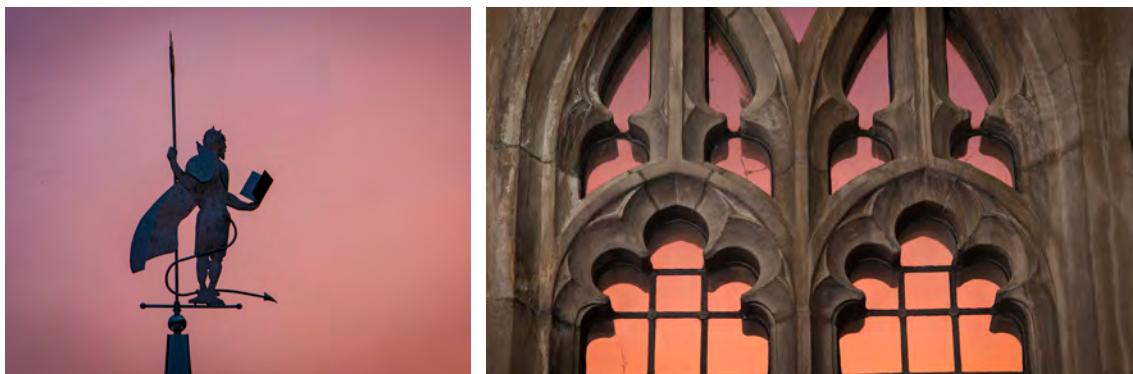
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