

# The College of Arts and Sciences

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## The College of Arts and Sciences

*Neva J. Specht, Interim Dean*

*Dru A. Henson, Associate Dean*

*Jennifer L. Burris, Interim Associate Dean*

*Tracie M. Salinas, Director of Secondary Education and Engagement*

The College of Arts and Sciences connects Appalachian State University to the tradition of the liberal arts. Faculty and staff in sixteen academic departments and three interdisciplinary programs spanning the Humanities, Mathematical, Natural and Social Sciences provide instruction and research essential to the University's mission. The breadth and depth of learning provided by the College are necessary for productive citizenship in a free society.

The College of Arts and Sciences serves all undergraduate students through general education courses; it also offers disciplinary and interdisciplinary programs at the undergraduate and graduate levels, combining liberal arts and professional education, with a special commitment to teacher education. Through innovative instruction, creative and collaborative scholarship, and engagement in professional activities, the faculty and staff foster the development of knowledge and skills essential to continued learning, success in careers and the attainment of advanced degrees.

The College encourages study in diverse local, regional, national, and international communities and seeks to cultivate the habits of inquiry, learning, and service among all of its constituents.

### Departments/Programs

The College of Arts and Sciences consists of the following academic units:

Anthropology	Fermentation Sciences Program	Philosophy and Religion
Biology	Geography and Planning	Physics and Astronomy
Chemistry	Geology	Psychology
Computer Science	Government and Justice Studies	Sociology
Cultural, Gender and Global Studies	History	Watauga Residential College
English	Languages, Literatures, and Cultures	
Environmental Science Program	Mathematical Sciences	

### Centers

The College of Arts and Sciences consists of the following centers:

Center for Appalachian Studies Program

Center for Judaic, Holocaust and Peace Studies

**NOTE:** *Although the requirements for most degree programs at Appalachian can be met within the minimum of 122 semester hours, the student should be aware that certain programs of study require additional hours. Students are advised to check with the department of their intended major early in their studies. Meeting graduation requirements is the student's responsibility.*

### Watauga Residential College

The College of Arts and Sciences also contains the Watauga Residential College, a two-year residential program located in the Living Learning Center. The program is a distinctive, selective alternative general education program that fosters creativity and civic engagement through experiential, inquiry-based learning.

### Degrees Offered

The College of Arts and Sciences offers the Bachelor of Arts, the Bachelor of Science, and the Bachelor of Science in Criminal Justice degrees. In cooperation with the Reich College of Education, it offers the Bachelor of Science degree with teacher licensure in English, French, History, Mathematics, Spanish, Biology, Chemistry, Geology, and Physics (leading to science education licensure).

To be admitted to the College of Arts and Sciences, a student must meet the following requirements to officially declare a major:

1. Completion of at least 30 semester hours
2. A grade-point average of at least 2.0
3. Credit for RC 1000 or an equivalent course and credit for or current enrollment in UCO 1200 or an equivalent course

A student who is a candidate for teacher licensure must meet the specified requirements for admission to the Reich College of Education.

### Bachelor of Arts Degree

To earn the Bachelor of Arts degree in the College of Arts and Sciences, a student must meet the following requirements:

1. Completion of at least 122 semester hours (128 for biology) with a minimum cumulative grade-point average of 2.0 and a

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minimum major grade-point average of 2.0

2. Completion of general education requirements
3. Completion of six semester hours of intermediate or higher level foreign language
4. Completion of major requirements from one of the program areas listed below:

Anthropology	Gender, Women's & Sexuality	History	Political Science
Biology	Studies	Interdisciplinary Studies	Psychology
Chemistry	Geography	Mathematics	Religious Studies
English	Geology	Philosophy	Sociology
French & Francophone Studies	Global Studies	Physics	Spanish

*Specific requirements for each department major preface the list of courses offered by the department. A candidate for the Bachelor of Arts degree may count no more than a total of 46 semester hours above general education requirements in any one discipline.*

5. Completion of a minor. Students seeking a minor in the Departments of Leadership and Educational Studies; or Reading Education and Special Education must receive prior permission from the Dean of the College of Arts and Sciences.
6. Electives to complete 122 semester hours (128 for biology). A minimum of two semester hours of electives must be outside the major discipline.
7. Completion of residency requirements
8. Compliance with regulations concerning the settlement of all expense accounts

Meeting graduation requirements is the responsibility of the student.

*Students pursuing the B.A. degree are advised to refer to the section in this Undergraduate Bulletin entitled "Credit Limitations" which apply to that particular degree.*

A candidate for the Bachelor of Arts degree may qualify for a teaching license by admission to professional education courses through the chair of the Department of Curriculum and Instruction and by completing all academic and professional education requirements for licensure.

## Bachelor of Science Degree (without teacher licensure)

To earn the Bachelor of Science degree in the College of Arts and Sciences, a student must meet the following requirements:

1. Completion of at least 122 semester hours (128 for biology) with a minimum cumulative grade-point average of 2.0 and a minimum major grade-point average of 2.0
2. Completion of the general education requirements.
3. Completion of major requirements from one of the program areas listed below:

Anthropology	Environmental Science	Mathematics
Biology	Fermentation Sciences	Physics
Chemistry	Geography	Political Science
Community & Regional Planning	Geology	Psychology
Computer Science	History	Sociology

*Specific requirements for each department major preface the list of courses offered by the department.*

4. Electives to complete 122 semester hours. A minimum of two semester hours of electives must be outside the major discipline.
5. Completion of residency requirements
6. Compliance with regulations concerning the settlement of all expense accounts

Meeting graduation requirements is the responsibility of the student.

## Bachelor of Science Degree (with teacher licensure)

To earn the Bachelor of Science degree with teacher licensure in the College of Arts and Sciences, a student must meet the following requirements:

1. Completion of at least 122 semester hours with a minimum cumulative grade-point average of 2.7 and a minimum major grade-point average of 2.0
2. Completion of the general education requirements
3. Completion of major requirements from one of the program areas listed below:

Biology	Geology
Chemistry	History
English	Mathematics
French and Francophone	Physics
Studies	Spanish

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4. Admission to the Reich College of Education and completion of all professional education requirements
5. Electives to complete the required number of hours (122-128) for the degree. A minimum of two semester hours of electives must be outside the major discipline.
6. Completion of residency requirements
7. Compliance with regulations concerning the settlement of all expense accounts

Meeting graduation requirements is the responsibility of the student.

### Bachelor of Science in Criminal Justice Degree

To earn the Bachelor of Science in Criminal Justice (BSCJ) degree, the student must meet the following requirements:

1. Completion of at least 122 semester hours with a minimum cumulative grade-point average of 2.0 and a minimum major grade-point average of 2.0
2. Completion of general education requirements
3. Completion of a major consisting of 61 semester hours as specified and STT 1810. See the Department of Government and Justice Studies.
4. Electives to complete 122 semester hours. A minimum of 2 s.h. of electives must be outside the major discipline.
5. Completion of residency requirements
6. Compliance with regulations concerning the settlement of all expense accounts

Meeting graduation requirements is the responsibility of the student.

### Minors

The College of Arts and Sciences offers minors in the following program areas:

Africana Studies	French and Francophone Studies	Mathematics
Anthropology	Geography	Non-Profit Management
Appalachian Music	Geology	Philosophy
Appalachian Studies	Gender, Women's and Sexuality Studies	Physics
Arabic	German	Political Science
Astronomy	Gerontology	Psychology
Biology	Girls' Studies	Religious Studies
Chemistry	Global Studies	Russian
Chinese	History	Sociology
Community & Regional Planning	Interdisciplinary Studies	Spanish
Computer Science	Internet Studies	Statistics
Criminal Justice	Japanese	TESL/Applied Linguistics
English	Labor Studies	
Film Studies	LGBT Studies	

### Interdisciplinary Minors

#### Minor in Classical Civilizations (128/30.2201)

An undergraduate minor in Classical Civilizations consists of six courses (18 semester hours) and focuses on the culture and history of Greece and Rome. It is designed to introduce students to classics by utilizing a variety of approaches, including historical studies, mythology, languages, and philosophy.

The program of study is available at: [www.programsofstudy.appstate.edu/classical-civilizations-minor-128-2016-2017](http://www.programsofstudy.appstate.edu/classical-civilizations-minor-128-2016-2017)

#### Minor in Judaic, Holocaust and Peace Studies (126/30.2101)

A student may earn an undergraduate minor in Judaic, Holocaust and Peace Studies by successful completion of an interdisciplinary program of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/judaic-holocaust-and-peace-studies-minor-126-2016-2017](http://www.programsofstudy.appstate.edu/judaic-holocaust-and-peace-studies-minor-126-2016-2017)

#### Minor in Medieval Studies (131/30.1301)

A student may earn an undergraduate minor in Medieval Studies by successful completion of an interdisciplinary program of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/medieval-studies-minor-131-2016-2017](http://www.programsofstudy.appstate.edu/medieval-studies-minor-131-2016-2017)

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## Certificates

The College of Arts and Sciences offers certificates in the following program areas:

- Africana Studies
- Forensic Science
- Geographic Information Systems
- Global Connections

## Academic Advising

Academic advising for students in the College of Arts and Sciences is available in each of the departments in the college. Advising is required prior to registration for each semester and encouraged at other times. The College Advising and Support Services Hub (CASSH) of the Dean's Office is located in room 100 of I.G. Greer Hall. The CASSH office works to develop appropriate support services for students with majors in the College and for faculty and staff who work with these students. Undeclared students and students with majors in other Colleges are also provided with academic services related to classes offered within the College.

The CASSH office works closely with students and faculty in the College. CASSH staff certify graduation for students with majors in the College; provide graduation audits; assist students with special course processing, dropping and adding classes, overload requests, and student teaching certification; and provide academic information and advising support for students and faculty. Students are encouraged to become familiar with the services provided by this office beginning with their first semester in the College. More information can be found at: <https://cas.appstate.edu/students>

Although academic advising is provided for all student, the final responsibility for meeting requirements for graduation remains with the student. The CASSH staff send graduation audits to students via appstate email upon eligibility to apply or submission of application for graduation and encourages students to review this document thoroughly.

## Changing Majors/Minors

Students who wish to change, add, or delete a major, minor, or certificate program from the official record should obtain a Change of Program form from the College of the program to be changed. This form allows students to change majors, minors, or certificates; add additional majors, minors, or certificates; and delete majors, minors, or certificates. The form must be signed by the department chair for any addition of a major.

## Grade-Point Average Requirements for Graduation

To graduate, a minimum cumulative grade-point average of 2.0 is required. A minimum grade-point average of 2.0 is also required in the major. Included in the calculation of the major grade-point average are all courses taken in the major department, all courses in the approved program of study/contract/concentration, and all cognate courses. Teacher licensure programs require a 2.7 GPA from admission into a teacher education program to program completion, and for admission to student teaching. A "C" is required in each professional education course; however, the professional education courses are not included in the calculation of the major grade-point average.

## Internship Programs

The internships offered in the College of Arts and Sciences provide students with opportunities to learn outside of the regular classroom and to formulate career plans based on their experiences. Student interns earn academic credit toward their degrees. Internships offer realistic on-the-job experience and personal contacts with employers.

Agency or industry personnel, in close cooperation with faculty in the student's major department, provide internship instruction. The student's career interests are considered in arranging internship assignments and placements. In many majors and career-oriented concentrations, an internship is required in the course of study; in others, the internship is available as an elective.

Students seeking further information and requirements should contact their major advisor or their departmental chair.

## Preprofessional Programs

Appalachian State University provides students with preparation for professional training in other institutions. Some preprofessional programs (law, medicine, dentistry and theology) are four year programs and lead to a Bachelor of Arts or a Bachelor of Science degree from Appalachian; others (engineering, forestry, and pharmacy) are one or two year programs and prepare students for pursuit of a degree to be granted by the professional school. Whatever program students select, they are urged to consult professional school catalogs and to work closely with the appropriate advisors at Appalachian.

## Law

Law schools require a bachelor's degree (B.A. or B.S.) but, in most cases, no specific selection of courses. Advisors can help students plan a curriculum most likely to prepare them for the study of law. Usually students do not specialize during a regular law school

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program, but are expected to establish a solid foundation of legal knowledge upon which they may build a special practice. Academic areas with materials especially relevant to the study of law are business, communication, criminal justice, economics, English, history, philosophy, political science, psychology and sociology. Pre-law students are encouraged to participate in the forensics program as part of their extracurricular activity. Advisor: Dr. Mariam Williams, Department of Government and Justice Studies.

### Ministry and Theology

Most seminaries and schools of divinity require a bachelor's degree, but in many cases they do not require specific course work. The best preparation for theological studies is to acquire a strong liberal arts education taking courses in religious studies and courses related to religious studies, history, and philosophy.

In working with their advisor at Appalachian, students can develop a curriculum suited to the seminary and speciality of their choice. Majors in Religious Studies and Philosophy, that include a program of study that seeks to understand the phenomenon of humanity from as many perspectives as possible, are highly recommended. Pre-theological students should be aware of the increasing variety of theology-related professions available to them.

Contact the Chair of the Department of Philosophy and Religion for further information.

### Medicine and Dentistry

All medical and dental schools require at least three years of satisfactory undergraduate work and most give preference to candidates holding a bachelor's degree. The catalog from the school selected should be consulted and an individual program designed with the help of an advisor to prepare the student for both specific admission requirements and the Medical College Admission Test. In general, solid work in the humanities plus a core of courses such as the following are recommended:

BIO 1801, BIO 2001, BIO 2400, BIO 2410, BIO 3301, BIO 3308, BIO 3800

CHE 1101, CHE 1110 and CHE 1102, CHE 1120; CHE 2201, CHE 2203 and CHE 2202, CHE 2204; CHE 4580

MAT 1025, MAT 1110, MAT 1120; STT 2810

PHY 1103-PHY 1104 or PHY 1150-PHY 1151

PSY 1200

Students should begin taking chemistry during the freshman year. Medical and dental schools will look at the overall quality of performance, not just achievement in science. Interested students should contact Ms. Celeste Crowe, Director of the Health Professions Advising Office.

### Engineering

The Department of Physics and Astronomy offers two separate pre-engineering programs and advises students interested in engineering. In addition, the Department offers dual-degree programs with Auburn University and Clemson University.

#### *The North Carolina University System Pre-Engineering Program*

The North Carolina System Pre-Engineering Program has been approved by the Subcommittee on Engineering Transfer for transfer to the engineering programs at North Carolina A & T State University, North Carolina State University, and the University of North Carolina at Charlotte. Pre-engineering students in this program take the following courses during their first year at Appalachian with the goal of transferring to an engineering school for their second and subsequent years:

MAT 1110, MAT 1120

PHY 1150

CHE 1101, CHE 1110

CS 1440

RC 1000

Other recommended courses (certain of these may be required for some engineering disciplines) include:

PHY 1151, 2010-PHY 2020

CHE 1102, CHE 1120

ECO 2030

RC 2001

MAT 2130, 3130

PHL 3600

Students who plan to enter the pre-engineering program or who desire to develop a pre-engineering program for another university are strongly urged to consult with an advisor in the Department of Physics and Astronomy.

#### *Dual-degree Engineering Programs with Auburn University and Clemson University*

Dual-degree programs are now offered in cooperation with Auburn University and Clemson University which permit students to

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attend Appalachian for three years and either Auburn or Clemson University for approximately two years. After finishing one of the programs, students will receive two degrees: a BS in Applied Physics from Appalachian and a BS from the engineering school.

Study during the first three years includes course work in mathematics and the sciences and also courses chosen to meet Appalachian's general education requirements. These courses plus two semesters of courses taken at Auburn or Clemson will be counted towards fulfilling the requirements for a baccalaureate degree from Appalachian.

Upon completion of this dual-degree program, the graduate is awarded a baccalaureate degree from Appalachian and an engineering bachelor's degree from either Auburn University or Clemson University.

Dual-degree candidates from Appalachian are eligible to seek a bachelor's degree from Auburn University in aerospace engineering, aviation management, chemical engineering, civil engineering, electrical engineering, industrial engineering, materials engineering, mechanical engineering, textile chemistry, textile engineering and textile management.

Dual-degree candidates from Appalachian are eligible to seek a bachelor's degree from Clemson University in ceramic engineering, civil engineering, engineering analysis, electrical engineering, industrial engineering and mechanical engineering.

### *Double-degree Programs with North Carolina State University*

A double-degree program is also in place with North Carolina State University in Material Science and Engineering which will lead to granting two degrees: a BS in Physics at Appalachian State University and a BS in Materials Science and Engineering at North Carolina State University. The curriculum at Appalachian State university consists of 98-99 hours taken at Appalachian State University during a period of three years and a minimum of nine semester hours of General Education Courses and 15 hours of major courses that are transferred from North Carolina State University. The curriculum at North Carolina State University will consist of at least 126 hours consisting of at least 60 hours taken at North Carolina State University and additional hours transferred from courses taken at Appalachian State University. Interested students should meet with the double degree program director as early as possible to determine the particular courses to be taken at both Appalachian State University and at North Carolina State University.

For additional information, contact Dr. Michael Briley, Department of Physics and Astronomy.

### **Forest Resources**

Students who are interested in forest resources can complete many of the prerequisite courses at Appalachian and then transfer to North Carolina State University or to another university offering the degree. Students should make early contact with schools in which they are interested to obtain the requirements for admission to a specific program or concentration. In general, students might expect to take the following courses (requirements vary depending upon the program):

RC 1000, RC 2001  
MAT 1025, MAT 1110, MAT 1120  
CHE 1101, CHE 1110 and CHE 1102, CHE 1120  
BIO 1801 and/or BIO 2000  
PHY 1103-PHY 1104  
COM 2101  
ECO 1010 or ECO 2040 PE (four hours)  
Humanities and social sciences (12 hours)  
Electives (six hours)

For additional information, contact Dr. Zack Murrell, Department of Biology.

### **Pharmacy**

Students who wish to pursue a career in pharmacy may complete the pre-pharmacy requirements at Appalachian; students may then seek admission to a school of pharmacy (in North Carolina, four schools offer pharmacy degrees: Campbell University, UNC-Chapel Hill, High Point University and Wingate University). Each School of Pharmacy has its own specific requirements and a student considering pharmacy must make early contact with the Schools of Pharmacy in which they are interested to obtain current pre-pharmacy requirements for admission into their programs. In general the requirements of the traditional two-year pre-pharmacy program will normally include four courses in chemistry (including two semesters of organic chemistry), one or two courses in mathematics including calculus, two courses in biology (with at least one course beyond the introductory level), one or two courses in physics, and general education courses, including two English courses and a history course. (UNC-Chapel Hill also requires completion of three semesters of college-level foreign language).

The Director of the pre-health advising office maintains information on the requirements for various Schools of Pharmacy in the state and region, and the Pharmacy College Admissions Test (PCAT) scores are requested by most pharmacy schools as part of the admission application. Because of the variety of course requirements, admission procedures and rigorous admission standards, early contact with the departmental pre-pharmacy advisor and the Director of the pre-health advising office is strongly recommended. Director of pre-health advising office: Ms. Celeste Crowe; Chemistry Department's advisor: Dr. Claudia Cartaya-Marin.

## Department of Anthropology (ANT)

*Timothy J. Smith, Chair*

*Jon H. Carter*

*Christina Sornito Carter*

*Linda J. Jencson*

*Eric I. Karchmer*

*Larry R. Kimball*

*Susan M. Lappan*

*Diane P. Mines*

*Dana E. Powell*

*Colin P. Quinn*

*Gregory G. Reck*

*Gwen Robbins Schug*

*Thomas R. Whyte*

*Alice P. Wright*

The Department of Anthropology is committed to a comparative and holistic approach to the study of the human experience. The anthropological perspective provides a broad understanding of the origins as well as the meaning of biological and cultural diversity in the world--past, present, and future. As such, the program in anthropology offers the opportunity for understanding world affairs and problems within the total context of the human experience and for constructing solutions to world problems which are firmly grounded in that context. Specifically, the department offers: (1) students of all disciplines the opportunity to deepen and broaden their knowledge of humankind and of themselves; (2) a strong preparation for graduate study in anthropology; and (3) an academic and practical background for those who wish to apply the anthropological perspective in a wide range of professional careers, such as social services, international aid and development, medical research, human resources, law, marketing, education, forensics and archaeology.

### **The Bachelor of Arts degree in Anthropology (202\*/45.0201) with a concentration in Archaeology (202D)**

This concentration immerses students in the content, methods, theory, and practice of archaeology, offering specialized courses that engage undergraduate students in archaeological research and that prepare them for graduate programs in Archaeology and employment in Cultural Resource Management and Museum Studies.

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-ba-archaeology-202d-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-ba-archaeology-202d-2016-2017)

### **The Bachelor of Arts degree in Anthropology (202\*/45.0201) with a concentration in Social Practice and Sustainability (202E)**

This concentration offers students the opportunity to actively engage with anthropological theory, method, and practice aimed at the positive transformation of our common social and environmental worlds.

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-ba-social-practice-and-sustainability-202e-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-ba-social-practice-and-sustainability-202e-2016-2017)

### **The Bachelor of Arts degree in Anthropology (202\*/45.0201) with a concentration in Sociocultural Anthropology (202F)**

This concentration provides students with the content, methods, and theory needed to gain a deep understanding of social and cultural practices across geographic regions, and offers specialized courses on the anthropology of politics, medicine, interpretation, environment, social justice, religion, and in the production of knowledge..

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-ba-sociocultural-anthropology-202f-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-ba-sociocultural-anthropology-202f-2016-2017)

### **The Bachelor of Science degree in Anthropology (non-teaching) (201A/45.0201)**

This concentration allows students to craft an individual career-oriented multidisciplinary concentration on top of a foundational set of courses in Anthropology.

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-bs-201a-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-bs-201a-2016-2017)

### **The Bachelor of Science degree in Anthropology (non-teaching) (201\*/45.0201) with a concentration in Biological Anthropology (201C)**

This concentration immerses students in the study of humans and non-human primates from a biological and evolutionary perspective, and offers theory and methods courses on skeletal analysis, human evolution, biocultural adaptation, paleontology, forensics, ecology, and primate conservation and behavior

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-bs-biological-anthropology-201c-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-bs-biological-anthropology-201c-2016-2017)



## **The Bachelor of Science degree in Anthropology (non-teaching) (201\*/45.0201) with a concentration in Archaeology (201D)**

This concentration immerses students in the content, methods, theory, and practice of archaeology, offering specialized courses that engage undergraduate students in archaeological research and that prepare them for graduate programs in Archaeology and employment in Cultural Resource Management and museum work.

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-bs-archaeology-201d-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-bs-archaeology-201d-2016-2017)

**A minor in Anthropology (201/45.0201)** consists of 18 semester hours in anthropology.

The program of study is available at: [www.programsofstudy.appstate.edu/anthropology-minor-201-2016-2017](http://www.programsofstudy.appstate.edu/anthropology-minor-201-2016-2017)

**A minor in Evolutionary Anthropology and Primatology (202/45.0201)** consists of 15 semester hours in anthropology courses focusing mostly on primatology and/or evolutionary anthropology.

The program of study is available at: [www.programsofstudy.appstate.edu/evolutionary-anthropology-and-primatology-minor-202-2016-2017](http://www.programsofstudy.appstate.edu/evolutionary-anthropology-and-primatology-minor-202-2016-2017)

## **Honors Program in Anthropology**

The Department of Anthropology offers honors courses at all levels. Honors sections in most courses are made available on request or by contract. On occasion, special honors courses (ANT 1510, ANT 2510, ANT 3510) may be offered to students who have distinguished themselves. Students who successfully complete six hours of honors courses and have earned at least a 3.45 GPA in anthropology are eligible to take ANT 4510, Senior Honors Thesis. Students who complete nine hours of honors work, including ANT 4510, will graduate with "honors in anthropology." Students must earn a grade of 'B' or higher on all honors coursework taken to fulfill any honors requirements.

## **Courses of Instruction in Anthropology (ANT)**

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### **ANTHROPOLOGY HONORS (ANT)**

**ANT 1510. Freshman Honors Colloquium (3).**F;S.

Study of selected topics in general anthropology. Enrollment by invitation of the department or by application.

**ANT 2510. Sophomore Honors Colloquium (3).** On Demand.

Study of selected topic(s) in anthropology, encouraging independent scholarship through reading, writing and discussion. Enrollment is by invitation or application.

**ANT 3510. Juniors Honors Colloquium (3).** On Demand.

Seminar on a selected topic in anthropology. Enrollment is by invitation of the department, or by application.

**ANT 4510. Senior Honors Thesis (3).**F;S.

*GEN ED: Capstone Experience*

Independent study and research, directed by a Department of Anthropology faculty member and evaluated by a department committee. Prerequisites: ANT 2215, 2221, 2230; either ANT 3220, 3600, or 3625; successful completion of 6 hours Anthropology honors courses, a 3.45 GPA in Anthropology and approval of thesis topic by departmental honors committee.

### **ANTHROPOLOGY (ANT)**

**ANT 1415. Understanding Culture (3).**F;S.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "From Empire to Globalization")*

This course explores the diversity and unity of human experience through the lens of cultural anthropology. Using case studies and other texts, students will gain familiarity with different cultural worlds. As they do so, they will be asked to think critically about their own cultural ideas and actions, to reflect on problems facing humanity in the contemporary world, and to understand the various ways in which they are historically and socially connected to other people in other places.

**ANT 1420. Archaeology and the Human Past (3).**F;S.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "How We Know What We Know About the Past: Method, Evidence, Knowledge")*

An introduction to the human past through the scientific process of archaeology. Controversial issues discussed may include human



evolution, the fate of the Neandertals, peopling of the Americas, and the cycling of state-level societies. Ultimately, lessons from the past are considered in light of contemporary human issues.

**ANT 1430. Our Primate Heritage** (4).F;S.

*GEN ED: Science Inquiry Perspective (Theme: "Life, Earth, and Evolution")*

This course examines humans within an evolutionary and biocultural perspective. Students will be introduced to classic and contemporary literature on topics in human evolution and will have the opportunity to make their own observations and analyses within the laboratory. We will explore theoretical frameworks and controversies about important issues such as the nature of science, human variation, and the relationship between humans and our environment. Students will become familiar with evolutionary theory and heredity, primate evolution and basic comparative anatomy, and the fossil record of human evolution. Lecture three hours, laboratory two hours.

**ANT 1530-1549. Selected Topics** (1-4). On Demand.

An opportunity to study a special topic or a combination of topics not otherwise provided for in the anthropology curriculum. May be repeated for credit when content does not duplicate.

**ANT 2100. East Asia Through Ethnography** (3).S.

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course explores both the shared cultural practices and diverse social experiences of peoples across East Asia (China, Korea, Japan, Taiwan, Mongolia). Drawing on ethnographic writings and primary accounts by indigenous scholars, this course will explore a range of topics, including the family and religion, ethnic and political relations, gender and bodily practices, war and revolution, economic development and migrant labor, as well as other contemporary issues or special topics. (Global Learning Opportunity course)

**ANT 2215. Cultural Anthropology** (3).F;S.

The course consists of a critical introduction to fundamental ethnographic concepts, theories, methods, textual representations, and contemporary issues and debates encompassed by the sub-discipline of cultural anthropology.

**ANT 2221. Archaeology** (3).F;S.

The scientific study of the unwritten record of the human past. Archaeological theory, methods, and techniques are introduced to illustrate how and why archaeologists study past human life and behavior and explain past human cultural variation.

**ANT 2222. The Living Primates** (3).F.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "War and Peace")*

In this course, students will be introduced to the diversity, evolution, biology, and behavior of the extant nonhuman primates, including lemurs, lorises, tarsiers, monkeys, and apes, through lectures, films, readings, discussions, and laboratory exercises.

**ANT 2230. Biological Anthropology** (3).F;S.

Biological anthropology is the study of primate biology within an evolutionary framework. Topics include evolutionary theory, heredity, the evolution and behavior of living and fossil primates, and an examination of the evolutionary story of *Homo sapiens*.

**ANT 2235. North American Archaeology** (3).F.

*GEN ED: Social Science Designation; Liberal Studies Experience*

A general survey of lifeways in North America before white contact as known through archaeological information. Basic archaeological concepts and a brief discussion of the history of North American archaeology will be presented. Topical emphases include the prehistory of Alaska, the Northwest Coast, the Southwest, Plains, Great Basin, Midwest, and the Eastern United States. This course logically precedes ANT 2400, Native America Through Ethnography.

**ANT 2300. Meso American Cultures** (3).F.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Las Americas")*

Introduction to the cultures and peoples of Mexico, Belize, Guatemala, and Honduras. Readings and lectures will focus on language, art, and political economy as vehicles for the expression of beliefs. (Global Learning Opportunity course)

**ANT 2310. Appalachian Culture** (3).F.

A cultural survey of rural and urban Appalachia. A brief history of the region is followed by a discussion of the contemporary social, economic, political, and cultural characteristics of the people. The impact of processes of change, including migration, urbanization, industrialization, and resource exploitation, are explored.

**ANT 2330. Neandertals** (3).F.Alternate years.

This course studies *Homo sapiens neanderthalensis* from a paleoanthropological perspective. Based on recent DNA evidence, Neandertals are currently considered to be a subspecies of *Homo sapiens sapiens*. Yet they are still largely mischaracterized and remain

something of an enigma – why is this? Why did Neandertals disappear so quickly as *Homo sapiens sapiens* spread throughout the world between 50,000–30,000 years ago even though they had successfully survived very cold pulses of the Late Pleistocene 200,000 years ago or more? This course examines the adaptation of Neandertals from biological, technological, social, and ecological evidence in order to answer these and other related questions.

**ANT 2400. Native America Through Ethnography (3).F.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

The course investigates current American Indian societies and issues. Students will read recent ethnographies written by and about Native peoples that bring attention to critical issues such as nation-building, citizenship, identity, material culture, and sociopolitical movements. The course includes an overview U.S. Indian policy since contact, providing the historical context for understanding contemporary issues facing Native Nations today.

**ANT 2420. Gender, Race and Class (3).F;S.**

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Intersections: Race, Class, and Gender")*

An anthropological study of gender, social class, ethnicity, race and sexuality as cultural categories with a variety of meanings. Systems of inequality and the ways in which these categories are used to limit access to economic wealth, power, and prestige are analyzed in a global context. (Global Learning Opportunity course)

**ANT 2430. Magic, Witchcraft and Religion (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

A cross-cultural study of the nature and functions of belief systems. Emphasis is placed on understanding the belief systems of non-Western cultures in order to provide a means through which our own beliefs can be better understood. A variety of anthropological and psychological approaches to the study of belief systems are used. (Global Learning Opportunity course)

**ANT 2500. Independent Study (1-4).F;S.**

**ANT 2530-2549. Selected Topics (1-4). On Demand.**

An opportunity to study a special topic or a combination of topics not otherwise provided for in the anthropology curriculum. May be repeated for credit when content does not duplicate.

**ANT 2600. Southwest Field Experience (3).On Demand.**

Southwest Field Experience includes an eleven day field trip to study the anthropology of the southwestern United States. This includes visiting the Hopi, Zuni and Navaho reservations where we observe the living Indian people. Also we visit several important archaeological sites which represent the ancestors of the above tribes. A minimum of six weeks of three hour preparatory classes are required prior to the trip.

**ANT 2700. South Asia Through Ethnography (3).S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course explores human life in South Asia (India, Pakistan, Bangladesh, Nepal, Sri Lanka) through ethnographic and culture-historical accounts by anthropologists and others. Attending to both similarities and differences among South Asian peoples, the course offers breadth through a survey of general topics (family, religion, caste, gender, colonialism, politics, etc.) as it also scrutinizes in depth a specific topic of contemporary concern, such as untouchability, ethnic strife, religious nationalism, postcolonialism, the South Asian diaspora, or globalization. (Global Learning Opportunity course)

**ANT 2800. Latin America Through Ethnography (3).F.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course offers a critical examination of recent and well-received ethnographies on the cultures and regional histories of Latin America (Guatemala, Mexico, Bolivia, Peru, Ecuador, and Chile) with the hope that by taking a multi-framed approach to reading and discussing these contributions, we may better understand both the similarities and differences Latin America has with other world areas. Topics to be discussed include tourism, development, indigenous activism, democracy, transnationalism, violence, performance, health, citizenship, and social movements. (Global Learning Opportunity course)

**ANT 3120. Field Archaeology (3-6).SS.**

An introduction to methods and techniques of archaeological site survey, mapping, and excavation. Students participate in fieldwork on one or more actual archaeological sites. Prerequisite: ANT 2221 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**ANT 3200. Zooarchaeology (3).S.**

Trains students in the identification and analysis of animal remains (primarily bone and shell) recovered from archaeological sites. Students are provided the opportunity to learn the major bones of vertebrates and the hard anatomy of invertebrates and how to

identify several species by their distinctive bones or shells. Various approaches to the quantification and analysis of archaeofaunal data are explored. Lecture two hours, laboratory two hours. Prerequisite: ANT 2221 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**ANT 3220. Human Biological Variation (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course provides a survey of theoretical frameworks in biological anthropology, beginning with an examination of the history and development of evolutionary theory, the modern synthesis, and the "New Physical Anthropology." Feminist critiques, objections to the adaptationist program, and the development of biocultural approaches to human biology will be examined and applied to the study of patterns and processes in human evolution. Issues to be addressed in this course include the evolution of primate life histories, the origin of modern human biological variation, human reproduction, and evolutionary medicine. Prerequisite: RC 2001 or its equivalent.

**ANT 3250. Archaeological Laboratory Methods (3).F.**

Trains students in the processing and analysis of materials recovered from archaeological sites such as artifacts, ecofacts, and sediment samples. Numerical data are produced and analyzed using computer data base systems. Lecture two hours, laboratory two hours. Prerequisite: ANT 2221. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**ANT 3260. Microscopy in Archaeology (3).S.Alternate years.**

Students will learn how to use an array of microscopic instruments (stereomicroscopy, metallurgical microscopy, and digital microscopy) to identify, record, and interpret attributes of lithic, faunal, and ceramic artifacts related to manufacture, use, or decoration. Archaeological and experimental specimens will be microscopically inspected to differentiate raw materials, lithic use-wear traces, cutmarks on bones, surface decoration of ceramics, etc. Following contemporary procedures in archaeological science, these observations will be integrated in a proper analytical manner in order to prepare technical reports on the same.

**ANT 3270. Archaeology of the Native South (3).S.Alternate years.**

An introduction to the prehistory of the Southeastern United States, from Pleistocene migrations to North America to contact with European colonizers. Emphasizes current research trends in the region, including indigenous economies, politics, and religion, and the various ways in which archaeologists tackle these subjects for the Archaic, Woodland, and Mississippian periods.

**ANT 3300. Human Osteology (3).F.**

This course is designed to provide students with an in-depth knowledge of the human skeleton and dentition. We will examine bones and teeth as dynamic elements that grow, develop, and degenerate throughout the lifespan. Topics covered include bone and tooth biology, micro-structure, and gross anatomy including important features and landmarks of each element. Prerequisite: ANT 2230 with a grade of "C" or higher.

**ANT 3305. Forensic Anthropology (3).F.Alternate years.**

This course provides students with a broad overview of the field of forensic anthropology - its history, theory, method, and practice. Forensic anthropology is the application of anthropological science to medico-legal questions. This discipline is important for legal and humanitarian reasons and the curriculum will cover case studies that illustrate the ethical and human rights implications of its application. The course will also cover the history of the discipline, practical aspects of identification (sex, ethnicity, age, stature, body mass, and other identifying characteristics in the human skeleton), and forensic anthropological perspectives on pathology and trauma. Students will complete lab assignments and case reports designed to lead to basic proficiency in forensic anthropology.

**ANT 3320. Primatological Field Methods (3).On Demand.**

An introduction to the planning, conduct, and presentation of scientific research in the field of primatology. This course will familiarize students with field methods used in primate ethology and tropical ecology (including field and laboratory methods), and students will receive hands-on field research training in field methods used in habitat and trail mapping, primate censuses and surveys, collection of behavioral data, collection of botanical data, and monitoring of ecological variables. Each student will design and conduct, and present an independent research project on a topic of their choice related to primate behavior and ecology. Course may be taught as a field course in Costa Rica, Indonesia, or other primate habitat countries.

**ANT 3350. Primate Behavior and Ecology (3).On Demand.**

An examination of primate behavioral adaptations and the relationships among environmental variables, primate morphology, and behavior. Relevant theoretical developments in ecology and evolution will be introduced, and classic and recent texts in primatology will be discussed. Topics include tropical forest ecology, interspecific interactions, primate diets and feeding adaptations, habitat preferences, ranging patterns, positional behavior, social organization and mating systems, communication, and conservation biology.

**ANT 3405. Quantitative Methods in Anthropology (3).F.Alternate years.**

An introduction to how computers, quantitative methods, and anthropological data are used to address anthropological questions.

The course focuses on hands-on learning in: basic personal computer operations, the Internet, probability theory, data base management, sampling, research design, categorical analysis, linear regression, correlation, and exploratory data analysis. Students will work with original archaeological, bioanthropological, and cultural data on personal computers. Prerequisites: 6 semester hours in anthropology and STT 2810 or STT 2820. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**ANT 3410. Ethnographic Methods (3).F.**

An introduction to the art of fieldwork in anthropology, and the methods and practices of research used by anthropologists to create ethnographic works in written, visual, and aural formats. Research design, proposal writing, and research ethics are given special attention.

**ANT 3420. Women and Gender in Anthropology (3). On Demand.**

Examination of feminist theoretical issues concerning women and gender cross-culturally, such as feminist perspectives on the cultural construction of gender, relations of production and of reproduction, and gender as a central analytic category. Based in ethnographic information from foraging, tribal, and state societies.

**ANT 3500. Independent Study (1-4). F;S.**

**ANT 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**ANT 3530–3549. Selected Topics (1-4). On Demand.**

An opportunity to study a special topic or combination of topics not otherwise provided for in the anthropology curriculum. May be repeated for credit when content does not duplicate.

**ANT 3600. Archaeological Theory (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

Explores the history of archaeological thought since the eighteenth century (including evolution, cultural history, and processualism) and concludes with contemporary theory (postprocessualism and feminism). Participation in internet archaeological activities will supplement coursework and readings. Prerequisites: ANT 2221; and RC 2001 or its equivalent.

**ANT 3610. Anthropology of Environmental Justice (3).F.Alternate years.**

An introduction to the Environmental Justice movement using an anthropological perspective, which considers Environmental Justice as a social movement and a body of critical scholarship. Environmental Justice offers a framework for examining human rights and ecological health in the contemporary world, making connections between race, ethnicity, gender, poverty, power, and environmental problems. Students will look at case studies from North Carolina while also taking a comparative perspective through international case studies.

**ANT 3620. Political Ecology and Sustainability (3).S. Alternate years.**

An introduction to the interdisciplinary field of political ecology as an important critical approach in contemporary anthropology. The course uses in-depth examples to understand how current global issues like sustainability, conservation, and land management regimes can be critically engaged through the lenses of history and power. Students in the course will study several political ecology ethnographies to deepen their critical awareness of past and present struggles over land use, natural resources, and other embattled human-environment relationships.

**ANT 3625. History of Anthropological Ideas (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

A critical examination of the most influential ideas and theories in anthropology from the 19th century to contemporary theoretical schools, viewed in historical context. Changing conceptions of research strategies, research questions, and modes of explanation, as they relate to developing ideas about the nature of anthropology and human culture, are explored. Prerequisite: RC 2001 or its equivalent.

**ANT 3630. Epistemology and Praxis (3).S.**

Representation and the epistemological problems inherent to it are key anthropological problems of the 21st century. Instead of studying identifiable, rooted communities, anthropologists have turned their attention to the rhetorical construction underpinning the very ideas and practices sustaining the experiences of rootedness and group identity. In a world marked more than ever by the politics of identity, access to resources is often predicated on establishing a clear membership in recognizable groups. This seminar will offer students a critical understanding of the construction of 'truth' which bolsters or provides obstacles to claims of membership

and includes a discussion of the precarious nature of engagement which disrupts the balance between academic rigor and solidarity.

**ANT 3635. Political Anthropology (3).S.**

This course brings an anthropological lens to bear on the study of politics as practiced by cultures around the world with a special focus upon the topic of democracy. While much scholarship has addressed the more formal aspects of so-called "democratic transitions" (e.g. regime shifts, political parties and formal political institutions), only recently has scholarly attention in anthropology turned to considerations of lived experiences and the contingent nature of political subjectivities borne out in contemporary societies. Case studies are drawn from a range of contemporary theorizations of democracy and related concepts such as globalization, transnationalism, citizenship, economic development, and identity politics.

**ANT 3640. Language and Culture (3). On Demand.**

An overview of the complex relations between language, culture, and society as conceived by linguists and anthropologists. The course takes both an historical and an ethnographic approach to language, and involves close readings of theoretical works on language as well as comparative, cross-cultural readings in the ethnography of speaking.

**ANT 3660. Medical Anthropology (3).F.**

An examination of health, illness, and the treatment of disease from a cross-cultural perspective. Includes discussion of various theories of illness, types of healers, and the empirical basis for folk medicine and alternative forms of therapy.

**ANT 3670. Economic Anthropology (3).S.**

This course examines the material dimensions of social life from several theoretical perspectives: formalist, substantivist, Marxist, and contemporary forms of political economic analysis. It also surveys past and current forms of production, distribution and consumption, including ongoing efforts to establish economic alternatives to global capitalist development.

**ANT 3680. Environmental Anthropology (3).S. Alternate years.**

This course explores how anthropologists understand the human and cultural dimensions of environmental problems. Or, to put it another way, the intersection of nature and culture. Environmental anthropologists examine how different sociocultural groups – from hunter-gatherers in the Amazon to rangers in national parks in the United States – have conceptualized, categorized, valued, and acted upon the non-human world. We will explore theories, methods, and applications of environmental anthropology. The field examines issues of vital concern today: how humans shape and are shaped by our surroundings.

**ANT 3800. Ethnographic Writing and Video (3).On Demand.**

The general purpose of this course is to explore the nature of ethnographic representation and alternative approaches to writing. In order to accomplish this, the course will focus on three main activities: (1) reading of some current critiques and analyses of ethnographic representation; (2) reading different forms of ethnographic writing by others, including realist, confessional and impressionist tales and viewing and critiquing select ethnographic videos; and (3) writing different forms of ethnographic writing.

**ANT 3810. Engaging Anthropology (3).S.**

This course prepares anthropology majors for internship experiences or other similar kinds of practicums locally and/or abroad. To that end, this course covers theories, methods, and politics of anthropological engagement in and beyond the University. Students will explore the range of modalities of engagement discussed in current anthropological literature, such as "public," "engaged," "activist" and "collaborative" research. Students will create personalized portfolios relevant to their individual internship/praxis goals.

**ANT 3940. Ethnographic Field School (2-6). On Demand.**

Students will be immersed in a particular cultural context and learn to use standard ethnographic techniques to analyze and interpret the culture. Each student will live in a local community, participating in its daily activities. There will be instruction in the use of qualitative methods, such as observation, mapping, genealogies and life histories, formal interviewing, and cultural domain analysis. A research paper on a topic selected in consultation with the instructor will be required. Prerequisite: ANT 2215 or permission of the instructor.

**ANT 3950. Field Methods in Linguistics (3).On Demand.**

In this course, students will have the opportunity to learn methods in language documentation and analysis, and will construct their own description of the language from scratch, through direct elicitations from a native-speaker consultant, in addition to testing previously created field grammars and associated lexicon. The course is structured to provide students with a hands-on experience in collecting, processing, and analyzing linguistic data for the purposes of language documentation and description. By the end of the course, participants will have become familiar—not just with the structure of an unfamiliar language—but also with the basic methodologies of linguistic fieldwork (elicitation and text analysis).

**ANT 4225. Meaning (3).F.**

Culture is often described generally as a system of shared meanings. Using semiotic and existential-phenomenological approaches in anthropology, this seminar will look not so much at WHAT the meanings are that people may share, but rather at the WAYS in which meanings are conveyed, silenced, changed, and imagined by human beings in their cultural contexts.

**ANT 4230. Magic and Modernity (3).S.**

Modernity is often characterized by a constellation of features such as rationality, objectivity, linear time, bureaucracy, and progress. Anthropology arose as a discipline of modernity. Yet many of the worlds that anthropologists study are enchanted worlds where the dead speak, ghosts act, and magic works. This seminar analyzes what happens when modernity meets such enchanted modes of human existence and explores how anthropology might grapple with the problem of using rational methods to understand magical worlds. Students who have previously received credit for ANT 4231 may not enroll in or receive credit for ANT 4230.

**ANT 4231. Capstone: Magic and Modernity (3).On Demand.**

*GEN ED: Capstone Experience*

Modernity is often characterized by a constellation of features such as rationality, objectivity, linear time, bureaucracy, and progress. Anthropology arose as a discipline of modernity. Yet many of the worlds that anthropologists study are enchanted worlds where the dead speak, ghosts act, and magic works. This seminar analyzes what happens when modernity meets such enchanted modes of human existence and explores how anthropology might grapple with the problem of using rational methods to understand magical worlds. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and 3625. Students who have previously received credit for ANT 4230 may not enroll in or receive credit for ANT 4231.

**ANT 4240. Politics of Ethnicity (3).F. Alternate years.**

The history and experiences of indigenous groups have long captured the interest and commitment of anthropologists. Recently, studies have focused on indigenous movements and declarations made in reaction to both state-making processes and neoliberal restructuring reforms of the twentieth-century and beyond. Anthropologists have framed their interpretations and understandings of these movements with attention paid to various topics including power, representation, domination and resistance, hegemony, state-making processes, citizenship, organizing, and performance. This seminar will introduce students to numerous case studies with which they will gain an understanding of the cultural and historical foundations from which are built indigenous movements and their particular strategies. Students who have previously received credit for ANT 4241 may not enroll in or receive credit for ANT 4240.

**ANT 4241. Capstone: Politics of Ethnicity (3).F. Alternate years.**

*GEN ED: Capstone Experience*

The history and experiences of indigenous groups have long captured the interest and commitment of anthropologists. Recently, studies have focused on indigenous movements and declarations made in reaction to both state-making processes and neoliberal restructuring reforms of the twentieth-century and beyond. Anthropologists have framed their interpretations and understandings of these movements with attention paid to various topics including power, representation, domination and resistance, hegemony, state-making processes, citizenship, organizing, and performance. This seminar will introduce students to numerous case studies with which they will gain an understanding of the cultural and historical foundations from which are built indigenous movements and their particular strategies. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and 3625. Students who have previously received credit for ANT 4240 may not enroll in or receive credit for ANT 4241.

**ANT 4245. Hegemony and Power (3).S.**

This seminar focuses on the lasting impact that Antonio Gramsci and Michel Foucault have had on the thinking of cultural anthropologists, particularly in relation to the way in which various institutions, knowledge practices, and power come together to shape the relationship between the individual and larger society. In this seminar, students will read directly from their work, and from the work of scholars influenced by them, in order to gain a working knowledge of the ideas and writings of these foundational thinkers as they relate to anthropology. Students who have previously received credit for ANT 4246 may not enroll in or receive credit for ANT 4245.

**ANT 4246. Capstone: Hegemony and Power (3).S.**

*GEN ED: Capstone Experience*

This seminar focuses on the lasting impact that Antonio Gramsci and Michel Foucault have had on the thinking of cultural anthropologists, particularly in relation to the way in which various institutions, knowledge practices, and power come together to shape the relationship between the individual and larger society. In this seminar, students will read directly from their work, and from the work of scholars influenced by them, in order to gain a working knowledge of the ideas and writings of these foundational thinkers as they relate to anthropology. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and 3625. Students who have previously received credit for ANT 4245 may not enroll in or receive credit for ANT 4246.

**ANT 4250. Biology, Technology, and Culture (3).On Demand.**

In this course, we will examine the relationship between technological innovations, human biology and environments, and culture from a holistic perspective through selected readings, discussion, and written critiques. Specific topics will include competing constructions



of science and nature, the biological, social, and cultural consequences of agriculture, industrialization and the chemical revolution, energy technologies, and biomedical technologies including stem cell research, assisted reproduction, and genomic medicine. Students who have previously received credit for ANT 4251 may not enroll in or receive credit for ANT 4250.

**ANT 4251. Capstone: Biology, Technology, and Culture (3).On Demand.**

*GEN ED: Capstone Experience*

In this course, we will examine the relationship between technological innovations, human biology and environments, and culture from a holistic perspective through selected readings, discussion, and written critiques. Specific topics will include competing constructions of science and nature, the biological, social, and cultural consequences of agriculture, industrialization and the chemical revolution, energy technologies, and biomedical technologies including stem cell research, assisted reproduction, and genomic medicine. Prerequisites: Senior standing, ANT 2215, 2221, 2230, and one of the following: ANT 3220, 3600, or 3625. Students who have previously received credit for ANT 4250 may not enroll in or receive credit for ANT 4251.

**ANT 4255. Ethnobotany: Plants, People, and Culture (4).On Demand.**

Ethnobotany is a multidisciplinary field that investigates the relations of people to local plant populations. This course will provide a broad overview of the field, introducing students to methods of data collection and classic topics in the discipline, such as the use of plants as food, as medicine, in ritual, and in manufacture. This course will challenge students to think critically about the process of knowledge formation and the phenomenological encounter with the environment. In required lab sections, students will gain practical experience in plant identification, manufacturing processes, sensory ecology, and local "folk" knowledge of plants. Lecture three hours, nine laboratory sessions of three hours. Students who have previously received credit for ANT 4256 may not enroll in or receive credit for ANT 4255 or BIO 4255. (Same as BIO 4255.)

**ANT 4256. Capstone: Ethnobotany: Plants, People, and Culture (4).On Demand.**

*GEN ED: Capstone Experience*

Ethnobotany is a multidisciplinary field that investigates the relations of people to local plant populations. This course will provide a broad overview of the field, introducing students to methods of data collection and classic topics in the discipline, such as the use of plants as food, as medicine, in ritual, and in manufacture. This course will challenge students to think critically about the process of knowledge formation and the phenomenological encounter with the environment. In required lab sections, students will gain practical experience in plant identification, manufacturing processes, sensory ecology, and local "folk" knowledge of plants. Prerequisite: ANT 2215, ANT 2221, ANT 2230, ANT 3625. Lecture three hours, nine laboratory sessions of three hours. Students who have previously received credit for ANT 4255 or BIO 4255 may not enroll in or receive credit for ANT 4256.

**ANT 4260. Anthropology of Development (3).S.Alternate years.**

This course offers an anthropological perspective on the critical study of national and international development projects. The anthropology of development puts questions of culture and human experience at the center of analysis. Through anthropological studies of the everyday life of development, we consider the lived consequences of development for those "being developed," as well as for those advocating development. This ethnographic approach highlights the intimacies and materialities of development experiences. Geographic/cultural areas of emphasis will be global in scope but with extra emphasis in the instructor's area of expertise. Students who have previously taken ANT 4261 may not enroll in or receive credit for ANT 4260.

**ANT 4261. Capstone: Anthropology of Development (3).S.Alternate years.**

*GEN ED: Capstone Experience*

This course offers an anthropological perspective on the critical study of national and international development projects. The anthropology of development puts questions of culture and human experience at the center of analysis. Through anthropological studies of the everyday life of development, we consider the lived consequences of development for those "being developed," as well as for those advocating development. This ethnographic approach highlights the intimacies and materialities of development experiences. Geographic/cultural areas of emphasis will be global in scope but with extra emphasis in the instructor's area of expertise. Prerequisites: Senior standing and ANT 2215, ANT 2221, ANT 2230, and 3625. Students who have previously taken ANT 4260 may not enroll in or receive credit for ANT 4261.

**ANT 4265. Anthropology and Global Health (3).F.Alternate years.**

This course introduces the anthropology of global health, examining urgent health care problems around the world through the unique lens of anthropology. We will ask some of the following questions: How can the knowledge and methodological approach of medical anthropology contribute to researching and ameliorating health concerns, particularly of the most disadvantaged? In what ways does anthropology's attention to "culture" not only enrich our understanding of the conditions and dynamics of global health, but also expand our ability to design and implement effective global health interventions? Throughout the course, students will be encouraged to think creatively and critically about health problems and policies as well as scrutinize the value systems that underlie the discipline of global health itself. Students who have previously taken ANT 4266 may not receive credit for ANT 4265.



## **ANT 4266. Capstone: Anthropology and Global Health (3).F.Alternate years.**

### *GEN ED: Capstone Experience*

This course introduces the anthropology of global health, examining urgent health care problems around the world through the unique lens of anthropology. We will ask some of the following questions: How can the knowledge and methodological approach of medical anthropology contribute to researching and ameliorating health concerns, particularly of the most disadvantaged? In what ways does anthropology's attention to "culture" not only enrich our understanding of the conditions and dynamics of global health, but also expand our ability to design and implement effective global health interventions? Throughout the course, students will be encouraged to think creatively and critically about health problems and policies as well as scrutinize the value systems that underlie the discipline of global health itself. Prerequisites: Senior standing and ANT 2215, ANT 2221, ANT 2230, and ANT 3220 or ANT 3625. Students who have previously taken ANT 4265 may not receive credit for ANT 4266.

## **ANT 4280. Anthropology of the Body (3).S.**

Social scientists have often relied on the naturalized, universal understanding of the human body adopted from the biomedical sciences. This course challenges these assumptions by examining the multiple bodies and diverse forms of subjectivity found in the anthropological literature and other fields of scholarship. Our explorations of lived bodies will, in turn, contribute to more sophisticated understandings of human social and cultural forms. Students who have previously received credit for ANT 4281 may not enroll in or receive credit for ANT 4280.

## **ANT 4281. Capstone: Anthropology of the Body (3).S.**

### *GEN ED: Capstone Experience*

Social scientists have often relied on the naturalized, universal understanding of the human body adopted from the biomedical sciences. This course challenges these assumptions by examining the multiple bodies and diverse forms of subjectivity found in the anthropological literature and other fields of scholarship. Our explorations of lived bodies will, in turn, contribute to more sophisticated understandings of human social and cultural forms. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and one of the following: ANT 3220 or 3625. Students who have previously received credit for ANT 4280 may not enroll in or receive credit for ANT 4281.

## **ANT 4320. Human Evolution (3).S.Alternate years.**

This course is a comprehensive survey of hominin evolution. The archaeological and fossil record from the past 8 million years will be examined in detail, including paleoclimate research or, "stones and bones." In addition to studying the evidence for evolution, students will develop critical thinking skills about research paradigms, design, methodology, and interpretive frameworks. Lab exercises will allow students to examine fossil casts using a systems approach that considers structural-functional relationships, competing pressures in evolution, and even misapplication of evolutionary theory. After participating in this course, students will have learned basic human evolutionary anatomy and will also be familiar with key theoretical issues and debates in paleoanthropology. Prerequisite: ANT 2230. Students who have previously received credit for ANT 4321 may not enroll in or receive credit for ANT 4320.

## **ANT 4321. Capstone: Human Evolution (3).S.Alternate years.**

### *GEN ED: Capstone Experience*

This course is a comprehensive survey of hominin evolution. The archaeological and fossil record from the past 8 million years will be examined in detail, including paleoclimate research or, "stones and bones." In addition to studying the evidence for evolution, students will develop critical thinking skills about research paradigms, design, methodology, and interpretive frameworks. Lab exercises will allow students to examine fossil casts using a systems approach that considers structural-functional relationships, competing pressures in evolution, and even misapplication of evolutionary theory. After participating in this course, students will have learned basic human evolutionary anatomy and will also be familiar with key theoretical issues and debates in paleoanthropology. Prerequisite: Senior standing and ANT 2215, 2221, 2230, 3220. Students who have previously received credit for ANT 4320 may not enroll in or receive credit for ANT 4321.

## **ANT 4330. Bioarchaeology (3).S.Alternate years.**

Bioarchaeology is the holistic, interdisciplinary, and epidemiological analysis of human skeletal remains from archaeological contexts. In this course, we will survey topics including age and sex estimation, paleo-demography, biocultural stress markers, pathology and trauma, levels of physical activity and evidence for habitual behavior, and paleodietary analyses. Beyond learning methods of bioarchaeology, students will be given the opportunity to understand the development of interpretive frameworks from evolutionary and biocultural theory. These frameworks will be examined critically and applied to case studies from human populations in different geographical and temporal contexts. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) Students who have previously received credit for ANT 4331 may not enroll in or receive credit for ANT 4330

## **ANT 4331. Capstone: Bioarchaeology (3).F.**

## *GEN ED: Capstone Experience*

Bioarchaeology is the holistic, interdisciplinary, and epidemiological analysis of human skeletal remains from archaeological contexts. In this course, we will survey topics including age and sex estimation, paleo-demography, biocultural stress markers, pathology and trauma, levels of physical activity and evidence for habitual behavior, and paleodietary analyses. Beyond learning methods of bioarchaeology, students will be given the opportunity to understand the development of interpretive frameworks from evolutionary and biocultural theory. These frameworks will be examined critically and applied to case studies from human populations in different geographical and temporal contexts. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and 3220. Students who have previously received credit for ANT 4330 may not enroll in or receive credit for ANT 4331.

### **ANT 4340. Paleoanthropology of South Asia** (3).On Demand.

This class will focus on the archaeological record of prehistoric peoples in India, Pakistan, and Sri Lanka. Beginning with an exploration of the earliest known record of human occupation in the Pleistocene, we will move through different chrono-cultural contexts, examining diverse lifestyles of prehistoric peoples, and exploring the intersections among ecology, settlement, subsistence, and health. The class focuses primarily on human skeletal remains as a source of archaeological evidence, and we will often use an adaptationist perspective to understand developments in Indian prehistory. Attention will also be paid to the archaeological, geological, and paleoclimatic evidence as well as the history of archaeology in India, beginning with the British colonial period.

### **ANT 4350. Human Reproduction from an Evolutionary Perspective** (3).S.Alternate years.

This course will examine human reproduction from an evolutionary perspective. We will discuss topics ranging from the origins of sexual reproduction to human fertility and sexuality and the biological, social, and political implications of childbirth practices, assisted reproduction, and parental care. In the course, students will become familiar with the anatomy and physiology of the human reproductive system and the biological and cultural processes that regulate reproduction in humans, and students will learn to critically evaluate representations of sexual selection, human sexuality, and parenting behavior. Students who have previously received credit for ANT 4351 may not enroll in or receive credit for ANT 4350.

### **ANT 4351. Capstone: Human Reproduction from an Evolutionary Perspective** (3).S.

#### *GEN ED: Capstone Experience*

This course will examine human reproduction from an evolutionary perspective. We will discuss topics ranging from the origins of sexual reproduction to human fertility and sexuality and the biological, social, and political implications of childbirth practices, assisted reproduction, and parental care. In the course, students will become familiar with the anatomy and physiology of the human reproductive system and the biological and cultural processes that regulate reproduction in humans, and students will learn to critically evaluate representations of sexual selection, human sexuality, and parenting behavior. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and 3220. Students who have previously received credit for ANT 4350 may not enroll in or receive credit for ANT 4351.

### **ANT 4360. Primate Conservation** (3).On Demand.

An overview of the effects of human activities on wild nonhuman primate populations, including critical analysis of strategies being employed to ensure the persistence of wild primates in their natural habitats. Students will be introduced to fundamental principles and practices in conservation biology using primate case studies. Specific topics include setting conservation priorities, the roles of in situ and ex situ conservation, human-wildlife conflict, genetic issues and population management, the roles of local, national, and international stakeholders in both creating and ameliorating threats to the persistence of wild primates, and the potential impacts of conservation programs on human communities living in habitat countries.

### **ANT 4370. Paleopathology** (3).S.Alternate years.

Paleopathology is an evolutionary and biocultural approach to health and disease in ancient human populations. This field of inquiry is increasingly recognized for contributing important insights on the origin and co-evolution of infectious diseases, fetal and developmental origins of disease, and basic research on human variation and adaptive evolution. This course covers the history of this discipline, ethical and theoretical frameworks, basic skeletal biology, patterns of human growth and developmental disturbances, disease mechanisms and processes, differential diagnosis, and evolved responses to physiological insult. Course content includes case studies, laboratory and analytical techniques, and an applied project that reconstructs the life course and 'osteobiography' of an individual skeleton. This course emphasizes presentation and writing skills, in addition to practical, diagnostic and lab-based skills.

### **ANT 4371. Capstone: Paleopathology** (3).S.Alternate years.

#### *GEN ED: Capstone Experience*

Paleopathology is an evolutionary and biocultural approach to health and disease in ancient human populations. This field of inquiry is increasingly recognized for contributing important insights on the origin and co-evolution of infectious diseases, fetal and developmental origins of disease, and basic research on human variation and adaptive evolution. This course covers the history of this discipline, ethical and theoretical frameworks, basic skeletal biology, patterns of human growth and developmental disturbances, disease mechanisms and processes, differential diagnosis, and evolved responses to physiological insult. Course content includes

case studies, laboratory and analytical techniques, and an applied project that reconstructs the life course and 'osteobiography' of an individual skeleton. This course emphasizes presentation and writing skills, in addition to practical, diagnostic and lab-based skills. Prerequisites: senior standing and ANT 2215, ANT 2221, ANT 2230, and ANT 3220.

**ANT 4400. Paleolithic Archaeology (3).S.**

A detailed examination of the Paleolithic from a paleoanthropological perspective. The archaeological record (sites, tools, fauna, and geology), methods, and theories for the evolution of our ancestors are explored, as well as competing models concerning extinctions. Students will learn of the evidence for such major events in the Paleolithic such as the organization of technologies, the demise of the Neandertals, competing explanations for cave art, the evolution of human consciousness, and the emergence of "culture as we know it." Special attention is given to the inferential methods employed to interpret the archaeological record of the Paleolithic. Prerequisites: ANT 2215, ANT 2221, and ANT 2230. Students who have previously received credit for ANT 4401 may not enroll in or receive credit for ANT 4400.

**ANT 4401. Capstone: Paleolithic Archaeology (3).S.**

*GEN ED: Capstone Experience*

A detailed examination of the Paleolithic from a paleoanthropological perspective. The archaeological record (sites, tools, fauna, and geology), methods, and theories for the evolution of our ancestors are explored, as well as competing models concerning extinctions. Students will learn of the evidence for such major events in the Paleolithic such as the organization of technologies, the demise of the Neandertals, competing explanations for cave art, the evolution of human consciousness, and the emergence of "culture as we know it." Special attention is given to the inferential methods employed to interpret the archaeological record of the Paleolithic. Prerequisites: Senior standing, ANT 2215, ANT 2221, ANT 2230, and ANT 3600. Students who have previously received credit for ANT 4400 may not enroll in or receive credit for ANT 4401.

**ANT 4440. Experimental Archaeology (3).F.**

Immerses students in the practical application of experimental archaeology—the replication of processes that form and transform archaeological evidence. Experimental archaeology is one way in which we create analogs for constructing hypotheses and for testing hypotheses to explain the natural or cultural meaning of archaeological evidence. Prerequisites: ANT 2215, 2221, 2230, 3120, and 3600 or approval of the instructor. Students who have previously received credit for ANT 4441 may not enroll in or receive credit for ANT 4440.

**ANT 4441. Capstone: Experimental Archaeology (3).F.**

*GEN ED: Capstone Experience*

Immerses students in the practical application of experimental archaeology—the replication of processes that form and transform archaeological evidence. Experimental archaeology is one way in which we create analogs for constructing hypotheses and for testing hypotheses to explain the natural or cultural meaning of archaeological evidence. Prerequisites: Senior standing, ANT 2215, 2221, 2230, 3120, and 3600. Students who have previously received credit for ANT 4440 may not enroll in or receive credit for ANT 4441.

**ANT 4450. Paleolithic Cave Art (3).F.**

This course offers a paleo-anthropological examination of Paleolithic cave art, including analysis of both technological and cultural contexts. Special attention is given to different interpretive frameworks through which meaning has been attributed to cave art by anthropologists and archaeologists, including animism, sympathetic magic, structuralism, shamanism, natural history, and cognitive frameworks. Geographical focus is on the "classic" zone of cave art in Europe, with comparative examples drawn from other areas. Students who have previously received credit for ANT 4451 may not enroll in or receive credit for ANT 4450.

**ANT 4451. Capstone: Paleolithic Cave Art (3).F.**

*GEN ED: Capstone Experience*

This course offers a paleo-anthropological examination of Paleolithic cave art, including analysis of both technological and cultural contexts. Special attention is given to different interpretive frameworks through which meaning has been attributed to cave art by anthropologists and archaeologists, including animism, sympathetic magic, structuralism, shamanism, natural history, and cognitive frameworks. Geographical focus is on the "classic" zone of cave art in Europe, with comparative examples drawn from other areas. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and 3600. Students who have previously received credit for ANT 4450 may not enroll in or receive credit for ANT 4451.

**ANT 4460. Landscape Archaeology (3).S.**

Archaeologists are uniquely positioned to examine the relationships between people, places, and the past. This course explores the deep histories of economic, socio-political, and ritual landscapes, and introduces the tools that archaeologists use to study them. The landscape of Stonehenge provides a focal case study, and additional case studies will draw upon worldwide archaeological literature. Students who have previously received credit for ANT 4461 may not enroll in or receive credit for ANT 4460.

**ANT 4461. Capstone: Landscape Archaeology (3).S.**

*GEN ED: Capstone Experience*

Archaeologists are uniquely positioned to examine the relationships between people, places, and the past. This course explores the deep histories of economic, socio-political, and ritual landscapes, and introduces the tools that archaeologists use to study them. The landscape of Stonehenge provides a focal case study, and additional case studies will draw upon worldwide archaeological literature. Prerequisites: ANT 2215, ANT 2221, ANT 2230, and ANT 3600 or ANT 3625. Students who have previously received credit for ANT 4460 may not enroll in or receive credit for ANT 4461.

**ANT 4530-4549. Selected Topics (1-4).On Demand.**

An opportunity to study a special topic or combination of topics not otherwise provided for in the anthropology curriculum. May be repeated for credit when content does not duplicate.

**ANT 4565. Agrarian Studies and Rural Development (3). On Demand.**

Descriptive and theoretical analysis of peasantry in the context of world economic and political systems in the face of globalization. Explores the political economy of rural development and prospects for sustainable development from a comparative perspective. [Dual-listed with ANT 5565.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**ANT 4610. Anthropology of Energy (3).F.Alternate years.**

This course explores anthropological dimensions of energy, with energy understood as the power to utilize physical and natural resources. In particular, we will look at the cultural politics of energy production and consumption in North American and global contexts. Using anthropological approaches to science and technology, we will consider how energy is never solely a techno-scientific process, but is fundamentally a social practice, always embedded in complex, uneven relations of power. In other words, we consider how the production of "power" concerns the materiality of generating electricity, heat, nuclear weapons, and other sources of fuel from natural resources, but at the same time, also concerns the politics of infrastructure, human difference, and trans-local networks of social action. Students who have previously received credit for ANT 4611 may not enroll in or receive credit for ANT 4610.

**ANT 4611. Capstone: Anthropology of Energy (3).F.Alternate years.**

*GEN ED: Capstone Experience*

This course explores anthropological dimensions of energy, with energy understood as the power to utilize physical and natural resources. In particular, we will look at the cultural politics of energy production and consumption in North American and global contexts. Using anthropological approaches to science and technology, we will consider how energy is never solely a techno-scientific process, but is fundamentally a social practice, always embedded in complex, uneven relations of power. In other words, we consider how the production of "power" concerns the materiality of generating electricity, heat, nuclear weapons, and other sources of fuel from natural resources, but at the same time, also concerns the politics of infrastructure, human difference, and trans-local networks of social action. Prerequisites: Senior standing and ANT 2215, 2221, 2230, and one of the following: 3220, 3600, or 3625. Students who have previously received credit for ANT 4610 may not enroll in or receive credit for ANT 4611.

**ANT 4900. Field Experience: Internship (3-6). On Demand.**

Graded on an S/U basis.

## Appalachian Studies Program (AS)

William Schumann, Director of the Center for Appalachian Studies and The Appalachian Studies Program

Katherine E. Ledford

Thomas Hansell

The Appalachian Studies program coordinates curriculum offerings, projects, and research relating to the Appalachian region. The southern Appalachian region's unique mix of scenic beauty, distinctive cultures and communities, and wealth in natural resources inspires an enduring search for a balanced regional future, a future which will preserve Appalachia's environment, cultural and historical character, while encouraging full participation in the opportunities of citizenship. The Appalachian Studies program contributes to scholarship in the humanities and social sciences, practice in the folk and fine arts, and service to regional communities and organizations.

The search for Appalachia's future takes place in a global context. For centuries a locus of migrations and trade, the region confronts environmental, economic, and cultural challenges which are also faced by other mountain and "peripheral" regions throughout the nation and the world. Appalachian Studies links the local and national, the regional and global, providing both a framework and a training ground for addressing local and global concerns.

Appalachian Studies offers the following:

### Minor in Appalachian Music: Roots and Influences (100/05.0199)

The program of study is available at: [www.programsofstudy.appstate.edu/appalachian-music-roots-and-influences-minor-100-2016-2017](http://www.programsofstudy.appstate.edu/appalachian-music-roots-and-influences-minor-100-2016-2017)

### Minor in Appalachian Studies (204/05.0199)

The program of study is available at: [www.programsofstudy.appstate.edu/appalachian-studies-minor-204-2016-2017](http://www.programsofstudy.appstate.edu/appalachian-studies-minor-204-2016-2017)

### A Master of Arts degree in Appalachian Studies (204\*/05.0199) with three interdisciplinary concentrations:

1. **Appalachian Culture Area concentration (204B)** focuses on scholarship and research in the social sciences, humanities, and fine and applied arts, seeking to deepen understanding of the Appalachian socio-cultural and historical experience.
2. **Appalachian Music: Roots and Influences concentration (204D)** provides instruction and opportunities for scholarship on the varieties of traditional music traditions that intersect in the southern Appalachian region.
3. **Sustainable Development concentration (204C)** is based on applied research and interdisciplinary course work spanning the social and natural sciences as well as the humanities. It provides a foundation for those students who seek to develop the means for meeting the legitimate needs of present generations without compromising the ability of future generations to meet their needs. For students interested in Appalachian and other highland and rural peoples, as well as other peoples threatened by the results of unsustainable practices and patterns, this course of study provides the background in the search for sustainable solutions.

Consult the *Graduate Bulletin* for further information.

### A graduate minor in Appalachian Studies (203/05.0199) (Consult the *Graduate Bulletin*.)

**An on-campus graduate certificate in Appalachian Studies (200A/05.0199).** For more information, contact the certificate program director at (828) 262-4089 or visit [www.appstudies.appstate.edu](http://www.appstudies.appstate.edu). Consult the *Graduate Bulletin* for further information.

**An online graduate certificate in Appalachian Studies (200A/05.0199).** For more information, contact the certificate program director at (828) 262-4089 or visit [www.appstudies.appstate.edu](http://www.appstudies.appstate.edu). Consult the *Graduate Bulletin* for further information.

### Courses of Instruction in Appalachian Studies (AS)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### APPALACHIAN STUDIES (AS)

#### AS 2016. Appalachian Music (3).F;S.

*GEN ED: Fine Arts Designation; Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

A survey of Appalachian music including both instrumental and vocal styles, older traditions and newer regional forms. Students will have opportunities to develop musical skills through hands-on class projects and activities. Lecture three hours. (Same as MUS 2016.)

## **AS 2020. Appalachia in Film (3).S.**

*GEN ED: Liberal Studies Experience*

Students watch, discuss, and analyze English-language narrative films and televised fictional narratives ("fictional" films, as opposed to documentaries) that depict the people and land of the Appalachian mountain region.

## **AS 2025. Appalachian Strings (3).F;S.**

*GEN ED: Liberal Studies Experience*

Introductory instruction in stringed instruments and styles commonly heard in old-time, old-time country, and bluegrass music, including basic music theory. Lecture and demonstration three hours.

## **AS 2200. Appalachian Stories (3).F.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

Introduction to the literature of Appalachia with an emphasis on the multiplicity of narrative forms in the region. This course examines both historical and contemporary Appalachian literary expression as well as local, regional, national, and international perspectives on the literature of the region. Students read and study oral narratives, exploration narratives, travel writing, memoir, autobiography, song lyrics, and nature writing, in addition to fiction, poetry, and drama. The course also explores how literary production comments on and participates in the construction of Appalachia.

## **AS 2301. The History of Coal from the Pennsylvanian to the Present (3).S.**

*GEN ED: Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

Coal has played a critical role in the history of the southern Appalachians. The geologic processes that formed coal and shaped the landscape into the steep ridges and hollows of the Appalachian coalfields have directly affected the human history of the region – from hunting in pre-colonial times, to settlement and subsistence farming in the 1800s, to mining and unionization in the 1900s, to mountaintop removal and natural gas/coalbed methane extraction in the last decade. This course covers the physical and chemical processes that form coal as well as the tectonic and geomorphologic processes that formed the landscape of the coalfields and shaped the agricultural practices of the early settlers. It examines the cultural history of coal mining and life in the company-owned coal camps and the political history of unionization through literature and film. The economics and environmental consequences of coal-fired power plants are discussed, and the environmental and occupational hazards associated with both underground and surface coal mining are analyzed from both a scientific and a sociological perspective. (Same as GLY 2301.)(Global Learning Opportunity Course)

## **AS 2411. Appalachia: An Introduction (3).On Demand.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course explores the Appalachian region from a cross-disciplinary perspective, with readings on Appalachia drawn primarily from the social sciences. Both historical and contemporary issues are examined, focusing upon national and international as well as local and regional contexts.

## **AS 2530–2549. Selected Topics (1-4). On Demand.**

## **AS 3000. Diversity in Appalachia (3).S.**

*GEN ED: Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

Diversity in Appalachia considers gender and/or ethnic diversity in the Appalachian region from interdisciplinary perspectives, and may focus on women, gender, ethnic diversity, or one or more ethnic communities. Content may vary.

## **AS 3030. Bluegrass Traditions (3).F. Alternate years.**

The genesis of bluegrass music, through its major redefinition in the mid-1970s, to its diverse interpretations today. Lecture three hours.

## **AS 3500. Independent Study (1-3).F;S.**

## **AS 3530–3549. Selected Topics (1-4). On Demand.**

## **AS 4015. Old Time Music Traditions (3).F. Alternate years.**

A multi-cultural study of old time music and its roots, with interdisciplinary approaches from the humanities and social sciences. Lecture three hours. [Dual-listed with AS 5015.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **AS 4110. Ethnographic Field Study (1-6).On Demand.**

Variable content. Course involves immersion in a field setting either in the U.S. or through study abroad. Topics, approach, and field sites will be indicated on course syllabi and semester schedules.

**AS 4530–4549. Selected Topics** (1-4). On Demand.

**AS 4900. Field Experience: Internship** (1-6). On Demand.  
Graded on an S/U basis.



## Department of Biology (BIO)

*Zack Murrell, Interim Chair*

*Michael Madritch, Interim Assistant Chair*

*Shea R. Tuberty, Interim Assistant Chair*

*Maryam Ahmed*

*Andrew C. Bellemer*

*Courtney Bouldin*

*Suzanna L. Bräuer*

*Robert P. Creed*

*Sue L. Edwards*

*Matt C. Estep*

*Michael M. Gangloff*

*Jennifer C. Geib*

*Dru A. Henson*

*Guichuan Hou*

*Ece Karatan*

*Mary Kinkel*

*C. Nathan Mowa*

*Howard S. Neufeld*

*Michael Opata*

*Annkatrien Rose*

*Steven W. Seagle*

*Lynn M. Siefferman*

*Mark E. Venable*

*Gary L. Walker*

*Ray S. Williams*

*Michael Windelspecht*

*Ted Zerucha*

The primary mission of the Department of Biology is to provide the student with a well-balanced background in the life sciences. A student majoring in biology will examine the characteristics of life at all levels, from the workings of a single cell to the dynamics of an ecosystem. In addition to providing the student with a broad understanding of and appreciation for life and its processes, the curriculum is designed to prepare students for careers in biology or for studies at the graduate level. To meet these objectives the department has established the degree concentrations listed below, each with a somewhat different focus within the discipline.

### The Bachelor of Arts degree in Biology (208A/26.0101)

This is the most flexible program in the Department of Biology. It is designed for highly directed students who wish to focus on disciplines not addressed by the other degree concentrations.

The program of study is available at: [www.programsofstudy.appstate.edu/biology-ba-208a-2016-2017](http://www.programsofstudy.appstate.edu/biology-ba-208a-2016-2017)

### The Bachelor of Science degree in Biology (142\*/26.0101)

**For the Bachelor in Science degree in Biology, students must select one of the following concentrations:**

#### Cell/Molecular Biology (142B)

In addition to the general objectives of the department, this degree is designed to prepare students for successful admission into professional schools or to continue their studies in graduate and health-care programs.

The program of study is available at: [www.programsofstudy.appstate.edu/biology-bs-cellmolecular-biology-142b-2016-2017](http://www.programsofstudy.appstate.edu/biology-bs-cellmolecular-biology-142b-2016-2017)

Pre-professional students pursuing health-related careers may be interested in the undergraduate minor in Medical Humanities (605/30.9999). Consult the Honors College section of this catalog for information pertaining to that minor.

The program of study is available at: [www.programsofstudy.appstate.edu/medical-humanities-minor-605-2016-2017](http://www.programsofstudy.appstate.edu/medical-humanities-minor-605-2016-2017)

#### Ecology, Evolution and Environmental Biology (142C)

In addition to the general objectives of the department, this degree is designed for students seeking careers that require an understanding and appreciation of ecological systems and environmental problems.

The program of study is available at: [www.programsofstudy.appstate.edu/biology-bs-ecology-evolution-and-environmental-biology-142c-2016-2017](http://www.programsofstudy.appstate.edu/biology-bs-ecology-evolution-and-environmental-biology-142c-2016-2017)

#### Secondary Education (142D)[T](Teaching)

In addition to the general objectives of the department, this degree is designed to prepare students intending to pursue careers in teaching. Successfully completing this degree will meet the North Carolina Department of Public Instruction requirements to teach biology full-time in grades 9-12 and will be eligible for a North Carolina Secondary General Science teaching license.

The program of study is available at: [www.programsofstudy.appstate.edu/biology-bs-secondary-education-142d-2016-2017](http://www.programsofstudy.appstate.edu/biology-bs-secondary-education-142d-2016-2017)

#### Biology Minor (208/26.0101)

A minor in Biology consists of a minimum of 14 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/biology-minor-208-2016-2017](http://www.programsofstudy.appstate.edu/biology-minor-208-2016-2017)

#### Honors Program in Biology

The Department of Biology provides the opportunity for highly qualified students to graduate with departmental honors in Biology.

In order to graduate with "Honors in Biology," the student must have at least a 3.5 overall GPA; a GPA of at least 3.5 in the major (calculation includes cognate courses); and must have completed a minimum of 9 semester hours of honors courses in Biology, including BIO 4518 (Honors Research, 3 s.h.) and BIO 4519 (Biology Honors Thesis, 3 s.h.).

Admission to the Biology Honors Program - Students must apply for admission to the Honors Program in Biology. Applications will be considered by the department's Honors Committee and by the faculty director of the Biology Honors Program. A student is eligible to apply for admission into the Biology Honors Program if she or he:

1. has completed at least 45 semester hours of course work with a minimum of 15 semester hours completed at Appalachian State University;
2. is majoring in one of the degree programs in the Department of Biology;
3. has completed BIO 2400 or BIO 2700 with a grade of "B" or higher;
4. has an overall GPA of at least 3.5 and a GPA of at least 3.5 in the major; and
5. has identified a Biology faculty member who has agreed to direct the student's Honors Research (BIO 4518) and Biology Honors Thesis (BIO 4519).

Space in the Biology Honors Program is limited, and not all students meeting the application criteria may be accepted into the Biology Honors Program. Students must earn a grade of 'B' (3.0 grade points) or higher on all honors coursework taken to fulfill any honors requirements.

## Master of Science

The Department of Biology offers a Master of Science degree in Biology with concentrations in Cell and Molecular Biology, Ecology and Evolutionary Biology, and General Biology. Consult the *Graduate Bulletin* for further information.

## Courses of Instruction in Biology (BIO) and General Science (GS)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### BIOLOGY (BIO)

#### **BIO 1103. Global Climate Change and Earth's Life (4).S.**

*GEN ED: Science Inquiry Perspective (Theme: "Global Environmental Change")*

A course examining the effects of global climate change on earth's organisms. Lecture combines biological concepts with current knowledge and predictions to provide a broad introduction to key changes possible in earth's biota in a future world. Laboratory provides a hands-on approach to investigating climate change questions. Submission of online essays, group discussions and summary reports from laboratory experiments required. Lecture three hours, laboratory two hours.

#### **BIO 1201. Biology in Society I (3).F;S.**

*GEN ED: Science Inquiry Perspective (Theme: "Biology in Society")*

This lecture course was designed for non-majors and is ideal for students that want to satisfy their interests and natural curiosity about biological systems, but whose primary educational interests lie elsewhere. We will explore the biological basis of relevant societal topics like diet and nutrition, diseases like diabetes and cancer, beneficial versus pathogenic microbes, and stem cell therapies. Our discussions will delve into life at molecular, cellular, and organismal levels while focusing on the practical impact biology has on our lives. This course is offered as part of the "Biology in Society" theme in the General Education Science Inquiry perspective. In order to satisfy this theme, students must take BIO 1201, BIO 1202, and BIO 1203 for a total of eight credit hours. Students may take BIO 1201 and BIO 1202 in either order and must take BIO 1203 in conjunction with either BIO 1201 or BIO 1202. Lecture three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 1201 WILL NOT SUBSTITUTE FOR BIO 1801 FOR SCIENCE MAJORS.**

#### **BIO 1202. Biology in Society II (3).F;S.**

*GEN ED: Science Inquiry Perspective (Theme: "Biology in Society")*

This lecture course was designed for non-majors and is ideal for students that want to satisfy their interests and natural curiosity about biological systems, but whose primary educational interests lie elsewhere. We will explore the biological basis of relevant societal topics like the sixth extinction event, conservation ecology, human populations and evolution, and genetically modified organisms used for food, fuel, and remediation. Our discussions will delve into life at organismal, population, community, and ecosystem levels while focusing on the practical impact biology has on our lives. This course is offered as part of the "Biology in Society" theme in the General Education Science Inquiry perspective. In order to satisfy this theme, students must take BIO 1201, BIO 1202, and BIO 1203 for a total of eight credit hours. Students may take BIO 1201 and BIO 1202 in either order and must take BIO 1203 in

conjunction with either BIO 1201 or BIO 1202. Lecture three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 1202 WILL NOT SUBSTITUTE FOR BIO 1802 FOR SCIENCE MAJORS.**

## **BIO 1203. Biology in Society Laboratory (2).F;S.**

*GEN ED: Science Inquiry Perspective (Theme: "Biology in Society")*

This lab course was designed for non-majors and will examine current research projects in the ASU Biology Department, ranging from molecular genetics to ecosystem ecology, as well as explore the biological and ecological diversity of the Southern Appalachian Mountains. This lab experience consists of 50 contact hours and is composed of in-lab and online exercises. It is offered as part of the "Biology in Society" theme in the General Education Science Inquiry perspective. In order to satisfy this theme, students must take BIO 1201, BIO 1202, and BIO 1203 for a total of eight credit hours. Students may take BIO 1201 and BIO 1202 in any order and must take BIO 1203 in conjunction with either BIO 1201 or BIO 1202. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **BIO 1204. Biology in Society I Laboratory (1).F;S.**

*GEN ED: Science Inquiry Perspective (Themes: "Biology in Society")*

This course is offered only under special circumstances to students who require a one-credit hour lab course primarily to satisfy the eight-credit hour requirement of the Biology in Society theme in the General Education Science Inquiry perspective. In this course, students will complete one-half of BIO 1203, specifically the in-lab exercises that examine current research projects in the ASU Biology Department. This course maps to the lecture course BIO 1201. Students who require a one-credit hour lab course that maps to the BIO 1202 lecture course should take BIO 1205. Students who require a two-credit hour lab course should take BIO 1203. Students may take either BIO 1204 or BIO 1205 but not both. The combination of BIO 1204 and BIO 1205 is not an acceptable substitute for BIO 1203, and this combination will not count for BIO 1203 credit. Please contact the General Biology Program Director for assistance with registration. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **BIO 1205. Biology in Society II Laboratory (1).F;S.**

*GEN ED: Science Inquiry Perspective (Themes: "Biology in Society")*

This course is offered only under special circumstances to students who require a one-credit hour lab course primarily to satisfy the eight-credit hour requirement of the Biology in Society theme in the General Education Science Inquiry perspective. In this course, students will complete one-half of BIO 1203, specifically the in-lab exercises that examine current research projects in the ASU Biology Department. This course maps to the lecture course BIO 1202. Students who require a one-credit hour lab course that maps to the BIO 1201 lecture course should take BIO 1204. Students who require a two-credit hour lab course should take BIO 1203. Students may take either BIO 1204 or BIO 1205 but not both. The combination of BIO 1204 and BIO 1205 is not an acceptable substitute for BIO 1203, and this combination will not count for BIO 1203 credit. Please contact the General Biology Program Director for assistance with registration. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **BIO 1801. Biological Concepts I (4).F;S.**

This course will investigate the history of science and the scientific method, the chemical basis of life, cell biology, bioenergetics, DNA structure and function, as well as general and molecular genetics. The course will cover the evolutionary basis of life and the application of evolutionary theories to the study of life. Lecture three hours, laboratory three hours. Corequisite: CHE 1101.

**UNLESS NOTED, BIO 1801 IS THE MINIMUM PREREQUISITE FOR ALL BIO COURSES NUMBERED 2000 AND ABOVE.**

## **BIO 1802. Biological Concepts II (4).F;S.**

The course will cover the development and application of evolutionary theory to the study of organismal biology. Course material will include discussions of the classification and evolutionary relationships of the domains of life, principles of plant and animal physiology, and overviews of population biology and ecology. Lecture three hours, laboratory three hours. Prerequisite: BIO 1801 with a grade of "C" or higher.

**ALL BIOLOGY MAJORS MUST COMPLETE BIO 1801 & BIO 1802 BEFORE TAKING ANY OTHER BIOLOGY COURSE FOR THE MAJOR.**

## **BIO 2000. Introduction to Botany (4).F;S.**

Survey of the major topics in plant biology including physiology, morphology, ecology, evolution, aspects of plant diversity and water relations in plants. Lecture three hours, laboratory three hours.

## **BIO 2001. Introduction to Zoology (4).F;S.**

Integrated and phylogenetic study of the animal kingdom. The basic biological problems facing animals will be considered in the context of morphology and evolutionary history. Lecture three hours, laboratory three hours.

**BIO 2012. Introduction to Evolutionary Biology (3).F;S.**

An introduction to the study of evolution including a summary of the stratigraphic record, an historical summary of the earth and its major floral and faunal groups, a review of major contributions to evolutionary theory, and a summary of the factors thought to cause evolutionary change. Lecture three hours. Prerequisites: BIO 1801 and BIO 1802.

**BIO 2200. Human Microbiology (4).S.**

The main objective of this course is to present the basic principles of microbiology and the nature of microbial diseases to students pursuing health-related fields. The course will focus on microorganisms which are pathogenic to humans, the diseases they cause and the treatment and prevention of those diseases. Lecture three hours, laboratory three hours. Prerequisites: Minimum grade of B- in CHE 1102 and CHE 1120. Note: BIO 2200 is not open to students undertaking a Biology major or minor for credit.

**BIO 2400. Genetics (3).F;S.**

This course will cover aspects of transmission genetics, cytogenetics, molecular genetics and the importance of genetics to an understanding of evolution and population dynamics. The genetics of viruses, prokaryotes, and eukaryotes will be studied. Prerequisites: BIO 1801, CHE 1102, and MAT 1025. Lecture three hours. Students cannot receive credit for both BIO 2400 and BIO 2700. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 2410. Genetics Laboratory (1).F;S.**

Laboratory investigations of genetic systems in plants, animals, and fungi. Prerequisite or corequisite: BIO 2400 or BIO 2700. Laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 2500. Independent Study (1-4).F;S.**

**BIO 2600. Cell Biology (3).F;S.**

Cell biology provides an opportunity to discover in detail the inner workings of cells. Discussion topics include biomolecules, bioenergetics, organization, movement and regulation as well as the intercellular interactions. Lecture three hours. Prerequisite: CHE 1102.

**BIO 2610. Cell Biology Laboratory (1).F;S.**

Laboratory exercises will provide an opportunity to experience how scientists learn about cells. Experiments will use modern techniques to probe cellular structure, composition and function. Laboratory three hours. Prerequisite: MAT 1025 or equivalent. Prerequisite or corequisite: BIO 2600.

**BIO 2700. Human Genetics (3).F;S.**

This course examines the principles of genetics from a human perspective. The history of genetic thought will be discussed, as well as pedigree analysis, genetics of human disease, human population genetics, and selected topics on the Human Genome project, behavior, and multifactorial traits. Prerequisites: BIO 1801, CHE 1102, and MAT 1025. Students cannot receive credit for both BIO 2400 and BIO 2700.

**BIO 2800. Biotechnology and Society (3).S. Alternate years.**

A look at how the recent advances in biotechnology affect society and individuals. Special emphasis is placed on the possibilities that biotechnology brings and the decisions it forces on society. Topics include reproductive technology, population problems, extending life, considerations of the ever-changing definition of death, genetic testing and screening, ecological problems, and others as new technological advances develop. Prerequisite: at least one course in biology, sociology, or ethics.

**BIO 3301. Human Systems Physiology (4).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

A study of the fundamental principles of human physiology with an emphasis on systemic function. Lecture three hours, laboratory three hours. Prerequisites: one semester of organic chemistry (CHE 2201 or CHE 2101); and RC 2001 or its equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 3302. Ecology (4).F;S.**

A study of the interaction of organisms with their environment. Principles discussed will include natural selection and adaptation, population growth and regulation, interspecific interactions, including competition, predation, parasite-host relationships and mutualism, the structure and function of communities and ecosystems, geographical ecology, and human impacts on the biosphere. STT 2810 recommended. Lecture three hours, laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 3304. Systematic Botany (4).F.**

This course begins with the study of plant structure, learning about form and function. Both past and current methods of classification

and their theoretical frameworks will be explored. Throughout the semester, in both lecture and lab/field, the tremendous diversity of land plants and the tools used to reconstruct the evolutionary history of plants will be examined. Lecture three hours, laboratory three hours. Prerequisite: BIO 2000 or permission of the instructor.

## **BIO 3308. Microbiology (4).F;S.**

Introduction to the biology of microorganisms, including phylogeny and diversity, growth, metabolism, and genetics. A main objective is to gain appreciation and understanding of diversity and ubiquity of microorganisms. The course also considers the role of microorganisms in human's lives, from ways in which they have shaped our environment to direct microbe-human interactions. The laboratory introduces basic techniques of pure culture work, enrichments and isolation, and experimentation with microorganisms. Prerequisites: CHE 1101/CHE 1110, CHE 1102/CHE 1120, BIO 1801 and either BIO 2400, BIO 2600 or BIO 2700.

## **BIO 3310. Marine Sciences (4).S.**

A study of the diverse marine habitats throughout the world and the organisms found within these habitats. Various aspects of the cellular, molecular, and developmental biology of marine organisms will be studied. The laboratory will examine selected marine invertebrates and vertebrates will include experimental manipulations. Lecture three hours, laboratory three hours.

## **BIO 3312. Environmental Studies (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

An in-depth study of environmental problems from a systems/ecological perspective, with emphasis on the scientific basis of the problems and solutions. Topics will vary by semester but will generally include population growth; mineral water and wildlife resources; energy resources; and waste and pollution. Involves significant written assignments. Lecture three hours. Prerequisites: BIO 1802 and RC 2001 or its equivalent.

## **BIO 3313. Global Change Ecology (4).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course explores the causes and consequences of anthropogenic global change with a particular emphasis on key ecological processes. We will explore global changes in biogeochemistry, climate, biodiversity, and land cover. Students will use the scientific literature and laboratory experiences to better understand global environmental datasets and their interactions. Students will develop an understanding of the ecological underpinnings of global changes, and explore consequences as well as potential mitigation strategies. Prerequisites: BIO 1802 and RC 2001 or its equivalent. Lecture three hours, laboratory three hours.

## **BIO 3314. Comparative Vertebrate Zoology (4).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

The origin, evolution, anatomy, physiology, taxonomy, and natural history of vertebrates. Lecture three hours, laboratory three hours. Prerequisites: BIO 1801 and RC 2001 or its equivalent.

## **BIO 3315. Conservation Biology (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course will introduce students to the foundations, key concepts, and current topics in Conservation Biology. Students will be exposed to different concepts of biodiversity, gain an appreciation of threats to biodiversity at scales ranging from local to global, and learn about the role of state and federal agencies, non-government organizations and other stakeholders in the struggle to preserve the natural resources of an increasingly populous earth. Prerequisites: BIO 1801, BIO 1802, and RC 2001 or its equivalent. Lecture three hours.

## **BIO 3320. Air Pollution Effects on Plants and People (3).S.**

An in-depth study of the causes and consequences of air pollution throughout the world, including acidic deposition, particulates, visibility problems, and gaseous pollutants such as oxides of nitrogen and sulfur, fluorides, ozone, PAN, and carbon dioxide. The sources of these pollutants and their biological effects will be discussed, as well as their interactions with global climate change. Lecture three hours; will include field trips to experimental sites. Prerequisites: BIO 1201 and BIO 1202, and junior level standing. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **BIO 3500. Independent Study (1-4).F;S.**

## **BIO 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process at the University level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

## **BIO 3521. Secondary Science Field Experience (1).F;S.**

A supervised experience in the instructional process at the secondary school level through direct participation in a classroom situation.

Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours. Required of all teacher-licensure candidates in biology.

**BIO 3530–3549. Selected Topics (1-4).** On Demand.

**BIO 3800. Molecular Biology (4).**F;S.

*GEN ED: Junior Writing in the Discipline (WID)*

A study of the basic molecular processes and critical recombinant DNA technologies. This includes: structure and general features of the biological information molecules DNA, RNA and proteins; DNA replication and repair processes; RNA synthesis and processing; protein synthesis and regulation; and basic recombinant DNA technology. The laboratory will include: DNA isolation techniques; restriction analysis; construction of a recombinant DNA molecule and cloning; DNA-DNA hybridization; *in vitro* translation and analysis of the protein; PCR amplification of DNA; DNA sequencing and analysis; and the introduction to computer analysis of DNA, RNA and proteins. Lecture three hours, laboratory three hours. Prerequisites: BIO 1801 and one semester of organic chemistry; and RC 2001 or its equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**BIO 4001. Developmental Biology (3).**S.

An exploration of the molecular and cellular principles underlying the control of embryonic development. This course is designed to provide the student with a fundamental understanding of the molecular and cellular processes controlling animal development and the role that tinkering with these molecular mechanisms likely played in the evolution of metazoan diversity. There will be an emphasis on the experimental techniques used to gain this understanding and the class will incorporate recently published research into a cohesive understanding of the molecular mechanisms of development. Topics include: a general introduction to development; *Drosophila* developmental genetics; master control genes; vertebrate patterning; stem cells; and evolution and development. Students may not receive credit for both BIO 3309 and BIO 4001. Prerequisites: BIO 2600 and either BIO 2400 or BIO 2700.

**BIO 4011. Honors Developmental Biology Seminar (1).**S.

An exploration of the current primary literature relating to the molecular and cellular principles underlying the control of embryonic development. This seminar is designed to introduce the student to critically reading the current scientific primary literature. The presentations will also provide the student the opportunity to become familiar with some of the recent advances and important molecular and cellular experimental techniques currently being used in the field of Developmental Biology. The term paper associated with the seminar will be in the form of a review article focusing on some aspect of the cellular and molecular mechanisms controlling embryonic development and will also require the student to become more familiar with the current primary literature. May be taken for Honors credit or by permission of instructor. Prerequisites: BIO 2600 and either BIO 2400 or BIO 2700. Co-requisite: BIO 4001 Developmental Biology.

**BIO 4240. Aquatic Biology (4).**S.

This course will introduce students to the foundations, key concepts and current topics in freshwater, estuarine, marine and groundwater biology, ecology and management. Students will learn about how these ecosystems are tied to all of earth's life forms and ecosystems as well as humanity's role in global water cycles. Laboratory sessions will be used to develop computer, bench and field skills key to the study of aquatic ecosystems. Students will learn from and interact with personnel from state and federal resource-management agencies, non-government organizations and other stakeholders and develop skills essential to a career as an aquatic scientist. Lecture three hours. Lab three hours. Prerequisites: BIO 3302 or permission of the instructor. [Dual-listed with BIO 5240.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4255. Ethnobotany: Plants, People, and Culture (4).**On Demand.

Ethnobotany is a multidisciplinary field that investigates the relations of people to local plant populations. This course will provide a broad overview of the field, introducing students to methods of data collection and classic topics in the discipline, such as the use of plants as food, as medicine, in ritual, and in manufacture. This course will challenge students to think critically about the process of knowledge formation and the phenomenological encounter with the environment. In required lab sections, students will gain practical experience in plant identification, manufacturing processes, sensory ecology, and local "folk" knowledge of plants. Lecture three hours, nine laboratory sessions of three hours. Students who have previously received credit for ANT 4256 may not enroll in or receive credit for ANT 4255 or BIO 4255. (Same as ANT 4255.)

**BIO 4501. Independent Research (3).**F;S.

*GEN ED: Capstone Experience*

A capstone experience in designing and conducting an independent research project. Students will report the results of their study in the form of a paper appropriate for publication in a scientific journal and will present a public seminar on their research. Prerequisites: senior standing, completion of a junior writing course, and permission of the instructor.



**BIO 4513. Plant Molecular Biology** (4). F. Alternate years.

A study of molecular aspects of plant life, examining features that distinguish plants from other organisms on a cellular and molecular level. The laboratory introduces methods and applications of modern plant science and biotechnology. Students should be familiar with the basic concepts of molecular biology and plant genetics and have some experience in molecular laboratory techniques. Lecture three hours, laboratory three hours. Prerequisites: BIO 3800 or permission of the instructor. [Dual-listed with BIO 5513.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4518. Honors Research** (3). On Demand.

Initiation of a research project in the laboratory, field, or classroom under the supervision of a biology faculty member. At least one semester prior to the start of the research project, the student must formally confer with a thesis advisor and must also submit and have approved a formal research proposal. Prerequisite: admission to the Biology Honors Program.

**BIO 4519. Biology Honors Thesis** (3). On Demand.

*GEN ED: Capstone Experience*

Work, under the supervision of a biology faculty member, on the project begun in BIO 4518 (Honors Research). An oral report on the project will be presented in a public seminar. A written thesis will be approved by a committee comprised, at minimum, of the thesis advisor and another faculty member. (Note: If a student is using the Biology Honors Thesis to fulfill the requirements for University Honors, one member of the committee must be from outside the Department of Biology.) A student who completes the thesis with a grade of "B" or higher will be eligible for "Honors in Biology." Prerequisite: BIO 4518 with a grade of "B" or higher.

**BIO 4550. Nature Study** (3). On Demand.

Study of common plants and animals with emphasis on ecology, collecting techniques and identification. Designed for students with limited biology backgrounds. Not open to biology majors for credit. [Dual-listed with BIO 5505.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4551. Ornithology** (4).S.

The morphology, physiology, behavior, ecology and identification of birds. Early morning field trips are required. Extended field trips to a variety of habitats will be arranged. Lecture and laboratory will emphasize techniques of observing, recording and analyzing data using a research project format. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5551.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4552. Entomology** (4).F.

A study of the insects, including relevant anatomy for identification and physiology for function, with a special emphasis on the ecological roles of insects and their interaction with other organisms. Evolutionary relationships with related arthropods are also covered. Basic taxonomy of the major insect groups is addressed with a required insect collection, which teaches collecting and preservation techniques. Students are involved in basic experimentation that allows for investigating this very diverse animal group. Lecture three hours, laboratory three hours. [Dual listed with BIO 5552.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4555. Plant Physiology** (4).F.

A study of the basic principles of plant physiology and fundamental processes such as cell properties, water relations, growth, photosynthesis, respiration, and mineral nutrition. Prerequisites: CHE 1101, CHE 1110 and CHE 1102, CHE 1120. CHE 2201 and CHE 2203 are strongly recommended. Lecture three hours, laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with BIO 5555.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4556. Mycology** (4).F.

An investigation of the fungi with particular reference to the techniques of working with these organisms. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5556.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4557. Ichthyology** (4).F.

This course focuses on the ecology, evolution and diversity of fishes. Aspects of fish physiology and behavior will also be covered along with important conservation issues. In the laboratory, students will have the opportunity to learn how to identify major groups of fishes with emphasis on freshwater species. Lecture three hours, laboratory three hours. [Dual listed with BIO 5557.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4558. Taxonomy of the Fleshy Fungi** (3).F. On Demand.

An in-depth study of the fleshy fungi (mushrooms [agarics], chanterelles, hydnums, polypores, and corals) with an emphasis on



morphology, systematics, and ecology. Methods of collection, macroscopic and microscopic dissection, identification, and preservation are covered. Field trips are required. Lecture two hours, and laboratory three hours. [Dual-listed with BIO 5558.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4559. Mammalogy (4).S.**

The natural history, distribution, adaptations, taxonomy and economic importance of mammals. Field trips and visits to zoos will be arranged. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5559.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4560. Herpetology (4).F.**

The history, morphology, systematics, physiology, and distribution of amphibians and reptiles. Methods of collecting, storing, studying and identifying specimens as well as behavioral aspects of species in their natural habitats will be covered. Field trips will be required. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5560.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4563. Biology of Aging (3).F.**

General study of biological/physiological changes over time in the structure and function of the systems of organisms with emphasis on the human body. Lecture three hours. [Dual-listed with BIO 5563.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4564. Microscopy (4).F.**

A study of the principles and techniques of biological microscopy. Lectures include discussions on preparative techniques for various types of bioimaging, the optical theories behind the imaging technologies, and the structure and function of cellular organelles. Laboratories examine practical techniques of tissue preparation for various kinds of microscopy, the effective use of various types of microscopes, and the interpretation of data obtained from various imaging systems. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5564.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4567. Lichenology (3). On Demand.**

A study of the morphology, diversity, evolution, ecology, physiology, and chemistry of lichens as well as their significance as biological indicators. Field trips are required. Lecture two hours, and laboratory three hours. [Dual-listed with BIO 5567.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4568. Immunology (4).S.**

A study of the immune system with emphasis on cellular interactions involved in the generation of humoral and cell-mediated immune responses. Lecture includes discussions on inflammation, antibody diversity, tissue transplantation, and immunopathologies. Laboratories examine lymphoid tissue organization, lymphocyte function, and antibody-antigen reactions with emphasis on clinical application. Prerequisite or corequisite: BIO 2400. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5568.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4569. Invertebrate Zoology (4).F.**

Students will be introduced to the 34 extant major and minor invertebrate phyla which make up 99% of the Earth's named animal species and virtually 100% of those animals yet undiscovered. The intriguing natural history, symmetry and development, mode of locomotion, nutrition, reproduction, and primary environments of the invertebrates will be discussed. Labs will emphasize invertebrate habitats, field collection, phylogenetic relationships as well as ecological and physiological adaptations and examination of major morphological characteristics. Lecture three hours, laboratory three hours with required field trips. [Dual-listed with BIO 5569.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4570. Parasitology (4).F.**

A survey of protistan and arthropod parasites with emphasis on organisms of medical and veterinary importance. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5570.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **BIO 4571. Plant-Insect Interactions in Terrestrial Ecosystems (4).F. Alternate years.**

A study of the associations between insects and plants, using lecture, class discussions and laboratory exercises. Lecture topics include constraints imposed by plants on herbivorous insects and the strategies insects use to overcome them, pollination biology and ecology and the interplay between biotic and abiotic factors in determining interactions. Laboratory exercises are field-based mini-experiments leading to the development of an individual project with experimentation and paper presentation. Lecture three hours, laboratory three hours. [Dual-listed with BIO 5571.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4572. Virology (3).F.**

The objective of this course is to introduce students to the principles of virology as related to the structure, biochemistry, replication, pathogenesis and control of viruses. There will be an emphasis on disease processes and the interaction of animal viruses. General topics include the chemical and physical properties of viruses, virus classification, cultivation and assay of viruses, pathogenesis, persistent infections, biotechnology, and viruses as a cause of neoplasia. The students' analytical and intuitive skills will be challenged by analyzing figures and data from journal articles in class discussions. Lecture three hours. Prerequisite: BIO 2600. [Dual-listed with BIO 5572.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4575. Ecotoxicology (4).S.***GEN ED: Capstone Experience*

This course introduces the various classes of toxicants, their fate within organisms and ecosystems, and the chemical transformations and mechanisms of toxicity. This course will also introduce students to standard lab and field toxicity tests, analysis of toxicity and quantification of toxins, data reduction and analysis, and the power of statistical analyses to identify significant effects. A case study approach will be utilized in lecture and labs to examine the toxic effects of heavy metals, organic compounds, insecticides, and environmental endocrine disrupters. Students will learn about important endpoints and bio-indicators of toxin exposure specific to each class of toxin and how they are used in ecological risk assessment. A service-learning component of the course will require students to conduct group toxicology projects with a local community partner. Lecture three hours, laboratory three hours with some required field trips. Prerequisites: Biology core courses (BIO 1801 and BIO 1802), one semester of organic chemistry, junior level writing in the discipline (WID) course, and senior standing. [Dual-listed with BIO 5575.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4601. Animal Behavior-Ethology (4).S.**

Basic principles of animal behavior are approached from an evolutionary perspective. Topics such as instinct, learning, biological clocks, sociobiology, communication and physiological mechanisms of behavior are stressed. Laboratory emphasizes techniques of observing, recording, and analyzing behavior using a research project format. Lecture three hours, laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with BIO 5601.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4700. Seminar in Biological Science (3).F;S.***GEN ED: Capstone Experience*

A capstone experience in a seminar format. Students will be expected to read seminal articles, monographs, and books from the scientific literature, prepare synthesis papers drawing together ideas from several sources, and present their topics to the seminar group and participate in discussion. Prerequisites: senior standing, completion of a junior writing course, and permission of the instructor.

**BIO 4900. Internships in Biology (1-6).F;S.**

Practical biological experiences in federal, state, and local agencies. Graded on an S/U basis. [Dual-listed with BIO 5900.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**BIO 4910. Capstone Internship in Biology (3).F;S.***GEN ED: Capstone Experience*

A capstone experience in a commercial/industrial setting, research laboratory, or research facility, or in a federal, state, or local government agency. Students will be expected to complete a significant project developed in conjunction with the cooperating outside facility or agency, will keep a daily journal of their internship experience, and will report the results of their internship in a public seminar. Prerequisites: senior standing, completion of a junior writing course, and permission of the instructor.

**GENERAL SCIENCE (GS)****GS 3300. Educational Applications of Science Concepts (3).F;S.**

This course is designed to address science concepts relevant to K-12 teachers in the realms of physical, biological, and earth sciences. Pedagogy reflects styles used in K-12 classrooms: emphasis on inquiry, concept development, quantitative applications, and technology. Course content aligns with the North Carolina Standard Course of Study, the National Science Education Standards, and the Frameworks for 21st-Century Learning. Prerequisites: MAT 1010 or higher and at least sophomore standing.

**GS 3500. Independent Study (1-4). On Demand.****GS 3530-3549. Selected Topics (1-4). On Demand.**

**GS 4403. Teaching Science in Middle and High Schools (3). F:S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course is for the prospective middle/high school science teacher and it focuses on effective instructional strategies for teaching principles associated with major school science disciplines. Emphasis is placed on planning, science process skills, inquiry-based instruction, hands-on/minds-on activities, improvising materials, demonstrations, and assessment techniques. Special emphasis is also placed on the North Carolina Standard Course of Study and the Next Generation Science Education Standards. A minimum of 15 hours of experience in public school classrooms will be required as part of this course. It is STRONGLY ADVISED that all other requirements for licensure (except student teaching) be completed prior to this course. [Dual-listed with GS 5403.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. Prerequisite: RC 2001 or its equivalent.

**GS 4404. The Meaning and Nature of Science (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

The goal of this course is to help students develop a sound understanding of the nature of science, the process of scientific inquiry, and the reciprocal relationship between science and society through a critical examination of the history of science since the Renaissance. Lecture three hours. [Dual-listed with GS 5404.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. Prerequisite: RC 2001 or its equivalent.

**The A.R. Smith Department of Chemistry (CHE)***Claudia P. Cartaya-Marin, Chair*

*Carol M. Babyak  
Nicole S. Bennett  
Jennifer P. Cecile  
Brooke E. Christian  
Matthew B. Culpepper  
Megen A. Culpepper  
Margaret A. Donoghue  
Patrick J. Donoghue  
Michael S. Hambourger  
Amanda C. Howell*

*Keith S. Learn  
Wendy L. Lewis  
P. Kumudu Peiris  
Libby G. Puckett  
Michael B. Ramey  
Alexander D. Schwab  
Nicholas N. Shaw  
Samuella B. Sigmann  
Brett F. Taubman  
Bridget Tuberty*

*Dieter Weber  
Aruna G. Weerasinghe  
Dale E. Wheeler  
Marilou Wheeler  
Stephen D. Williams  
Nancy Wilson  
Lauren Woods  
Robert J. Yoblinski*

The objectives of the A.R. Smith Department of Chemistry are to prepare students in chemistry for careers in industry, government service, high school and junior college level teaching and for continuing study in chemistry and related areas at the graduate or professional school level. The department also strives to provide a basic understanding of the principles of chemistry and physical science related to all areas of scientific study and to provide the student with an appreciation for the impact of science and technology in today's society.

**The Bachelor of Arts degree in Chemistry (216A/40.0501)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-ba-216a-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-ba-216a-2016-2017)

**The Bachelor of Science degree in Chemistry (214\*/40.0501)**

For the Bachelor of Science degree in Chemistry, students must select one of the following concentrations in a career support area. The concentration must be approved by the department upon entering the Bachelor of Science degree in Chemistry.

**Certified Chemist concentration (214B)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-certified-chemist-214b-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-certified-chemist-214b-2016-2017)

**Environmental concentration (214G)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-environmental-214g-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-environmental-214g-2016-2017)

**Fermentation Sciences concentration (214I)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-fermentation-sciences-214i-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-fermentation-sciences-214i-2016-2017)

**Forensic Science concentration (214H)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-forensic-science-214h-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-forensic-science-214h-2016-2017)

**Individually Designed concentrations (214F)**

Additional concentrations to prepare the chemistry major to pursue other career opportunities may be developed in consultation with the chair of the Department of Chemistry and must be individually approved.

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-individually-designed-214f-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-individually-designed-214f-2016-2017)

**Marketing and Business concentration (214D)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-marketing-and-business-214d-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-marketing-and-business-214d-2016-2017)

**Preprofessional and Paramedical concentration (214E)**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-preprofessional-and-paramedical-214e-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-preprofessional-and-paramedical-214e-2016-2017)

**Secondary Education (214J) [T]**

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-bs-secondary-education-214j-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-bs-secondary-education-214j-2016-2017)

All junior and senior students majoring in chemistry are expected to participate in weekly seminar discussion periods each semester in residence.

## A minor in Chemistry (214/40.0501)

The program of study is available at: [www.programsofstudy.appstate.edu/chemistry-minor-214-2016-2017](http://www.programsofstudy.appstate.edu/chemistry-minor-214-2016-2017)

## The undergraduate certificate in Forensic Science (141A/43.0106)

The program of study is available at: [www.programsofstudy.appstate.edu/forensic-science-certificate-141a-2016-2017](http://www.programsofstudy.appstate.edu/forensic-science-certificate-141a-2016-2017)

## Honors Program in Chemistry

The A. R. Smith Department of Chemistry offers an honors program in chemistry. Admission to the honors program requires completion of CHE 1102/CHE 1120 (Introductory Chemistry II lecture and laboratory) and a minimum grade-point average, both overall and in chemistry, of 3.20. To graduate with "honors in chemistry," a student must have a minimum grade point average of 3.45, overall and in chemistry, and must take a minimum of nine semester hours of chemistry with honors at the 2000 level or above with each course grade a "B" or better. The required honors thesis in chemistry is a three-credit sequence that consists of one credit of CHE 4000 (Chemistry Seminar with honors) and two credits of CHE 4510 (Chemistry Honors Thesis); the two credits for CHE 4510 must take place in two different semesters with one credit each semester. The chemistry honors thesis must be approved by two readers from the Department of Chemistry in order to graduate with honors in chemistry.

## Courses of Instruction in Chemistry (CHE)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### CHEMISTRY (CHE)

#### CHE 1101. Introductory Chemistry I (3).F;S.

*GEN ED: Science Inquiry Perspective (Theme: "Chemistry: Connections to Our Changing World")*

A study of the fundamental principles of chemistry emphasizing modern atomic theory, the structure and behavior of atoms, the properties and states of matter, energy relations, periodicity and mole concepts. Lecture three hours. Corequisite or prerequisite: CHE 1110. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### CHE 1102. Introductory Chemistry II (3).F;S.

*GEN ED: Science Inquiry Perspective (Theme: "Chemistry: Connections to Our Changing World")*

A study of properties of solutions, acid-base concepts, equilibria, elementary thermodynamics, elementary kinetics, electrochemistry. Lecture three hours. Prerequisites: CHE 1101 and CHE 1110; corequisite or prerequisite: CHE 1120. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### CHE 1110. Introductory Chemistry Laboratory I (1).F;S.

*GEN ED: Science Inquiry Perspective (Theme: "Chemistry: Connections to Our Changing World")*

Laboratory experiments to supplement the study of the topics listed under CHE 1101. Laboratory three hours. Corequisite or prerequisite: CHE 1101.

#### CHE 1120. Introductory Chemistry Laboratory II (1).F;S.

*GEN ED: Science Inquiry Perspective (Theme: "Chemistry: Connections to Our Changing World")*

Laboratory experiments to supplement the study of the topics listed under CHE 1102. Laboratory three hours. Corequisite or prerequisite: CHE 1102.

#### CHE 2000. Sophomore Research (1).F;S.

Independent research under the direct supervision of a faculty member. Three hours per week of laboratory work, regular progress reports, and a final written report are required. Prerequisite: CHE 1120 or permission of the instructor.

#### CHE 2101. Fundamentals of Organic Chemistry (3).F;S.

A study of the fundamental concepts and basic physical and chemical properties of the major classes of the compounds of carbon. Emphasis is placed upon the importance of these groups in living systems and in everyday life. Lecture three hours. Prerequisites: CHE 1102 and CHE 1120; corequisite or prerequisite: CHE 2102. This course is not an appropriate prerequisite for CHE 2202.

#### CHE 2102. Fundamentals of Organic Chemistry Laboratory (1).F;S.

Introduction to basic laboratory practice in the synthesis, identification, and purification of organic compounds utilizing common organic laboratory techniques. Laboratory three hours/half semester. Prerequisites: CHE 1102 and CHE 1120; corequisite or prerequisite: CHE 2101.

**CHE 2201. Organic Chemistry I (3).F;S.**

First course of a two-semester sequence in organic chemistry. An in-depth study of structure, bonding, properties and stereochemistry of carbon compounds. Introduction to classes of organic compounds and their nomenclature, reaction mechanisms and organic synthesis will also be introduced. Lecture three hours. Prerequisites: CHE 1102 and CHE 1120; prerequisite or corequisite: CHE 2203.

**CHE 2202. Organic Chemistry II (3).F;S.**

Second course of a two-semester sequence in organic chemistry. Continuing coverage of the classes of organic compounds. Detailed coverage of spectroscopy, carbonyl compounds (aldehydes, ketones, carboxylic acids and derivatives), and amines. Amino acids, carbohydrates and proteins will also be introduced. Reaction mechanisms, organic synthesis and spectroscopy will be emphasized. Lecture three hours. Prerequisites: CHE 2201 and CHE 2203 (with a minimum grade of "C-" in each). Corequisite or prerequisite: CHE 2204.

**CHE 2203. Organic Chemistry Laboratory I (1).F;S.**

Laboratory practice in the synthesis of organic compounds and the use of common laboratory techniques. Laboratory three hours. Prerequisites: CHE 1102 and CHE 1120; corequisite or prerequisite: CHE 2201 or written permission from the department chair.

**CHE 2204. Organic Chemistry Laboratory II (1).F;S.**

Laboratory practice in synthesis, separations, practical spectroscopy, and determination of unknowns. Laboratory three hours. Prerequisites: CHE 2201 and CHE 2203 (with a minimum grade of "C-" in each). Corequisite or prerequisite: CHE 2202.

**CHE 2210. Quantitative Analysis (3).F;S.**

An introduction to analytical chemistry, including a rigorous examination of facets of homogeneous and heterogeneous equilibrium; electrochemical, spectrophotometric, gravimetric, and chromatographic analysis; and evaluation of data. Lecture three hours. Prerequisites: CHE 1102 and CHE 1120. Corequisite or prerequisite: CHE 2211.

**CHE 2211. Quantitative Analysis Laboratory (1).F;S.**

An introduction to analytical chemistry techniques of volumetric, gravimetric, potentiometric, chromatographic, and spectroscopic analysis. The basic methods of quantitative analysis are introduced and practiced with laboratory unknowns. Laboratory four hours. Corequisite or prerequisite: CHE 2210.

**CHE 2400. Introduction to Forensic Chemistry and Criminalistics (3).F.**

Introduction to forensic chemistry, including utilization of physical evidence in law enforcement, processing a crime scene, the application of chemistry techniques in the identification and analysis of physical evidence (drugs, blood, fire residues, glass, soil, ink, etc.), forensic toxicology, forensic microscopy, and forensic aspects of arson. Techniques such as chromatography, ultraviolet-visible and infrared spectroscopy, refractive index measurements, breath-analyzers, DNA fingerprinting, and blood-typing will be discussed. Prerequisites: CHE 1102 and CHE 1120.

**CHE 2500. Independent Study (1-4).F;S.****CHE 2525. TA in Introductory Chemistry (1).F;S.**

A supervised experience in the instructional process at the post-secondary school level through direct participation in a laboratory setting. Graded on an S/U basis. Prerequisites: CHE 1101, CHE 1110, CHE 1102, and CHE 1120. May be repeated for a total credit of two semester hours.

**CHE 2526. Chemical Safety (1).S.**

This course will focus on chemical safety education for students interested in careers in fields involving chemicals and chemical processes. This course will emphasize the in-depth development of "A Safety Culture." The areas of risk reduction and worker protection, government agencies and regulations, and safe chemical management will be addressed. The primary focus will be on best practices in the academic laboratory and The Laboratory Standard, but industry standards will also be covered. Prerequisites: CHE 1101 and CHE 1110 or permission of the instructor.

**CHE 2530–2549. Selected Topics (1-4). On Demand.****CHE 2550. Introduction to Environmental Chemistry (3).F.**

An introduction to environmental issues as seen through a chemical perspective. A broad survey of the biosphere, hydrosphere, lithosphere, atmosphere, and energy will be conducted. Specific topics include toxic organic compounds, pesticides, environmental endocrine disruptors, metal pollution, natural water chemistry, water pollution and purification, soil chemistry, soil contamination and remediation, the ozone hole, smog, global warming, alternative fuels, and renewable energy. Lecture three hours. Prerequisites: CHE 2101 and CHE 2102, or CHE 2201 and CHE 2203.

**CHE 3000. Introduction to Chemical Research (1).F;S.**

An introduction to the techniques and methodology of chemical research. Topics include survey of the chemical literature; information retrieval services; making effective oral presentations, and ethics and safety in the chemical laboratory. This course requires formal speaking. Prerequisites: CHE 2101 or CHE 2202 and CHE 2210.

**CHE 3301. Physical Chemistry I (3).F.**

Physical Chemistry is built upon four major theoretical principles: thermodynamics, kinetics, quantum mechanics, and statistical mechanics. Physical Chemistry I covers an introduction to thermodynamics and kinetics. Lecture three hours. Prerequisites: CHE 2210, CHE 2211, MAT 1120, PHY 1150, and PHY 1151.

**CHE 3302. Physical Chemistry II (3).S.**

Physical Chemistry is built upon four major theoretical principles: thermodynamics, kinetics, quantum mechanics, and statistical mechanics. Physical Chemistry II covers an introduction to quantum mechanics and statistical mechanics. Lecture three hours. Prerequisite: CHE 3301.

**CHE 3303. Physical Chemistry I Laboratory (1).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

Experimental investigations which supplement the study of the topics in Physical Chemistry I. Applications of computer techniques for data reduction and manipulation will be introduced and utilized. Laboratory three hours. Prerequisites: CHE 2210, CHE 2211, MAT 1120, PHY 1150, PHY 1151, and RC 2001 or its equivalent. Corequisite or prerequisite: CHE 3301.

**CHE 3304. Physical Chemistry II Laboratory (1).S.**

Experimental investigations which supplement the study of the topics in Physical Chemistry II. Applications of computer techniques for data reduction and manipulation will be introduced and utilized. Laboratory three hours. Prerequisite: CHE 3303. Corequisite or prerequisite: CHE 3302.

**CHE 3400. Junior Research (1).F;S.**

Independent research under the direct supervision of a faculty member. Three hours per week of laboratory work, regular progress reports, and a final written report are required. Prerequisite: CHE 2000 or permission of the instructor.

**CHE 3404. Inorganic Chemistry (3).F.**

The fundamentals of atomic theory and valence bond, ligand field and molecular orbital theories for interpretation of chemical bonding are considered in detail. Applications of these theories to the magnetic and spectral properties, structure, stability, and reaction mechanisms of inorganic compounds are examined, with emphasis on the transition metals. Symmetry and group theory are used to describe relevant physical and spectral information about molecules, orbital symmetries, allowed transitions between energy levels, and bond orders. The role of metal atoms in organometallic and bioinorganic molecular systems is considered. Lecture three hours. Prerequisites: CHE 2101/2102 or CHE 2202/2204; CHE 2210/2211.

**CHE 3405. Inorganic Chemistry Laboratory (1).F.**

Experimental investigations which supplement the study of inorganic chemistry. Students will use a variety of methods to synthesize inorganic compounds and analyze them using techniques including magnetic susceptibility, multinuclear NMR, UV-Vis spectroscopy, infrared spectroscopy, and electrical conductance. Laboratory three hours. Corequisite or prerequisite: CHE 3404.

**CHE 3500. Independent Study (1-4).F;S.****CHE 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process at the University level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**CHE 3521. Secondary Science Field Experience (1).F;S.**

A supervised experience in the instructional process at the secondary school level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours. Required of all teacher-licensure candidates in chemistry.

**CHE 3530-3549. Selected Topics (1-4). On Demand.****CHE 3560. Instrumental Methods of Analysis (3).S.**

A study of some of the modern instrumental methods of analysis including electrochemistry, atomic and molecular spectroscopy, magnetic resonance spectrometry, mass spectrometry and gas chromatography. Lecture three hours. Prerequisite: CHE 3301, CHE 3303. Corequisite or prerequisite: CHE 3561.



**CHE 3561. Instrumental Methods of Analysis Laboratory (1).S.**

Experimental investigations involving spectroscopic, electrochemical, and chromatographic measurements to enhance the understanding of sampling, sample preparation, data reduction, use of analytical instrumentation and data interpretation. Computational techniques for data reduction and modeling will be required. Laboratory three hours. Corequisite or prerequisite: CHE 3560.

**CHE 4000. Chemistry Seminar (1).F;S.**

*GEN ED: Capstone Experience*

A senior capstone experience on the presentation and discussion of current chemical topics. Oral and written reports are required. Prerequisites: CHE 3000, CHE 3301 and CHE 3303.

**CHE 4200. Brewing Science and Analysis (4).S.**

This course will provide a rigorous coverage of the chemical and physical processes that go into brewing malted beverages, including coverage of the hops, malt, and yeast varieties and how they are combined to produce specific styles and flavors of beers. Flavor and aroma compounds will be quantified by students using appropriate instrumental techniques. Lecture three hours, laboratory three hours. Prerequisites: CHE 2210 and CHE 2211. (Same as FER 4200.)

**CHE 4400. Senior Research (1).F;S.**

A laboratory research project under the supervision of a faculty member. An oral report of the work in progress will be made at the regular seminar and a written report of the results is to be submitted to the chemistry faculty upon completion. May be completed abroad at a university with which Appalachian has an articulation agreement with approval of the department chair. Laboratory four hours (minimum). Prerequisite: CHE 4000 or permission of the instructor. May be repeated once for credit.

**CHE 4510. Chemistry Honors Thesis (1).F;S.**

Independent study and research for an honors thesis directed by a faculty member of the A.R. Smith Department of Chemistry. Prerequisite: completion of three honors credit hours in chemistry and a minimum grade point average of 3.45 overall and in chemistry. Prerequisite or corequisite: CHE 4000 with honors. All honors students must earn a minimum of two credits of CHE 4510; these hours must take place in two different semesters with one credit each semester. To complete the honors thesis requirements, a written thesis must be submitted to and approved by the thesis committee.

**CHE 4580. Biochemistry I (3).F;S.**

This course covers the properties of amino acids, proteins, carbohydrates, lipids and nucleic acids and presents a brief introduction to enzymology. Major emphasis is on the chemistry of biological compounds. An introduction to intermediary metabolism is also presented. Prerequisite: CHE 2101 or CHE 2202. Lecture three hours. [Dual-listed with CHE 5580.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CHE 4581. Biochemistry I Laboratory (1).F;S.**

Experimental investigations which supplement the study of the topics in biochemistry. Prerequisite: CHE 2102 or CHE 2204 (or equivalent); co- or prerequisite: CHE 4580 or CHE 5580 (or equivalent). Laboratory three hours. [Dual-listed with CHE 5581.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CHE 4582. Biochemistry II (3).S.**

This course will cover the intermediary metabolism of amino acids, nucleic acids, carbohydrates and lipids. Metabolic pathways and their associated enzymes are emphasized. Prerequisite: CHE 4580 with CHE 3301 recommended but not required. Lecture three hours. [Dual-listed with CHE 5582.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CHE 4590. Spectral Interpretations (2).F.**

A study of the use of spectral data for the identification of organic compounds. Techniques will include UV, IR, NMR, MS, ORD and CD in the identification process. Prerequisites: CHE 2202 and CHE 2204. Lecture two hours.

**CHE 4595. NMR Spectroscopy (2).S.**

The lecture portion of the course will cover basic nuclear magnetic resonance spectroscopy theory and practice, with particular attention given to the instrumentation available in the department. The laboratory portion of the course will focus on learning to utilize the NMR instrumentation available in the department. Prerequisite: CHE 4560 or CHE 4590. Lecture one hour, laboratory three hours.

**CHE 4600. Selected Topics (1-4). On Demand.**

An opportunity to study a special topic or combination of topics not otherwise provided for in the chemistry curriculum. May be repeated for credit when content does not duplicate. Prerequisite: upper-division status or departmental permission.

**CHE 4610. History of Chemistry (3).S.**

A study of the development of chemistry as a science with emphasis on the development of basic concepts, ideas and theories. Prerequisite: a year of introductory chemistry. Lecture three hours.

**CHE 4620. Environmental Chemistry (4).S.**

*GEN ED: Capstone Experience*

A capstone course for students pursuing a concentration in Environmental Chemistry, this course will focus on the wide diversity of subject matter required by this major. The course will involve discussions and applications of air, water and soil chemistry while giving the student an appreciation of the scientific, legal, political and economic issues inherent in Environmental Chemistry. Lecture three hours, laboratory three hours. Prerequisites: CHE 3301, CHE 3303, CHE 3560, CHE 3561, STT 3850.

**CHE 4630. Forensic Toxicology (3).S.**

This course provides an introduction to forensic toxicology. Topics include the history of toxicology, basic classification of illicit drugs, pharmacokinetics, pharmacodynamics, the isolation and analyses of these drugs in a forensic setting, and specific analyte categories. Lecture three hours. Prerequisite: CHE 2101 or CHE 2202.

**CHE 4640. Analytical Methods in Forensic Chemistry (4).F.**

This course provides an in-depth discussion of forensic analysis. Topics include analytical tools, statistical analysis, principles of separations and spectroscopy, and the analysis of drugs, arson samples, explosives, paints, and fibers. The course will expand upon CHE 3560 (Instrumental Methods of Analysis) in that the basics learned in that course will be used specifically for forensic analysis. Lecture three hours, laboratory three hours. Prerequisites: CHE 3560 and CHE 3561.

**CHE 4800. Forensic Microscopy (4).S.**

This course covers the fundamentals of microscopy and introduces various methods and applications for forensic analysis of trace evidence, including Kohler illumination, micrometry, crystallization methods, microchemical testing, refractive index measurements, crystal optics, interference figures, fusion methods, bacterial and tissue staining, and electron microscopy. Lecture three hours, laboratory three hours. Prerequisite: CHE 2202 or permission of the instructor.

**CHE 4900. Internship in Chemistry (1-12).F;S.**

*GEN ED: Capstone Experience*

Independent, supervised work in applied chemistry at an approved industrial, quality control, analysis, or production facility. Appropriate entities include, but are not limited to, commercial businesses and governmental agencies. May be taken for a maximum of 12 semester hours, with a maximum of 6 semester hours credit per summer session. Only three of those hours will count toward major requirements. Prerequisite: CHE 3303. Graded on an S/U basis.

## Department of Computer Science (CS)

*James T. Wilkes, Chair*

*E. Frank Barry  
Jay B. Fenwick, Jr.  
Patricia Johann*

*Alice A. McRae  
Cindy A. Norris  
Dolores A. Parks*

*R. Mitchell Parry  
C. Ray Russell  
Rahman Tashakkori*

Computer science is a rapidly evolving discipline that ranges from theoretical studies of algorithms to practical problems of design and implementation of efficient, reliable software and hardware systems. Computer science intermingles theoretical concepts with modern practical applications of the science.

The Computing Accreditation Commission lists computing theory, algorithms and data structures, programming methodology and languages, computer elements and architecture as the crucial areas of computer science. Other areas include software engineering, artificial intelligence, database systems, computer networking, parallel and distributed systems, computer-human interaction, computer graphics, operating systems, and numerical and symbolic computation.

Graduates in computer science are prepared for graduate study in computer science or for work in the computing industry. Open positions in industry continually outpace the number of computer science graduates. This shortage has created outstanding career opportunities for computer science graduates.

Every computer science major is assigned a faculty member from the department as an advisor. Advisors assist students in developing schedules, choosing electives, and preparing for professional life. Degree candidates should seek approval of their program of study as early as possible in their career, but no later than three semesters before they intend to graduate. For additional information, contact the chairperson of the Department of Computer Science.

### **The Bachelor of Science degree in Computer Science (219A/11.0701)**

*This program is accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 — Telephone: (410) 347-7700.*

The program of study is available at: [www.programsofstudy.appstate.edu/computer-science-bs-219a-2016-2017](http://www.programsofstudy.appstate.edu/computer-science-bs-219a-2016-2017)

### **Minor in Computer Science (219/11.0701)**

A minor in Computer Science consists of 12 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/computer-science-minor-219-2016-2017](http://www.programsofstudy.appstate.edu/computer-science-minor-219-2016-2017)

### **Honors Program in Computer Science**

The Department of Computer Science maintains an honors program to provide highly-motivated and academically outstanding students the opportunity to study with like-minded peers and to conduct independent research that results in a senior honors thesis/project. Students may apply for admission to the departmental honors program by submitting an application to the chair of the departmental honors committee. Admission decisions are made by the honors committee. To graduate with "honors in computer science," students must: complete nine (9) semester hours of honors coursework in computer science at the 2000 level or higher including CS 4510, Senior Honors Thesis; earn a grade of "B" or higher in every departmental honors course used to satisfy the above requirement; and, achieve a GPA of 3.45 in the computer science major at graduation.

### **M.S. in Computer Science**

The Department of Computer Science offers a Master of Science degree in Computer Science. Persons interested in this program should consult the *Graduate Bulletin* for further information.

## Courses of Instruction in Computer Science (CS)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### COMPUTER SCIENCE (CS)

#### **CS 1100. Discrete Mathematics (3).F;S.**

A study of discrete mathematics as it applies to computer science. Concepts covered include number systems, sets, logic, Boolean algebra, digital circuits, combinatorics, relations, functions, vectors, matrices, graphs, and induction proofs. Prerequisite: MAT 1020 or MAT 1025 or equivalent with a grade of "C-" or higher.

#### **CS 1410. Introduction to Computer Applications (2).F;S.**

CS 1410 DOES NOT FULFILL REQUIREMENTS FOR COMPUTER SCIENCE MAJORS. This course provides students the opportunity to gain knowledge in and experience with information and communication technology to help them be successful in the modern world. Following this course, students will be able to use common software applications for processing, communicating, finding, and sorting information. CS 1410 is not open to students with credit for CS 1440. Prerequisite: passing the math placement test or successful completion of MAT 0010.

#### **CS 1425. Overview of Computer Science (3).F;S.**

This course provides an overview of computing fundamentals using the world-wide web as a platform. Topics include: number systems, von Neumann architecture, XHTML, client-side web programming using a scripting language such as JavaScript, and server-side web programming using a scripting language such as PHP. No previous programming experience is expected. CS 1425 is not open to students with credit for CS 2440. Corequisite: MAT 1020 or MAT 1025 or equivalent.

#### **CS 1440. Computer Science I (4).F;S.**

A first programming course using an object-oriented language. Emphasis is placed on problem-solving and appropriate programming standards. Topics include: classes, objects, data types, expressions, conditional statements, loops, strings, arrays, collections, debugging, inheritance, and polymorphism. Lecture three hours, laboratory two hours. Prerequisite: MAT 1020 or MAT 1025 or equivalent with a grade of "C-" or higher. Students with doubts about their mathematics and computing background should consider taking CS 1425 first.

#### **CS 1445. Introduction to Programming with Interdisciplinary Applications (4).On Demand.**

##### *GEN ED: Quantitative Literacy*

This course provides an introduction to problem solving and programming using tools such as MATLAB. The course emphasizes computational methods to solve scientific problems. Topics include: control structures, data types (including structures and arrays), parameterized procedures and recursion, as well as simple I/O control. Prerequisite: MAT 1020 or MAT 1025 or equivalent with a grade of "C-" or higher. Students with doubts about their mathematics and computing background should consider taking CS 1425 (Overview of Computer Science) as a prerequisite to CS 1445.

#### **CS 1530–1531. Selected Topics (1–4). On Demand.**

#### **CS 2440. Computer Science II (4).F;S.**

This course follows CS 1440 (Computer Science I). The course introduces students to advanced programming concepts through the development of small to medium sized projects using software component libraries. Topics emphasize conceptual understanding and applications and include inheritance, polymorphism, recursion, interfaces, collections, stream I/O, exceptions, graphical interfaces, and threads. Lecture three hours, laboratory two hours. Prerequisite: CS 1440 or CS 1445 with a grade of "C" or higher. Corequisite: CS 1100.

#### **CS 2450. Introduction to Computer Systems (3).F;S.**

This course includes data representation, digital logic, digital circuits, instruction set architecture, and assembly language programming. Prerequisite: CS 2440 with a grade of "C" or higher.

#### **CS 2490. Introduction to Theoretical Computer Science (3).F;S.**

This course provides a rigorous but intuitive introduction to computer theory. Topics covered include formal languages, regular expressions, finite automata, grammars, pushdown automata, and Turing machines. Prerequisite: CS 2440 with a grade of "C" or higher.

**CS 3100. Junior Seminar (2).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Students develop writing skills in the context of computer science including technical reports, software documentation, user manuals, correspondence, and writing for the web. Ethical, legal, social, historical, and global issues provide a context for the assignments. Prerequisite: CS 2440 or its equivalent, RC 2001 or its equivalent.

**CS 3240. Mobile Device Programming (3).F.** Even-numbered years.

Hands-on, experiential exposure to developing applications for modern mobile platforms (for example, Android or iOS). Topics include platform framework, process life cycle, fundamental user interface components and layouts, databases and content providers, services, widgets, testing, and debugging. Modern development tools are used. Students work individually on prepared projects and in small teams to build a custom project. Prerequisite: CS 2440.

**CS 3430. Database (3).F;S.**

This course covers the design, organization, representation, and manipulation of databases. Topics include the relational model, data definition, data manipulation, queries (SQL), communication and representation (XML), design concepts, security, and integrity. Prerequisite: CS 2440 with a grade of "C" or higher.

**CS 3440. Client-side Web Programming (3).F.**

This course covers client-side graphical user interface programming using current internet technologies including browser scripting languages, GUI presentation, asynchronous server communication, event handling, and XML processing. A major individual project is required. Prerequisite: CS 2440 with a grade of "C" or higher.

**CS 3460. Data Structures (3).F;S.**

The use and implementation of various information structures are studied, including arrays, stacks, queues, linked lists, trees and graphs. Prerequisite: CS 2440 with a grade of "C" or higher.

**CS 3463. Simulation (3).** On Demand.

Digital simulation of discrete systems. Simulation design. Statistical analysis and interpretation of simulation output. Simulation of computer and physical systems. Simulation languages. Prerequisites: CS 3460 and STT 2810.

**CS 3481. Computer Systems I (3).F;S.**

The hardware and software components of computer systems are studied. Included are those aspects of computer systems that are essential to highly skilled programmers: data representation and operations, source code implementation, processor architecture, program optimization, memory hierarchy, linking, exceptional control flow, and virtual memory. Lecture two hours, laboratory three hours. Prerequisites: CS 2450 and CS 2490. Corequisite: CS 3460.

**CS 3482. Computer Systems II (3).F;S.**

Continuation of CS 3481. Lecture two hours, laboratory three hours. Prerequisites: CS 3481 and CS 3460.

**CS 3490. Programming Languages (3).F;S.**

This course covers the theory of programming language design and implementation. Languages representative of object-oriented, functional and logic paradigms are discussed and compared. Prerequisites: CS 2490 and CS 3460.

**CS 3500. Independent Study in Computer Science (1-3).** On Demand.

This course helps the student advance, through study under the direction of a faculty member, in the area(s) of special interest in computer science. It may be taken only after a minor in computer science is completed.

**CS 3515. Junior Honors Seminar (3).F.**

Selected topics in computer science. Enrollment by permission of the departmental honors committee. May be repeated for credit when content is not duplicated. Prerequisites: change with topic but always include CS 2450 and CS 2490.

**CS 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**CS 3530–3549. Selected Topics (1–4).** On Demand.

**CS 3667. Software Engineering (3).F;S.**

This course covers the design and implementation of software systems. Topics include requirements analysis, object design, system design, frameworks and patterns, and implementation and testing issues. Prerequisite: CS 2440 with a grade of "C" or higher.

**CS 3750. Applied Neural Networks (3).** On Demand.

This project-oriented course provides an opportunity for students to learn and apply neural networks techniques to solve a variety of problems from different disciplines, applying such techniques in pattern recognition, time series prediction, data mining, and optimization problems. Focus is on some applications of artificial neural networks in the real world. Prerequisites: CS 1440 with a grade of "C" or higher and MAT 2240.

**CS 3760. System Administration and Security (3).** On Demand.

Addresses local and global security issues with computers using different operating systems in a networked environment. Assignments allow student teams to experience a variety of administration responsibilities including installation, operation, and management. Prerequisite: CS 3460 with a grade of "C" or higher. Unix experience recommended.

**CS 3770. Computational Cryptography (3).** S.

This course explores the theory and implementation of modern cryptographic systems and their application to network security. Topics include: symmetric ciphers, encryption standards, public key encryption, key management, cryptanalysis, and network security. Programming projects involve the implementation of cryptographic systems. Prerequisite: CS 3460.

**CS 4100. Senior Seminar (2).** F;S.

A broad, systematic coverage of current ethical issues facing computer scientists. Current and historical cases from both local and global perspectives are examined. Professional development activities are required including mock interviews and resume writing. Prerequisites: CS 3100 and senior standing in computer science or permission of the instructor.

**CS 4435. Server-side Web Programming (3).** S.

This course introduces the technologies for implementing secure, high performance, and sophisticated web sites. Topics may include: installation and configuration of a web server, client/server web applications with database backends, web development frameworks, web services, web data formats, and content management systems. Prerequisites: CS 3430 and CS 3440.

**CS 4440. Artificial Intelligence (3).** S.

This course covers various topics in artificial intelligence. Topics may also include knowledge representation and manipulation, heuristic programming, expert systems, robotics, machine learning, or natural language processing. Prerequisite: CS 3460.

**CS 4450. Data Communications and Networking (3).** F. Odd-numbered years.

Introduction to data transmission concepts and techniques; channel characteristics; encoding methods; line control and error detection/correction protocols; circuit, message, and packet switching; layered network architectures and protocols; addressing, routing and flow control strategies; access methods; performance criteria and tradeoffs. Prerequisite: CS 3481.

**CS 4465. Computer Graphics (3).** S. Even-numbered years.

Fundamental concepts of computer graphics. Topics include hardware and software systems, scan conversion of graphics primitives, color and color perception, modeling of curves and surfaces, clipping, antialiasing, model-view and projection transformations, light and shading, and hidden surface removal. Prerequisites: CS 3460 and MAT 2240.

**CS 4510. Senior Honors Thesis (1-3).** F;S.*GEN ED: Capstone Experience*

Independent study and research. Hours are 1-3 semester hours per semester for three semester hours total with a preferred format of one semester hour the first semester and two semester hours the second semester of the senior year. Thesis must be directed by a member of the Department of Computer Science faculty and presented both orally and in writing to the department. Enrollment by permission of the Departmental Honors Committee. Course grade will be determined by the thesis advisor and the Departmental Honors Committee. Prerequisites: completion of six semester hours of departmental honors courses at the 2000 level or higher with a grade of "B" or higher in each.

**CS 4520. Operating Systems (4).** S.

An in-depth study of the design and implementation of operating systems including device drivers, process management, memory management, and security issues. Lecture three hours, laboratory three hours. Prerequisite: CS 3482. [Dual-listed with CS 5520.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CS 4550. Theoretical Computer Science (3).** S. Even-numbered years.

A rigorous treatment of theoretical aspects of computer science, including formal definition of the notion of an algorithm, abstract machines, and formal grammars. Prerequisite: CS 2490. [Dual-listed with CS 5550.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.



**CS 4570. Human-Computer Interfaces** (3).S. Even-numbered years.

This course covers topics from psychology and computer science related to the design and evaluation of human-computer interfaces (HCI). Topics include: understanding the user audience, HCI architectures, design issues related to various interface components, measuring HCI usability, incorporating HCI design into system development, and social issues. Students are required to complete a group project in HCI presented in written form and orally to the class. Prerequisite: permission of the instructor. [Dual-listed with CS 5569.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CS 4620. Real-time Systems** (4).S. Odd-numbered years.

Real-time hardware and software. Analog and digital data acquisition and reduction. Real-time algorithms and data structures. Advanced programming concepts including double buffering, interrupts, signal handlers, processes and threads, inter-process communication, synchronization, and the operating system kernel. Lecture three hours, laboratory three hours. Prerequisite: CS 3482.[Dual-listed with CS 5620.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CS 4740. Digital Image Processing** (3). On Demand.

This course provides an opportunity for students to learn digital image processing techniques. Students apply these techniques to images from different fields of science, engineering, and medicine. The course covers image acquisition and display, properties of the human visual system, sampling and quantization, color image representations, image enhancement, image transformations, image compression, and image restoration. Prerequisites: CS 1440 with a grade of "C" or higher and MAT 2240. [Dual-listed with CS 5740.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CS 4800. Capstone Project** (3).F;S.

*GEN ED: Capstone Experience*

The senior capstone project provides the student an independent and collaborative software development experience with a significant project. The course introduces aspects of project management, requirements analysis, and the software lifecycle, but will primarily be concerned with the practical integration of core theories, practices, and ethics of the discipline. Writing and speaking communication skills are reinforced. Prerequisites: senior standing and CS 3667.

**CS 4900. Internship** (1-6).On Demand.

Independent, supervised work in computing for an approved agency, business, or organization. May be taken for a maximum of six semester hours credit, but only three of those hours will count toward major requirements. Prerequisite: junior standing and approval of the departmental internship coordinator. Graded on an S/U basis.

## Department of Cultural, Gender and Global Studies (CGG)

*Mark Nunes, Chair*

*Sushmita Chatterjee*

*Kristan M. Cockerill*

*Beth L. Davison*

*Jeanne A. Dubino*

*Joseph J. Gonzalez*

*Kim Q. Hall*

*Amy Hudnall*

*Ann Pegelow Kaplan*

*Derek Stanovsky*

*Alexandra Sterling-Hellenbrand*

*Cynthia A. Wood*

The Department of Cultural, Gender and Global Studies is comprised of the following constituent programs: gender, women's and sexuality studies, global studies, and interdisciplinary studies. Individually and collectively, these programs value global learning and promote educational experiences that facilitate both local-to-global and global-to-local connections. The department promotes creative, collaborative and multidisciplinary engagement in critical and cultural studies while simultaneously promoting the distinctiveness of the constituent programs.

The Department of Cultural, Gender and Global Studies offers the following:

- Bachelor of Arts degree in Gender, Women's and Sexuality Studies (134A/05.0207)
- Bachelor of Arts degree in Global Studies (601A/30.2001)
- Bachelor of Arts degree in Interdisciplinary Studies (250\*/24.0101) with a concentration in: Individually Designed (250E)
- Undergraduate minor in Africana Studies (611/05.0201)
- Undergraduate minor in Gender, Women's and Sexuality Studies (134/05.0207)
- Undergraduate minor in Girls' Studies (607/05.0207)
- Undergraduate minor in Global Studies (601/30.2001)
- Undergraduate minor in Interdisciplinary Studies (112/24.0101)
- Undergraduate minor in Internet Studies (250/24.0101)
- Undergraduate minor in Labor Studies (249/24.0101)
- Undergraduate minor in LGBT Studies (Lesbian, Gay, Bisexual and Transgender Studies) (606/05.0208)
- Undergraduate minor in Non-Profit Management (609/52.0206)
- Undergraduate certificate program: Africana Studies (611A/30.2001)
- Undergraduate certificate program: Global Connections (612A/30.2001)

### Gender, Women's and Sexuality Studies

Gender, Women's and Sexuality Studies is an academic program generating, supporting, and sharing research on gender, women, and sexuality. A degree in Gender, Women's and Sexuality Studies prepares students to think critically and intersectionally and to identify, clarify, and address complex issues about diversity, equity, and social justice that pertain to gender, women, and sexuality in local and global contexts.

#### The Bachelor of Arts degree in Gender, Women's and Sexuality Studies (134A/05.0207)

The program of study is available at: [www.programsofstudy.appstate.edu/gender-womens-and-sexuality-studies-ba-134a-2016-2017](http://www.programsofstudy.appstate.edu/gender-womens-and-sexuality-studies-ba-134a-2016-2017)

#### Minor in Gender, Women's and Sexuality Studies (134/05.0207)

The program of study is available at: [www.programsofstudy.appstate.edu/gender-womens-and-sexuality-studies-minor-134-2016-2017](http://www.programsofstudy.appstate.edu/gender-womens-and-sexuality-studies-minor-134-2016-2017)

#### Minor in Girls' Studies (607/05.0207)

A student may earn an undergraduate minor in Girls' Studies by successful completion of an interdisciplinary program of 15 semester hours. The program of study is available at: [www.programsofstudy.appstate.edu/girls-studies-minor-607-2016-2017](http://www.programsofstudy.appstate.edu/girls-studies-minor-607-2016-2017)

#### Minor in LGBT Studies (606/05.0208)

A student may earn an undergraduate minor in LGBT Studies (Lesbian, Gay, Bisexual and Transgender Studies) by successful completion of an interdisciplinary program of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/lgbt-studies-minor-606-2016-2017](http://www.programsofstudy.appstate.edu/lgbt-studies-minor-606-2016-2017)

### Global Studies

Global Studies is an interdisciplinary and multidisciplinary academic program devoted to the understanding of historical, social, political, geographic, cultural, and artistic dimensions of international, transnational, and global processes. Students may choose to focus on any of the several aspects of global studies: area studies, international studies, postcolonial studies, or a topical field such as development and globalization. The aim of the program is to: (1) give students competency within their focus area; (2) foster an appreciation of the connections between themselves and the rest of the world, and; (3) encourage students to become knowledgeable, active participants in the global arena. The teaching of global studies emphasizes critical thinking and problem solving skills.

## **The Bachelor of Arts degree in Global Studies (601A/30.2001)**

The general features of the Bachelor of Arts degree in Global Studies are: (1) a series of core courses which give all GLS majors a firm grounding in Global Studies theory, perspectives and methods; (2) a coherent group of courses in one focus area; (3) a substantial foreign language requirement; (4) a study abroad requirement; and (5) a capstone experience which integrates components of the student's program of study.

The program of study is available at: [www.programsofstudy.appstate.edu/global-studies-ba-601a-2016-2017](http://www.programsofstudy.appstate.edu/global-studies-ba-601a-2016-2017)

## **Minor in Global Studies (601/30.2001)**

The program of study is available at: [www.programsofstudy.appstate.edu/global-studies-minor-601-2016-2017](http://www.programsofstudy.appstate.edu/global-studies-minor-601-2016-2017)

## **Honors Program in Global Studies**

The Global Studies Honors Program offers Honors courses for students who have distinguished themselves are available at the sophomore, junior and senior level. Junior and senior level honors courses carry full credit toward the focus area in the Global Studies major or, for non-majors, full elective credit.

Admission to the honors program in Global Studies requires completion of GLS 3000 and a minimum grade-point average of 3.0 (a "B" average), both overall and in the major. In order to remain in the program, students must receive a grade of B or better in all honors courses. Upon admission to the honors program, students will determine their focus area honors courses in consultation with the advisor. This will become part of their program of study.

To graduate with "honors in Global Studies," a student must have a minimum grade-point average of 3.45, overall and in Global Studies, and must take nine semester hours of Global Studies honors credits with a "B" average or higher, including: GLS 4515 (Senior Honors Thesis) with honors, and two honors courses that must count in the student's focus area. These two courses can be appropriate honors courses from other departments and/or graduate level courses, if the student has the appropriate preparation.

## **Undergraduate Certificate in Global Connections (612A/30.2001)**

The Global Connections certificate is an undergraduate certificate administered through the Global Studies program and available to all Appalachian State University students. The certificate includes 15 semester hours of course work, study abroad, and at least 40 hours of community service. The amount of course work required may vary depending upon language choice and placement. (NOTE: Students who must begin their language study at Appalachian at the 1010-level will need to take 12 semester hours to meet the language requirement; students may receive retro-credits for prior language study as determined by the foreign language placement policy.) Students may combine their certificate requirements with requirements for other programs at Appalachian.

The program of study is available at: [www.programsofstudy.appstate.edu/global-connections-certificate-612a-2016-2017](http://www.programsofstudy.appstate.edu/global-connections-certificate-612a-2016-2017)

The Global Connections certificate is available to all Appalachian State University students who meet a minimum of the following criteria:

- 1. Foreign Language:** Students should have mastered a language at the intermediate level as indicated by completion of 3 semester hours of language 1050 or higher.
- 2. International Experience:** Students must participate in an international service-learning program or in a short-term study abroad program in a location related to their language of study.
  - a. These programs must involve at least one 3 s.h. course. Students who study abroad for a semester or a year in a location related to their language of study will also be considered to have met this requirement.
  - b. Language courses (see #1) and international content courses (#3) can be taken abroad.
  - c. International student teaching can count in this category. Interested teacher education students should contact the Reich College of Education.
- 3. International Content:** Students must take nine credit hours of "international content" course work in addition to the foreign language course work required above in #1.
  - a. No more than six semester hours of non-foreign language coursework taken while completing their International Experience (#2 above) may count toward this requirement; exceptions may be made for semester- or year-long study abroad.
  - b. International content courses may include courses drawn from programs of study for elementary education and middle grades education that count in these second academic concentrations (or others as appropriate): Global Issues, Diversity Studies, Foreign Language, History.
  - c. Students may consult the Global Studies focus areas for other international content courses at [www.globalstudies.appstate.edu](http://www.globalstudies.appstate.edu).
- 4. Community Service:** Students must complete at least 40 hours of service or outreach related to diversity issues, multicultural issues, and/or study abroad experiences.
  - a. Service completed through approved service-learning courses (on campus or abroad) or as part of a degree program (e.g. elementary education community service) may count toward certificate service hours.
  - b. Service opportunities are not limited to the service done as part of a service-learning course. Other options are available

through individual departments or programs or through the ACT office ([www.act.appstate.edu](http://www.act.appstate.edu)).

- 5. Reflection:** Students will document their experiences in a portfolio that will include at least one final reflection paper (6-8 pages) specifically addressing the local and global connections of their experiences.
- Students will display an “active cultural understanding” that is essential for “understanding the responsibilities of membership in local, regional, and global communities” and that is “achieved by exploring multiple strategies for interacting with other peoples and cultures.” (Making Local to Global Connections rationale from [www.generaleducation.appstate.edu](http://www.generaleducation.appstate.edu)).
  - Students should consult the Global Connections guidelines about appropriate documentation.
  - The portfolio and final reflection paper will be submitted separately to the GLS curriculum committee for review by the deadlines in #6 below.

For additional information, contact the Director of the Global Studies Program.

## Interdisciplinary Studies

The Bachelor of Arts in Interdisciplinary Studies is unlike any other degree program at Appalachian State university. IDS students design their own major, integrating concepts and methods from multiple disciplines. Rather than stressing the uniqueness of separate disciplines, interdisciplinary inquiry leads students toward syntheses, and thus towards and appreciation of the interconnectedness of the world. Our courses, our degree program, and our minors reflect the fact that often the most compelling social, cultural, and intellectual questions are bigger than any one disciplinary box.

Interdisciplinary Studies encourages students and faculty to develop a sense of the world that is both broad and deep, to embark upon a practice that allows one to learn, teach, create and research across the boundaries that separate academic disciplines and that separate academic from other forms of knowing.

## Interdisciplinary Selected Topics Courses

Each semester, Interdisciplinary Studies offers selected topics courses open to students from all departments. The emphasis is on relevant, experimental, and imaginative subject matters and pedagogies that require interdisciplinary approaches. While some courses may be taught more than one semester, their topical character ensures variety and change.

## The Bachelor of Arts degree in Interdisciplinary Studies (250\*/24.0101)

The general features of the Bachelor of Arts degree in Interdisciplinary Studies is a series of required interdisciplinary core courses which give all IDS majors a firm grounding in interdisciplinary perspectives and methods, and link them with the student's individually-designed concentration.

### Individually Designed Concentration (250E)

This required concentration allows students to tailor a major to their particular academic and career goals. Students must design a clear, defensible statement of goals explaining why such goals can best be met through interdisciplinary means. Additionally, the student must complete a “Program of Study Contract” consisting of a minimum of 24 semester hours selected from two or more disciplines with at least 12 semester hours at the 3000 level or above, and at least 1 semester hour of approved, experiential learning. The contract must be approved by an IDS advisor, the IDS Director, and the Department Chair; the contract may be changed, but only with approval.

The program of study is available at: [www.programsofstudy.appstate.edu/interdisciplinary-studies-ba-individually-designed-250e-2016-2017](http://www.programsofstudy.appstate.edu/interdisciplinary-studies-ba-individually-designed-250e-2016-2017)

## Interdisciplinary Minors and Certificate Programs

### Minor in Africana Studies (611/05.0201)

The Africana Studies minor (18 semester hours) offers students the opportunity to examine the complex historical, social, political, cultural, and economic issues associated with peoples of African descent. The minor integrates academic disciplines and includes over 90 semester hours of course offerings.

The program of study is available at: [www.programsofstudy.appstate.edu/africana-studies-minor-611-2016-2017](http://www.programsofstudy.appstate.edu/africana-studies-minor-611-2016-2017)

### Minor in Interdisciplinary Studies (112/24.0101)

The minor in Interdisciplinary Studies consists of 17-18 semester hours. Of these, 5-6 semester hours are interdisciplinary and multidisciplinary electives taught within the department.

The program of study is available at: [www.programsofstudy.appstate.edu/interdisciplinary-studies-minor-112-2016-2017](http://www.programsofstudy.appstate.edu/interdisciplinary-studies-minor-112-2016-2017)

### Minor in Internet Studies (250/24.0101)

The minor in Internet Studies is offered to students wishing to supplement their major with an interdisciplinary exploration of the Internet. The minor consists of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/internet-studies-minor-250-2016-2017](http://www.programsofstudy.appstate.edu/internet-studies-minor-250-2016-2017)

## **Minor in Labor Studies (249/24.0101)**

The minor in Labor Studies is offered for students who wish to supplement their major course of study with an interdisciplinary exploration of labor issues. The minor consists of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/labor-studies-minor-249-2016-2017](http://www.programsofstudy.appstate.edu/labor-studies-minor-249-2016-2017)

## **Minor in Non-Profit Management (609/52.0206)**

The undergraduate minor in Non-Profit Management is offered for students who wish to supplement their major course of study with an interdisciplinary exploration of non-profit management. The minor consists of 18 semester hours (optional 21 semester hours).

The program of study is available at: [www.programsofstudy.appstate.edu/non-profit-management-minor-609-2016-2017](http://www.programsofstudy.appstate.edu/non-profit-management-minor-609-2016-2017)

## **Undergraduate Certificate in Africana Studies (611A/05.0201)**

The African Studies certificate offers students the opportunity to receive academic recognition for their interest in the complex historical, political, cultural, and economic issues associated with people of African descent.

The program of study is available at: [www.programsofstudy.appstate.edu/africana-studies-certificate-611a-2016-2017](http://www.programsofstudy.appstate.edu/africana-studies-certificate-611a-2016-2017)

## **Honors Program in Interdisciplinary Studies**

The Interdisciplinary Studies program maintains an honors track to provide qualified students with an opportunity for advanced research in a seminar atmosphere. Honors courses are available in the program for students at the sophomore, junior, and senior level; these courses are open to students who have distinguished themselves. Junior and senior level honors courses carry full credit toward concentration requirements in the Interdisciplinary Studies major or, for non-majors, full elective credit

A Admission to the Interdisciplinary Studies honors program requires completion of IDS 3000 (Histories of Knowledges) and a minimum GPA of 3.0 ("B" average), both overall and in the major. In order to remain in the Interdisciplinary Studies honors program, students must maintain a 3.45 GPA each semester after admission to the Interdisciplinary Studies honors program. Upon admission to the Interdisciplinary Studies honors program, students will determine their honors courses based on their concentration and in consultation with their advisor.

To graduate with "honors in Interdisciplinary Studies," a student must have maintained a minimum GPA of 3.45 each semester after admission to the Interdisciplinary Studies honors program. Interdisciplinary Studies honors students must take at least ten semester hours of honors credits, including IDS 4510 (Senior Honors Thesis/Project) and its corequisite capstone experience course, IDS 4550 (Senior Seminar).

For additional information, contact the Director of the Interdisciplinary Studies Program. Students must earn a grade of 'B' (3.0 grade points) or higher on all honors coursework taken to fulfill any honors requirements.

## **Courses of Instruction in Gender, Women's and Sexuality Studies (GWS), Global Studies (GLS), and Interdisciplinary Studies (IDS)**

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### **GENDER, WOMEN'S AND SEXUALITY STUDIES (GWS)**

#### **GWS 2421. Sex, Gender, and Power (3).F;S.**

*GEN ED: Integrative Learning Experience (Theme: "Intersections: Race, Class, and Gender")*

This course provides an interdisciplinary introduction to the critical study of sex, gender, and power in historical and contemporary contexts. This course utilizes an intersectional approach that considers the interrelatedness of gender, race, sexuality, disability, class, and other axes of identity. In addition, this course serves as an introduction to the interdisciplinary field of Gender, Women's and Sexuality Studies.

#### **GWS 2525. Global Women's Issues (3).S.**

*GEN ED: Integrative Learning Experience (Theme: "From Empire to Globalization")*

This course explores the diversity of women's experiences emerging from postcolonial or "third world" contexts, with particular attention to the challenges that considerations of differences as well as transnational connections pose for feminist thought and practice. Questions of representation, agency, and border crossings are grounded in local histories and the ambiguous implications

of a globalization and “development” in out- of-the-way places.

**GWS 2530-2549. Selected Topics** (1-4).On Demand.

**GWS 2600. Introduction to LGBT Studies** (3).F.

*GEN ED: Liberal Studies Experience*

This course will provide a multi-disciplinary introduction to the study of historical, cultural, political and theoretical issues relevant to lesbian, gay, bisexual, and transgender individuals and communities and their allies.

**GWS 3000. Feminist Theories** (3).F.

*GEN ED: Junior Writing in the Discipline (WID)*

This course surveys a wide range of contemporary theories of gender, sex, sexuality, and inequality. Students will engage intersectional and transnational approaches to feminist theorizing and develop a critical framework for questioning assumptions about sex, gender, and sexuality. Prerequisite: RC 2001 or its equivalent.

**GWS 3050. Classics in Feminist Thought and Action** (3).On Demand.

This course explores figures and ideas in feminism, key moments of feminist action, and offers an opportunity for in-depth study of important feminist texts. Topic, cultural, ethnic, and geographical focus will vary with instructor.

**GWS 3100. Girls Coming of Age** (3).S.

Covering recent scholarship on girls in the context of the conceptual and theoretical frameworks developed in the field of women’s studies, this course highlights the gendered character of the concerns of childhood, child development, and adolescence. In order to understand the cultural forces shaping the lives of girls, the course investigates both the scholarly literature on girls and girls’ literature and culture, situating girls in terms of class, gender, race, ethnicity, and sexuality. Students will come to understand the values, structures, and trajectories that have come to define girlhood, girls’ identities, and girls’ practices.

**GWS 3350. Gender, Media and Popular Culture** (3).On Demand.

This course uses a variety of critical and theoretical approaches in its examination of how popular culture representations of gender reveal and reflect current social conditions and shape society. Areas of study may include, but are not limited to, television, film, music, advertisements, magazines, fiction, cartoons, graphic novels, video games, newspapers, the Internet, and social media.

**GWS 3400. Women, Food, and Nature** (3).On Demand.

This course brings food studies and environmental studies together to examine gender and sustainability. The course thus considers women as the majority of the world’s agricultural workers, and further considers gender in issues of the production, consumption, processing, and organization of food. Contemporary issues such as famine, genetically-modified foods, and the “slow food” movement are discussed.

**GWS 3500. Independent Study** (1-4).F;S.

**GWS 3520. Instructional Assistance** (1).F;S.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**GWS 3530-3549. Selected Topics** (1-4).F;S.On Demand.

**GWS 3600. LGBT Studies Seminar** (3).S.Alternate years.

Variable content. An intensive study of special problems, topics, or issues related to lesbian, gay, bisexual and/or transgender studies. Barring duplication of content, a student may repeat the course for a total credit of six semester hours.

**GWS 3700. Interpreting Bodies** (3).On Demand.

This course examines conceptions and representations of the body and embodiment and their interactions with understandings of gender, subjectivity, and normality. This course emphasizes how the body is theorized in Gender, Women's and Sexuality Studies. The specific topic of the course will vary. Topics covered may include, but are not limited to, feminist disability studies, norms of health/wellness, sexualities, new materialism, affect theory, and representations of bodies. Consideration is given to how social, political, and economic realities shape human bodies in local and global contexts.

**GWS 4100. Major Figures** (3).S.Alternate years.

Variable topic. This course provides an opportunity for in-depth study of the contributions of one or more major figures in gender, women’s, and sexuality studies.



**GWS 4101. Capstone in Major Figures** (3).On Demand.

*GEN ED: Capstone Experience (CAP)*

Variable topic. A senior capstone experience in the in-depth study of the contributions of one or more major figures in gender, women's, and sexuality studies. Prerequisites: senior standing.

**GWS 4300. Transnational Topics in Gender, Women's and Sexuality Studies** (3).On Demand.

Variable topic. A study of feminist engagements with empire, globalization, and diaspora.

**GWS 4301. Capstone in Transnational Topics in Gender, Women's and Sexuality Studies** (3).On Demand.

*GEN ED: Capstone Experience (CAP)*

Variable topic. A senior capstone in feminist engagements with empire, globalization, and diaspora. Prerequisites: senior standing.

**GWS 4600. Queer Theory** (3).S.Alternate years.

An advanced study of ideas and figures central to queer theory. Questions explored include the norms and assumptions that structure our understanding of identity and its complex relationship to sexuality, sex and gender. Figures discussed include Foucault, Sedgwick and Butler. This course also investigates queer theory's critique of both hetero- and homo-normativity.

**GWS 4601. Capstone in Queer Theory** (3).On Demand.

*GEN ED: Capstone Experience (CAP)*

A senior capstone experience in the advanced study of ideas and figures central to queer theory. Questions explored include the norms and assumptions that structure our understanding of identity and its complex relationship to sexuality, sex and gender. Figures discussed include Foucault, Sedgwick and Butler. This course also investigates queer theory's critique of both hetero- and homo-normativity. Students who have previously received credit for GWS 4600 may not enroll in or receive credit for GWS 4601. Prerequisites: senior standing.

**GWS 4700. Seminar in Gender, Women's and Sexuality Studies** (3).S.Alternate years.

Variable topic. This course provides an opportunity for in-depth study of a contemporary issue, movement, or debate in gender, women's, and sexuality studies.

**GWS 4701. Capstone in Seminar in Gender, Women's and Sexuality Studies** (3).On Demand.

*GEN ED: Capstone Experience (CAP)*

Variable topic. A senior capstone experience in an in-depth study of a contemporary issue, movement, or debate in gender, women's and sexuality studies. Prerequisite: senior standing.

**GWS 4900. Internship in Gender, Women's and Sexuality Studies** (1-6).On Demand.

Supervised work in an appropriate field experience. Prerequisite: junior or senior standing and approval from the Director of Gender, Women's and Sexuality Studies prior to enrolling. Graded on an S/U basis.

**GWS 4901. Capstone Internship in Gender, Women's and Sexuality Studies** (3).On Demand.

*GEN ED: Capstone Experience (CAP)*

Supervised work in an appropriate field experience. Students will complete and present a paper on a topic central to their internship experience. Students who have previously received credit for GWS 4900 may not enroll in or receive credit for GWS 4901. Prerequisites: senior standing and approval from the Director of Gender, Women's and Sexuality Studies prior to enrolling. Graded on an S/U basis.

## GLOBAL STUDIES (GLS)

**GLS 2000. Contemporary Global Issues** (3).F;S.

*GEN ED: Integrative Learning Experience (Theme: "From Empire to Globalization")*

This course examines a selection of global issues from a variety of perspectives and disciplines. Students will be exposed to the complexities of these issues, which are the result of the confluence of historical, geographical, economic, cultural, and political factors. Emphasis will be placed on how different societies view global issues, as well as how different perspectives can alter one's understanding of them. (Global Learning Opportunity course)

**GLS 2350. Introduction to Peace Studies** (3).On Demand.

*GEN ED: Integrative Learning Experience (Theme: "War and Peace")*

In this course, students will explore relevant theories about peace studies, as well as a history of the development of the area of peace studies. The course will ask students to discuss the problems that arise when working in the area of peace and evaluate the ways in which states and individuals consider waging peace. Finally, the course will encourage students to consider their contributions toward achieving a world in which people can resolve conflicts more effectively. Given the ultimate goal of understanding ideas

such as negative peace and positive peace and nonviolent methods for conflict resolution, this course will be very interdisciplinary, including but not limited to academic fields in political science, sociology, psychology, economics, gender studies, anthropology, and literary studies. Working across fields and supporting an open discourse allows for multiple interpretations and perspectives. (Same as JHP 2350.)

**GLS 2500. Independent Study (1-4).**On Demand.

**GLS 2530-2549. Selected Topics (1-4).**On Demand.

An opportunity to study a special topic or a combination of topics not otherwise provided for in the Global Studies curriculum. May be repeated for credit when content does not duplicate.

**GLS 3000. Critical Perspectives on Global Studies (3).**F;S.

*GEN ED: Junior Writing in the Discipline (WID)*

Students will engage in an intensive investigation of one or more global questions, themes, or issues in global studies. Emphasis is placed on critical reading, research, writing, and speaking. The topic of this course will vary from semester to semester. The communication proficiency in Global Studies is met by earning a grade of "C" or higher in this course. Prerequisite: RC 2001 or its equivalent.

**GLS 3020. Cuba Libre: Perspectives on the Cuban Revolution (3).**S.

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Las Americas")*

This course will explore the Cuban Revolution from a variety of disciplinary perspectives, including history, political science, music, literature, film, and dance, while making connections to other post-colonial struggles in the Americas and beyond. Students will design their own research projects, integrating knowledge from different disciplinary approaches, and present their research at the semester's end using a variety of media.

**GLS 3100. Globalization and Development.(3).**On Demand.

This course introduces students to critical globalization studies and development in a global context. Students will learn to analyze development and globalization as cultural, political, and economic systems, and will evaluate how these processes have reconfigured local and global power relations from colonialism to the present and beyond. Critical perspectives, debates, alternatives, and counter-movements will also be discussed and evaluated in terms of their relevance for positive social change.

**GLS 3200. Alternative Globalizations (3).**S.

This course analyzes oppositions and alternatives to contemporary globalization based on economic liberalism. We will evaluate alternative approaches to globalization in terms of theoretical debates on economics, claims about the negative effects of neoliberal globalization, and assertions that "another world" is not only possible, but necessary.

**GLS 3475. Cooperative Economies (3).**F.

This course will analyze cooperative enterprises in terms of their potential for contributing to the creation of local, regional, and global economies which better serve human and environmental needs. Course content will include definitions, cooperative principles and values, case studies of individual cooperatives, evaluation of local and regional cooperative economies around the world, and application of lessons learned to communities and regions in the U.S.

**GLS 3500. Independent Study (1-4).**On Demand.

**GLS 3520. Instructional Assistance (1).**On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**GLS 3530-3549. Selected Topics (1-4).**On Demand.

An opportunity to study a special topic or a combination of topics not otherwise provided for in the Global Studies curriculum. May be repeated for credit when content does not duplicate.

**GLS 3580. Animal Planet (3).**On Demand.

This course explores the ways globalization is altering the nature of human-animal encounters. It examines many kinds of global encounters, including those arising from companionship, travel, hunting, sport, food and consumption, and science (e.g., lab animals). Globalization is defined in part by increasing interconnectedness and interdependency, and animal studies are especially concerned with relationships, symbiosis, and environments. The course addresses the interchanges between the local and the global; that is, some of the ways that local cultural attitudes toward animals are being affected by globalization, and how globalization is affecting localized beliefs and practices.

## **GLS 3590. Global Travels, Global Encounters (3).On Demand.**

This course explores the global experience of travel and encounters with unfamiliar people and places, both past and present. Travelers face the pressures of a real world only marginally under their control. Reasons for moving from one place to another include pleasure and leisure, research and work, the personal and the pilgrimage, and migration driven by economic need or other forces. Whatever the motivation, travel challenges and shapes understandings of local and global in very real ways. Students will critique not only narratives but also maps, objects, archives, and other primary and secondary materials. They will address the context of global travel: what is the state of it, what drives it, and what is its impact on the world?

## **GLS 3750. Global Infrastructures (3).On Demand.**

Infrastructures from dams to bridges and roads are widely understood as material constructions supporting human habitation. However, other perspectives reveal contested terrain, both literally and figuratively. This course will consider the impact and significance of infrastructures in global contexts. Using a variety of case studies, we will address not only infrastructures that are in place around the world, but also those that previously existed and could exist.

## **GLS 4000. Topics in Global Studies (3).On Demand.**

Students will engage in an intensive investigation of one or more global questions, themes, or issues in global studies. The class is organized as a seminar. Emphasis is placed on critical reading, research, writing, and speaking. The topic of this course will vary from semester to semester. Barring duplication of content, a student may repeat the course for credit one time.

## **GLS 4100. Borders and Walls (3).On Demand.**

The course offers an examination of global issues through the lens of borders and walls that shape, and have shaped, our world. Through critical essays and through multiple disciplinary perspectives this seminar focuses on walls and borders from the past (such as the Great Wall of China, the wall of Roman emperor Hadrian or the Berlin Wall) and from the present (such as current border fences in the US and Gaza, or the fences built in 2015 in Eastern Europe). The course addresses questions such as these: How do communities live with these walls, navigate them, bring them down? Why do we create borders, construct walls, build fences? Why do we still need walls in a globalizing world? Real or imagined, the borders we create to shape and navigate our world have multiple perspectives: political, religious, cultural, gendered, environmental, social, economic.

## **GLS 4200. Global Development and Difference (3). On Demand.**

This course examines and critiques global patterns of power, privilege, and difference as they arise through globalization and development. These patterns will be analyzed through terms such as inclusion, essentialism, empowerment, participation, instrumentalism, equity, and justice. Course topics will address issues of difference such as gender, queerness, age, disability, class, caste, race, and indigeneity. Students will work collectively to understand multiple differences and asymmetries of power, and the possibilities for transformation, in both local and global contexts.

## **GLS 4515. Senior Honors Thesis (3).F;S.**

Independent study and research, directed by a member of the Global Studies faculty and evaluated by a department committee. Prerequisites: successful completion of 6 semester hours of honors courses in the focus area, a 3.45 GPA in Global Studies and approval of thesis topic by the departmental honors committee.

## **GLS 4530-4549. Selected Topics (1-4).On Demand.**

An opportunity to study a special topic or a combination of topics not otherwise provided for in the Global Studies curriculum. May be repeated for credit when content does not duplicate.

## **GLS 4550. Senior Capstone (3).F.S.**

### *GEN ED: Capstone Experience*

This is the required senior capstone course for a major in Global Studies. Students must complete a major project that makes use of and integrates the material from the Global Studies core in relation to a significant issue in Global Studies pertaining to the major focus area chosen by the student. Prerequisites: GLS 3000 and senior standing.

## **GLS 4900. Internship (1-9).On Demand.**

Supervised work in an appropriate field experience. A critical means to apply theoretical constructs, methods and techniques learned in the classroom to real-world settings. The internship offers ways of acquiring practical work experience with community organizations, non-governmental organizations, governmental organizations, and businesses that work on global issues, both domestically and internationally. Internships may occur at the local, regional, state, national or international levels, but must be relevant to global studies. Prerequisite: student must get approval from an advisor in the Global Studies program prior to enrolling. Graded on an S/U basis.

## **INTERDISCIPLINARY STUDIES (IDS)**

## **IDS 2000. This Grand Experiment: An Introduction to American Studies (3).F.**

*GEN ED: Integrative Learning Experience (Theme: "American Culture: Past and Present")*

Since the 1930s, scholars have been studying the core values and ideas that define American (U.S.) culture. American Studies scholars integrate ideas and methods from a diverse array of disciplines in examining what it is that makes this place and its people "American." In this course, students will review the roots of American Studies and the concepts of exceptionalism, multiculturalism, and transnationalism, which have characterized how U.S. culture is perceived both here and abroad. Embedded in these concepts are physical, economic, political, and demographic characteristics that have historically defined and continue to define "America."

## **IDS 2001. Interdisciplinary Connections I (3).F;S.**

Intended for IDS majors, this course introduces students to the theory and practice of interdisciplinarity by means of selected readings and the application of methods. Students will apply concepts central to the course to a variety of integrative and investigative projects, in addition to the design of their own programs of study.

## **IDS 2302. Freudian Dreams and Cultural Analysis (3).S.**

*GEN ED: Liberal Studies Experience*

This course will introduce Freud's theories through his own writings, including his classic, *The Interpretation of Dreams*, and will explore the ways in which psychoanalysis helps illuminate and explain art, literature, film, and culture. (Same as WRC 2302.)

## **IDS 2450. Introduction to Not-for-Profit Organizations (3).S.**

This course explores many facets of nonprofit organizations including organizational structure, laws, and regulations in nonprofit, employment and working conditions, entry methods into nonprofit careers, and segments of the nonprofit world of work. This course also explores the guiding principles, philosophy and mission of nonprofit organizations from an interdisciplinary approach, studying them from a societal, historical, political, legislative, and economic point of view.

## **IDS 2500. Independent Study (1-4).F;S.**

## **IDS 2530-2549. Selected Topics (1-4).F;S. On Demand.**

## **IDS 3000. Histories of Knowledges (3).F;S.**

This course introduces central concerns of interdisciplinary studies through analyses of histories of knowledge production, definition, and categorization, cultural derivations and influences on what we know, the significance of paradigms and media, and the importance of perspective and situation in shaping what we define as knowledge. Prerequisite: RC 2001 or its equivalent.

## **IDS 3001. Interdisciplinary Connections II (2).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Through selected readings and guided discussion, this course provides IDS majors the opportunity to write and reflect on their interdisciplinary course work, their programs of study, and on the variety of methods that may be employed in pursuing interdisciplinary scholarship. Prerequisites: RC 2001 or its equivalent; IDS 2001 or permission of instructor. Corequisite: ANT 3410, CJ/PS 3115, COM 3100, ENG 3000, HIS 2800, IDS 3210, GHY/PLN 3800, PLN 3432, SOC 3885 or STT 2820; or permission of instructor.

## **IDS 3010. H2O: We are Water (3).F;S.**

*GEN ED: Integrative Learning Experience (Theme: "Sustainability and Global Resources")*

Water is studied in disciplines ranging from art to zoology. The hydrologic cycle functions on a global scale but has local impacts. This interdisciplinary course will look at water policy and how we manage water resources; who gets water, for what purpose; and the impacts of these decisions on the resource. It will discuss the ways we use water, abuse it, revere it, ignore it, and fight over it. In the US, our quality of life is entirely dependent on cheap, plentiful, clean water. We use it in vast quantities to produce power, grow food, and protect our health. Globally, demands for water continue to increase. The class will cover the intersections among our scientific understanding of water flows, our technological developments, and our policy approaches toward this elemental resource, locally and globally.

## **IDS 3025. Contemporary Topics in Science and Technology Studies (3).On Demand.**

*GEN ED: Liberal Studies Experience*

This course provides students with an in-depth understanding of how science and technology shape society and culture. Through a topical focus, students will explore the values embedded within a technological society, and the ways in which power and knowledge are produced and maintained. Students may repeat this course for credit as long as the course topic is unique.

## **IDS 3050. Social Media and Community Engagement (3).On Demand.**

This course will explore the role of social media to build, sustain, and deepen connections with community members. It will examine the role of a range of new media tools within community support programs, cultural heritage sites, and other not-for-profit organizations

to engage clients, donors, and other stakeholders. This course will involve project work with community partners.

## **IDS 3150. Interdisciplinary Praxis (3).F;S.**

This course provides an overview of interdisciplinary praxis by means of selected readings in theories and philosophies of interdisciplinarity and in interdisciplinary practices. It moves from broad investigations to students' application of them to both their concentrations and the portfolio each IDS major must complete for graduation. The course will introduce the concepts and requirements for the portfolio and assist students in preparing a plan to satisfy the portfolio requirement.

## **IDS 3210. Exploring the Documentary Form (3).F.**

*GEN ED: Integrative Learning Experience (Theme: "How We Tell Stories")*

The course offers students a chance to learn the fundamentals of non-fiction story telling. Students will research a topic, and then develop a video, audio, or photographic documentary that uses their research to tell a compelling story. During this course, students will learn a range of techniques that bridge academic disciplines: how to use both primary and secondary sources for research, writing skills to structure their documentaries, visual communication techniques to translate their writing into images, and editing skills to clearly communicate their story.

## **IDS 3250. Internet Studies (3).F;S.**

*GEN ED: Liberal Studies Experience*

This seminar explores the emerging interdisciplinary field of Internet Studies. Topics covered may include the digital divide, virtual communities, race and gender in cyberspace, and topics in cyberculture. These and other issues may be explored for their social, political, psychological, economic, cultural, ethical, and artistic implications. This seminar will also help students develop their critical reading and writing skills in connection with the World Wide Web, explore Internet research methodologies, and introduce students to some of the technical and editorial issues involved in Web page design and publication. This course is required for the concentration in Internet Studies under the B.A. degree in Interdisciplinary Studies; and it is also a required course for the undergraduate minor in Internet Studies. There are no prerequisites.

## **IDS 3260. Creativity: An Introduction (3).F;S.**

An interdisciplinary and cross-cultural investigation of creativity as an individual, social, cultural, and natural phenomenon. Although often associated with artistry, creativity contributes to the development of all academic and professional disciplines and is an important component in non-academic culture and in individual life. The concept of creativity has deep roots in Western culture (going back at least to Augustine), and the cross-disciplinary study of creativity has burgeoned in the United States since WWII. The class will explore: the history of the concept of creativity; creativity and self-fulfillment; psychological, anthropological, and sociological theories of creativity; practices claiming to enhance creativity; and case studies of creative individuals and creative breakthroughs.

## **IDS 3330. Introduction to Africana Studies (3).F.**

This course offers students the opportunity to examine the complex historical, social, political, and cultural issues of peoples of Africa and the African Diaspora. Central themes of this multi-disciplinary course include examinations of pre-colonial African societies, slavery in the Atlantic Basin and in the New World, the evolution of race and racism, and African influences in communities outside of the continent. This course is the required introductory course for the Africana Studies Minor. (Same as HIS 3330.)(Global Learning Opportunity course)

## **IDS 3500. Independent Study (1-4).F;S.**

## **IDS 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

## **IDS 3530-3549. Selected Topics (1-4).F;S. On Demand.**

## **IDS 3650. Marx's *Capital* (3).F;S.**

*GEN ED: Integrative Learning Experience (Theme: "Revolutions: Social and Political")*

This course provides an introduction to Karl Marx as well as an in-depth study of his major theoretical work, *Capital*, Volume I. The transdisciplinary uses of Marxian theory in illuminating a wide variety of issues across disciplinary boundaries will be explored. Students will be asked to make connections between Marx's writings and their own areas of study.

## **IDS 3900. Internship (3-12).F;S.**

Supervised work in an appropriate field experience. Student must get approval from the advisor of the B.A. in interdisciplinary studies program prior to enrolling. Graded on an S/U basis.

### **IDS 4001. Interdisciplinary Connections III (1).F.S**

*GEN ED: Capstone Experience*

In this course, students will draw together work covering the range of their interdisciplinary studies to produce a portfolio of representative work. This portfolio will serve not only as a culminating document, but it will also provide students with an opportunity for reflection in writing on the trajectory of their studies and future direction for their work. Students should take this course their final semester before graduating. Prerequisite: IDS 3001 and at least 11 s.h. of IDS-prefixed coursework.

### **IDS 4510. Senior Honors Thesis/Project (1-3).F;S.**

Independent study and research. Honors thesis directed by a member of the Interdisciplinary Studies Program faculty and graded by a committee appropriate for the topic. Oral presentation. Corequisite: IDS 4550.

### **IDS 4530–4549. Selected Topics (1–4).F;S. On Demand.**

### **IDS 4550. Senior Seminar (3).F;S.**

*GEN ED: Capstone Experience*

In this class, students will have the opportunity to draw together the diverse strands of their interdisciplinary studies, reflect on the connections among these strands, and produce an in-depth senior project focusing on their concentration within the major. Students will have the opportunity to reflect on methodology - how one brings together data, methods and practices from diverse disciplines, both academic and non-academic. Students will be asked to present and discuss aspects of projects in class and present their final projects in a public forum to students and faculty. The final portfolio is to be turned in to the student's Senior Seminar professor before the end of the student's last semester. Prerequisites: senior standing and IDS 3000.



## Department of English (ENG)

*Carl P. Eby, Chair*

*Tammy Wahpeconiah, Assistant Chair*

*Kimberly K. Gunter, Assistant Chair*

*C. William Atkinson  
Sandra L. Ballard  
Joseph R. Bathanti  
Jessie Blackburn  
William D. Brewer  
German Campos-Munoz  
Basak Candar  
Elizabeth L. Carroll  
E. Cecelia Conway  
Leslie S. Cook  
Bruce A. Dick  
Lynn Doyle  
Jill R. Ehnenn  
Craig J. Fischer*

*Kristina K. Groover  
Elizabeth A. Gulley  
Sara-Beth Hopton  
Rosemary Horowitz  
James M. Ivory  
Kathryn J. Kirkpatrick  
Donna L. Lillian  
Holly E. Martin  
Grace E. McEntee  
Thomas M. McLaughlin  
Olga Menagarishvili  
Elaine J. O'Quinn  
David L. Orvis  
Alex H. Pitofsky*

*Mark Powell  
Colin T. Ramsey  
Georgia B. Rhoades  
Lynn Moss Sanders  
Lynn A. Searfoss  
Susan C. Staub  
Kyle Stevens  
Zackary Vernon  
Mark W. Vogel  
Susan C. Weinberg  
Jennifer P. Wilson  
Michael T. Wilson  
Wendy L. Winn  
Bret J. Zawilski*

The aim of the Department of English is to give students competency in written and oral composition and in the interpretation and appreciation of literature. All students are required to earn credit for RC 1000 and RC 2001. (RC 1000 is a prerequisite for all ENG and RC courses 2001 and above.)

**The Bachelor of Arts degree in English (233\*/23.0101) with a concentration in Creative Writing (233B)** offers intensive instruction in literature and creative writing.

The program of study is available at: [www.programsofstudy.appstate.edu/english-ba-creative-writing-233b-2016-2017](http://www.programsofstudy.appstate.edu/english-ba-creative-writing-233b-2016-2017)

**The Bachelor of Arts degree in English (233\*/23.0101) with a concentration in Professional Writing (233C)** offers intensive instruction in professional writing.

The program of study is available at: [www.programsofstudy.appstate.edu/english-ba-professional-writing-233c-2016-2017](http://www.programsofstudy.appstate.edu/english-ba-professional-writing-233c-2016-2017)

**The Bachelor of Arts degree in English (233\*/23.0101) with a concentration in Film Studies (233D)** offers comprehensive studies of film history and theory.

The program of study is available at: [www.programsofstudy.appstate.edu/english-ba-film-studies-233d-2016-2017](http://www.programsofstudy.appstate.edu/english-ba-film-studies-233d-2016-2017)

**The Bachelor of Arts degree in English (233\*/23.0101) with a concentration in Literary Studies (233E)** offers comprehensive studies of literature.

The program of study is available at: [www.programsofstudy.appstate.edu/english-ba-literary-studies-233e-2016-2017](http://www.programsofstudy.appstate.edu/english-ba-literary-studies-233e-2016-2017)

### **The Bachelor of Science degree in English, Secondary Education (234A/13.1305) [T]**

The program of study is available at: [www.programsofstudy.appstate.edu/english-secondary-education-bs-234a-2016-2017](http://www.programsofstudy.appstate.edu/english-secondary-education-bs-234a-2016-2017)

Since teacher licensure in English requires a balanced preparation in several areas, each student will be provided information indicating courses appropriate to current state and professional guideline requirements. Required also for the teaching degree are six hours of a foreign language beyond the elementary course level, as well as the professional education courses and other criteria specified by the Reich College of Education. For the requirements in teacher education, refer to the Department of Curriculum and Instruction in this catalog.

To receive further information, the student should report to the Department of English during the first semester of the sophomore year or, for transfer students, during the first semester at Appalachian. The student is expected to work closely with the English education advisor in fulfilling the degree requirements.

**A minor in English (233/23.0101)** consists of 18 semester hours

The program of study is available at: [www.programsofstudy.appstate.edu/english-minor-233-2016-2017](http://www.programsofstudy.appstate.edu/english-minor-233-2016-2017)

**A minor in Film Studies (138/23.0101)** consists of 15 semester hours

The program of study is available at: [www.programsofstudy.appstate.edu/film-studies-minor-138-2016-2017](http://www.programsofstudy.appstate.edu/film-studies-minor-138-2016-2017)

## Honors Program in English

The Department of English offers an honors program on the sophomore and junior/senior levels. In order to remain in the program, students must maintain at least a "B" average in honors work. Invited English majors meeting the requirements of the junior/senior honors program (ENG 4508, ENG 4509, and ENG 4510) with a grade of "B" or better and at least a 3.45 grade-point average in all English course work will graduate with "honors in English."

## Master of Arts

The Department of English offers the academic Master of Arts in English, with both general and college teaching concentrations. It also offers a graduate certificate in rhetoric and composition. Persons interested in any of these degrees are requested to consult the *Graduate Bulletin* for further information.

## Overseas Study Program

In keeping with the University's belief that studies and travel abroad contribute to its role as an institution of higher learning, the Department of English offers students an opportunity to study either in England or on the continent, or in some instances a combination of both. The programs are directed by regular faculty members and offer opportunities for both supervised group study and individual investigation. Information is available each fall concerning the specific programs to be offered for undergraduate and graduate credit. Students interested in the possibility of such study should make inquiry at the English office early in the school year.

## University Writing Center

The Writing Center offers its services to all members of the University community. The center's staff is specially trained to help in the completion of virtually any academic writing project and in the solution of most writing problems. Users of the center should make appointments for its services or may drop in to see if one of the staff is available. The center is conveniently located in the Carol Grotnes Belk Library and Information Commons. For more information, go to [www.writingcenter.appstate.edu](http://www.writingcenter.appstate.edu).

## Courses of Instruction in English (ENG) and Rhetoric and Composition (RC)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### ENGLISH HONORS (ENG)

#### **ENG 1510. Freshman Honors Seminar (3).F;S.**

Development of individual research and original critical thought; composition. Collateral reading in English, American, or world literature. Members selected by the Department of English.

#### **ENG 2510. Sophomore Honors Seminar in English, American, or World Literature (3).F.**

A study of major works, authors, genres, or literary movements in English, American, or world literature. By invitation or application.

#### **ENG 2515. Sophomore Honors Seminar in English, American, or World Literature (3).S.**

A study of major works, authors, genres, or literary movements in English, American, or world literature. By invitation or application.

#### **ENG 4508. Junior/Senior Honors Seminar (3).F.**

An intensive study of major American authors, genres, or literary movements. By invitation or application.

#### **ENG 4509. Junior/Senior Honors Seminar (3).S.**

An intensive study of major world authors, genres, or literary movements. By invitation or application.

#### **ENG 4510. Senior Honors Thesis (3).F;S.**

*GEN ED: Capstone Experience*

Independent study and research. Honors thesis directed by a member of the Department of English and graded by a departmental committee. Oral presentation. Prerequisites: completion of ENG 3000, ENG 4508 and ENG 4509 with at least a "B" average.

### RHETORIC AND COMPOSITION (RC)

#### **RC 0900. Basic Writing (3).F;S.**

Review of writing process (planning, writing, rewriting) with emphasis on preparing drafts of different kinds of writing. Writing and

instruction to improve fluency, clarity and correctness. Graded on an S/U basis. Course counts as three hours credit toward course load and full- time student eligibility but does not count toward hours required for graduation (See "Institutional Credit").

## **RC 1000. Expository Writing (3).F;S.**

*GEN ED: First Year Writing*

An introduction to the various types of expository essays. A grade of "C" or higher in this course fulfills the English proficiency requirement for students entering the Reich College of Education or the Walker College of Business.

## **RC 2000. Writing for Proficiency (1).F;S.**

Review of the principles of writing for designated transfer students. Requires writing essays in acceptable college prose. Graded on an S/U basis.

**RC 1000 IS A PREREQUISITE FOR ALL ENG and RC COURSES 2001 AND ABOVE:**

## **RC 2001. Introduction to Writing Across the Curriculum (3).F;S.**

*GEN ED: Second Year Writing*

This course introduces students to writing across the curriculum. Students write in different genres for different academic communities, read a variety of academic texts rhetorically, and analyze the writing conventions of various academic communities. Prerequisites: completion of 30 semester hours of credit, including RC 1000 and UCO 1200.

## **RC 3400. Advanced Expository Writing (3).F;S.**

Practice in expository writing, with emphasis on effective style, sound structure, and correct mechanics.

## **RC 3450. Writing Center Theory and Practice (3).S.**

This course explores current issues in writing center theory and practice. Students gain insight into the writing process and the practice of assisting writers in one-to-one conferencing.

## ENGLISH (ENG)

**RC 1000 IS A PREREQUISITE FOR ALL ENG and RC COURSES 2001 AND ABOVE:**

## **ENG 1500. Introduction to Literature (3).F.**

*GEN ED: Liberal Studies Experience*

Literature: what it is, how to read it, and how to write about it. This course counts toward General Education Liberal Studies requirements, but DOES NOT fulfill the Literary Studies designation. No prerequisite.

## **ENG 2010. English Literature to 1789 (3).F;S.**

A survey of major writers from the beginning of British literature through the eighteenth century. Recommended for English majors and minors only. Prerequisite: RC 1000.

## **ENG 2020. English Literature since 1789 (3).F;S.**

A survey of major British writers from the Romantics through the present. Recommended for English majors and minors only. Prerequisite: RC 1000.

## **ENG 2030. World Literature to 1650 (3).F;S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

A survey of world literature before the modern period (read in English).

## **ENG 2040. World Literature since 1650 (3).F;S.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "From Empire to Globalization")*

A survey of world literature beginning with the modern period (read in English). (Global Learning Opportunity course)

## **ENG 2050. Studies in British Literature (3).F;S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

A study of selected works of British Literature. Course content will vary and may concentrate on poetry, fiction, drama, or a combination. ENG 2050 will not fulfill British literature core for BA in English or BS in English, Secondary Education majors. Prerequisite: RC 1000.

## **ENG 2060. Great Books (3).F;S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

An exploration of great books and literary canons through a variety of texts and genres. May be organized thematically, by region, and/or by literary period.

## **ENG 2100. Modern Studies (3).F;S.**

A study of recent literature. Course content will vary and may concentrate on poetry, fiction, drama, or a combination.

## **ENG 2120. African-American Literature (3).F;S.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "American Culture: Past and Present")*

A critical study of the work of outstanding African-American writers.

## **ENG 2130. Ethnic American Literature (3).F;S.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "Intersections: Race, Class, and Gender")*

A study of major ethnic American literature, with a particular focus on Latino American, Asian American, and/or American Indian writers.

## **ENG 2170. Introduction to Film (3).F;S.**

*GEN ED: Integrative Learning Experience (Theme: "How We Tell Stories")*

A critical examination of notable examples of the filmmaker's art from silent movies up to the modern era, including a variety of film genres and including both American and foreign films.

## **ENG 2180. Introduction to Comic Books and Graphic Novels (3).On Demand.**

A study of comic book form and production, combined with a survey of American superhero and alternative comic books and graphic novels.

## **ENG 2310. American Literature to 1865 (3).F;S.**

A survey of major writers from the beginning of American literature through the Romantics. Recommended for English majors and minors only. Prerequisite: RC 1000.

## **ENG 2320. American Literature since 1865 (3).F;S.**

A survey of major American writers from the beginning of realism through the present. Recommended for English majors and minors only. Prerequisite: RC 1000.

## **ENG 2350. Studies in American Literature (3).F;S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

A study of selected works of American literature. Course content will vary and may concentrate on poetry, fiction, drama, or a combination. ENG 2350 will not fulfill American literature core for BA in English or BS in English, Secondary Education majors. Prerequisite: RC 1000.

## **ENG 2360. American Literature and the Arts (3).F;S.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "Cultivating Creative Expression")*

This course examines how American literature responds creatively to lived experience in dialogue with other art forms. Individual courses will explore different time periods as well as focus on American literature in relation to larger scale creative and artistic movements in American culture.

## **ENG 2500. Independent Study (1–3).F;S.**

Independent research on a topic not offered in a scheduled course. Prior to registration, independent studies must be approved by the directing professor, the departmental chair, and the dean of the College of Arts and Sciences.

## **ENG 2530–2549. Selected Topics (1–4). On Demand.**

Content to vary; may be repeated for credit when content does not duplicate.

## **ENG 3000. Approaches to Literary Studies (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

An introduction to the discipline of literary studies, with an emphasis on theoretical approaches, literary research, and critical writing. Prerequisite: RC 2001 or its equivalent.

## **ENG 3050. Studies in Folklore (3).F;S.**

A survey of the forms and functions of folk expressive culture, which may include explorations of traditional narratives, speech, music, history, beliefs, customs, or rituals. This course draws upon methodologies utilized in literary studies, anthropology, sociology, and psychology.

## **ENG 3090. Introduction to Professional Writing (3).F;S.**

A required course for students who concentrate in Professional Writing under the BA in English. A study of the history, theories, concepts, practices, and genres of professional writing. Topics: audience analysis, professional writing situations, ethics and com-

munication, workplace culture, research methods, data collection strategies and analysis. Prerequisite: RC 1000.

**ENG 3100. Business Writing (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Focus on business writing concepts, ethics, and research. Emphasis on applied genres: specialized letters and memoranda, resumes, proposals, analytical and fact-finding reports, and other essential forms of professional communication. Prerequisites: RC 1000, RC 2001 or its equivalent, and completion of 54 semester hours of credit.

**ENG 3120. Writing and Law (3).F.**

A practice in the art of persuasive writing, using the law and legal methods to emphasize both the economy and clarity of reading and writing skills.

**ENG 3140. Literature and Law (3).F.Odd-numbered years.**

An examination of intersections between law and literature. Students cannot receive credit for both ENG 2420 and ENG 3140.

**ENG 3160. Law and Justice in Film (3).S.**

An examination of films that convey powerful messages about the law, lawyers, and law-related media events.

**ENG 3170. Advanced Studies in Film (3).S.**

An examination of the work of a particular film artist, a select group of filmmakers or a specific film genre. A basic knowledge of film history and techniques is expected of students taking the class. Prerequisite: ENG 2170 or permission of the instructor.

**ENG 3171. Survey of World Cinema, 1895 to 1950s (3).F.**

An advanced study of world cinematic art and its major movements, from the beginnings of the silent era to the 1950s. Content and approach may vary.

**ENG 3172. Survey of World Cinema, 1950s to Present (3).S.**

An advanced study of world cinematic art and its major movements from the 1950s to the present. Content and approach may vary.

**ENG 3174. Topics in Global Cinema (3).F.**

An examination of specific themes, genres, major movements, directors and actors in international cinema, particularly post-1950 to the present. The course focuses on comparative, pedagogical, and theoretical considerations in global film studies. Content may vary.

**ENG 3240. World Literature for Children (3).F;S.**

Students will read and analyze translations and other children's books in English from countries around the world. Literary analysis of the books will form the basis for comparing and contrasting cultures, historical periods, and differing national worldviews of childhood. Other issues such as racism and sexism will also be examined. (Same as RE 3240.)

**ENG 3300. Applied Grammar (3).F;S.**

A study of the syntax of English as described by traditional grammarians with some attention to usage, the development of proof-reading skills, and the descriptive principles of transformational grammar.

**ENG 3500. Independent Study (1-3).F;S.**

Directed, concentrated study of a special topic developed by the student.

**ENG 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours. Required for teaching majors.

**ENG 3530–3549. Selected Topics (1–4). On Demand.**

Content to vary; may be repeated for credit when content does not duplicate.

**ENG 3580. Teaching Composition: Theory, Practice, and Pedagogy (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Theory, practice, and pedagogy in the teaching of writing at the secondary level. Prerequisites: RC 2001 or its equivalent and ENG 3300.

**ENG 3610. Studies in the Principles of Language (3).F;S.**

An introduction to theories of language structure, language acquisition, and the functions of language within a cultural setting, with particular emphasis on semantics.

**ENG 3651. Creative Writing: Poetry (3).F;S.**

An introductory course in the writing of poetry, with emphasis on techniques. This course serves as a prerequisite for ENG 3661, ENG 3662, ENG 3663, and ENG 4550.

**ENG 3652. Creative Writing: Prose (Fiction) (3).F;S.**

An introductory course in the writing of fiction and memoir, specifically the short story, with emphasis on techniques. This course serves as a prerequisite for ENG 3662, ENG 3663, and ENG 4550.

**ENG 3661. Advanced Poetry (3).F;S.**

An advanced course in the writing of poetry, with emphasis on workshops of students' work and discussion of poems by contemporary poets. May be repeated for credit when content does not duplicate. Prerequisite: ENG 3651.

**ENG 3662. Advanced Fiction (3).F;S.**

An advanced course in writing fiction, with emphasis on experimentation and technique in the short story. May be repeated for credit when content does not duplicate. Prerequisite: ENG 3652.

**ENG 3663. Advanced Creative Non-Fiction (3).S.**

An advanced course in the writing of creative non-fiction, with emphasis on workshops of students' essays and study of published works. May be repeated for credit when content does not duplicate. Prerequisite: ENG 3651, ENG 3652, or ENG 3670/THR 3670, ENG 3679/THR 3679, or ENG 3680/COM 3680.

**ENG 3670. Playwriting (3).F;S.**

A study of the art and craft of writing for performance. Readings will include plays, performance theory, and performance reviews. The course will be run as a workshop in which every student must be an active participant in evaluating her or his own work and that of others. Assignments will include written work, oral presentations, workshop evaluations, and performances. May be repeated for credit when content does not duplicate. This course serves as a prerequisite for ENG 3662, ENG 3663, and ENG 4550. (Same as THR 3670.)

**ENG 3679. Screenwriting (3).S.**

The purpose of this course is to provide the opportunity to establish a solid foundation in screenplay writing. Strong emphasis will be placed on structure, style and naturalized dialogue, as well as the fundamental importance of thinking and writing visually and simply. Focus will be on the motion picture medium, though other forms such as sitcoms, industrial A/V and soaps will be covered briefly. (Same as THR 3679.)

**ENG 3680. Literary Journalism (3).F.**

A study of journalism as literature and the practice of writing nonfiction journalistic prose employing the narrative aims and techniques of fiction. (Same as COM 3680.)

**ENG 3700. Technical Writing (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Focus on technical writing concepts, usability, ethics, and research. Emphasis on applied genres: instructions, process descriptions, abstracts, definitions, technical reports, and various electronic forms. Prerequisites: RC 2001 or its equivalent and ENG 3090 or permission of the instructor.

**ENG 3710. Studies in Women and Literature (3).F.**

A study of the work of outstanding women writers; course content may vary and may concentrate on poetry, fiction, drama, or non-fiction prose, and associated criticism and theory.

**ENG 3715. Literature and the Environment (3).F.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

An exploration of literature through the theoretical lens of ecocriticism; students will examine the ways environmental values and practices are expressed in literature. Class readings may be drawn from a particular literary period or national literature, may range across literary periods and national borders, or may be selected thematically. (Same as SD 3715.)

**ENG 3720. Studies in the Short Story (3).F.**

A study of selected short stories from English, American and/or world literature.

**ENG 3740. Studies in Poetry (3).F.**

A study of selected poetry from English, American and/or world literature.



## **ENG 3750. Studies in Drama (3).S.**

A study of selected plays from English, American and/or world literature.

## **ENG 3900. Internship in Secondary Schools (1).F;S.**

A supervised experience in the English instructional process on the secondary level through direct participation in a classroom situation. May be repeated for a total credit of three semester hours. Students should enroll in ENG 3900 the semester before student teaching. Graded on an S/U basis.

## **ENG 4100. Writing for the Web (3).F.**

Gain literacy in writing for electronic media by investigating both the theoretical and practical aspects of the print to electronic media shift. Analysis and creation of electronic media including converting print to web, creating a client website, and conducting a usability test. Prerequisite: ENG 3090 or permission of the instructor.

## **ENG 4170. Film Theory and Criticism (3).F.**

*GEN ED: Capstone Experience*

An in-depth study of the historical development of film criticism and an examination of contemporary film theory and technique. Prerequisite: ENG 2170.

## **ENG 4200. Editing (3).F;S.**

Concepts, principles, and methods of editing. Includes editing processes, electronic editing, levels of edit, management, and production in the document life cycle. Prerequisite: ENG 3090 or permission of the instructor.

## **ENG 4280. Literary and Cultural Study Abroad (3-6).On Demand.**

A study abroad experience in which students are immersed in the literary and cultural traditions of a foreign country or countries. Content will vary with instructor.

## **ENG 4300. Seminar in Professional Writing (3).S.**

*GEN ED: Capstone Experience*

Emphasis on refining writing and presentation skills for the workplace. Students will complete a client-based project and an e-portfolio. Prerequisites: ENG 3090, plus six semester hours of credit in the Professional Writing concentration under the BA in English.

## **ENG 4550. Senior Seminar in Creative Writing (3).F;S.**

*GEN ED: Capstone Experience*

Content to vary, but may include experimental fiction writing, dramatic writing, poetic forms, and advanced workshops in revision. May be repeated for credit when content does not duplicate. Prerequisite: ENG 3651, ENG 3652, ENG 3670/THR 3670, ENG 3679/THR 3679, or ENG 3680/COM 3680. (ENG 3661, ENG 3662, or ENG 3663 is a suggested prerequisite, but students may also enroll in the seminar with the permission of the instructor.)

## **ENG 4560. Adolescent Literature (3).F;S.**

This course introduces students to the varied and multi-cultural field of adolescent literature. Students focus on various genres, including realistic fiction, romance and adventure, science fiction/fantasy, autobiography, and poetry. Content includes pertinent criticism, important bibliographies, research studies, historical analysis, and increasingly sophisticated pedagogical resources. Students will use the works they read, current research, and web-based resources to create curricula appropriate for adolescent readers. [Dual-listed with ENG 5560.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **ENG 4570. Studies in American Indian Literature (3).F. Alternate years.**

A study of major American Indian writers from oral traditions through the present. [Dual-listed with ENG 5570.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **ENG 4571. Capstone in American Indian Literature (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on American Indian literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

## **ENG 4580. Studies in African-American Literature (3).S.**

A close examination of major African/American writers, with emphasis on twentieth century novelists and poets.

## **ENG 4581. Capstone in African-American Literature (3).S.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on African-American literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

## **ENG 4585. Studies in Ethnic American Literature (3).F. Alternate years.**

An in-depth and multi-cultural examination of major ethnic American writers. [Dual-listed with ENG 5585.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **ENG 4586. Capstone in Ethnic American Literature (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Ethnic American literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

## **ENG 4590. Topics in World Literature (3).F;S.**

A study of literary content, theories, and problems of a specific world-epoch. (Global Learning Opportunity course)

## **ENG 4591. Theory and Practice in the Teaching of High School English (3).F;S.**

This course gives preservice teachers an opportunity to think about and explore pedagogy and curriculum for Secondary English through reading, discussion, planning, projects and presentations. Participants will also be asked to consider institutional issues and conditions that impact teaching, as well as needs and concerns of adolescents, societal influences on schools, and conceptions of what constitutes good teaching and learning. This course should be taken the semester prior to student teaching. (Same as CI 4591.)

## **ENG 4592. Capstone in Topics in World Literature (3).F;S.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on World literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor. (Global Learning Opportunity course)

## **ENG 4620. Topics in Language (3).On Demand.**

Special topics in English language and linguistics. Students may repeat for up to six hours, provided the topic is different.

## **ENG 4660. History of the English Language (3).F;S.**

A study of national, regional, and social varieties of English with particular attention to phonological, morphological, and cultural development.

## **ENG 4710. Advanced Studies in Women and Literature (3).S.**

An examination of the work of a particular woman writer, a select group of related women writers, or a specific topic or genre.

## **ENG 4711. Capstone in Women and Literature (3).S.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on the representation of women in literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

## **ENG 4720. Appalachian Literature (3).F.**

A study of major regional movements, genres, writers in the Appalachian mountains, from settlement to the present. Content and approach may vary. [Dual-listed with ENG 5720.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **ENG 4721. Capstone in Appalachian Literature (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Appalachian literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4725. Southern Literature (3).F.Odd-numbered years.**

Examination of selected authors and works of southern literature. May include work of such authors as Thomas Jefferson, Frederick Douglass, Charles Chesnutt, Zora Neale Hurston, William Faulkner, Lillian Smith, Tennessee Williams, Flannery O'Connor, Alice Walker, Toni Morrison, and Randal Kenan.

**ENG 4726. Capstone in Southern Literature (3).F.Odd-numbered years.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on major authors and works of southern literature. Includes work of such authors as Thomas Jefferson, Frederick Douglass, Charles Chesnutt, Zora Neale Hurston, William Faulkner, Lillian Smith, Tennessee Williams, Flannery O'Connor, Alice Walker, Toni Morrison, and Randal Kenan. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4730. The Novel (3).S.**

A study of selected novels from English, American and world literature.

**ENG 4731. Capstone in the Novel (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on the novel and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4760. Literary Criticism (3).S.**

Studies of the classical critics in translation and of the contemporary critics, with emphasis on specific techniques.

**ENG 4761. Capstone in Literary Criticism (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on literary criticism and theory and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4770. Early American Literature (3).F.**

Studies in the works of the founders of American political, religious, and literary culture as reflective of trends in intellectual history.

**ENG 4771. Capstone in Early American Literature (3).F.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Early American literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4780. American Literature: 1783-1865 (3).F.**

Examination of the major authors under whose leadership American literature achieved world prominence. Includes the work of such authors as Irving, Emerson, Hawthorne, Fuller, Whitman, Poe, Thoreau, Melville, Stowe, Douglass, and Dickinson.

**ENG 4781. Capstone in American Literature: 1783-1865 (3).F.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on the major authors under whose leadership American literature achieved world prominence. Includes the work of such authors as Irving, Emerson, Hawthorne, Fuller, Whitman, Poe, Thoreau, Melville, Stowe, Douglass, and Dickinson. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4785. American Literature: 1865-1914 (3).S.**

Examination of the major authors and works of American Realism and Naturalism. Includes the work of such authors as Twain, James, Howells, Wharton, Dreiser, Crane, Chesnutt, and Chopin.

**ENG 4786. Capstone in American Literature: 1865-1914 (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on American Realism and Naturalism. Includes the work of such authors as Twain, James, Howells, Wharton, Dreiser, Crane, Chesnutt, and Chopin. Fulfills

the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4790. Modern American Literature: 1914-1960 (3).F.**

A study of poetic and prose works most characteristic of American literature and thought during the first half of the twentieth century. Emphasis on major writers.

**ENG 4791. Capstone in Modern American Literature: 1914-1960 (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on modern American literature (1914-1960) and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4795. Contemporary American Literature: 1960-Present (3).S.**

A study of poetic and prose works most characteristic of postmodern and contemporary American literature and thought. Emphasis on diversity of expression.

**ENG 4796. Capstone in Contemporary American Literature: 1960-present (3).S.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on contemporary American literature (1960- present) and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4800. Colloquium (1-4). On Demand.**

Content to vary; may be repeated for credit when content does not duplicate.

**ENG 4810. Advanced Folklore (3).S.**

An in-depth and multi-cultural study of one or more folklore genres in cultural context with interdisciplinary approaches from the humanities and social sciences. It is recommended that ENG 3050, Studies in Folklore, be taken prior to this course. [Dual-listed with ENG 5710.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**ENG 4811. Capstone in Folklore (3).S.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on folklore and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4815. Rachel Rivers Coffey Colloquium in Creative Writing (3).F.**

*GEN ED: Capstone Experience*

An advanced creative writing workshop taught in conjunction with a visiting nationally distinguished senior writer. Content to vary by genre. Fulfills the capstone requirement for the Bachelor of Arts degree in English with a concentration in Creative Writing. May be repeated for credit when content does not duplicate. Prerequisite: ENG 3651, ENG 3652, ENG 3670/THR 3670, ENG 3679/THR 3679, or ENG 3680/COM 3680 and senior standing. (ENG 3661, ENG 3662, or ENG 3663 is a suggested prerequisite, but students may also enroll in the colloquium with the permission of the instructor.)

**ENG 4820. Medieval British Literature (3).F.**

An introductory study of medieval British literature and Middle English.

**ENG 4821. Capstone in Medieval British Literature (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Medieval British literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4825. The Age of Chaucer (3).F.** Even-numbered years.

An in depth study of the literature of the High Middle Ages in England, focusing on the writings of Chaucer and his contemporaries, and including religious and secular lyrics, mystical writing, courtly romance, religious drama, chronicle, and writing by and about women.

**ENG 4826. Capstone in the Age of Chaucer (3).F.** Even-numbered years.*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on the writings of Chaucer and his contemporaries and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4830. Shakespeare: Early Works (3).F.**

A study of Shakespeare's earlier works.

**ENG 4831. Capstone in Shakespeare: Early Works (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Shakespeare's earlier works and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4840. Shakespeare: Later Works (3).S.**

A study of Shakespeare's later works.

**ENG 4841. Capstone in Shakespeare: Later Works (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Shakespeare's later works and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4850. Renaissance Literature (3).S.**

A study of literature written in England from 1500 to 1660, with each offering limited to selected works. (WRITING)

**ENG 4851. Capstone in Renaissance Literature (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on literature of the Renaissance and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4860. Restoration and Eighteenth Century Literature (3).S.**

A study of the literature written in England during the years 1660-1800. Each offering is limited to selected works and authors of the period.

**ENG 4861. Capstone in Restoration and Eighteenth Century Literature (3).S.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on literature of the English Restoration and Eighteenth Century and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4870. Literature of the British Romantic Period (3).F.**

A survey of significant writers of the Romantic period in British literature. Authors may include William Blake, Mary Robinson, Charlotte Smith, Jane Austen, William Wordsworth, Samuel Taylor Coleridge, Lord Byron, Mary and Percy Shelley, John Keats, John Clare, and Felicia Hemans, among others.

**ENG 4871. Capstone in British Romantic Literature (3).F.***GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on British Romantic literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4880. Literature of the Victorian Period (3).F.**

A study of selected British poets, novelists, and essayists from the Victorian era (1837-1901). Authors may include Tennyson, Robert and Elizabeth Barrett Browning, Christina and Dante Gabriel Rossetti; Thackeray, Dickens, the Brontes, Gaskell, George Eliot, Hardy, Wilde, Kipling; and/or Carlyle, J.S. Mill, Ruskin, Darwin, among others.

**ENG 4881. Capstone in Victorian Literature (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Victorian literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4890. Twentieth Century British Literature: 1900-1945 (3).F.**

A study of major themes and literary techniques found in the British literature of the first half of the twentieth century.

**ENG 4891. Capstone in Twentieth Century British Literature: 1900-1945 (3).F.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Twentieth Century British literature (1900-1945) and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4895. Twentieth Century British Literature: 1945-Present (3).S.**

A study of major themes and literary techniques found in the British literature of the second half of the twentieth century.

**ENG 4896. Capstone in Twentieth Century British Literature: 1945-present (3).S.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Twentieth Century British literature (1945-present) and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4898. Topics in Irish Literature (3).S.Alternate years.**

This course explores Irish literature and culture through a variety of genres and may be organized thematically, by region, by literary period, or by major author.

**ENG 4899. Capstone in Topics in Irish Literature (3).S.Alternate years.**

*GEN ED: Capstone Experience*

A senior capstone experience in the presentation and discussion of current topics in literary study, focused on Irish literature and culminating in an independent research project. Fulfills the capstone requirement for the Bachelor of Arts degree in English. Prerequisites: ENG 3000, senior standing, and permission of the instructor.

**ENG 4900. Internship in Writing/Editing/ (1-12).F;S.**

On-the-job work experience individually tailored to students' career orientation. Prerequisite: permission from the Director of the Professional Writing Program is required. Graded on an S/U basis.



### Environmental Science Program (ENV)

*Christopher S. Thaxton, Director*

The Bachelor of Science degree in Environmental Science is designed for students desiring a broad and interdisciplinary approach to studies in the environmental sciences. Although several science departments at Appalachian State University offer ecology, environmental, and/or applied concentrations within their specific discipline, the interdisciplinary nature of this degree allows students the option of pursuing a degree that crosses traditional departmental borders and capitalizes on Appalachian's cross-disciplinary expertise in the area of environmental sciences.

Coursework for the degree is necessarily rigorous and is comprised of a comprehensive science and math base as well as core environmental science courses across the various disciplines of biology, chemistry, geography and planning, geology, and physics and astronomy. The program offers students some latitude to focus on additional courses within a desired discipline and culminates in the completion of a senior capstone course (ENV 4100, 4110, 4510) that challenges the students to employ multi-disciplinary and cooperative approaches to solving environmental issues.

The primary objectives of this degree are to provide students with the scientific knowledge and the analytical and communication skills necessary for careers in the environmental industry, government, and business as well as post-graduate studies in various academic disciplines related to the environmental sciences.

#### **The Bachelor of Science degree in Environmental Science (121A/03.0104)**

The program of study is available at: [www.programsofstudy.appstate.edu/environmental-science-bs-121a-2016-2017](http://www.programsofstudy.appstate.edu/environmental-science-bs-121a-2016-2017)

#### **The Bachelor of Science degree in Environmental Science (121B/03.0104)**

The Bachelor of Science degree in Environmental Science focuses on preparing students for professional careers in the environmental science sector.

The program of study is available at: [www.programsofstudy.appstate.edu/environmental-science-bs-environmental-professional-121b-2016-2017](http://www.programsofstudy.appstate.edu/environmental-science-bs-environmental-professional-121b-2016-2017)

### **Honors Program in Environmental Science**

The Environmental Science Program offers an honors program which culminates in a senior honors research and thesis course (ENV 4510) open to majors in Environmental Science with an outstanding undergraduate record. In order to graduate with "honors in environmental science," a student must have a minimum GPA of 3.45 overall and in environmental science, and must take nine semester hours of honors credit in environmental science including ENV 3560 (or the equivalent, as approved by the environmental science program director) and ENV 4510 (with a grade of "B" or higher). Students must apply for consideration of "honors in environmental science" with the environmental science program honors coordinator. To satisfy the nine semester hours of honors credit requirement, students may take honors courses or honors course sections in biology, chemistry, geology, or physics (with permission of the appropriate department chair) or students may arrange to take specific additional environmental science or science courses on an honors basis by negotiating an honors contract with the course instructor before class begins. The honors contract, which must be approved by the environmental science program honors coordinator, allows the student to receive honors credit for a regular course in environmental science or other science departments by specifying the additional assignments that the student must perform in order to receive honors credit. Additional information may be obtained from the Director's Office of the Environmental Science Program.

### **Courses of Instruction in Environmental Science (ENV)**

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

#### **ENVIRONMENTAL SCIENCE (ENV)**

##### **ENV 1010. Introduction to Environmental Science and Engineering (3).F.**

An introduction to the interdisciplinary fields of environmental science and engineering through case studies that emphasize the application of the scientific method toward understanding human and natural systems, analyzing the human-nature interface, and developing sustainable solutions. Topics include information literacy; environmental economics, policy, and planning; ecology and complex systems; natural resources management; energy; and sustainability. Prerequisite: Passing the math placement test or successful completion of MAT 0010.

##### **ENV 3010. Dynamics of Complex Systems (3).F.**

This course is an introduction to the quantitative analysis of multi-variate complex systems relevant to the environmental sciences. Topics include stability theory; local and global attractors; the nature and role of feedback; system asymmetry, heterogeneity, and diversity; stability resilience, bifurcations, and critical transitions; chaotic attractors; pattern emergence and self-organized criticality. Lecture three hours. Prerequisites: BIO 1802, CHE 2101 or CHE 2201, GLY 2250, and PHY 1151.

## **ENV 3100. Issues in Environmental Science (1).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course is open to third year Environmental Science (ENV) majors who have successfully completed RC 2001, the second year writing course. ENV 3100 fulfills the third year writing in the discipline requirement for ENV majors and must be completed prior to taking ENV 4100, the capstone course. The content will emphasize readings and discussions of important contemporary themes in the biological, chemical, and geophysical areas of environmental science, with an emphasis on developing and honing various types of scientific writing skills for different audiences. Required readings and related discussions will include scientific journal articles, synthesis papers on environmental topics, opinion papers, and technology transfer articles. Prerequisite: RC 2001 or its equivalent. (WRITING)

## **ENV 3110. Environmental Regulation and Enforcement (3).F.**

The purpose of this course is to equip students with an understanding of environmental regulation in the U.S., from its origin as environmental policy to its application and enforcement. This course will provide students with an overview of 1) the role and responsibilities of regulators, 2) the various aspects of industry regulation (with special emphasis on the surface mining industry), and 3) aspects of environmental and safety regulation applicable to industry consultants. The course will conclude a survey of the different mechanisms of regulatory enforcement. Throughout the course, students will be asked to consider and evaluate the varying and often competing interests of industry, regulatory agencies, and private citizens who are impacted by environmental regulation (or the lack of it). This course will benefit any student who intends to work in environmental consulting, industry, government, or environmental advocacy. (Same as GLY 3110.)

## **ENV 3455. Quantitative Data Analysis for Earth and Environmental Scientists (3).F.**

This course provides an introduction to processing, visualizing, and interpreting Earth and environmental science data using scientific computing techniques widely used in the related fields. Biweekly lectures introduce the relevant quantitative methods within the context of Earth and environmental science applications. Weekly laboratories emphasize the application of quantitative tools toward analysis of data in support of various modes of dissemination. Earth science applications include but are not limited to scripting and generating reproducible plots for reports, creating longitudinal stream profiles, temporal, spatial, and magnitude filtering of NEIC earthquake data, and contouring a local water table. Prerequisites: GLY 2250, MAT 1110, and PHY 1150, or permission of the instructor. (Same as GLY 3455.)

## **ENV 3530-3549. Selected Topics (1-4).On Demand.**

### **ENV 3560. Undergraduate Research (1-3).On Demand.**

The student will participate in on-going faculty-directed research. This will include involvement in the solution of a theoretical problem or the involvement in experimental work or field work which may include the design of an experiment or experimental apparatus, acquisition of data, and/or data reduction and analysis. This course is required for students planning to graduate with honors in environmental science. For honors credit, the work must also include the presentation of the results in a scholarly publication or at a scholarly meeting. ENV 3560 may be repeated for a total credit of four semester hours. Graded on an S/U basis.

## **ENV 4100. Environmental Science Seminar (3).F;S.**

*GEN ED: Capstone Experience*

This capstone course emphasizes the critical need for a multi-disciplinary and cooperative approach to solving challenging environmental issues on local and global scales. The course is project-driven and employs literature and case study research, data gathering, and active group problem-solving to address issues such as scientific and engineering solutions, environmental and economic impacts, regulatory compliance, and public policy. Students are required to disseminate project results via written reports, oral presentations, and/or poster sessions. This course serves as the senior capstone course for students enrolled in the Bachelor of Science degree in Environmental Science. Lecture two hours, laboratory three hours. Prerequisites: ENV 3100, ENV majors only, and senior standing or permission of the instructor.

## **ENV 4110. Environmental Management and Impact Analysis (3).S.**

*GEN ED: Capstone Experience*

An applied course that introduces students to implementing National Environmental Policy Act (NEPA) regulations and guidelines. Prerequisites: ENV 3100 or GLY 3703, and GHY 3812. (Same as GLY 4110.)

## **ENV 4510. Senior Honors Research and Thesis (1-3).On Demand.**

*GEN ED: Capstone Experience*

Independent in-depth research and preparation of a thesis on a significant topic in environmental science, directed by a thesis faculty advisor in the environmental science program or in another science/math department within the College of Arts and Sciences. A thesis is presented in writing to the environmental science program honors coordinator along with an oral presentation to faculty. The thesis is to be examined (defended) and approved by both the thesis faculty advisor and by a second reader from a different

department. The course grade is determined by the thesis faculty advisor and by the environmental science program honors coordinator. This course is required for graduation with honors in environmental science. Prerequisites: ENV 3560, a GPA of at least 3.45 overall and in environmental science courses, the approval of the proposed research topic and methods by the environmental science program honors coordinator, and the assignment of a research thesis advisor during the semester prior to enrollment in this course. ENV 4510 may be repeated for a total credit of three semester hours.

**ENV 4900. Internship in Environmental Science (1-12).F;S.**

Independent, supervised work in Environmental Science at a company, government agency, or non-profit organization. Prerequisite: Jr standing. May be taken for a maximum of 12 semester hours. Only three total hours may count toward major requirements. Graded on an S/U basis.

## Fermentation Sciences Program (FER)

Seth D. Cohen, Director

The Bachelor of Science degree in Fermentation Sciences is intended to prepare students for successful careers within the industry, business development, or in basic and applied research and development. The FER curriculum ties together multiple scientific and business disciplines necessary for students to understand the broad application of their skills and expertise. The coursework required for the degree program demands that students demonstrate an understanding of advanced principles in chemistry, biology, and mathematical sciences as well as business and marketing. Upper-level coursework in Fermentation Sciences builds on the advanced principles of these disciplines and necessitates the rigor of the curriculum. Students are expected to engage in considerable hands-on experimentation and experience through on- and off-campus internships.

Students within Fermentation Sciences are strongly encouraged to pursue a minor in the specific discipline of their interest. This will help broaden student experiences and hone their skills within a specific field. This is especially pertinent for students considering graduate studies or careers in applied research.

Students successful in the Fermentation Sciences program are poised for careers ranging from the production of beer, spirits, and wine, to other foods and beverages. In addition, the skills and expertise are relevant for careers in rapidly advancing fields such as food science, bio-processing of fuels, natural products, bio-pharmaceuticals, water and waste remediation, and agricultural sciences, as well as graduate studies or research and development. All of these fields demand professionals with a solid understanding of core scientific principles, business management, and strong problem-solving skills.

### The Bachelor of Science degree in Fermentation Sciences (118A/01.1099)

The program of study is available at: [www.programsofstudy.appstate.edu/fermentation-sciences-bs-118a-2016-2017](http://www.programsofstudy.appstate.edu/fermentation-sciences-bs-118a-2016-2017)

### Courses of Instruction in Fermentation Sciences (FER)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

#### FERMENTATION SCIENCES (FER)

##### **FER 1000. Principles of Fermentation Sciences (3).S.**

*GEN ED: Integrative Learning Experience (Theme: "Sustainability and Global Resources")*

Principles of fermentation sciences will cover the history, culture, and fundamental science of the fermentation processes, basic food science, microbiology, chemistry, biology, natural products chemistry and nutrition. FER 1000 will introduce concepts relating to the cultivation of grapes, grains and hops utilized in the fermentation industry. Students will be exposed to the basic methods and principles behind the fermentation process including production of cheese, bread, vegetables, meats, beer, wine, bio-fuels and distilled products.

##### **FER 2000. Social Implications of Fermented Beverages (1).F.**

This seminar will provide an overview and discussions around the historical, cultural, social, moral, ethical and legal aspects of alcohol production and consumption as well as metabolism and human physiology. This includes discussion of ideas such as alcohol consumption in the context of various theological and cultural principles and beliefs. Other exercises, such as debating the merit of alcohol production from food-crops, will provide students with an opportunity to exchange ideas and engage in scholarly debate through verbal and written communication. Lectures and discussion will be lead by invited faculty and staff within their field of expertise (e.g., philosophy and religion, sociology, toxicology, biology).

##### **FER 3000. Viticulture: Vine Physiology and Vineyard Establishment (4).F;S.**

Viticulture will focus on the taxonomy, morphology, and cultivation installation and maintenance as well as vine physiology, pest and disease management, water relations and general quality/yield parameters. Discussions will highlight differences based on geographic locations and vine-climate interactions. Students will also gain hands-on experience with vine management and cultivation through visits and collaboration with local vineyards. Prerequisite: BIO 1801.

## **FER 3200. Facility Design and Operation (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course will provide students with knowledge relevant to the design and operation of standard production facilities. Scientific principles will include fluid and mass transfer and thermodynamics. Students will gain experience interpreting systems and process identification diagrams and equipment design, layout and flow-through. This course will be project-based, where students are required to research and design an appropriate facility including handling of raw materials, waste streams, fermentation, distillation and packaging including cost analysis. Projects will be undertaken in teams and require professional written/oral documentation and presentation.

## **FER 3500. Independent Study (1-4).On Demand.**

## **FER 3530-3549. Selected Topics (1-4).On Demand.**

## **FER 3560. Undergraduate Research (1-3).On Demand.**

The student will participate in a research project under the direction of a faculty member. This may include a research topic relating to fermentation, hop or grapevine development and canopy management, method development in chemistry or microbiology, application of analytical instrumentation, business or market research, or national/international collaboration (e.g., during study abroad). The approved project should be of significant impact for publication or oral presentation at a relevant scholarly meeting. A written project report will be mandatory for assignment of credits upon completion. May be repeated for a total credit of four semester hours.

## **FER 4100. Wine Production and Analysis (4).F.**

Wine production and analysis will lead students through the processing of grapes from the vine to the bottle. Lectures will provide an overview of the winemaking process and the scientific principles associated with each step including microbiology, biochemistry, chemistry, and standard equipment and instrumentation used in the process. The fundamental aspects of berry composition, fermentation kinetics, sanitation, aging and bottling will be discussed. Students will have hands-on experience with micro-scale fermentations and standard laboratory analysis of fruit, must and finished wines. Field trips will include visits to local vineyards and wineries to provide relevant exposure to facilities and the winemaking process. Lecture three hours, laboratory three hours. Prerequisites: CHE 2210 and CHE 2211. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **FER 4200. Brewing Science and Analysis (4).S.**

This course will provide a rigorous coverage of the chemical and physical processes that go into brewing malted beverages, including coverage of the hops, malt, and yeast varieties and how they are combined to produce specific styles and flavors of beers. Flavor and aroma compounds will be quantified by students using appropriate instrumental techniques. Lecture three hours, laboratory three hours. Prerequisites: CHE 2210 and CHE 2211. (Same as CHE 4200.)

## **FER 4300. Sensory Analysis of Wine and Beer (3).S.**

*GEN ED: Capstone Experience*

FER 4300 serves as a final course in the FER series intended to provide students with a competency in sensory science and its relevance to food and beverage production. Students must be 21 years of age although the "sip and spit" technique for proper sensory analysis will be advocated. The course will provide students with the basic principles involved in sensory perception and how these skills are used for quality assurance and detection in the food industry. Students should be adequately prepared to methodically assess products, identify characters and faults, and relate them to scientific principles presented in previous courses and experiences. Competency in statistics and methods of determining statistical differences is requisite for this course. Aspects of branding, marketing, business, laws and liabilities will be integrated into class discussions and projects. Prerequisites: FER 4100 or FER 4200/CHE 4200, and STT 2810.

## **FER 4530-4549. Selected Topics (1-4).On Demand.**

## **FER 4900. Internship (1-12).On Demand.**

Supervised practical experience in a business/field setting or laboratory setting, e.g. at a winery, brewery, vineyard, or in a natural production or processing facility. Requirements will include good academic standing, a clear agreement on the part of the industrial partner, and a commitment to excellence on the part of the student participant. A final report and an exit presentation are required. Graded on an S/U basis. Prerequisite: students must obtain approval of the program director before enrolling.

## Department of Geography and Planning (GHY/PLN)

*Kathleen A. Schroeder, Chair*

*Robert N. Brown*

*Jeffrey D. Colby*

*Richard J. Crepeau*

*Kara E. Dempsey*

*Robin L. Hale*

*Derek J. Martin*

*Michael W. Mayfield*

*Jessica J. Mitchell*

*L. Baker Perry*

*John C. Pine*

*Elizabeth Shay*

*Peter T. Soulé*

*Maggie M. Sugg*

*Saskia L. van de Gevel*

*James E. Young*

The major objectives of the Department of Geography and Planning are to:

1. Promote the understanding of the spatial dimensions of human behavior within the physical and cultural systems of the earth and the role of planning in achieving improvement in those systems
2. Offer a well-balanced curriculum which will aid students in finding productive places in society
3. Maintain a faculty and staff dedicated to teaching, scientific research, and community and regional service

### The Bachelor of Arts degree in Geography (242A/45.0701)

The program of study is available at: [www.programsofstudy.appstate.edu/geography-ba-242a-2016-2017](http://www.programsofstudy.appstate.edu/geography-ba-242a-2016-2017)

### The Bachelor of Science degree in Community and Regional Planning (218A/04.0301)

The program of study is available at: [www.programsofstudy.appstate.edu/community-and-regional-planning-bs-218a-2016-2017](http://www.programsofstudy.appstate.edu/community-and-regional-planning-bs-218a-2016-2017)

### The Bachelor of Science degree in Geography (without teacher licensure) (241\*/45.0701)

For the Bachelor of Science degree in Geography, students must select one of the following concentrations:

#### General Geography concentration (241C)

The program of study is available at: [www.programsofstudy.appstate.edu/geography-bs-general-geography-241c-2016-2017](http://www.programsofstudy.appstate.edu/geography-bs-general-geography-241c-2016-2017)

#### Geographic Information Systems (GIS) concentration (241D)

The program of study is available at: [www.programsofstudy.appstate.edu/geography-bs-geographic-information-systems-241d-2016-2017](http://www.programsofstudy.appstate.edu/geography-bs-geographic-information-systems-241d-2016-2017)

**A minor in Community and Regional Planning (218/04.0301)** consists of 19 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/community-and-regional-planning-minor-218-2016-2017](http://www.programsofstudy.appstate.edu/community-and-regional-planning-minor-218-2016-2017)

**A minor in Geography (242/45.0701)** consists of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/geography-minor-242-2016-2017](http://www.programsofstudy.appstate.edu/geography-minor-242-2016-2017)

### Undergraduate Certificate in Geographic Information Systems (GIS) (140A/45.0701)

The program of study is available at: [www.programsofstudy.appstate.edu/geographic-information-systems-gis-certificate-140a-2016-2017](http://www.programsofstudy.appstate.edu/geographic-information-systems-gis-certificate-140a-2016-2017)

## Honors Program in Geography and Planning

The Department of Geography and Planning offers honors courses on all undergraduate levels, which are open to students who have distinguished themselves. Honors courses carry full credit toward the majors in Geography or Community and Regional Planning, or for non-majors' full elective credit. Subject to the recommendations of the departmental honors committee, a student will be considered for graduation with "honors in geography" or "honors in planning" upon successful completion of at least one semester of honors work in a designated section of a freshman/sophomore level course (GHY 1010, GHY 1020, and PLN 2410); one junior level honors course (GHY 3510 or PLN 3510); and the Senior Honors Thesis (GHY 4510 or PLN 4510). The junior level course may be substituted with a contract honors section of a 3000 or 4000 level course, or with a graduate level course. Students must earn a grade of 'B' or higher on all honors coursework taken to fulfill any honors requirements, while still maintaining a minimum GPA of 3.5.

## Master of Arts Degree

The Department of Geography and Planning offers a Master of Arts degree in Geography. Persons interested in this degree program are requested to consult the *Graduate Bulletin* for further information.



## Courses of Instruction in Geography (GHY) and Community and Regional Planning (PLN)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### GEOGRAPHY HONORS (GHY)

#### **GHY 3510. Advanced Honors Seminar in Geography (3).S.**

Seminar on selected geographic topics. Enrollment by invitation of the Department or by application. Barring repetitive content, qualified students may repeat course once. For enrollees, this course may substitute for the appropriate Geography elective.

#### **GHY 4510. Senior Honors Thesis (1-4).F;S.**

Independent study and research for an end product, the honors thesis; directed by a member of the geography department, supported by two additional faculty/readers, in all constituting the senior thesis committee. Prerequisite: completion of an approved honors sequence, including GHY 3510. Enrollment by qualified applicants only. For enrollees, this course may substitute for a Geography & Planning free elective or other course as agreed upon by the Geography & Planning Honors Advisor.

### GEOGRAPHY (GHY)

#### **GHY 1010. Introduction to Physical Geography (3).F;S.**

*GEN ED: Integrative Learning Experience (Theme: "Sustainability and Global Resources")*

A comprehensive study of our physical earth emphasizing the distributional patterns and inter-relatedness of its land, soils, natural vegetation and habitat, and weather and climate. Examinations of environmental issues including hazardous wastes, acid rain, floods, droughts, deforestation and air pollution. (CORE: SOCIAL SCIENCES) (Global Learning Opportunity course)

#### **GHY 1011. Global Climate Change (4).F;S.**

*GEN ED: Science Inquiry Perspective (Theme: "Global Environmental Change")*

This course provides a scientific examination of global climate change, including the physical patterns within the atmosphere, climate change due to both natural and anthropogenic forcing mechanisms, and projections of future change at various spatial scales. Students will employ the scientific method in a series of field-based experiments to answer problems and address issues that complement the lecture material and focus on aspects of global climate change. Lecture three hours, laboratory two hours. (Global Learning Opportunity course)

#### **GHY 1012. Global Change of the Biosphere (4).F;S.**

*GEN ED: Science Inquiry Perspective (Theme: "Global Environmental Change")*

An introduction to the patterns, dynamics, and causes of change in the biosphere. Students will examine the fundamental geographic determinants of biodiversity patterns and the natural and human factors that drive biotic change, including climate change, land cover change, and biological invasions. Students will use the scientific method in hands-on laboratory activities to investigate causal relationships between global change processes and biome shifts, species migration, extinction, and loss of biodiversity. Lecture three hours, laboratory two hours. (Global Learning Opportunity course)

#### **GHY 1020. World Regional Geography (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

The study of our contemporary world divided into the regions of North America, Central and South America, Africa, the Middle East, Europe, the Russian Realm, and South, East and Southeast Asia. Examination of global issues including population problems, technology and culture change, rural versus urban development, resource exportation and international trade, political identity and international conflict. (MULTI-CULTURAL) (CORE: SOCIAL SCIENCES) (Global Learning Opportunity course)

#### **GHY 1040. Introduction to Human Geography (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course examines the spatial patterns of human society. By focusing on the description and analysis of the spatial dimensions of human language, economy, religion and government, this course is a celebration of human diversity. Lectures, readings, films, slides, writing exercises, map quizzes and class discussions will help the student to understand and appreciate the geography of the human mosaic. (MULTI-CULTURAL) (CORE: SOCIAL SCIENCES)

#### **GHY 2310. Cartographic Design and Analysis (3).F;S.**

An introduction to the relevance of maps, techniques of map interpretation, and map construction. Students will develop a knowledge of basic computer operations, cartographic communication theory, map use, data selection and processing, map design, and computerized map production techniques. Lecture two hours, laboratory two hours. (NUMERICAL DATA; COMPUTER) (ND Prerequisite: passing the

math placement test or successful completion of MAT 0010.)

**GHY 2500. Independent Study** (1–4).F;S.

**GHY 2812. Geospatial Data and Technology** (3).F;S.

An introduction to geospatial data and technology used by geographers, planners and others. This includes the collection, management and output of geospatial data. Topics include computing fundamentals, Geographic Information Systems (GIS), Global Positioning System (GPS), remote sensing, and database management systems. Lecture two hours, laboratory two hours. (Same as PLN 2812.) (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**GHY 3000. Communicating Geographic Information** (3).F;S.

*GEN ED: Junior Writing in the Discipline (WID)*

This course introduces students to writing styles in geography and provides practice with written and oral communication skills in a variety of academic and professional contexts. Students will critically evaluate geographic writing and oral presentations, use writing as a means of enhancing clarity of thought and depth of knowledge in geography, and communicate effectively in academic and professional settings. Prerequisites: junior standing and registration is restricted to geography majors; and RC 2001 or its equivalent.

**GHY 3011. Europe and the Russian Realm** (3).S.

A study of this region's contemporary geographic condition. Emphasis on resource development, superregional cooperation, environmental problems, industrial shifts, marketing and international trade, relations with the United States, and the potential for internal and international political stress.

**GHY 3012. U.S. and Canada** (3).S.

A survey of the physical, demographic, economic, and political patterns in the United States and Canada, with a focus on characteristics of regions. Students will examine historical and contemporary factors contributing to the geographic diversity and interdependence of the two countries.

**GHY 3013. North Carolina** (3).F;S.

The study of contemporary conditions and problems of land and people in a southern state. Topics include: economic development and potential for change, population mobility, urbanization and the impact of development in rural and environmentally fragile areas, regional impact of changing life styles, national and international interdependence. Recommended for future North Carolina teachers, public administrators and business leaders.

**GHY 3014. Geography of Latin America** (3).F.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Las Americas")*

This course stresses the diversity of physical environments, cultural traditions, and economic activities within Latin America and places special emphasis on the unique approaches that geographers bring to the study of this region. This course develops understanding of spatial patterns in Latin America through current readings, class discussions, lectures, slides, and videos.

**GHY 3015. The Geography of Asia** (3).F.

An introductory survey of the region. Emphasis is placed on the geographical patterns and the similarities and differences in physical and cultural environments, population growth, mobility and urbanization; natural resource location and exploitation; economic growth and international linkages; the environmental implications of development; and political stability and change.

**GHY 3016. Geography of the American South** (3).S.

A geographical examination of the natural regions, cultural landscapes, and regional identity of the American South. Topics include colonial settlement, spatial patterns of slavery and race, regional folk culture, geography of economic activity, globalization and social change, and patterns of physical geography. A focus will be the influence of the American South on American cultural identity. (Global Learning Opportunity course)

**GHY 3100. Weather and Climate** (3).S.

This course focuses on the basic principles, elements, and controls of meteorology and climatology. The primary objectives are to familiarize the student with major components of the earth's atmosphere, to enhance the student's understanding of the spatial distribution of meteorological elements, and to demonstrate the interactions between human activities and atmospheric elements. Prerequisite: GHY 1010 or permission of the instructor.

**GHY 3110. Vegetation, Soils, and Landforms** (3).F.

A systematic analysis of the spatial characteristics of vegetation, soils, and landforms especially as they interact in the North American realm. Consideration is given to the processes affecting the ecosystem and their relation to people's activities. Lecture two hours,

laboratory two hours. Several extensive field trips are taken. Prerequisite: GHY 1010, or permission of the instructor.

**GHY 3130. Geography of Biodiversity (3).S.**

The study of past and present geographic patterns of biodiversity. The course focuses on the living environment, emphasizing the physical and ecological conditions and processes that influence the distributions of organisms, communities, and ecosystems. Topics include past climates and continental configurations, dispersal and invasion, patterns of speciation and extinction, biodiversity, and application of biogeographic concepts of environmental conservation.

**GHY 3140. Mountain Geography (3).S.**

This course explores the physical and human dimensions of mountain environments. Specific topics include: global change in mountain environments, mountain meteorology, mountain hazards, glacial processes, mountain peoples and cultures, health and health care, human adaptation to mountains, and sustainable mountain development. Case studies are drawn from mountain regions around the world, especially the Appalachians, Andes, and Himalayas, with regional emphasis varying by the instructor.

**GHY 3210. Economic Geography (3).S.**

The geographic analysis of world economic systems, regions and patterns, as affected by interrelationships between both human and physical variables. Emphasis will be equally divided between theoretical and real-world patterns. Specific subjects of study include agriculture, manufacturing, services, transportation, urban/rural relationships, international markets and trade, and cultural differences in economic patterns. Recommended for business majors and required for geography majors. Prerequisite: one introductory course in either geography or economics.

**GHY 3310. Environmental Remote Sensing (3).S.**

An introduction to remote sensing technologies used for environmental and geographic analysis. Topics include aerial photo interpretation, satellite sensors, analysis of satellite imagery, thermal and radar sensors, and applications of remote sensing technology for vegetation, hydrology, landform, settlement, and economic development studies. Lecture two hours, laboratory two hours.

**GHY 3320. Environmental Issues in Appalachia (3).F.**

This course offers a systematic study of the physical and cultural setting of Appalachia. Topics include weather and climate, landforms, soils, vegetation, population, settlement and resource use. Emphasis is placed on the various interactions between people and their environment (e.g. air and water pollution, accelerated erosion, landslides). Field trips will be taken.

**GHY 3500. Independent Study (1-4).F;S.**

**GHY 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**GHY 3530-3549. Selected Topics (1-4). On Demand.**

**GHY 3800. Introduction to Quantitative Methods (3).F;S.**

This course will introduce students to a suite of statistical methods used to address research and applied problems in the fields of geography and planning. The course will include discussions of geographic data, sampling techniques, probability theory, parametric/non-parametric techniques in hypothesis testing, and introductory spatial statistics. Classes will address conceptual and theoretical aspects of each technique in conjunction with manual and software-based analyses of geographic data. (Same as PLN 3800.) (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**GHY 3812. Introduction to GIS (3).F;S.**

The course covers principles of geographic information science and applied practice with geographic information systems (GIS). Emphasis will be on the primary functions of GIS use, map design, and spatial analysis relevant to social and environmental issues through laboratory exercises and projects. Lecture two hours, laboratory two hours. Prerequisites: GHY 2310 and GHY 2812 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**GHY 3820. GIS for the Environmental and Social Sciences (3).F.**

The application of geographic information science (GIS) to the environmental and social sciences. Topics include geospatial data, coordinate systems, cartographic design, remote sensing, and spatial analysis. Lab exercises complement classroom lecture and discussion. An independent project will allow students to apply GIS concepts and skills to a research topic in their discipline.

**GHY 4200. Urban Geography (3).F.**

Spatial organization of human activity focusing on the evolution and organization of city systems, the internal structure of urban areas, and urban problems, policies and planning with emphasis on problem solving and field work. The course is applied in nature

and recommended for majors in social studies, business, and planning.

**GHY 4230. Political Geography (3).** On Demand.

Spatial aspects of territoriality, boundaries, voting patterns, government programs, formation of political units, political development and integration, and environmental policy.

**GHY 4240. Transportation Geography and Planning (3).**F.

This course examines the link between land use and the way people travel. Students will have the opportunity to study metropolitan evolution, historical trends in transportation, and the combined effect of the two. Additional study explores the many facets of travel (foot, bike, transit, automobile) and specific land use planning practices that attempt to offer more choices for transportation and land use. (Same as PLN 4240.) [Dual-listed with GHY 5240.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GHY 4510. Senior Honors Thesis (1-4).**F;S.

Independent study and research for the honors thesis; directed by a member of the geography faculty, supported by two additional faculty/readers, in all constituting the honors thesis committee. Prerequisite: completion of an approved honors sequence, including GHY 3510 (or an approved 3000 or 4000 honors-level substitute). Enrollment by qualified applicants only. For enrollees, this course may substitute for a Geography free elective or other course as agreed upon by the Geography & Planning Honors Advisor.

**GHY 4530-4549. Selected Topics (3).**On Demand.

**GHY 4620. Synoptic and Regional Climatology (3).**On Demand.

This course focuses on atmospheric controls and processes at the synoptic scale. Basic meteorological elements and concepts such as jet streams, long-range forecasting, cyclogenesis, and vorticity are discussed. Local and regional climatic patterns and anomalies are examined with respect to the dynamics of the large-scale circulation features of the atmosphere. Prerequisite: GHY 3100 or permission of the instructor. [Dual-listed with GHY 5620.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GHY 4810. Digital Image Processing (3).**F.

Course focuses on acquisition of digital images, image processing, image enhancement techniques for interpretation, and applications of remote sensing technology. Lecture two hours, laboratory two hours. Prerequisites: GHY 2812, GHY 3310 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with GHY 5810.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GHY 4812. Advanced GIS (3).**F;S.

GIS is a wide ranging topic encompassing five distinct functions within a total system context. These functions are: 1) data input, 2) data storage, 3) data management, 4) data manipulation and analysis, and 5) data output. Emphasis will be placed on the applications frequently found in geography and planning. This course is project oriented to give the student maximum experience in each of the functions of a GIS and to allow the student to associate the technical areas of GIS with real-world scenarios. Lecture two hours, laboratory two hours. Prerequisite: GHY 3812 or equivalent experience required. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with GHY 5812.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GHY 4814. Principles of GeoComputation (3).**F;S.

GeoComputation is spatial analysis with or without a geographic information system (GIS). The increasing power of computational environments enables the creation of new methods for analyzing geographic data. This course will include principles of GeoComputations, GIS programming, and linking GIS with environmental models. Lecture two hours, laboratory two hours. Prerequisite: GHY 3812 or permission of the instructor. [Dual-listed with GHY 5814.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GHY 4820. Geographical Hydrology (3).**S.

The study of the occurrence and movement of water on the earth, with a focus on applications of surface hydrology. Water movement through the hydrologic cycle, flood analysis, and water use/water policy are emphasized. Prerequisites: GHY 1010, GHY 3100, GHY 3110 or with permission of the instructor. [Dual-listed with GHY 5820.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GHY 4830. Senior Seminar (3).**F;S.

*GEN ED: Capstone Experience*

This course provides a capstone experience, bringing together a variety of geography and planning skills, abilities and knowledge. It

integrates academic concepts with real-world experience and helps the student advance from the undergraduate academic environment to a geography career and/or to graduate study. (Same as PLN 4830.)

## **GHY 4900. Internship in Geography and Planning (3–12).F;S.**

The internship emphasizes field work in the areas of locational analysis, environmental assessment and impact, and/or land use planning and is conducted jointly with an appropriate public or private agency. The type of internship, location of field experience, and sponsoring agency must be satisfactory to the student and to the department. A research paper is required. Graded on an S/U basis.

## **COMMUNITY AND REGIONAL PLANNING (PLN)**

### **PLN 2410. Town, City and Regional Planning (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

Introduction to the principles, philosophies, processes, and theories of planning. Emphasis is placed on planning approaches to the solution of contemporary regional, urban, and environmental problems. Students may choose to participate in field trips. (Global Learning Opportunity course)

### **PLN 2500. Independent Study (1–4).F;S.**

### **PLN 2812. Geospatial Data and Technology (3).F;S.**

An introduction to geospatial data and technology used by geographers, planners and others. This includes the collection, management and output of geospatial data. Topics include computing fundamentals, Geographic Information Systems (GIS), Global Positioning System (GPS), remote sensing, and database management systems. Lecture two hours, laboratory two hours. (Same as GHY 2812.) (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

### **PLN 3432. Planning Techniques (4).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

The course helps students develop skills and knowledge of planning methods and learn techniques that planners use to accomplish tasks in the planning office. The class combines formal lectures, discussion, and in-class exercises. Prerequisites: PLN 2410 and GHY 2812 or PLN 2812; and RC 2001 or its equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

### **PLN 3500. Independent Study (1–4).F;S.**

### **PLN 3510. Advanced Honors Seminar in Planning (3).S.**

Seminar on selected community and regional planning topics. Enrollment by invitation of the Department or by application. Barring repetitive content, qualified students may repeat course once. For enrollees, this course may substitute for the appropriate Planning elective.

### **PLN 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

### **PLN 3530–3549. Selected Topics (1–4). On Demand.**

### **PLN 3730. Land Use Regulations (3).F;S.**

This course teaches students about the uses and limitations of land use regulations at the local government level. Topics include: the U.S. system of land use controls and constitutional limitations on public control of private property; the structure of local zoning and subdivision ordinances; legal and administrative perspectives on land use regulations in local government decision-making; landowner rights and concerns; the site review process; environmental land use regulations; and planning ethics. Prerequisite: PLN 2410.

### **PLN 3800. Introduction to Quantitative Methods (3).F;S.**

This course will introduce students to a suite of statistical methods used to address research and applied problems in the fields of geography and planning. The course will include discussions of geographic data, sampling techniques, probability theory, parametric/non-parametric techniques in hypothesis testing, and introductory spatial statistics. Classes will address conceptual and theoretical aspects of each technique in conjunction with manual and software-based analyses of geographic data. (Same as GHY 3800.) (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

### **PLN 4240. Transportation Geography and Planning (3).F.**

This course examines the link between land use and the way people travel. Students will have the opportunity to study metropolitan

evolution, historical trends in transportation, and the combined effect of the two. Additional study explores the many facets of travel (foot, bike, transit, automobile) and specific land use planning practices that attempt to offer more choices for transportation and land use. (Same as GHY 4240.)

**PLN 4425. Task-Oriented Group Facilitation Methods (3).S.**

Develop leadership and group facilitation skills through hands-on instruction that demonstrates how to conduct focused conversations, lead workshops, and accomplish action planning. Application opportunities using these skills include community development, organizational planning, education, government, and other occasions when people want to actively participate in the creation of their own futures. (Same as COM 4425.)

**PLN 4450. Planning for Sustainable Communities (3).S**

This course familiarizes students with the opportunities and challenges of sustainable development in the context of community experience and civic life in the U.S. Emphasis is placed on linking collective behaviors; the social, ecological, and economic impacts of those behaviors; and strategies for increasing sustainability at the community scale. [Dual-listed with PLN 5450.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PLN 4460. Environmental Policy and Planning (3).S.**

This course familiarizes students with the philosophical, legal, and institutional foundations of environmental policy and planning in the United States. Students will have the opportunity to study policies and planning tools for federal, state, and local agencies. [Dual-listed with PLN 5460.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PLN 4470. Community Development (3).F.**

This course introduces students to conventional and alternative approaches to community development. Students will have the opportunity to study aims and strategies employed by community development professionals, activists, and community members in urban and rural settings. Topics for reading and discussion include: poverty and race, affordable housing, economic revitalization, environmental justice, and public participation in planning. [Dual-listed with PLN 5470.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PLN 4510. Senior Honors Thesis (1-4).F;S.**

Independent study and research for the honors thesis; directed by a member of the planning faculty, supported by two additional faculty/readers, in all constituting the honors thesis committee. Prerequisite: completion of an approved honors sequence, including PLN 3510 (or an approved 3000 or 4000 honors-level substitute). Enrollment by qualified applicants only. For enrollees, this course may substitute for a Geography & Planning free elective or other course as agreed upon by the Geography & Planning Honors Advisor.

**PLN 4530-4549. Selected Topics (3).On Demand.**

**PLN 4700. Planning Studio (3).S.**

This advanced undergraduate studio course helps planning majors apply planning knowledge and skills through a project that addresses a current planning concern. Under faculty supervision, students follow a formal planning process; locate and exchange information for project development and support; follow organizational, analytical, participatory, and interpretive procedures for developing and implementing project phases; practice presentation skills; and produce written and visual materials appropriate to the planning field. Open to planning majors; others by permission of the instructor.

**PLN 4830. Senior Seminar (3).S.**

*GEN ED: Capstone Experience*

This course provides a capstone experience, bringing together a variety of planning and geography skills, abilities and knowledge. It integrates academic concepts with real-world experience and helps the student advance from the undergraduate academic environment to a planning career and/or to graduate study. (Same as GHY 4830.)

**PLN 4900. Internship in Geography and Planning (3-12).F;S.**

The internship emphasizes field work in the areas of locational analysis, environmental assessment and impact, and/or land use planning and is conducted jointly with an appropriate public or private agency. The type of internship, location of field experience, and sponsoring agency must be satisfactory to the student and to the department. A research paper is required. Graded on an S/U basis.



## Department of Geology (GLY)

*William P. Anderson, Jr., Chair*

*William P. Anderson, Jr.*

*Sarah K. Carmichael*

*Gabriele M. Casale*

*Ellen A. Cowan*

*Cole T. Edwards*

*Chuanhui Gu*

*Steven J. Hageman*

*Andrew B. Heckert*

*Jamie S.F. Levine*

*Cynthia M. Liutkus-Pierce*

*Scott T. Marshall*

The fundamental purpose of the Department of Geology is to promote a scientific understanding of earth systems - an awareness essential to an environmentally sound and sustainable future for the human race. The specific purposes of the Department of Geology are:

1. To provide all students with the opportunity to learn about the nature of science and basic scientific principles through the study of geology
2. To introduce students to the many ways in which geology is interwoven into the fabric of modern civilization
3. To provide students with an understanding of the interrelationships of the basic parts of Earth Systems
4. To provide students who seek a career in geology with the sound background for productive work in the profession and in graduate studies
5. To provide present and future teachers with the knowledge and methods necessary for competent instruction in the earth and environmental sciences
6. To provide members of the public with the opportunity to gain a better understanding of the Earth Systems of which they are a part

A major in geology leading to either the Bachelor of Arts degree or the Bachelor of Science (non-teaching) degree is appropriate for those students who intend to pursue graduate studies in Geology. The Bachelor of Science (non-teaching) degree is recommended for students who seek a career at the Bachelor degree level.

### **The Bachelor of Arts degree in Geology (119A/40.0601)**

The program of study is available at: [www.programsofstudy.appstate.edu/geology-ba-119a-2016-2017](http://www.programsofstudy.appstate.edu/geology-ba-119a-2016-2017)

### **The Bachelor of Science degree in Geology (244A/40.0601)**

The program of study is available at: [www.programsofstudy.appstate.edu/geology-bs-244a-2016-2017](http://www.programsofstudy.appstate.edu/geology-bs-244a-2016-2017)

**The Bachelor of Science degree in Geology (non-teaching) (259\*/40.0601) with a concentration in Environmental Geology (259C)** will provide a background for students who seek a career or graduate work in which they apply geological principles to the solution of environmental problems.

The program of study is available at: [www.programsofstudy.appstate.edu/geology-bs-environmental-geology-259c-2016-2017](http://www.programsofstudy.appstate.edu/geology-bs-environmental-geology-259c-2016-2017)

**The Bachelor of Science degree in Geology (non-teaching) (259\*/40.0601) with a concentration in Paleontology (259D)** will provide a background for students who seek graduate work in various fields of paleontology, paleobiology or the oil and gas industry.

The program of study is available at: [www.programsofstudy.appstate.edu/geology-bs-paleontology-259d-2016-2017](http://www.programsofstudy.appstate.edu/geology-bs-paleontology-259d-2016-2017)

**The Bachelor of Science degree in Geology (non-teaching) (259\*/40.0601) with a concentration in Quantitative Geoscience (259E)** will provide a background for students interested in pursuing professional careers or graduate study in areas that demand rigorous quantitative and numerical skills. These areas may include, but are not limited to: environmental geology and sciences, geophysics, hydrology/hydrogeology, tectonics/seismology and paleontology.

The program of study is available at: [www.programsofstudy.appstate.edu/geology-bs-quantitative-geoscience-259e-2016-2017](http://www.programsofstudy.appstate.edu/geology-bs-quantitative-geoscience-259e-2016-2017)

**The Bachelor of Science degree in Geology (259\*/40.0601) with a concentration in Secondary Education (259F)[T] (with teacher licensure)**

The program of study is available at: [www.programsofstudy.appstate.edu/geology-bs-secondary-education-259f-2016-2017](http://www.programsofstudy.appstate.edu/geology-bs-secondary-education-259f-2016-2017)

### **A minor in Geology (244/40.0601)** (17 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/geology-minor-244-2016-2017](http://www.programsofstudy.appstate.edu/geology-minor-244-2016-2017)

### Honors Program in Geology

The Department of Geology offers an honors program in geology. Admission to the honors program requires completion of GLY 2250 (Evolution of the Earth lecture and lab) and a minimum grade-point average, both overall and in the major, of 3.40. To graduate with "honors in geology," a student must have a minimum grade point average of 3.45, overall and in geology, and must take a total of nine semester hours of geology with honors at the 2000 level or above with a grade of "B" or better in each course. The required honors thesis in geology is the three-credit course GLY 4510 (Senior Honors Thesis). The Geology Honors Thesis must be approved by two readers, with the thesis director from the Department of Geology, in order to graduate with honors in geology.

### Courses of Instruction in Geology (GLY)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

#### GEOLOGY (GLY)

##### **GLY 1010. General Geology Laboratory** (1).F;S.

*GEN ED: Science Inquiry Perspective (Themes: "Restless Planet: Earth, Environment, and Evolution"; "Life, Earth, and Evolution"; "The Blue Planet"; and "Global Environmental Change")*

Laboratory exercises to supplement the study of topics listed under GLY 1101, GLY 1102, GLY 1103, GLY 1104, GLY 1105. Laboratory two hours. Prerequisite: 3 credit hours of geology or earth and environmental science. Credit is not allowed for both GLY 1010 and any of the following: GLY 1101, GLY 1102, GLY 1103, GLY 1104, GLY 1105.

##### **GLY 1101. Introduction to Physical Geology** (4).F;S.

*GEN ED: Science Inquiry Perspective (Theme: "Restless Planet: Earth, Environment, and Evolution")* Introduction to the composition, origin, and modification of Earth materials through the study of the Earth's interacting dynamic systems; study and application of the scientific method with reference to the principles of geology as demonstrated through use of case histories and laboratory material. Lecture three hours, laboratory two hours. (ND prerequisite: passing the math placement test or successful completion of MAT 0010.) (Global Learning Opportunity course)

##### **GLY 1102. Introduction to Historical Geology** (4).F;S.

*GEN ED: Science Inquiry Perspective (Themes: "Life, Earth, and Evolution" and "Restless Planet: Earth, Environment, and Evolution")*

A study of the historical and biological aspects of the science of geology – tectonic models for understanding earth structure and lithospheric history, the physical and paleontological bases for understanding geologic time and dating rocks, biological principles relating to the evolution of organisms revealed in the fossil record, facts and theories of biological evolution, a survey of the evolution of organisms through time, the geologic history of North America, and discussion of the scientific aspects of the scientific-religious controversy of evolution vs. creationism. Lecture three hours, laboratory two hours. (ND prerequisite: passing the math placement test or successful completion of MAT 0010.) (Global Learning Opportunity course)

##### **GLY 1103. Environmental Change, Hazards, and Resources** (4).F;S.

*GEN ED: Science Inquiry Perspective (Themes: "Restless Planet: Earth, Environment, and Evolution" and "Global Environmental Change")*

A survey of the chemical and physical processes that change the Earth's crust and surface creating geologic hazards and environmental problems for people; human perturbations of the environment that directly and indirectly affect geological change and human life, such as mining, waste disposal, and agricultural practices; and the principles of origin, distribution, availability, environmental consequences of use, and exploration of the Earth's mineral and water resources. Lecture three hours, laboratory two hours. (ND prerequisite: passing the math placement test or successful completion of MAT 0010.) (Global Learning Opportunity course)

##### **GLY 1104. Water: Mountains to Sea** (4).F;S.

*GEN ED: Science Inquiry Perspective (Themes: "The Blue Planet" and "Global Environmental Change")*

A study of the interaction between terrestrial water and geological phenomena. The course applies the scientific method to the study of the continental components of the hydrologic cycle. It also focuses on the interaction of water with the rock and plate tectonic cycles. Lecture three hours, laboratory two hours. (Global Learning Opportunity course)

##### **GLY 1105. Oceanography** (4).S.

*GEN ED: Science Inquiry Perspective (Theme: "The Blue Planet")*

A study of physical, chemical, biological, and geological oceanography and their interrelationships. Lecture three hours, laboratory two hours. (ND prerequisite: passing the math placement test or successful completion of MAT 0010.) (Global Learning Opportunity course)

**GLY 1510. Geological Science Honors–Physical (4).** On Demand.

The origin, composition, and modification of the Earth and Earth materials through geologic time. Physical and chemical principles are used to evaluate Earth processes. This course, plus GLY 1511 will fulfill the one year general education natural science requirement. Prerequisite: MAT 1020 or high school equivalent. Enrollment by invitation of the department or by application. Lecture three hours, laboratory two hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**GLY 1511. Geological Science Honors–Historical (4).** On Demand.

Geochronology, based on biological and physical principles, and the biological principle of evolution and genetics are used in conjunction with geologic principles to evaluate Earth history and the history of life. Prerequisite: GLY 1510. Enrollment by invitation of the department or by application. Lecture three hours, laboratory two hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**GLY 1842. Dinosaurs: Then and Now (3).** F.

*GEN ED: Integrative Learning Experience (Theme: "How We Know What We Know About the Past: Method, Evidence, Knowledge")*

Perhaps no fossil animals are more familiar than the so-called "terrible lizards," the dinosaurs. Paleontology is, by definition, a blend of geology and biology, and this course will examine dinosaurs through both disciplinary lenses, as well as considering the history of dinosaur science and the prevalence of dinosaurs in popular culture. This class will survey all aspects of dinosaur paleontology, considering them as fossil organisms and examining their geological, temporal, and current and paleogeographic distribution.

**GLY 2250. Evolution of the Earth (4).**F;S.

This course consists of the integrated study of the physicochemical and biological systems of the earth and their evolution over time, including investigation of the persistent linkage of geologic and biologic systems over earth's history. This course provides a basis for understanding the stratigraphic, geochemical, geophysical, and paleontological data utilized to reconstruct earth history, including a survey of the 4.5 billion years of earth system history, with special emphasis on the tectonic history of North America as observed in the Appalachian Mountains. The course also provides a survey of the evolution of life over earth history, an introduction to the paleontological principles utilized in understanding the fossil record of evolution, and an introduction to advanced methods of rock and mineral identification and classification. Lecture three hours, laboratory three hours. Prerequisite: one of the following courses: GLY 1101, GLY 1102, GLY 1103, GLY 1104, or GLY 1105. (Global Learning Opportunity course)

**GLY 2301. The History of Coal from the Pennsylvanian to the Present (3).**S.

*GEN ED: Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

Coal has played a critical role in the history of the southern Appalachians. The geologic processes that formed coal and shaped the landscape into the steep ridges and hollows of the Appalachian coalfields have directly affected the human history of the region – from hunting in pre-colonial times, to settlement and subsistence farming in the 1800s, to mining and unionization in the 1900s, to mountaintop removal and natural gas/coalbed methane extraction in the last decade. This course covers the physical and chemical processes that form coal as well as the tectonic and geomorphologic processes that formed the landscape of the coalfields and shaped the agricultural practices of the early settlers. It examines the cultural history of coal mining and life in the company-owned coal camps and the political history of unionization through literature and film. The economics and environmental consequences of coal-fired power plants are discussed, and the environmental and occupational hazards associated with both underground and surface coal mining are analyzed from both a scientific and a sociological perspective. (Same as AS 2301.) (Global Learning Opportunity course)

**GLY 2500. Independent Study (1-4).**F;S.

**GLY 2745. Preparation of Geologic Reports (4).**F;S.

*GEN ED: Junior Writing in the Discipline (WID)*

This course provides instruction in various aspects of data collection, quantitative and qualitative analysis, and the preparation and presentation of written and oral geologic reports to standards of the profession. Topics include: survey of geologic literature and digital information retrieval services, research design, data management, ethics and safety. Data collection and mapping in the field is a major component of the course and vigorous hiking is required. Lecture three hours, laboratory three hours. Prerequisites: GLY 2250 and RC 2001 or its equivalent. Open only to Geology majors and minors.

**GLY 3025. Principles of Paleontology (3).**S.

Ancient environments and their change through geologic time are characterized using the fossil remains of organisms. The distribution of organisms through time and space is applied in this course to solve problems in geology, archeology and conservation biology. Biological evolution is studied in the scope of major events in Earth's history. Lecture two hours, laboratory three hours. Prerequisite(s): GLY 2250 (4 s.h.) OR 6 s.h. at the 2000-level or above in either BIO or ANT. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **GLY 3110. Environmental Regulation and Enforcement (3).F.**

The purpose of this course is to equip students with an understanding of environmental regulation in the U.S., from its origin as environmental policy to its application and enforcement. This course will provide students with an overview of 1) the role and responsibilities of regulators, 2) the various aspects of industry regulation (with special emphasis on the surface mining industry), and 3) aspects of environmental and safety regulation applicable to industry consultants. The course will conclude a survey of the different mechanisms of regulatory enforcement. Throughout the course, students will be asked to consider and evaluate the varying and often competing interests of industry, regulatory agencies, and private citizens who are impacted by environmental regulation (or the lack of it). This course will benefit any student who intends to work in environmental consulting, industry, government, or environmental advocacy. (Same as ENV 3110.)

## **GLY 3131. Geochemistry (3).S.**

Geochemistry examines the occurrence and movement of elements through global earth systems, including natural and human-modified environments. This course will introduce and investigate processes and factors controlling the geochemical cycles of elements within and between the hydrosphere, lithosphere, atmosphere and biosphere. Students will apply principles learned in lecture to real-world environmental problems. Lecture two hours, laboratory three hours. Prerequisites: GLY 2250, CHE 1101, CHE 1110 and MAT 1110, or permission of the instructor. (Global Learning Opportunity course)

## **GLY 3150. Principles of Structural Geology and Tectonics (3).F.**

The nature, classification, genesis, and quantification of microscopic and mesoscopic geologic structures, plus the history and fundamentals of tectonic theory, are the subjects of this course. Prerequisites: GLY 2250 and GLY 2745. Lecture two hours, laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) (Global Learning Opportunity course)

## **GLY 3160. Introduction to Geophysics (3).S.**

An introductory survey of whole earth geophysics through theory and practice. The theory portion of the course covers seismology (techniques in reflection and refraction seismology), geothermics, radioactive dating, surface processes, tectonics, orogenics, gravity and gravimetric techniques, electrical and magnetic surveys, and borehole logging. The practical component of the course includes the utilization of several of these methods to study subsurface environments. Lecture two hours, laboratory two hours. Prerequisites OR corequisites: one introductory geology course (GLY 1101, GLY 1102, GLY 1103, GLY 1104, GLY 1105, or GLY 1510) plus PHY 1103 (or PHY 1150), and MAT 1110, or permission of the instructor. (Same as PHY 3160.)

## **GLY 3220. Fundamentals of Mineralogy (3).F.**

The course focuses on (1) mineral identification and classification, (2) crystal chemistry, (3) X-ray diffraction, (4) analytical electron microscopy (SEM-EDS), and (5) the petrographic microscope. Lecture two hours, laboratory three hours. Prerequisite: GLY 2250 or consent of the instructor.

## **GLY 3333. Geomorphology (3).F.**

This course includes a study of the nature of landforms. Qualitative and quantitative aspects of landform analysis in the field and laboratory using maps and aerial photographs are introduced. Prerequisites: at least six hours of geology courses or consent of the instructor. Lecture two hours, laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **GLY 3455. Quantitative Data Analysis for Earth and Environmental Scientists (3).F.**

This course provides an introduction to processing, visualizing, and interpreting Earth and environmental science data using scientific computing techniques widely used in the related fields. Biweekly lectures introduce the relevant quantitative methods within the context of Earth and environmental science applications. Weekly laboratories emphasize the application of quantitative tools toward analysis of data in support of various modes of dissemination. Earth science applications include but are not limited to scripting and generating reproducible plots for reports, creating longitudinal stream profiles, temporal, spatial, and magnitude filtering of NEIC earthquake data, and contouring a local water table. Prerequisites: GLY 2250, MAT 1110, and PHY 1150, or permission of the instructor. (Same as ENV 3455.)

## **GLY 3500. Independent Study (1-4).F;S.**

## **GLY 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the University level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

## **GLY 3521. Secondary Science Field Experience (1).F;S.**

A supervised experience in the instructional process at the secondary school level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

Required of all teacher-licensure candidates in geology.

**GLY 3530–3549. Selected Topics** (1–4). On Demand.

**GLY 3680. Geoarchaeology** (3).S.

The course focuses on fundamental concepts in geoarchaeology and covers the application of earth science concepts, techniques and knowledge to the study of artifacts and the processes involved in the formation of the archaeological record. Preservation of paleoclimate signals in the geological record is considered. Case studies will consider specific North American and global examples. Prerequisite: four semester hours of geology or permission of the instructor. (Global Learning Opportunity course)

**GLY 3703. Issues in Environmental Geology** (3).S.

An in-depth study of critical issues in environmental geology on a regional and global scale. Topics to be covered include: natural hazards, water, mineral and energy resources, and related waste disposal problems under pressures of increasing human population and changing climate. This course will make use of case studies to illustrate specific examples. Lecture three hours. Prerequisite: Six credit hours of Geology courses or permission of instructor. (Global Learning Opportunity course)

**GLY 3715. Petrology and Petrography** (3).S.

This course includes a study of the microscopic, mesoscopic, and macroscopic features; the mineralogy, and the chemistry of rocks; and the study of petrogenetic theory. Prerequisites: CHE 1101 and CHE 1110; GLY 2250, GLY 2745, and GLY 3220. Lecture two hours, laboratory three hours.

**GLY 3800. Sedimentology and Stratigraphy** (3).S.

Sediments and sedimentary rocks make up the majority of materials found at the Earth's surface and can provide clues to ancient environments and paleoclimates, as well as provide reservoirs for fossil fuels and groundwater. The first part of this class explores the basic principles of sedimentation, particle transport mechanisms, depositional environments, diagenesis, and lithification of particles, and students learn to classify sedimentary rocks. The second half of the semester involves learning basic stratigraphic principles and the correlation of rock units across landscapes both at the Earth's surface and beneath the surface (including seismic reflection, biostratigraphy, chemostratigraphy, and borehole logging). Lecture two hours, laboratory three hours. Prerequisites: GLY 2250 and GLY 2745. (Global Learning Opportunity course)

**GLY 4110. Environmental Management and Impact Analysis** (3).S.

An applied course that introduces students to implementing National Environmental Policy Act (NEPA) regulations and guidelines. Prerequisites: ENV 3100 or GLY 3703, and GHY 3812. (Same as ENV 4110.)

**GLY 4210. Geology Seminar** (1).S.

*GEN ED: Capstone Experience*

Presentation and discussion of current topics, with emphasis on student projects, petrology, and surficial processes. Prerequisite: senior standing geology major.

**GLY 4501. Senior Research** (1-3).F;S.

Initiation of a laboratory or field research project under supervision of a geology faculty member. At least one semester prior to the start of the research project, the student must formally confer with a thesis advisor, submit and have approved a formal research proposal. Prerequisite: open only to senior geology majors with a minimum GPA of 3.25 in geology courses.

**GLY 4510. Senior Honors Thesis** (3).F;S.

Work, under the supervision of a geology faculty member, on the project begun in GLY 4501 (Senior Research). An oral report on the project is required and will be presented in a fall or spring geology seminar. This course also requires a minimum of five hours laboratory or field work per week. A written thesis will be presented to the department. A student who completes the thesis with a grade of "B" or higher and who graduates with a GPA of 3.5 in geology courses will be eligible to graduate with "honors" in geology. A student who completes the thesis with a grade of "A" and who graduates with a GPA of at least 3.7 in geology courses will be eligible to graduate with "highest honors" in geology. Prerequisite: GLY 4501; senior geology majors with a minimum GPA of 3.25 in geology courses.

**GLY 4630. Hydrogeology** (3).F.

The occurrence of groundwater resources, factors governing groundwater movement through aquifers, and an analysis of techniques for measuring a water resource are the focus of this course. Groundwater contamination and remediation methods will be introduced. Lecture two hours, laboratory three hours. Prerequisite or co-requisite: GLY 2250, MAT 1110, and PHY 1103 or PHY 1150. [Dual-listed with GLY 5630.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GLY 4705. Advanced Environmental and Engineering Geology (3).S.**

Field and laboratory analysis of problems arising from interactions between humans and Earth and application of geologic knowledge to the mitigation of these problems. Lecture two hours, laboratory three hours. Prerequisites: at least junior standing and a minimum of six semester hours of geology courses above the 1000 level, or permission of the instructor. [Dual-listed with GLY 5705.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**GLY 4835. Summer Field Geology (6).SS.**

An intensive five to six week practicum in making geologic maps, measuring sections, and using other field techniques. Prerequisites: GLY 3150, GLY 3715, and GLY 3800. [Dual-listed with GLY 5835.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. (Global Learning Opportunity course)



## Department of Government and Justice Studies (PS/CJ/PA)

*Phillip J. Ardoin, Chair*

*Marian R. Williams, Assistant Chair*

*Federiga Bindi*

*Mark D. Bradbury*

*Brian Bulla*

*Tammatha A. Clodfelter*

*George Ehrhardt*

*Robert D. Eskridge*

*Cary F. Fraser*

*William D. Hicks*

*Jefferson Holcomb*

*Yongbeom Hur*

*Ellen M. Key*

*Andrew M. Koch*

*Derrick W. Lail*

*Nancy S. Love*

*Alexander Lust*

*Jesse L. Lutablewa*

*Catherine D. Marcum*

*Kenneth L. Mullen*

*Kevin Mullinix*

*Adam Newmark*

*Robert Norris*

*Elicka Peterson-Sparks*

*William H. Post*

*Matthew B. Robinson*

*Tatyana Ruseva*

*Curtis R. Ryan*

*Renee G. Scherlen*

*Kathleen M. Simon*

*Emmanuel Ike Udogu*

*Kathryn Webb Farley*

*Barbara H. Zaitzow*

The purposes of the Department of Government and Justice Studies are to prepare students to critically observe, analyze, and understand the complex political world in which they live; to prepare students to recognize and address the problems of our society which affect our governmental and criminal justice systems; and to encourage students to become knowledgeable, active citizens who play a role in the political processes of the nation and the world.

### **The Bachelor of Arts degree in Political Science (271A/45.1001)**

The program of study is available at: [www.programsofstudy.appstate.edu/political-science-ba-271a-2016-2017](http://www.programsofstudy.appstate.edu/political-science-ba-271a-2016-2017)

### **The Bachelor of Science degree in Political Science (non-teaching) (272\*/45.1001)**

For the Bachelor of Science degree in Political Science, students must select one of the following concentrations:

#### **American Politics concentration (272C)**

The program of study is available at: [www.programsofstudy.appstate.edu/political-science-bs-american-politics-272c-2016-2017](http://www.programsofstudy.appstate.edu/political-science-bs-american-politics-272c-2016-2017)

#### **International and Comparative Politics concentration (272D)**

The program of study is available at: [www.programsofstudy.appstate.edu/political-science-bs-international-and-comparative-politics-272d-2016-2017](http://www.programsofstudy.appstate.edu/political-science-bs-international-and-comparative-politics-272d-2016-2017)

#### **Pre-Professional Legal Studies concentration (272J)**

The program of study is available at: [www.programsofstudy.appstate.edu/political-science-bs-pre-professional-legal-studies-272j-2016-2017](http://www.programsofstudy.appstate.edu/political-science-bs-pre-professional-legal-studies-272j-2016-2017)

#### **Public Administration concentration (272K)**

The program of study is available at: [www.programsofstudy.appstate.edu/political-science-bs-public-administration-272k-2016-2017](http://www.programsofstudy.appstate.edu/political-science-bs-public-administration-272k-2016-2017)

### **The Bachelor of Science in Criminal Justice (BSCJ) degree (220A/43.0104) (without a concentration)**

The program of study is available at: [www.programsofstudy.appstate.edu/criminal-justice-bscj-220a-2016-2017](http://www.programsofstudy.appstate.edu/criminal-justice-bscj-220a-2016-2017)

### **The Bachelor of Science in Criminal Justice (BSCJ) degree (220\*/43.0104) with a concentration in International Studies (220B)**

The program of study is available at: [www.programsofstudy.appstate.edu/criminal-justice-bscj-international-studies-220b-2016-2017](http://www.programsofstudy.appstate.edu/criminal-justice-bscj-international-studies-220b-2016-2017)

**A minor in Criminal Justice (220/43.0104)** consists of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/criminal-justice-minor-220-2016-2017](http://www.programsofstudy.appstate.edu/criminal-justice-minor-220-2016-2017)

**A minor in Political Science (271/45.1001)** consists of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/political-science-minor-271-2016-2017](http://www.programsofstudy.appstate.edu/political-science-minor-271-2016-2017)

## Honors Program in Political Science or Criminal Justice

The Department of Government and Justice Studies maintains honors programs in Political Science and in Criminal Justice to provide qualified students the opportunity for advanced research in a seminar atmosphere. At the freshman level, the Department of Government and Justice Studies participates in the campus wide honors program for eligible new students, offering honors sections of a variety of introductory and upper division courses on a rotating basis.

**Eligibility for Honors in Political Science** - Classes in the honors program in Political Science will be open to all Political Science majors (both BA and BS students) who have achieved an overall grade-point average of 3.25 by their junior year, or who have been recommended to the honors program by the honors committee or by the director of the honors program. To graduate with "honors in political science" a student must complete at least 10 semester hours of honors courses in Political Science at the junior or senior level, 1 hour of which will be PS 4509 (Honors Thesis Preparation, graded on an S/U basis), 3 hours of which will be PS 4510 (Senior Honors Thesis), and must have achieved a 3.45 GPA in Political Science courses and at least a "B" or better in honors courses. To graduate with "highest honors in political science" a student must complete 10 semester hours of course work (including PS 4509 and PS 4510) with a 3.65 GPA in Political Science courses and a grade of "A" in honors courses. Students may substitute one Criminal Justice honors course (maximum three hours) in the place of a Political Science honors course with the approval of the Honors Director (the substituted class will count in the GPA calculation).

**Eligibility for Honors in Criminal Justice** - Classes in the honors program in Criminal Justice will be open to all Criminal Justice majors who have achieved an overall grade-point average of 3.25 by their junior year, or who have been recommended to the honors program by the honors committee or by the director of the honors program. To graduate with "honors in criminal justice" a student must complete at least 10 semester hours of honors courses in Criminal Justice at the junior or senior level, 1 hour of which will be CJ 4509 (Honors Thesis Preparation, graded on an S/U basis), 3 hours of which will be CJ 4510 (Senior Honors Thesis), and must have achieved a 3.45 GPA in Criminal Justice courses and at least a "B" or better in honors courses. To graduate with "highest honors in criminal justice" a student must complete 10 semester hours of course work (including CJ 4509 and CJ 4510) with a 3.65 GPA in Criminal Justice courses and a grade of "A" in honors courses. Students may substitute one Political Science honors course (maximum three hours) in the place of a Criminal Justice honors course with the approval of the Honors Director (the substituted class will count in the GPA calculation).

## Graduate Programs

The Department of Government and Justice Studies offers the Master of Arts in Political Science and the Master of Public Administration. Persons interested in these degrees are requested to consult the *Graduate Bulletin* for further information.

## Courses of Instruction in Political Science (PS), Criminal Justice (CJ), and Public Administration (PA)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### POLITICAL SCIENCE HONORS (PS)

#### **PS 3510. Junior/Senior Honors Seminar** (3).F;S.

An intensive study of a selected topic in political science. Course content will be determined by the instructor. The course will satisfy one of the area requirements for political science majors. Enrollment by invitation of the honors committee. Course may be repeated for credit.

#### **PS 4509. Honors Thesis Preparation** (1).On Demand.

Preparation for the honors thesis. Graded on an S/U basis.

#### **PS 4510. Senior Honors Thesis** (3).F;S.

An opportunity for undergraduates to perform independent research on a topic of their choosing, with the approval of the honors committee. Work will be supervised by a member of the political science faculty. Feedback will be provided as the honors thesis develops. Enrollment is limited to qualified political science majors. Prerequisite or corequisite: PS 4509.

### POLITICAL SCIENCE (PS)

#### **PS 1100. American National Government and Politics** (3).F;S.

*GEN ED: Social Science Designation; Liberal Studies Experience*

A study of the development and operation of the American national government, its powers, organization and policies.

#### **PS 1200. Current Political Issues** (3).F;S.

*GEN ED: Social Science Designation; Liberal Studies Experience*

A study of the current political issues and problems facing the national government. Problems in such areas as labor, education, the economy, agriculture, equal rights, foreign relations and national security will be analyzed. Not open to students with credit for PS 1201.

**PS 1201. Contemporary Political Controversies (3).On Demand.**

An examination of some leading controversies in politics from the perspective of the conflicting arguments, designed to foster understanding of the issues and to enhance critical thinking and speaking skills. Intended primarily for students majoring or minoring in political science. Not open to students with credit for PS 1200.

**PS 2120. International Politics and Foreign Policy (3).F.**

*GEN ED: Integrative Learning Experience (Theme: "From Empire to Globalization")*

An introduction to the study of international politics and foreign policy. Students will be introduced to a variety of analytical approaches to the study of global relations, including the participant, the systemic, the perceptual, and the instrumental frameworks. Students will be exposed to the complexities of international affairs and global relations which are the result of the confluence of historical, geographical, economic, cultural, and political factors. (Global Learning Opportunity course)

**PS 2130. State and Local Government (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

An examination of the organization, problems and powers of state and local governments in the United States, focusing upon the responses of states, counties, and municipalities to needs caused by poverty, growth, and social change.

**PS 2160. Introduction to Public Administration (3).F;S.**

A general survey course aimed at introducing the student to the theory and practice of public administration. The course includes an introduction to organization theory, personnel and financial administration, and administrative responsibility. The principal focus is on American public administration, but some comparisons and illustrations from other administrative systems are included.

**PS 2240. Comparative Politics (3).F;S.**

An examination of political system challenges and development patterns, with comparative reference to a number of systems including the Former Soviet Union, Britain, France, and selected African, Asian, and Latin American countries. (Global Learning Opportunity course)

**PS 2500. Independent Study (1–3).F;S.**

**PS 2610. Asian Politics (3).On Demand.**

This course surveys the politics of East and Southeast Asia. It focuses on the experiences of everyday people dealing with political worlds different from our own. The readings include a mix of fictional and scholarly writing. (Global Learning Opportunity course)

**PS 3001. Writing in Political Science (3).F;S.**

This course concentrates upon different writing traditions within political science. It requires students to apply the rhetorical knowledge gained in previous writing courses to the discipline of political science. Students will be expected to read and analyze texts in one or more of the sub-disciplines of political science as well as write effectively in one or more of the writing traditions of political science (e.g., research paper, policy analysis, briefing memo, text review). In addition to effective communication, the course emphasizes critical thinking, local to global connections, and community responsibility within the context of political science. Prerequisites: must be majoring in political science.

**PS 3110. Political Theory Through Sixteenth Century (3).F. Alternate even-numbered years.**

An examination of political theory from approximately 300 B.C. through the sixteenth century. The political philosophers studied include Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, Machiavelli, Luther, Calvin, and Jean Bodin. Emphasis is placed on historical development of political philosophy.

**PS 3115. Research Methods (4).F;S.**

An introduction to the logic and techniques of social science research with computer applications, examination of the structure of scientific inquiry, methods utilized to analyze information, with emphasis placed upon the interpretation of that information. Lecture three hours, laboratory two hours. Required of all PS and CJ majors. (Same as CJ 3115.) (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**PS 3121. International Terrorism (3).S.**

This course introduces the student to the characteristics of international terrorism, the causes of terrorism, and the control of terrorism. Throughout, students are presented key concepts to which they can refer for analyzing the future of international terrorism. (Same as CJ 3121.)

**PS 3130. American Political Parties and Interest Groups (3).F.**

A study of the organization, tactics and functions of political parties and interest groups. A comparison of goals and methods of influencing public policy ranging from the normal to the revolutionary. Campaigning techniques discussed.

**PS 3141. The Language of Japanese Politics (3).On Demand.**

This course combines the study of Japanese politics and language. After covering the basics of the Japanese political system, the course will cover national policy making, elections, campaigns, and grass roots political participation. The course will also examine the role of rhetoric and language in political behavior. Prerequisite: JPN 1050.

**PS 3150. Constitutional Law (3).F.**

This course is designed to introduce students to the role of the courts (particularly the U.S. Supreme Court) as instruments of change in the United States. The course will examine the powers of the judiciary and the limitations placed on the exercise of the courts' powers. The courts and their role as interpreters of the Constitution will be seen primarily through an examination of Supreme Court decisions.

**PS 3210. Political Theory From the Seventeenth Century to the Present (3).S.**Alternate odd-numbered years.

A study of political thought from the seventeenth century to the present. Political philosophers studied include Hobbes, Locke, Rousseau, Burke, Hegel, Bentham, Marx, and Lenin. Emphasis is placed on the development of nationalism, capitalism, communism, socialism, and fascism.

**PS 3230. American Legislative Politics (3).S.**

An examination of the structure, functions and behavior of Congress and state legislatures, with emphasis on how composition, leadership, constituency role orientations and interest groups actively influence public policy. The legislative institutions are also viewed in relationship to larger environments and inclusive political systems.

**PS 3280. Public Policy Analysis (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

A study of the policy-making process, with special attention to the various factors that influence policy choices in the American government and an examination of the procedures for evaluating actual and alternative public policy programs. Prerequisite: RC 2001 or its equivalent

**PS 3310. Political Ideologies (3). On Demand.**

A survey of the central ideas of various philosophers from the early Enlightenment to the late Twentieth Century. Special emphasis will be given to a breadth of political ideas and ideologies, stressing the direct relationship between concepts and political life. (Global Learning Opportunity course)

**PS 3320. Global Conflict and Mediation: The UN (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course introduces students to the United Nations and its role in global conflict and mediation. Topics include basic facts about the United Nations institutions and functions, as well as the competing positions of various countries within the United Nations on specific issues. Prerequisite: RC 2001 or its equivalent. (Global Learning Opportunity course)

**PS 3330. Urban Politics (3).S.**

A focus upon politics in urban areas. Topics include the problems of urban government, politics within metropolitan areas, community power structures, and decision-making structures.

**PS 3370. Voting, Campaigns, and Elections (3).On Demand.**

*GEN ED: Junior Writing in the Discipline (WID)*

This class is designed to examine the procedures, political actors, and institutions that are involved in American campaigns and elections. Significant attention will be paid to the theories and explanations for why people vote and how they make decisions. The class will focus on the organizations that influence political campaigns, the role that public opinion plays in campaign strategies (and in determining the vote), and the laws under which elections are conducted. While presidential elections are the most visible, we will also focus on congressional and state and local elections, which are equally important in the political process. Prerequisite: RC 2001 or its equivalent

**PS 3371. Political Persuasion (3).On Demand.**

This course will focus on the psychological study of political attitudes, covering topics such as attitude measurement, formation, change, and stability. Students will learn about the leading theories and empirical research concerning how various persuasive communications from the news media, elites, and other political actors shape public opinion.

**PS 3410. Marxism** (3). On Demand.

*GEN ED: Integrative Learning Experience (Theme: "Intersections: Race, Class, and Gender")*

Explores the basic principles and features found within Marxist thought. This includes some discussions of Marx's immediate predecessors such as Hegel and Feuerbach in post-Marxist socialist and communist literature.

**PS 3500. Independent Study** (1-3).F;S.

**PS 3520. Instructional Assistance** (1).F;S.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**PS 3530-3549. Selected Topics** (1-4). On Demand.

**PS 3630. Appalachian Politics** (3). On Demand.

An examination of the fundamental political problems and possibilities for the people in the Appalachian Region. The interrelationships of Appalachia with the larger American political system, political culture, and economy will also be studied.

**PS 3660. Administrative Law** (3).F.

A study of the administrative powers and procedures in the United States and of the relevant experiences of some other democracies such as Britain, France with special attention to the legal and administrative methods of achieving a responsible bureaucracy and of balancing public interest with private rights.

**PS 3722. America in the World** (3).S.

The course provides students with the foundation to understand the historical and contemporary practice of U.S. foreign policy and familiarizes them with patterns of continuity and change in U.S. foreign policy. (Global Learning Opportunity course)

**PS 3888. Diversity in Justice and Public Affairs** (3).F.

Critically examines race/ethnicity, gender, religion, sexual orientation, physical or mental ability and other diversity issues within criminal justice, and public affairs. This includes perspectives analyzing human rights, biological diversity, philosophical ethics, linguistic diversity, cultural diversity, and other relevant differences. (Same as CJ 3888.)

**PS 3910. Art, Culture, and Politics** (3).On Demand.

How do the arts and popular culture motivate people to engage in politics? Film, literature, music, theatre, visual arts -- many types of artistic expression play a role in politics. This course explores how citizens use the arts and popular culture to resist symbolic domination, recognize cultural differences, mobilize political supporters, and pluralize public discourse. The artists and movements studied span the political spectrum and engage in local-to-global politics. Different instructors may emphasize different art forms.

**PS 4175. Public Opinion** (3).F.

An examination of attitude and opinion formation within and among publics; the role and impact of government secrecy on opinion; and a study of media as influence mechanisms.

**PS 4220. Globalization** (3).S. Alternate years.

Examines the interactions of politics, economic trends and business actions as they create patterns of international stability, crisis, and change. (Global Learning Opportunity course)

**PS 4225. International Security** (3).S.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "War and Peace")*

This course examines the diverse theoretical perspectives within international relations and security studies. The class analyzes each of these perspectives critically, to evaluate their strengths and weaknesses, and to help students formulate their own understanding and explanation of the dynamics of global politics and international security. (Global Learning Opportunity course)

**PS 4230. The Presidency and the Executive Branch** (3).F.

*GEN ED: Junior Writing in the Discipline (WID)*

An examination of the central role of the American presidency in the political process. Emphasis is given to contemporary responsibilities of the President and of the major agencies supporting the President. Prerequisite: RC 2001 or its equivalent

**PS 4370. Political Psychology** (3).On Demand.

This course will explore a diverse set of topics, such as: how intergroup relations play out in politics; what impact emotion has in formulating (rational) policy preferences; and whether relatively stable characteristics such as authoritarianism and social dominance orientation alter how actors think and behave in the political world. The goal of the course is to encourage students to think critically

about the material and to gain an appreciation for interdisciplinary research.

**PS 4530–4549. Selected Topics in Political Science** (1–4). On Demand.

An intensive examination of selected topics.

**PS 4550. Law and Society** (3).S.

An examination of the relationship between the values and culture of a society and the laws which it adopts and how law interacts with and responds to change in social values as seen by the courts through selected cases. Prerequisite: junior or senior standing, or permission of the instructor. (Same as CJ 4550.)

**PS 4640. Studies in Regional Political Patterns** (1–3). On Demand.

An examination of selected regions of the world which have common historical and cultural patterns influencing their political styles and capabilities. Topics may vary from semester to semester. Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PS 5640.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4661. Court Administration** (3). On Demand.

This course is designed to familiarize students with the need for, and approaches to, more effective management of federal and state courts. Topics include court reform, court unification, caseload management, alternative dispute resolution, personnel management and training, and audio-visual applications in the courts, among others. Prerequisite: junior or senior standing, or permission of the instructor. (Same as CJ 4661.) [Dual-listed with PS 5661/CJ 5661.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4670. Environmental Politics** (3).S.

This course will examine the role that politics and government play in dealing with environmental issues. Its focus is primarily on the U.S. approach to environmental protection, but some attention will be devoted to international environmental relationships such as the Kyoto Protocol. The course will cover the history of environmental policy, the legal and institutional arrangements for environmental protection, major environmental policy actors, current environmental controversies, and global environmental concerns. (Global Learning Opportunity course)

**PS 4680. Organized Crime** (3).F. Alternate years.

This course will provide an examination and analysis of views on the phenomena of organized crime and efforts to control it. Attention will be paid to criminal organizations in the United States, their beginnings in other cultural and ethnic backgrounds and their relations with criminal organizations around the world. In today's world, criminal organizations in other countries and their activities have a major impact on crime in the United States. Therefore, a comparative approach to the subject must be used. Prerequisite: junior or senior standing, or permission of the instructor. (Same as CJ 4680.) [Dual-listed with PS 5680/CJ 5680.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4710. American Political Thought** (3). On Demand.

A survey of the diverse political ideas represented in the American state from the colonial period to the present. Special emphasis is given to the political problems that emerge with the process of industrialization and the movement into a postindustrial economy. Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PS 5710.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4721. Human Rights** (3). On Demand.

The course surveys the major literature in the field of international human rights. It investigates the questions of ethics, morality and the practice of human rights globally and attempts to address why the issue of international human rights has come to the fore in international politics. [Dual-listed with PS 5721.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4723. International Political Economy** (3).F. Alternate years.

*GEN ED: Junior Writing in the Discipline (WID)*

An examination of the relationship between political and economic activity, the way actors use one to manipulate the other, and the normative choices involved in doing so. Prerequisite: junior or senior standing, or permission of the instructor. Prerequisite: RC 2001 or its equivalent [Dual-listed with PS 5723.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. (Global Learning Opportunity course)

**PS 4741. European Governments and Politics** (3).S. Alternate years.

An examination of patterns of governmental organization and socioeconomic policy outcomes in the democracies of Europe as a basis for comparative analysis. Major issues confronting the democracies will be studied for possible options and comparisons of policy.



Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PS 5741.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. (Global Learning Opportunity course)

**PS 4742. Politics of Developing Nations (3).F.** Alternate years.

Focuses on the efforts of a majority of the world's governments to meet the twin challenges of participatory politics and of the Global market economy. Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PS 5742.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4743. The European Union (3).S.** Alternate years.

The emergence of the European Union is one of the major events in European history. The course explores the genesis and evolution of the idea of European integration and chronicles its organizational development in the post WWII era. Emphasis is placed on the politics of integration and the emergence of the Union as a major participant in world events. [Dual-listed with PS 5743.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. (Global Learning Opportunity course)

**PS 4744. Middle East Politics (3).S.**

An examination of the political, cultural, economic and social patterns of the Middle East. Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PS 5744.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4745. African Politics (3).** On Demand.

The course begins with the historical context of African politics. Then, it explores the problems of governance following independence and discusses the contemporary debate between two contending schools of thought in African politics and development: Afro-optimism and Afro-pessimism. It examines Africa's relations with developing and developed countries as well. [Dual-listed with PS 5745.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PS 4748. Latin American Politics (3).S.** Alternate years.

*GEN ED: Junior Writing in the Discipline (WID)*

Examines Latin American politics in detail covering historical context, political actors, and current issues in Latin America. Prerequisite: junior or senior standing, or permission of the instructor. Prerequisite: RC 2001 or its equivalent [Dual-listed with PS 5748.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. (Global Learning Opportunity course)

**PS 4800. Political Science Capstone (1).F;S.**

*GEN ED: Capstone Experience*

The capstone course offers students an opportunity to synthesize the knowledge, approaches, and results from political science with the foundation established in the general education program through participation in a department-wide student paper competition. Students select a paper previously written in a political science class, revise it based upon faculty and fellow student input, and then submit the paper for consideration by the political science faculty, who will award prizes for "Best Paper in Political Science" as well as runner-ups. Prerequisite: must be majoring in political science.

**PS 4900. Internship in Public Affairs (3-12).F;S.**

*GEN ED: Capstone Experience*

Field work in government, community, professional offices and agencies and involvement in problem solving in these offices and agencies. Graded on an S/U basis. Prerequisite: senior standing (or 90 semester hours of coursework).

## CRIMINAL JUSTICE HONORS (CJ)

**CJ 4509. Honors Thesis Preparation (1).** On Demand.

Preparation for the honors thesis. Graded on an S/U basis.

**CJ 4510. Senior Honors Thesis (3).** F;S.

An opportunity for undergraduates to perform independent research on a topic of their choosing, with the approval of the honors committee. Work will be supervised by a member of the criminal justice faculty. Feedback will be provided as the honors thesis develops. Enrollment is limited to qualified criminal justice majors. Prerequisite or corequisite: CJ 4509.

## CRIMINAL JUSTICE (CJ)

**CJ 1100. Introduction to Criminal Justice (3).** F;S.

A study of the development and operation of the criminal justice system in the United States. Included will be an examination of the components which make up the criminal justice system, their roles and responsibilities as a part of the system. Prerequisite for CJ

2120, CJ 2150 and CJ 2430, or consent of the instructor.

**CJ 2120. Police Process (3).F;S.**

An examination of social and historical settings of the police; police role and career; police discretion; police values and culture; organization and control. Prerequisite: CJ 1100 or consent of the instructor.

**CJ 2150. The Judicial Process (3).F;S.**

An examination of the preadjudication and adjudication stages of the criminal process, the persons involved in the process, and the forces that influence the actions of the decision makers. Prerequisite: CJ 1100 or consent of the instructor.

**CJ 2430. Corrections (3).F;S.**

The course provides a comprehensive overview of the origins of correctional systems in the United States and abroad and an introduction to the philosophical ideas with which specific correctional approaches are associated. Includes an assessment of organization and theory of correctional systems, institutional operations, management of inmates and staff, programmatic possibilities, alternatives to incarceration, and current and future issues. Prerequisite: CJ 1100 or permission of the instructor.

**CJ 2500. Independent Study (1-3).F;S.**

**CJ 3001. Writing in Criminal Justice (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course will continue with the writing skills developed from the first and second year writing courses, but will focus on specific issues and writings within criminal justice. In addition to writing (effective communication), the course will emphasize critical thinking, community responsibility within the context of criminal justice, and local to global connections. Prerequisite: RC 2001 or its equivalent.

**CJ 3050. American Legal Systems (3).S.**

An overview of the development of law and law as an instrument of social control; an examination of the different types of law and the nature of each; the framework within which the American legal systems operate; an examination of the basic terminology of law and legal concepts; how to use library resources and apply legal research techniques dealing with the study of case, legislative and administrative law. This course is designed especially for students with pre-law or paralegal interests and complements the upper division substantive law courses.

**CJ 3110. Crime and Culture (3).S.**

This course examines the images of crime and the criminal justice system as depicted through film, music, and literature.

**CJ 3115. Research Methods (4).F;S.**

An introduction to the logic and techniques of social science research with computer applications, examination of the structure of scientific inquiry, methods utilized to analyze information, with emphasis placed upon the interpretation of that information. Lecture three hours, laboratory two hours. Required of all PS and CJ majors. (Same as PS 3115.) (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**CJ 3121. International Terrorism (3).S.**

This course introduces the student to the characteristics of international terrorism, the causes of terrorism, and the control of terrorism. Throughout, students are presented key concepts to which they can refer for analyzing the future of international terrorism. (Same as PS 3121.)

**CJ 3250. Juvenile Justice (3).F.**

Legal and philosophical basis for a separate juvenile justice system, with a focus on juvenile rights and will include such topics as the police role in delinquency, due process, venue, adjudication and disposition hearings, and confidentiality in the juvenile process.

**CJ 3400. Theories of Crime and Justice (3).F;S.**

The course considers the underlying causes of crime and the social responses of justice, two constructs which transcend the boundaries of any one discipline or field of study. The course approaches the subject matter from a cross-disciplinary perspective. Explanations of crime causation from the perspectives of biology, psychology, sociology, political science, economics, and anthropology are presented, discussed, and evaluated.

**CJ 3405. Forensic Investigation (3).S.**

Principles and techniques involved in the investigation of crimes; interview of victims and witnesses; questioning of suspects; organization and procedure in the investigation of crime scenes; the use of scientific aids within investigations.

**CJ 3450. Injustice in America** (3).On Demand.

*GEN ED: Social Science Designation; Liberal Studies Experience*

An assessment of the ideals and realities of American criminal justice processes, including law-making, policing, judicial process, correctional punishment, and media coverage of crime and criminal justice. The course takes a critical approach to criminal justice, focusing on the degree to which the realities of criminal justice practice match the theoretical ideals.

**CJ 3500. Independent Study** (1-4).F;S.

**CJ 3520. Instructional Assistance** (1).F;S.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**CJ 3530-3549. Selected Topics** (1-4). On Demand.

An opportunity to study a special topic or combination of topics not otherwise provided for in the criminal justice curriculum. May be repeated for credit when content does not duplicate.

**CJ 3551. Criminal Law** (3).F;S.

An introduction to the basic concepts of criminal law, definition of crime and defenses, function and purposes of substantive criminal law, limits of the criminal law, case study approach.

**CJ 3552. Criminal Procedure** (3).S.

An analysis of constitutional limitations from arrest to release in the administration of criminal justice, including arrest, search and seizure, interrogation, identification procedures, and post conviction relief, case study approach.

**CJ 3888. Diversity in Justice and Public Affairs** (3).F.

Critically examines race/ethnicity, gender, religion, sexual orientation, physical or mental ability and other diversity issues within criminal justice, and public affairs. This includes perspectives analyzing human rights, biological diversity, philosophical ethics, linguistic diversity, cultural diversity, and other relevant differences. (Same as PS 3888.)

**CJ 4450. The Death Penalty** (3).On Demand.

A critical analysis of capital punishment history, law, and practice in the United States. Special focus is placed on empirical studies of capital punishment as they relate to the efficacy of the sanction.

**CJ 4530-4549. Selected Topics in Criminal Justice** (1-4). On Demand.

An intensive examination of selected topics.

**CJ 4550. Law and Society** (3).S.

An examination of the relationship between the values and culture of a society and the laws which it adopts and how law interacts with and responds to change in social values as seen by the courts through selected cases. Prerequisite: junior or senior standing, or permission of the instructor. (Same as PS 4550.)

**CJ 4620. Contemporary Police Issues** (3).F. Alternate years.

An examination of current social, legal, and organizational issues in contemporary law enforcement. Prerequisite: junior or senior standing, or permission of the instructor.

**CJ 4661. Court Administration** (3). On Demand.

This course is designed to familiarize students with the need for, and approaches to, more effective management of federal and state courts. Topics include court reform, court unification, caseload management, alternative dispute resolution, personnel management and training, and audio-visual applications in the courts, among others. Prerequisite: junior or senior standing, or permission of the instructor. (Same as PS 4661.) [Dual-listed with CJ 5661/PS 5661.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**CJ 4680. Organized Crime** (3).F. Alternate years.

This course will provide an examination and analysis of views on the phenomena of organized crime and efforts to control it. Attention will be paid to criminal organizations in the United States, their beginnings in other cultural and ethnic backgrounds and their relations with criminal organizations around the world. In today's world, criminal organizations in other countries and their activities have a major impact on crime in the United States. Therefore, a comparative approach to the subject must be used. Prerequisite: junior or senior standing, or permission of the instructor. (Same as PS 4680.) [Dual-listed with CJ 5680/PS 5680.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

### **CJ 4900. Internship in Criminal Justice (3-12).F;S.**

#### *GEN ED: Capstone Experience*

Field work in a criminal justice agency, office, or institution. This course offers the student the opportunity to synthesize the knowledge, approaches, and theories of the criminal justice discipline. At least three of the following four general educational goals will be addressed: thinking critically and creatively, communicating effectively, understanding responsibilities of community membership, and making global to local connections. Graded on an S/U basis. Prerequisites: CJ 1100, CJ 2120, CJ 2150, CJ 2430, CJ 3001, senior standing (or 90 semester hours of coursework) and a 2.0 GPA overall and in the major. The internship may be waived if the student has more than one year of work experience in a criminal justice agency. If it is waived, the student must complete 12 semester hours of criminal justice electives as a substitute. .

### **PUBLIC ADMINISTRATION (PA)**

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#### **PA 4560. Local Government Administration (3).S.**

Administrative process, management, personnel, budget and finance, and intergovernmental relations in local government. Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PA 5560.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

#### **PA 4665. Public Management (3).S.**

A study of the organization and operation of government agencies and their role in policy making and implementation and an examination of the various concepts and theories pertaining to administrative behavior and to the performance of the basic tasks of management. Prerequisite: junior or senior standing, or permission of the instructor. [Dual-listed with PA 5665.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## Department of History (HIS)

*James R. Goff, Jr., Chair*

*Sheila R. Phipps, Assistant Chair*

*Edward J. Behrend-Martinez*

*Michael C. Behrent*

*Antonio T. Bly*

*Jeffrey L. Bortz*

*Judkin J. Browning*

*Birsen Bulmuş*

*Andrea A. Burns*

*Craig H. Caldwell*

*Karl E. Campbell*

*Anthony G. Carey*

*Kristen B. Deathridge*

*Jari Eloranta*

*Lynne M. Getz*

*René Harder Horst*

*Anatoly V. Isaenko*

*Thomas Pegelow Kaplan*

*Jeremiah M. Kitunda*

*Michael L. Krenn*

*Lucinda M. McCray*

*Myra L. Pennell*

*Scott Relyea*

*Rwany Sibaja*

*Timothy H. Silver*

*Neva J. Specht*

*Bruce E. Stewart*

*Michael J. Turner*

*Mary A. Valante*

*Michael G. Wade*

*Jason C. White*

The study of history is an essential part of a liberal arts education and provides valuable skills for careers in a wide range of professions, including law, journalism, public service, and business. Embracing a range of topics as broad as the human experience (economics, politics, culture, society, business, war, race and gender), history examines change over time through a series of investigative, analytical and expository techniques that comprise the historical method. The teaching of history focuses on research in sources, analysis and synthesis of evidence, problem solving, critical thinking, and understanding social processes. Accordingly, the skills embodied in historical method have wide application in the world of professional work.

The History Department teaches general education, undergraduate, and graduate courses offering a broad curriculum in local, national, regional, and world history. It has particular strengths in American, European, Asian, Latin American, and public history. The diversity of offerings discourages parochialism and encourages history majors to develop a sophisticated, comparative approach to human problems. Specialization within the major promotes an appreciation of the depth and complexity of human history. Finally, the discipline of history provides an intellectual challenge as well as a stimulus to the imagination and to analytical thinking.

### Undergraduate Advisement

Information about history department programs can be obtained from one of the Undergraduate Advising Coordinators. Please contact the Department of History to find out when the Coordinators are available to assist students with academic scheduling, explain departmental and University requirements, and provide descriptions of new and existing courses and information on career development.

#### The Bachelor of Arts degree in History (254A/54.0101)

The program of study is available at: [www.programsofstudy.appstate.edu/history-ba-254a-2016-2017](http://www.programsofstudy.appstate.edu/history-ba-254a-2016-2017)

#### The Bachelor of Science degree in History (non-teaching) (246\*/54.0101) with a concentration in Applied and Public History (246B)

The program of study is available at: [www.programsofstudy.appstate.edu/history-bs-applied-and-public-history-246b-2016-2017](http://www.programsofstudy.appstate.edu/history-bs-applied-and-public-history-246b-2016-2017)

#### The Bachelor of Science degree in History (non-teaching) (246\*/54.0101) with a Multidisciplinary concentration (246C)

The program of study is available at: [www.programsofstudy.appstate.edu/history-bs-multidisciplinary-246c-2016-2017](http://www.programsofstudy.appstate.edu/history-bs-multidisciplinary-246c-2016-2017)

#### The Bachelor of Science degree in History, Social Studies Education (116A/13.1328) [T] (with teacher licensure)

The program of study is available at: [www.programsofstudy.appstate.edu/history-social-studies-education-bs-116a-2016-2017](http://www.programsofstudy.appstate.edu/history-social-studies-education-bs-116a-2016-2017)

All BS programs are to be planned in consultation with an undergraduate advisor in the Department of History and are subject to the advisor's approval. Students are urged to plan their programs as early as possible in their academic careers, but not later than three semesters before anticipated graduation.

#### Minor in History (246/54.0101)

The History minor consists of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/history-minor-246-2016-2017](http://www.programsofstudy.appstate.edu/history-minor-246-2016-2017)

### Honors Program in History

The Department of History offers honors courses by honors contract which are open to students who have distinguished themselves. Honors courses carry full credit toward the major or, for non-majors, full elective credit. Subject to the recommendation of the

departmental honors committee, a student will be considered for graduation with "honors in history" upon successful completion of one three hour 3000 or 4000 level honors course or HIS 3510, the senior honors research course (HIS 4509), the senior honors thesis (HIS 4510), and a defense of the honor thesis. The three thesis hours can be substituted for HIS 4100 Senior Seminar. A grade of "B" or better is required to receive honors credit in any honors course.

## Master of Arts Degrees in History

The Department of History offers: a Master of Arts degree in History with concentrations in General History, Historic Preservation, and Public History. Persons interested in these programs are requested to consult the *Graduate Bulletin* for further information.

## Courses of Instruction in History (HIS)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### HISTORY HONORS (HIS)

#### **HIS 1510. Freshman Honors World Civilization I (3).F.**

Study of topics in world history to 1650. Enrollment by invitation of the department or by application.

#### **HIS 1515. Freshman Honors World Civilization II (3).S.**

Study of topics in world history since 1650. Enrollment by invitation of the department or by application.

#### **HIS 1520. Honors: Patterns of Global History (3).F;S.**

*GEN ED: Historical Studies Designation; Local to Global Perspective (Theme: "Regions in Global Context")*

An honors course examining selected themes in global history with an emphasis on the historical context of global issues, processes, trends, and systems as they have affected local regions. HIS 1520 cannot be repeated for credit and does not count toward the requirements for a History major or minor.

#### **HIS 1525. Honors: Problems in Global History (3).F;S.**

*GEN ED: Historical Studies Designation; Local to Global Perspective (Theme: "Regions in Global Context")*

An in-depth examination of selected events, issues, systems, processes, or developments in global history, and their relationship to and effect upon local regions. Particular emphasis will be given to development of critical thinking skills appropriate to historical inquiry. HIS 1525 cannot be repeated for credit and does not count toward the requirements for a History major or minor.

#### **HIS 2510. Sophomore Honors Topics in American Civilization to 1876 (3).F.**

A study of topics in American history through post Civil War reconstruction. Enrollment by invitation of the department or application. (Major may substitute for HIS 2201.)

#### **HIS 2515. Sophomore Honors Topics in American Civilization Since 1876 (3).S.**

A study of topics in American history from the Gilded Age to the Contemporary Era. Enrollment by invitation of the department or application. (Major may substitute for HIS 2204.)

#### **HIS 3510. Advanced Honors Seminar (3).F;S.**

Seminar on a selected historical topic. Enrollment is by invitation of the department, or by application.

#### **HIS 4509. Senior Honors Research (3).On Demand.**

Independent research in preparation for taking HIS 4510 Senior Honors Thesis; directed by a member of the history department. Prerequisite: completion of one approved honors course. Enrollment by qualified applicants only.

#### **HIS 4510. Senior Honors Thesis (3).On Demand.**

*GEN ED: Capstone Experience*

Composition of an honors thesis; directed by a member of the history department. Prerequisite: HIS 4509. Enrollment by qualified applicants only.

### HISTORY (HIS)

#### **HIS 1101. World Civilization I (3).F;S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

An introduction to the development of world civilizations from ancient times to 1500. The unique patterns of political, intellectual, economic, and social development of Europe, Asia, Africa, and the Americas are examined.



## **HIS 1102. World Civilization II (3).F;S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

An introduction to the development of world civilizations from 1500 to the present. The development of an increasingly interdependent political, intellectual, economic, and social world is examined.

## **HIS 1110. History and Culture (3).F;S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Imagination, Innovation, and Meaning")*

An examination of selected themes in world or regional history with an emphasis on how products of creative expression have shaped, and been shaped by, their historical context. NOTE: HIS 1110 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1120. Society and History (3).F;S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Social Relations Across Contexts")*

An examination of selected themes in world or regional history with an emphasis on the historical context of various social, political, cultural, and economic processes. NOTE: HIS 1120 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1130. Themes in Global History (3).F;S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

An examination of selected themes in global history with an emphasis on the historical context of global issues, processes, trends, and systems as they have affected local regions. NOTE: HIS 1130 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1200. American History (3).F;S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

This course will acquaint the student with the major developments of American history from pre-contact to post-modern eras. Emphasis will be given to the foundational political experiences of the American people and how political developments have been influenced and affected by social developments. Students will learn to apply analytical skills to the reading of primary texts representing the whole sweep of American history. Written expression will be emphasized. NOTE: HIS 1200 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1400. World Empires (3).F;S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "From Empire to Globalization")*

This course investigates how systems of power functioned on a global scale in the past. Students will discover, discuss, and write about how those systems came to be as well as what kind of society, culture, and world they have created. Students will also develop a clearer understanding not only of their individual role in such global interactions, but how events in one distant part of the world affect many other people around the globe. NOTE: HIS 1400 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1501. Revolution and Social Change in World History (3).F;S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Revolutions: Social and Political")*

This course provides an analysis of significant revolutions and social movements in world history. These may be defined as political, social, cultural, scientific and technological. This course examines the events of these movements, as well as the philosophical/ideological ideas that shaped them. It also examines how these revolutions affected societies in a local and global context, and how they continue to affect the world in which we live today. NOTE: HIS 1501 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1600. Migration in World History (3).F;S.**

This course examines the role of human migration in world history. Starting with "peopling the planet" and using topics such as language diversity, diaspora, colonization and immigration, students will explore the dispersal of people, plants, animals, diseases, as well as cultural and technological diffusion. The emphasis is on evaluation of primary and secondary sources, development of analytical skills, and application of methods used in comparative histories clustered around these themes. Students have a semester long project of preparing their own family history that entails using data bases, oral interviews, and narrative writing that puts their own "local" history into the "global" context of the main events of the past century. NOTE: HIS 1600 DOES NOT COUNT TOWARD THE REQUIREMENTS FOR A HISTORY MAJOR OR MINOR.

## **HIS 1700. The Making of Europe (3).F;S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

European cultures, politics, and economics have enormously influenced the modern world. From the Reformation and Scientific Revolution to the twentieth-century world wars and creation of the European Community, this course offers students the opportunity

to explore developments that continue to shape human experience. HIS 1700 does not count toward the requirements for a history major or minor.

**HIS 2101. The World since 1945 (3).F.**

A survey of global developments since 1945 in an historical context, including political changes such as the Cold War and the changing balance of power, decolonization and economic dependency in the non-western world; militarism and terrorism; environmental issues such as resource depletion and pollution; and the internationalization of the world.

**HIS 2201. Survey of American Civilization to 1876 (3).F;S.**

An examination of United States history to 1876, tracing the American experience from the colonial era through the Civil War and Reconstruction.

**HIS 2204. Survey of American Civilization since 1876 (3).F;S.**

An examination of United States history since 1876 tracing the American experience from the Gilded Age down to the contemporary era.

**HIS 2300. Introduction to Holocaust and Judaic Studies (3).F.Alternate years.**

*GEN ED: Integrative Learning Experience (Theme: "War and Peace")*

This interdisciplinary course provides an introduction to the study of the Holocaust and Judaism. It familiarizes participants with key terms in the analysis of the Nazi genocide of the Jews and the examination of one of the most eminent monotheistic religions. The class combines these explorations with a focus on the histories and main foundational narratives of the Holocaust and Judaism and, finally, applies them to a range of literary and visual sources, including writings by genocide survivors. The course places specific emphasis on war in its treatment in Jewish theological and cultural traditions and its complex intersections with genocide. (Same as JHP 2300.)

**HIS 2301. History of Colonial Latin America (3).F.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Las Americas")*

A survey of Latin America from the ancient Indian civilizations to the wars for independence. Topics include the ancient Maya, Aztec, and Inca Indians; the European discovery, conquest, and colonization of the New World; the colonial administration and exploitation of the Americas; and the independence movements which usher in the national period.

**HIS 2302. History of Modern Latin America (3).S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Las Americas")*

A survey of Latin America from independence to the present. Topics include the legacy of independence; the rise of the great dictators; causes of instability and social change; twentieth-century revolutions; and the effects of United States policy in the region.

**HIS 2312. Introduction to the Ancient Mediterranean World (3).F.Even-numbered years.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "How We Know What We Know About the Past: Method, Evidence, Knowledge")*

A survey of the Ancient Mediterranean, including Greece, the Hellenistic World, and Rome. Topics covered will include ancient art, philosophy, religion, and literature.

**HIS 2313. The Middle Ages (3).S.**

An examination of selected topics in the development of medieval civilization including such themes as the shape of feudal society, the age of Gregorian reform, the flowering of the 12th century, the 13th century synthesis, and crisis and transition in the 14th century.

**HIS 2314. European History 1348 to 1799 (3).F.**

A survey of European History from the beginning of the Black Death to the French Revolution. Topics include the Renaissance, Reformation, absolutism, sundry wars, the rise of capitalism, Enlightenment, and the French Revolution.

**HIS 2315. European History 1789 to present (3).F.**

A survey of European History from the French Revolution to the present. Topics include the French Revolution, nationalism, the Industrial Revolution, the Russian Revolution, two world wars and the Cold War in Europe, the fall of the Soviet Union, and globalization.

## **HIS 2320. East Asian History: To 1600 (3).F.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "How We Know What We Know About the Past: Method, Evidence, Knowledge")*

An introduction to the major issues in East Asian civilizations from pre-history to 1600 with a focus on China, Japan, and Korea. Topics include state building, philosophical/religious traditions (including Confucianism, Daoism, and Buddhism), material culture, the role of women, economic development, regional/global exchange, and social change.

## **HIS 2322. History of Traditional China (3).F.** Even-numbered years.

The main topics of Chinese civilization from its origins up to early modern times are the focus of this course. Topics include, but are not limited to, Confucianism and the tradition of the scholar-bureaucrat; family, ancestors, and agrarian traditions; "civilized" China and "barbarian" neighbors; science and technology.

## **HIS 2340. Modern East Asia (3).S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Revolutions: Social and Political")*

An introduction to the major themes in modern East Asian history from approximately 1600 to the present with a focus on China, Japan and Korea. Topics include social change and revolution, philosophical/religious traditions (including Confucianism and Buddhism), political/economic innovations (including Liberalism, Communism, Fascism, and Corporatism), imperialism, empire and nation, material culture, the role of women, the Cold War, and globalization.

## **HIS 2421. History of Africa to 1850 (3).F.**

A survey of pre-colonial Africa, examining such topics as geographical influences, neolithic development, structures of belief, ancient North Africa, Islamic influence, trade, African kingdoms and stateless societies, Bantu and other migrations, the slave trade, and early nineteenth-century changes in several parts of Africa.

## **HIS 2422. History of Africa since 1850 (3).S.**

A survey which examines such topics as tradition and change in African cultures, the European partition and the African response, colonial systems, the Pan-African movement, the road to independence, and contemporary issues confronting independent Africa.

## **HIS 2500. Independent Study (1-3).F;S.**

## **HIS 2525. The Americans: A Cultural History (3).F;S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "American Culture: Past and Present")*

A history of American cultural traditions, both formal and popular. The course focuses on cultural and social trends in American history, including the rise of a national culture via the development of distinctively American forms in art and literature, music and religion; social thought; and reform movements. It includes an examination of everyday life, popular entertainments and attitudes, and the impact of technological change on American culture.

## **HIS 2603. African American History to the Civil War (3).F.**

A survey of African American history from the seventeenth century to the 1860s. (Global Learning Opportunity course)

## **HIS 2604. African American History Since Emancipation (3).S.**

A survey of African American history from the 1860s to the present. (Global Learning Opportunity course)

## **HIS 2800. Writing History (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course is required for all History majors. The course uses a variety of primary and secondary sources to explore the ways history is researched and written. Prerequisite: RC 2001 or its equivalent.

## **HIS 3122. Classical Greece and the Hellenistic World (3).S.** Odd-numbered years.

This course will focus on society, culture and politics from the Persian Wars through the formation of Hellenistic Kingdoms. In addition to exploring the rise of empires and kingdoms, this course will also survey artistic and literary developments, including Greek romances. The course will be part lecture, and part discussion, with an emphasis on primary sources and source problems.

## **HIS 3124. Fall of the Roman Republic (3).F.** Odd-numbered years.

This course will focus on developments in politics, society and the military during the last troubled years of the Republic, beginning with the Gracchi to the death of Caesar. The course will be part lecture, and part discussion, with an emphasis on primary sources and source problems.

**HIS 3125. Rise of the Roman Empire (3).S.Even-numbered years.**

This course will focus on the rise of the Roman Empire, from the Principate to the third century crisis. Special attention will be given to military, economic and political developments, as well as the ever-changing concept of what "Roman" meant across the empire. This course will be primarily discussion, with some lecture.

**HIS 3135. Spain to 1492 (3).F.Even-numbered years.**

This course introduces students to the history of Spain, covering the early Iberian, Roman, Visigoth, Islamic, and the late Medieval Christian periods.

**HIS 3136. Spain from 1469 to present (3).S.Odd-numbered years.**

This course introduces students to the history of Spain, covering the "Golden Age," the Spanish Civil War, Franco, and the modern democratic period.

**HIS 3137. Gender, Sex, and Sexuality in Early Modern Europe (3).S.Even-numbered years.**

This course will introduce students to three areas of recent thought-provoking historical research: changes in perceptions and control of gender, sex, and sexual identity in early modern Europe.

**HIS 3141. Britain to 1688 (3).On Demand.**

This survey course introduces students to the history of Britain to the "Glorious Revolution" of 1688.

**HIS 3142. Britain Since 1688 (3).On Demand.**

This survey course introduces students to the history of Britain since the "Glorious Revolution" of 1688.

**HIS 3143. Medieval Ireland (3).On Demand.**

This course will focus on Ireland during the Middle Ages as an entity apart from the Roman Empire and European mainstream. Goals of the course are to cover the introduction of Christianity, Latin, Roman leadership, Viking raids, and the establishment of towns, all of which brought Ireland into exchange with the rest of Europe. In this course, we will examine the history of this "fringe" land from the perspective of the many people who lived there, Irish and others, and look at how their interactions created the modern nation.

**HIS 3144. The Vikings (3).On Demand.**

The aim of this course is to explore both the reputation and the reality of the Vikings from 750-1200, and from Baghdad to Vinland. Archaeological excavations and sources written by the Norse and Danes themselves have shown that there was far more to the Scandinavians than their actions as Viking raiders. Their roles as explorers, merchants, craftsmen, and town-builders will be examined in this course. The emphasis will be on using primary sources, sources that actually come to us from the Middle Ages, to understand how the Vikings viewed themselves and their world, as well as how others viewed them. There will also be a strong writing component to this course.

**HIS 3146. Medieval Warfare (3).S.Even-numbered years.**

This course will examine trends in waging war from the late Roman Empire until the advent of gunpowder, roughly AD 300-AD 1400. Special attention will be paid to the changes in the Roman Army, the role of the army in the transition from Empire to Barbarian kingdoms, the Carolingian reforms, the rise of European power in the eleventh century and the Crusades, the Mongol threat, and finally, the adoption of gunpowder in the Hundred Years War.

**HIS 3148. The Making of British Democracy: Party and Politics, 1865-1951 (3).On Demand.**

This course will examine processes of political change in Britain between 1865 (the death of Lord Palmerston) and 1951 (the defeat at the polls of the first majority Labour government). The main focus will be on the nature and meaning of "democracy." In the early nineteenth century the term was used pejoratively, to warn against mob rule and social upheaval. But by the mid-twentieth century, Britain's system of government was generally assumed to be "democratic": the term now referred to an ongoing and salutary extension of political rights and participation. How did this change come about? Why did the character of Britain's democracy continue to be controversial? In order to address these problems, the course will investigate the role played by particular political leaders, parties, principles, and policies, and the changing relationship between political institutions and the people they were designed both to govern and to represent.

**HIS 3149. Britain's "REEL" History: Monarchy and People on Film (3).On Demand.**

This course will examine major themes in modern British history through film. It will focus on how films represent the past and how they are themselves products of particular periods and mind-sets. Among the topics to be studied will be: the role of the monarchy, and changing attitudes towards it; Britain's experience of war in the twentieth century; the retreat from empire; social change and class relationships; and questions of race, gender, religion, and national identity. What do we see in modern Britain: Victorian continuities or the "New Jerusalem," economic, imperial, political, and cultural decline or remarkable national progress? In addressing such

questions, this course will consider what is revealed in movies and documentaries and place them in their proper historical context.

**HIS 3151. Comparative Genocide in the Twentieth Century (3).F.Alternate years.**

This advanced course combines an analysis of conceptual approaches to genocide studies with an examination of specific twentieth-century genocides. The examined cases include the Ottoman genocide of the Armenians, the Holocaust, the mass murders in 1970s Cambodia and 1990s Bosnia, and the 1994 Rwandan genocide. The course pays specific attention to the motivations of perpetrators, the role of mass media, and the international community's politics of naming and intervention. (Same as JHP 3151.)

**HIS 3152. Germany in Europe, 1918-present (3).S.Even-numbered years.**

A study of Germany in the twentieth century, stressing the impact of war, National Socialism, Cold War division, and reunification, Socioeconomic changes, cultural developments, and Germany's role in European and world affairs will also be examined.

**HIS 3153. The Road to Hitler (3).S.Even-numbered years.**

This course examines the rise of Hitler and the Third Reich from a cultural perspective. It begins with an examination of pre-1914 *volkish* ideology and cultural Expressionism. It then examines the literary and psychological impact of World War I, analyzes the nature of the cultural experimentation of the 1920s, evaluates the cultural revolution following Hitler's appointment as Chancellor in 1933, explains why Hitler launched World War II and the Holocaust, and investigates the importance of Hitler and National Socialism for contemporary German society and culture.

**HIS 3154. The Holocaust: Interpretation, Memory, and Representation (3).S.**

This upper-level course examines key scholarly debates in the study of the Holocaust's perpetrators, victims, and bystanders. The class also analyzes the memorialization and often-conflicting representations of the Holocaust in German, Israeli, and American societies after 1945. It demonstrates how the Holocaust does not only exist as a devastating reality of Jewish history, but has also become an integral component of global history with a profound impact on our world today. The course evolves around a Center-supported research trip during spring break that alternates between Holocaust memorials and archives in Washington, D.C., Germany/Poland, and Israel. (Same as JHP 3154.)

**HIS 3155. Russia: 16th to 20th Century (3).S.**

This course will examine the basic values and principles of traditional Russian civilization, which were inherited, accommodated, and then changed during the Soviet period (1917-1991) and which are springing up again in the time of complicated transition to democracy. The focus will also be made on the reforms of Peter I and Alexander II to the rise and fall of the Soviet Empire and to the last painful attempts to build democratic state and society. This broad survey will consider themes related to Russians and non-Russians alike, cultural interactions between them in the process of Russian exploration and expansion; migration and settlement patterns; ranching, mining, and other extractive industries; families; labor; water; urbanization; and myth-building.

**HIS 3156. History of International Terrorism (3).F.Even-numbered years.**

This course is designed to introduce students to key concepts to which they can refer to for analyzing what may be anticipated with respect to future incidents of global terrorism. The course will cover previous incidents of terrorism, such as the events of September 11, 2001, which set the stage for a major reconfiguring of world politics similar in scope to the transformations provoked by the two World Wars and the Cold War in the twentieth century. The course provides a framework as well for analyzing present and future acts of terrorism.

**HIS 3158. Ethnic Conflict: East Versus West (3).F.Odd-numbered years.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "War and Peace")*

Ethnic peace, conflicts, and resolutions are among the oldest dreams and most difficult challenges of human experience. The art of compromise and accommodation, the process for peaceful resolution of differences and setting of priorities, the rule of law as an inclusive and systematic set of legal procedures, and the universal respect for human rights are necessary in order to deal with ethnic conflicts and thus should be a part of professional training of new leaders. This course also deals with historic and comparative studies of ethnic conflicts in the West, the Balkans, Caucasus, and Central Asia.

**HIS 3210 Poverty: Theory and Practice (3).S.**

*GEN ED: Liberal Studies Experience*

This course introduces students to the theories and history of poverty, with an emphasis on learning the historical and social contexts of poverty through experiential or service-learning. (Same as WRC 3210).

**HIS 3222. Colonial America (3).F.Odd-numbered years.**

An examination of the formation of American values and institutions through the interaction of European traditions and the American environment; social mobility, economic opportunity, and political democracy; the role of religion; Indian relations, slavery; gender

construction; the causes and consequences of the colonial wars; and the causes of the decision to seek independence from Great Britain.

**HIS 3223. Revolutionary America (3).**S.Odd-numbered years.

This course explores the history of the U.S. from the events leading up to the American Revolution and the fight for Independence through the founding of the United States and the election of 1800, ending with the second American Revolution (the War of 1812). The course focuses on the social and cultural effects of the war and its aftermath. It also examines the shaping of the New Republic; the founding of political parties; the Second Great Awakening; and the role of women, Native Americans, and African Americans in those processes. The course places special attention on the role of the backcountry in the shaping of the Early Republic.

**HIS 3224. Antebellum America (3).**F.Odd-numbered years.

A study of the United States from the end of the War of 1812 until the Civil War. Variable content. Topics include the meaning of Jacksonian democracy; slavery and race relations; the antislavery movement and the rise of social reform movements including temperance, utopianism, and women's rights; Indian removal; the market economy; the westward movement; the Mexican American War; the free soil movement; and the secession crisis.

**HIS 3226. The U.S. Civil War (3).**S.

A study of the era of national transformation, with emphasis on the sectional conflict and causes of the Civil War, its political and military conduct, its international impact, the abolition of slavery, and the principal political, social, economic, and cultural changes wrought on the nation by war.

**HIS 3227. History of U.S. Reconstruction (1863-1877) (3).**S.Odd-numbered years.

This course will examine the way in which Americans worked to reform the nation in the wake of the Civil War. It will focus on varying opinions and experiences of different Americans, black and white, men and women, North and South, East and West. We will place the South within a national context, describing how political events and social movements in the North and West shaped Reconstruction.

**HIS 3228. The Gilded Age and Progressive Era (3).**On Demand.

An analysis of the responses of the American people to the rise of the urban-industrial nation. Problems associated with the growth of the city, capital-labor confrontations, social mobility, black-white relations, reform movements, cultural and intellectual affairs, American imperialism, and representative biography are examined.

**HIS 3229. World War II (3).**On Demand.

A study of the largest and most destructive war of the 20th century, with emphasis on the global contexts in which the war began, how the Allies emerged victorious, how the war led to the development of the Cold War, and how the war dramatically altered the social, cultural, economic, and political fabric of the United States and other nations. The course will cover most of the major geographic areas involved in the war, as well as many of the major military and political events and figures of the war.

**HIS 3230. Recent United States History (3).**S.

American history since 1920, with emphasis on domestic social and political developments in the post-1945 period. Organized around the theme of the rise and relative decline of the middle class, major topics include the Cold War, the Civil Rights Movement, the Baby Boom, suburbanization, the rise of rock'n'roll, the Vietnam War, the Counterculture, Watergate, the Energy Crisis, and Reaganism. Course features music and films as well as lectures.

**HIS 3232. Contemporary U.S. Political History (3).**F.Even-numbered years.

Intensive study of selected topics in U.S. politics (broadly defined) from 1932 to the present, with an emphasis on recent events. Content will vary to reflect contemporary political debates, which will be analyzed from a historical perspective. Examples of topics include: the rise of southern Republicans, presidential campaigns, party realignments, church and state, movements of change, race and gender politics, the welfare state, globalization, and foreign policy.

**HIS 3233. History of the American West (3).**F.

This course examines the history of the Trans-Mississippian West from Native occupation to the twentieth century. The course considers how Native Americans lived in their environment; how the West was explored, settled, and developed by Europeans and Americans; how different ethnic and racial groups interacted and shaped each other's experiences; how men and women experienced the West; and how the West has influenced the development of the United States. It also explores the meaning of the West in the American consciousness and the place of the West in understanding American History.

**HIS 3235. Mexican American History (3).**S.

This course explores the social, economic, political and cultural history of Americans of Mexican descent from Spanish exploration and



settlement through the twentieth century. It also focuses on the cultural heritage of Mexican-Americans; the meaning of "El Norte;" the Mexican-U.S. War and its aftermath; immigration; migrant labor; bilingual and bicultural education; and the Chicano movement.

**HIS 3236. Immigration and Migration in American History (3).**On Demand.

This course explores the role of immigration and migration as a factor in American history. Variable content. Topics may include: trans-Atlantic immigration; trans-Appalachian migration; westward movement and settlement; frontiers; immigration policy; and Mexican immigration.

**HIS 3237. Nature, Wilderness, and American Life (3).**F.Odd-numbered years.

This course provides an overview of Americans' interaction with the natural world from colonization to the present, with emphasis on Native Americans' relationship to the land, the environmental effects of European settlement, wilderness as a cultural construct, the growth of agriculture and industry, conservation and preservation, atomic energy, chemical pesticides, and the modern environmental movements. This course may be of particular interest to public historians, cultural resource managers, planners, and environmental specialists.

**HIS 3238. America's National Parks (3).**F.Even-numbered years.

A survey of the history of America's national parks from the nineteenth century to the present with emphasis on Americans' changing ideas about wilderness preservation, the early history of Yosemite and Yellowstone, the role of railroads in park promotion, removal of Native Americans and white settlers from park sites, establishment of the National Park Service, the impact of the automobile on tourism, the creation of national parks in the East, wildlife policy, overcrowding, and other problems facing modern parks.

**HIS 3239. Country Music and American Culture (3).**F.Even-numbered years.

An investigation of American country music, specifically the gospel, bluegrass, hillbilly, and rockabilly traditions that resulted in the modern Country Music Association. Parallel topics will be southern urban migration, the impact of the Great Depression, the development of radio and television, and the emergence of Nashville as America's country music center.

**HIS 3240. Race, Rock & Rebellion (3).**F.Even-numbered years.

Analysis of the relationship among the civil rights movement, the birth and development of rock and roll, and the youth rebellion of the 1960s and early 1970s. Topics include the Jim Crow South, the roots of rock, Massive Resistance, the Baby Boom, Rockabilly, civil disobedience, Folk Rock, youth culture, the British Invasion, the Counterculture, anti-Vietnam War music, and the transitional music of the early 70s. The period covered is from the end of World War II to 1975.

**HIS 3242. The American Civil Rights Movement (3).**F.Odd-numbered years.

History of the American Civil Rights Movement from Emancipation to the present, with emphasis on the period after the 1909 formation of the NAACP. Topics include the rise of Jim Crow segregation and the resistance to it, *Plessy v. Ferguson*, the Niagara Movement and the NAACP, the KKK and racial violence, the anti-lynching crusade, the Legal Defense Fund, Inc., the New Deal for Black Americans, WWII and the Double V, the legal battle against educational segregation from *Sweatt* to *Brown*, massive resistance, and the post-*Brown* civil rights revolution.

**HIS 3243. History of American Popular Culture (3).**F.Odd-numbered years.

An introduction to the history of popular culture in the United States from the colonial period to the present via music, television, food, film and other manifestations of American popular culture.

**HIS 3301. History of the Southern Cone (3).**S.Even-numbered years.

In this course, students review colonial differences and explore the history of Chile, Argentina, Paraguay, and Uruguay from independence to the present, moving both geographically and chronologically to cover the four national histories. While the course will emphasize industrial development, social consolidation, political control, labor mobilization, and international responses, students will also examine genocide, guerrilla insurrections, peasant organization, linguistic policies, immigration and internal development. The class will debate recent economic coalitions and alternatives to globalization. Students complement the general chronological approach with thematic examples from the four southern countries to examine the recent changes and to assess area trends and directions.

**HIS 3303. History of Mexico (3).**S.

Traces the evolution of Mexican society from pre- Columbian times to the present. Topics include the Maya and Aztec civilizations; the Spanish colonial heritage; the nation's struggle for independence; the tumultuous Mexican Revolution; and problems of economic development in the twentieth century.

**HIS 3304. The Mexican Revolution (3).**F.Even-numbered years.

Study of the Mexican Revolution, its causes in the late nineteenth century, its process during the military phase (1910-1920), the

country's reconstruction (1920-1940), and its impact on modern Mexico, modern Latin America, and the United States. It will look at some of the most famous figures in Mexican history: Porfirio Diaz, Francisco Madero, Emiliano Zapata, Pancho Villa, Lazaro Cardenas, as well as great artists like Diego Rivera and Frida Kahlo. In addition to a social, economic, and military history of the revolution, the course will examine the new culture that emerged from the process, in music, art, literature, and film.

## **HIS 3305. Comparative Revolutions (3).S.**

Comparison of important social revolutions in history. Among the list of possible revolutions are those from which the modern nation state emerged (England and France), the classic anti-capitalist revolutions of the twentieth century (Russia and China), and the anti-imperialist revolutions in the third world (Mexico, Cuba, Iran). The course will review the theory of revolution, compare theory with the historical experience of specific revolutions, and analyze the status of revolutionary theory in the contemporary world.

## **HIS 3306. Indigenous Resistance in Modern Latin America (3).F.Even-numbered years.**

Once nearly annihilated, indigenous people have returned to play an increasingly important role in Latin America. The last decade has shown native influences to national constitutions, environmental protection and human rights as indigenous nations struggled creatively to retain political, cultural and economic autonomy. Students explore ethnic consciousness and resistance to see beyond stereotypes and understand native groups as historical actors. Texts, films and discussions focus on the contradictory way native peoples have shaped state politics and economies within a changing environment.

## **HIS 3308. U.S.-Latin American Relations (3).F.Odd-numbered years.**

This course will examine historical perspectives on U.S.-Latin American relations, with the goal of interpreting differing frames of analysis and preparing students to teach in a multi-cultural environment. From the nineteenth to the twenty-first centuries, social and political actors in Latin America actively shaped their relations with the United States. This interaction influenced lives in both continents in important ways. Most recently, contacts have focused on drug traffic, armed insurrections, terrorism, trade relations, and migration policies.

## **HIS 3322. History of Modern China (3).S.Odd-numbered years.**

Traces the course of man's longest and largest continuous government and the development of Chinese culture and nationalism which has culminated in the founding of the People's Republic of China, a nation that constitutes one-fourth of the human race.

## **HIS 3324. History of Modern Japan (3).S.Even-numbered years.**

A survey of Japan's political, social and economic development from the late 18th century until the present. Emphasis on how Japan became a modern industrial power in the late 19th and early 20th centuries and how it retained and reinforced its economic position in the post-World War II era.

## **HIS 3330. Introduction to Africana Studies (3).F.**

This course offers students the opportunity to examine the complex historical, social, political, and cultural issues of peoples of Africa and the African Diaspora. Central themes of this multi-disciplinary course include examinations of pre-colonial African societies, slavery in the Atlantic Basin and in the New World, the evolution of race and racism, and African influences in communities outside of the continent. This course is the required introductory course for the Africana Studies Minor. (Same as IDS 3330.)(Global Learning Opportunity course)

## **HIS 3332. History of Modern India (3).S.**

The social and political evolution of India from the achievement of British power in India, Indian reaction in the 18th and 19th centuries, the founding of the Indian nationalist movement, and Gandhi's leadership toward Indian independence in 1947.

## **HIS 3335. History of the Middle East from Muhammad to the Present (3).F.Odd-numbered years.**

History of the Middle East from the sixth century until today. A broad historical survey of the region's religious, socioeconomic, geopolitical and technological development. Topics include the formation of early Islamic states until the Middle East's encounter with the West circa 1800; the region's subsequent experiences with colonization, modernization, social change, war, nationalism; the Arab-Israeli conflict; and political Islam.

## **HIS 3336. The Revolutionary Middle East (3).F.**

This course examines, in depth, one or more of the significant political, social, religious, or economic changes which have taken place in the 20th century Middle East. Topics investigated may include, but are not limited to changes associated with: the Palestine dilemma, the Iranian Revolution, Nasser's Egypt, Islamic Fundamentalism, Middle Eastern Women, Ataturk's Turkey and/or Saddam Hussein and Iraq.

## **HIS 3337. History of Women and Gender in the Middle East (3).S.Even-numbered years.**

History of women and gender in the Middle East from the formation of Islam to the present. Topics include: marriage practices;

homosexuality; gendered legal status; social roles and restrictions in Islam; feminism; and the related impacts of modernization, colonization, and decolonization in the Middle East.

**HIS 3338. African Environmental History from Antiquity to 1500 (3).S.**

Beginning with methodological and theoretical approach within the belief that "Africa's environmental history is written on its landscape," the course visits the challenges of studying pre-literate societies, where the environmental study itself produces a spectacular answer to the dearth of written account. This course examines the interaction between people and natural phenomena and it addresses such questions as what influenced the settlement patterns and development of diverse cultures in different regions of Africa. The origin of human civilization in Africa as the "accepted cradle of mankind" is explored in detail using visual materials, primary and secondary sources.

**HIS 3339. African Environmental History since 1500 (3).F.**

This course explores the interaction between African people and their physical environment from 1500 to the end of the twentieth century. Organized thematically or chronologically, this course examines the intersection between African environmental practice and Western scientific currents of the post industrial era.

**HIS 3420. History of Western Medicine and Public Health (3).F.Odd-numbered years.**

This course examines the roots of Western medicine in Classical and traditional Europe. Focusing on the development of medical and public health approaches and occupations in nineteenth- and twentieth-century United States, the course explores cultural, scientific, economic, and political contexts for suffering and healing.

**HIS 3422. Women in European History (3).F.Even-numbered years.**

An examination of the role of women in European history, both in traditional political and economic institutions, and in the family, work, and female organizations and movements. The course assumes a view of women as an essential force in history.

**HIS 3423. Women in American History (3).S.Odd-numbered years.**

An examination of the role of women in American history, both in traditional political and economic institutions, and in the family, work, and female organizations and movements. The course assumes a view of women as an essential force in history.

**HIS 3424. History of Women and the Law (3).S.Even-numbered years.**

A broad survey of women's legal place in American history from the colonial period through the fight for the Equal Rights Amendment. Beginning with English common law relative to women, the course will examine United States Constitutional Amendments, Supreme Court decisions, and federal laws that have codified women's place in American society. The course assumes a view of women as an essential force in history.

**HIS 3500. Independent Study (1-3).F;S.**

**HIS 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**HIS 3522. Pirates and Their Atlantic World (3).SS.**

This course aims to examine the popular images of pirates, to find out where those images come from and to compare them with the real world of the pirates. We will concentrate on those pirates who plied the waters of the Atlantic during the seventeenth and eighteenth centuries. We will also discuss the Barbary Corsairs of North Africa and other pirates that roamed the South China Sea. Themes raised during the course will include the origins of piracy in the early modern world, the economy of the Atlantic world, seafaring during the early modern period, the language and culture of the sea, authority and violence among pirates, and the social and cultural dimensions of piracy.

**HIS 3524. World Economy: History and Theory (3).F.Even-numbered years.**

*GEN ED: Historical and Social Perspective (Theme: "Capitalism and Its Critics")*

This course traces the development of the world economy to the present, focusing on the search for the determinants of economic success and the various solutions that have been offered. The long term changes in world income and population are quantified (mainly for the second millennium), the forces that explain the success of rich countries are identified, and the obstacles that hindered economic advance in lagging regions are explored. We will emphasize the interaction between empirical methods and interdisciplinary theories. The interaction between wealthy nations and the rest of the world is scrutinized to assess the degree to which backwardness may have been due to Western policy. Also, special emphasis will be placed on the analysis of government spending patterns and the economic impact of conflicts.

**HIS 3526. Business History** (3).F.Odd-numbered years.

This course will survey the latest theories and empirical applications in the field of business history. Geographically, the focus will be on American and European business history, and temporally on the development of business history from the 20th to the 21st century. Topics in the course will include the development of multinational firms and the managerial revolution, family firms, armaments producers, business/government relations, and Nokia, and it will touch on local business history as well.

**HIS 3528. Comparative Labor History** (3).S.Odd-numbered years.

A study of the development of labor in history, comparing labor process in different periods and regions. The course is particularly focused on the shift from agricultural to industrial labor, the varieties of industrial labor, and the emergence of post-industrial labor. It analyzes the differences in the historical experiences of the advanced countries in Europe and North America with the historically backwards economies in the Third World. It explores the gendered experience of labor, forms of labor organization, and the growth of working-class cultures, as well as the relationship between labor and the state.

**HIS 3530–3549. Selected Topics** (1–4).On Demand.**HIS 3560. Undergraduate Research** (1-3).F;S.

A supervised experience in which the student does historical research under the direction of a faculty member, resulting in a product of learning. May be repeated for a total credit of three semester hours. Prerequisite: History major, or permission of the instructor.

**HIS 3575. Public History: An Introduction to the Field** (3).F.

An upper-level undergraduate course examining and evaluating the types of work done by public historians. Students will evaluate history as it is presented in exhibits, documentaries, popular culture, and as tourism, among other formats. Students will also be introduced to the interdisciplinary skills and techniques employed by historians and other professionals working in historical agencies, universities, museums and historic sites, preservation, policy research, libraries and archives, cultural resources management, and the National Park Service.

**HIS 3576. Education in Museums and Public History Sites** (3).F.Odd-numbered years.

This course examines the ways in which museums and other public history sites attempt to reach and educate diverse audiences, and explores how people learn from, and meaningfully engage with, these sites. Students will examine how the field of museum education and theories about learning have historically changed over the years, and will research and analyze the variety of interpretive methods museums use, such as technology, hands-on activities, and curriculum-based activities.

**HIS 3600. Selected Topics in Public History** (3).On Demand.

Variable content. A systematic examination of a field in public history such as museum studies, archival management, historic preservation, or living history. Barring duplication of content, a student may repeat the course.

**HIS 3626. Issues in Teaching United States History** (3).F.

A course designed specifically for history majors who plan to teach history/social studies at the secondary level. Assignments include examination of the North Carolina Standard Course of Study for United States History, development of a plan to sequence and pace instruction, preparation of content for classroom presentation, and identification of teaching materials supplementary to textbooks.

**HIS 3628. Issues in Teaching World History** (3).S.

A course designed specifically for history majors who plan to teach history/social studies at the secondary level. Assignments include examination of the North Carolina Standard Course of Study for World History, development of a plan to sequence and pace instruction, preparation of content for classroom presentation, and identification of teaching materials supplementary to textbooks.

**HIS 3720. History of the Old South** (3).F.On Demand.

An examination of the development of America's major regional subculture; a study of significant trends in the social, intellectual, economic, and political evolution of the region from the seventeenth century to the beginning of the Civil War.

**HIS 3722. Post-Civil War South** (3).S.Even-numbered years.

An examination of the development of America's major regional subculture. A study of significant trends in the social, intellectual, economic, and political evolution of the region since the end of the American Civil War.

**HIS 3726. History of the Appalachian Region** (3).S.

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

A survey of the history of the Appalachian region from the period of exploration and settlement to the present.

**HIS 3728. History of North Carolina (3).F;S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

This course will examine the major social, economic, and political factors in the development of North Carolina from its settlement to the present. Consideration will be given to the relationship of the State to the Southern region and the nation.

**HIS 3820. United States Foreign Policy (3).F.Even-numbered years.**

Major episodes in the history of United States foreign policy during the twentieth century are explored, with special consideration being given to the ideas, ideals, domestic and international conditions, and personalities that have played important roles in determining relations with the rest of the world.

**HIS 3822. The Vietnam War (3).S.**

This course is intended to provide the student with an overview of the U.S. involvement in Vietnam since 1945, concentrating on the reasons for that involvement, the resulting conflict in Vietnam, and the results of the war.

**HIS 3823. American Military History (3).F;S.Odd-numbered years.(SS1.Even-numbered years.)**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "War and Peace")*

This course explores the American military experience from its origins in the colonial period to the present day. It is designed to view military history from a variety of angles, through multiple perspectives and formats, and to broaden students' views of the American military establishment. We will examine traditional military topics, such as strategy and tactics, and combat operations, as well as exploring "new military history" topics, such as the interaction between war and society, civil-military relations, and the social history of soldiers. We will also explore how political, social, and cultural factors have influenced the nature of warfare and the military institution in American history. (Same as MSL 3823.)

**HIS 3824. American Urban History (3).S.**

A study of the American urban environment, evaluating the history of urban expansion and suburbanization. Students will examine concepts of urbanization that may include sprawl, gentrification, preservation, and shrinkage. Students will study the impact of segregation and the interstate highway system on the landscape, as well as the image of the city in popular thought and culture.

**HIS 3828. American Church History (3).S.Odd-numbered years.**

A study of major Protestant, Catholic, and Jewish organizations in the United States from the colonial period to the present. The course also traces the rise of popular religious culture through an examination of religious use of literature, education, politics, theater, music, and the electronic media.

**HIS 3922. The Western Intellectual Tradition (3).S.Odd-numbered years.**

Studies in western intellectual history which examine the interaction of historically important ideas and their social milieu, with emphasis on selected individuals and concepts that have shaped and exemplified western thought.

**HIS 3923. The Truth in History and the Truth of History (3).On Demand.**

*GEN ED: Historical Studies Designation; Historical and Social Perspective (Theme: "Mind")*

The primary goal of this course is to help students understand how historians determine the truth in history. The class will use the example of a specific historical event. Students will examine reasoned arguments about truth, relevant social theories necessary for understanding social processes, and primary and secondary sources about the event in question. The class will integrate these materials to explore how historians determine the truth in history and the truth of history.

**HIS 4000. Senior Colloquium (3).F;S.**

Variable content. A readings course that investigates a broad topic, field, or period in history. Strongly emphasizes current scholarship, interpretation, and bibliography. Barring duplication of content, a student may repeat the course for a total of six credit hours. Prerequisite: History major with a minimum of three semester hours in history at the 3000-level, or permission of the instructor.

**HIS 4100. Senior Seminar (3).F;S.**

*GEN ED: Capstone Experience*

Variable content. In a seminar setting, students will investigate a broad topic, field, or period in history through intensive reading, research, and writing. Strongly emphasizes the examination and interpretation of primary and secondary sources, definition of a research topic, use of research methodology, and the understanding of issues and problems in research. A minimum grade of "C" in the HIS 4100 Senior Seminar is required to complete the History major. Prerequisites: HIS 2800; and History major with senior standing and a minimum of three semester hours in history at the 3000-level, or permission of the instructor.

**HIS 4900. Internship: Experiential Learning in Public and Applied History (3-12).F;S.**

An on-the-job work experience individually tailored to the students' career orientation. Students may be required to reside off-campus for periods of from six weeks to a full semester. Graded on an S/U basis.

## Judaic, Holocaust and Peace Studies (JHP)

Thomas Pegelow Kaplan, Director of the Center for Center for Judaic, Holocaust, and Peace Studies

The Center for Judaic, Holocaust, and Peace Studies coordinates a broad array of educational and research opportunities for students, teachers, faculty members, and the community at large.

The Center fosters the interdisciplinary study of the Holocaust and other modern genocides. In order to comprehend practices of systematic mass murder and genocidal societies, it is pivotal to draw on a variety of fields from sociology, anthropology, and history to political science, philosophy, and religious studies and scrutinize a multilayered source base, ranging from film and photography to literary, diplomatic, and government sources. The study of the Holocaust and modern genocides provides insights into the pre-conditions and unfolding of systematic mass murder, how ordinary men and women come to participate in these crimes and the responses, "choiceless choices" (Lawrence L. Langer), and acts of contestation by victimized populations. These explorations also center on possible forms of intervention and problematize silence in the face of genocide, always combining analysis with reflections on social and civic responsibilities.

The study of the Holocaust is combined with a multi-layered examination of Judaism and histories of Jewish populations worldwide that cannot be reduced to ongoing episodes of violence. Over the centuries, Jewish communities developed a complex theology, laws, and cultural traditions. Many of these traditions also inform practices of waging peace, which is at the core of the Center's third focus. Combined with a knowledge of Jewish cultures and histories and meanings of the Holocaust, the exploration of theories and languages of peace studies underpin the search for human improvement and a world increasingly free of violence and genocide.

### Judaic, Holocaust and Peace Studies offers the following:

#### Minor in Judaic, Holocaust and Peace Studies (126/30.2101)

A student may earn an undergraduate minor in Judaic, Holocaust and Peace Studies by successful completion of an interdisciplinary program of 18 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/judaic-holocaust-and-peace-studies-minor-126-2016-2017](http://www.programsofstudy.appstate.edu/judaic-holocaust-and-peace-studies-minor-126-2016-2017)

For additional information, contact the Center director in the Center for Judaic, Holocaust and Peace Studies at (828)262-2311.

#### Courses of Instruction in Judaic, Holocaust and Peace Studies (JHP):

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### Judaic, Holocaust and Peace Studies (JHP)

#### JHP 2300. Introduction to Holocaust and Judaic Studies (3).F.Alternate years.

*GEN ED: Integrative Learning Experience (Theme: "War and Peace")*

This interdisciplinary course provides an introduction to the study of the Holocaust and Judaism. It familiarizes participants with key terms in the analysis of the Nazi genocide of the Jews and the examination of one of the most eminent monotheistic religions. The class combines these explorations with a focus on the histories and main foundational narratives of the Holocaust and Judaism and, finally, applies them to a range of literary and visual sources, including writings by genocide survivors. The course places specific emphasis on war in its treatment in Jewish theological and cultural traditions and its complex intersections with genocide. (Same as HIS 2300.)

#### JHP 2350. Introduction to Peace Studies (3).On Demand.

*GEN ED: Integrative Learning Experience (Theme: "War and Peace")*

In this course, students will explore relevant theories about peace studies, as well as a history of the development of the area of peace studies. The course will ask students to discuss the problems that arise when working in the area of peace and evaluate the ways in which states and individuals consider waging peace. Finally, the course will encourage students to consider their contributions toward achieving a world in which people can resolve conflicts more effectively. Given the ultimate goal of understanding ideas such as negative peace and positive peace and nonviolent methods for conflict resolution, this course will be very interdisciplinary, including but not limited to academic fields in political science, sociology, psychology, economics, gender studies, anthropology, and literary studies. Working across fields and supporting an open discourse allows for multiple interpretations and perspectives. (Same as GLS 2350.)

#### JHP 3151. Comparative Genocide in the Twentieth Century (3).F.Alternate years.

This advanced course combines an analysis of conceptual approaches to genocide studies with an examination of specific twentieth-



century genocides. The examined cases include the Ottoman genocide of the Armenians, the Holocaust, the mass murders in 1970s Cambodia and 1990s Bosnia, and the 1994 Rwandan genocide. The course pays specific attention to the motivations of perpetrators, the role of mass media, and the international community's politics of naming and intervention. (Same as HIS 3151.)

**JHP 3154. The Holocaust: Interpretation, Memory, and Representation (3).S.**

This upper-level course examines key scholarly debates in the study of the Holocaust's perpetrators, victims, and bystanders. The class also analyzes the memorialization and often-conflicting representations of the Holocaust in German, Israeli, and American societies after 1945. It demonstrates how the Holocaust does not only exist as a devastating reality of Jewish history, but has also become an integral component of global history with a profound impact on our world today. The course evolves around a Center-supported research trip during spring break that alternates between Holocaust memorials and archives in Washington, D.C., Germany/Poland, and Israel. (Same as HIS 3154.)

## Department of Languages, Literatures, and Cultures (LLC)

James D. Fogelquist (Spanish), Chair

Irina Y. Barclay (Russian)  
Saloua Ben Zahra (Arabic)  
Zhiyuan Chen (Spanish)  
Victoria K. Cox (Spanish)  
Benito del Pliego (Spanish)  
Andrés Fisher (Spanish)

Catherine A. Fountain (Spanish)  
Jean-François Fournier (French)  
Martial Frindéthié (French)  
Darci L. Gardner (French)  
Rainer H. Goetz (Spanish)  
Kevin G. Kennedy (German)

Richard G. McGarry (Linguistics and ESL)  
Beverly A. Moser (German)  
Maria Patricia Ortiz-Owens (Spanish)  
Benjamin J. Souza (Spanish)  
Alexandra Sterling-Hellenbrand (German)  
Wendy Xie (Chinese)

The curriculum of the Department of Languages, Literatures, and Cultures includes courses in French, Spanish, German, Latin, Russian, Japanese, Chinese, Arabic, Portuguese, and ESL. The major objective of the department is to enable students to gain linguistic and cultural competency through the study and practice (reading, writing, speaking) of the languages we offer. Further studies in the culture and literature of the target languages are designed to give students a better understanding of the traditions, achievements and lifestyles of the countries and areas where the languages are spoken. In teaching culture through literature and language, we seek to educate students with the intercultural and linguistic proficiency to become active members of a diverse global community.

### Language Placement Exam Requirement:

A language placement exam is required of all students enrolling in their first language course at the 1020 level (Beginning II) or above. The placement exam score remains valid for only one year. Information about placement exams in all languages is available on the website of the Department of Languages, Literatures and Cultures (<http://dlc.appstate.edu/node/674>).

Students are expected to enroll in the course indicated by the results of their exam. When warranted, a student's placement level may be adjusted after consultation with the language advisor.

A student who enrolls in a course lower than the placement level indicated will not be granted credit for the course. Courses taken below the placement level count as credit toward course load and full-time student eligibility, but do not count toward hours required for graduation and will not be calculated as part of the GPA. Placement credit will be awarded to students **only** if they successfully complete (with a "C" or better) the course they score into.

Placement credit will be awarded in the following manner:

- Students placing into and successfully completing 1020 receive placement credit for 1010.
- Students placing into and successfully completing 1040 receive placement credit for 1010 and 1020.
- Students placing into and successfully completing 1050 receive placement credit for 1020 and 1040.
- Students placing into the 2000 level (advanced) may choose 2005 or 2010 as a validation course. Successfully completing the 2000 level class would gain placement credit for 1040 and 1050.

Transfer students with college credit in a language who wish to continue in the same language are not required to take the placement test. However, transfer students are encouraged to consult with the faculty advisor for that language.

All students who wish to enroll in courses on the level of 2000 or above must take proficiency tests or complete course work through the intermediate level of that language (1050). All classes in the Department, except those designated as LLC (Languages, Literatures, and Cultures) courses, are taught in the target language. LLC courses are offered in English and may count towards the major only under special circumstances and with the consent of the advisor and departmental chair.

### The Bachelor of Arts degree in Languages, Literatures, and Cultures (136\*/16.0199) with a concentration in French and Francophone Studies (136B)

The program of study is available at: [www.programsofstudy.appstate.edu/languages-literatures-and-cultures-ba-french-and-francophone-studies-136b-2016-2017](http://www.programsofstudy.appstate.edu/languages-literatures-and-cultures-ba-french-and-francophone-studies-136b-2016-2017)

### The Bachelor of Arts degree in Languages, Literatures, and Cultures (136\*/16.0199) with a concentration in Spanish (136C)

The program of study is available at: [www.programsofstudy.appstate.edu/languages-literatures-and-cultures-ba-spanish-136c-2016-2017](http://www.programsofstudy.appstate.edu/languages-literatures-and-cultures-ba-spanish-136c-2016-2017)

### The Bachelor of Science degree in Languages, Literatures, and Cultures (137\*/13.1399)[T] with a concentration in French and Francophone Studies, Education (K-12)(137B)[T] with teacher licensure

The program of study is available at: [www.programsofstudy.appstate.edu/languages-literatures-and-cultures-bs-french-and-franco-](http://www.programsofstudy.appstate.edu/languages-literatures-and-cultures-bs-french-and-franco-)

[phone-studies-education-k-12-137b-2016-2017](#)

## **The Bachelor of Science degree in Languages, Literatures, and Cultures (137\*/13.1399)[T] with a concentration in Spanish, Education (K-12) (137C)[T] with teacher licensure**

The program of study is available at: [www.programsofstudy.appstate.edu/languages-literatures-and-cultures-bs-spanish-education-k-12-137c-2016-2017](#)

### **Minors**

**A minor in Arabic (133/16.1101)** consists of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/arabic-minor-133-2016-2017](#)

**A minor in Chinese (227/16.9999)** consists of 15 semester hours. (International Business majors with a minor in Chinese are required to take CHN 3090, Business Chinese.)

The program of study is available at: [www.programsofstudy.appstate.edu/chinese-minor-227-2016-2017](#)

**A minor in French and Francophone Studies (122/16.0901)** consists of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/french-and-francophone-studies-minor-122-2016-2017](#)

**A minor in German (245/16.0501)** consists of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/german-minor-245-2016-2017](#)

**A minor in Japanese (117/16.0302)** consists of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/japanese-minor-117-2016-2017](#)

**A minor in Russian (129/16.0402)** consists of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/russian-minor-129-2016-2017](#)

**A minor in Spanish (286/16.0905)** consists of 15 semester hours.

The program of study is available at: [www.programsofstudy.appstate.edu/spanish-minor-286-2016-2017](#)

**A minor in TESL/Applied Linguistics (TESL: Teaching English as a Second Language) (288/16.0102)**

consists of 18 or 21 semester hours of required course work.

The program of study is available at: [www.programsofstudy.appstate.edu/teslapplied-linguistics-minor-288-2016-2017](#)

### **Honors Program in French and Spanish**

The Department of Languages, Literatures, and Cultures maintains an honors program in French and in Spanish to provide qualified students with an opportunity for advanced research in a seminar atmosphere. At the freshman level, the Department participates in the campus wide honors program for eligible new students, offering honors sections of a variety of introductory courses on a rotating basis. Honors courses and honors course contracts are available in the department for students at the sophomore, junior and senior level. These courses are open to students who have distinguished themselves. Junior and senior level honors courses carry full credit toward the majors in French and Spanish, or for non-majors full elective credit. In order to remain in the departmental program, students must maintain a 3.0 GPA in honors work.

To graduate with honors in French, a student must take 9 semester hours of honors courses in the department, including the senior honors thesis, FRE 4510.

To graduate with honors in Spanish, a student must take 9 semester hours of honors courses in the department, including the senior honors thesis, SNH 4510.

Qualified University honors students who are minoring in a language (Chinese, French, German, Spanish, TESL/Applied Linguistics) or minoring in an Area Studies program (e.g., Asian Studies; East European, Russian and Central Asian Studies) may arrange to have a language faculty member as the second reader of the senior honors thesis, with the approval of the thesis advisor from the major department and approval from The Honors College. Students must earn a grade of 'B' (3.0 grade points) or higher on all honors coursework taken to fulfill any honors requirements.

### **Language Computer Lab**

The Department of Languages, Literatures, and Cultures provides a 30-station walk-in computer lab and 6-station oral practice room open to all students, faculty and staff during weekday hours of operation.

The lab provides opportunity for research, enrichment and practice, and individual or group instruction and testing. DLLC lab computers

include foreign language characters and spell-checks in addition to the standard campus software. Microphones and headphones are included or available.

In the adjoining oral lab room, oral record assistance and self-paced computer tutoring is available for languages taught in the department - ARB, CHN, FRE, GER, JPN, LAT, POR, RSN, SNH. The lab also supports the department's several multi-media classrooms.

## Master of Arts

The Department of Languages, Literatures, and Cultures offers a Master of Arts degree in Romance Languages with concentrations in French K-12 Teaching (M Level Licensure), French College Teaching, Spanish K-12 Teaching (M Level Licensure), and Spanish College Teaching. Persons interested in this degree are requested to consult the *Graduate Bulletin* for further information.

## Courses of Instruction in Languages, Literatures, and Cultures

(ARB, CHN, FRE, GER, JPN, LAT, LLC, POR, RSN, SNH)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### ARABIC (ARB)

#### ARB 1010. Beginning Arabic I (4).F.

Introduction to basic skills necessary for understanding, speaking, reading, and writing Arabic, with emphasis on the use of functional, communicative language. Open to students with no previous experience in Arabic. One small-group conversation section per week required. (Global Learning Opportunity course)

#### ARB 1020. Beginning Arabic II (4).S.

Continuation of skills necessary for understanding, speaking, reading, and writing Arabic with emphasis on the use of functional, communicative language. Prerequisite: ARB 1010 or consent of the instructor. One small-group conversation section per week required. (Global Learning Opportunity course)

#### ARB 1040. Intermediate Arabic I (3).F.

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: ARB 1020 or consent of the instructor. Laboratory work required. (Global Learning Opportunity course)

#### ARB 1050. Intermediate Arabic II (3).S.

GEN ED: Liberal Studies Experience

A continuation of ARB 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: ARB 1040 or the equivalent. Laboratory work required. (Global Learning Opportunity course)

#### ARB 2000. Arabic Discussion Section (1).On Demand.

Arabic discussion section offered in conjunction with selected content courses. There will be weekly discussion and readings in Arabic relating to the attached content courses (e.g. REL 2030 or LLC 2015). Course can be repeated up to three times. Prerequisite: ARB 1050 or equivalent.

#### ARB 2001. Media Arabic (3).F.

Emphasis on the further development of proficiency in comprehension and expression in Arabic through advanced practice of speaking and reading skills. The objective of this class is also to improve knowledge and understanding of Arab culture and society and various issues affecting Arab people. Literature will be multimodal and consist of selected articles from various media in the Arab world, such as major newspapers and clips of popular television programs as well as segments of internet videos. Activities will include work on translating news articles about social and political issues in Arab cultures. Prerequisite: ARB 1050 or equivalent.

#### ARB 2530-2549. Selected Topics (1-4).F;S.On Demand.

### CHINESE (CHN)

#### CHN 1010. Beginning Chinese I (4).F.

Introduction to basic skills necessary for understanding, speaking, reading, and writing Chinese, with emphasis on the use of functional, communicative language. Open to students with no previous experience in Chinese. One small-group conversation section

per week required. (Global Learning Opportunity course)

**CHN 1020. Beginning Chinese II (4).S.**

Continuation of skills development in understanding, speaking, reading, and writing Chinese with emphasis on the use of functional, communicative language. Prerequisite: CHN 1010 or consent of the instructor. One small-group conversation section per week required. (Global Learning Opportunity course)

**CHN 1040. Intermediate Chinese I (3).F.**

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: CHN 1020 or consent of the instructor. Laboratory work required. (Global Learning Opportunity course)

**CHN 1050. Intermediate Chinese II (3).S.**

*GEN ED: Liberal Studies Experience*

A continuation of CHN 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: CHN 1040 or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**CHN 2000. Chinese Discussion Section (1).On Demand.**

Chinese discussion section offered in conjunction with selected content courses. There will be weekly discussion and assignments in Chinese relating to attached content courses. Course can be repeated up to three times for credit. Prerequisite: CHN 1050 or equivalent.

**CHN 2001. Advanced Chinese I (3).F.**

Focuses on acquiring additional proficiency in speaking, listening, reading and writing. Prerequisite: CHN 1050 or its equivalent. Laboratory work required.

**CHN 2003. Advanced Chinese II (3).S.**

Focuses on acquiring proficiency in speaking, listening, reading and writing. Prerequisite: CHN 2001 or its equivalent. Laboratory work required.

**CHN 2005. Intensive Grammar Review (3).F.**

Focus is on the practice of various aspects of basic Chinese grammar patterns and language structures. Prerequisite: CHN 2003 or its equivalent. Laboratory work required.

**CHN 2010. Conversational Chinese I (3). On Demand.**

This course is designed for those with intermediate language proficiency who wish to focus on oral language skills. Prerequisite: CHN 1050 or its equivalent. Laboratory work required.

**CHN 2020. Conversational Chinese II (3). On Demand.**

This course is designed for those with intermediate language proficiency who wish to focus on oral language skills. Prerequisite: CHN 2010 or permission of the instructor. Laboratory work required.

**CHN 2500. Independent Study (1–3).On Demand.**

**CHN 2530-2549. Selected Topics (1-4). F;S.On Demand.**

**CHN 3040. Chinese Cinema (3). On Demand.**

A study of representative Chinese films from the early twentieth century to the present; films subtitled, readings and discussion in English.

**CHN 3050. Chinese Culture and Civilization (3). On Demand.**

A survey course taught in English that introduces Chinese history, geography, religion, philosophy, government, literature, art, customs and traditions.

**CHN 3070. Advanced Readings in Modern Chinese (3). On Demand.**

Development of communication skills, with emphasis on reading modern Chinese texts.

**CHN 3090. Business Chinese (3). On Demand.**

Focuses on oral and written business expressions common in business communications. Prerequisite: CHN 2003 or its equivalent.

Laboratory work required.

**CHN 3500. Independent Study** (1–3). On Demand.

**CHN 3520. Instructional Assistance** (1). On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**CHN 3530–3549. Selected Topics** (1–4). On Demand.

## FRENCH (FRE)

**FRE 1010. Beginning French I** (3).F.

Introduction to basic skills necessary for understanding, speaking, reading, and writing French, with emphasis on the use of functional, communicative language. Open to students with no previous experience in French or whose French placement test score indicates deficiency. Laboratory work required. (Global Learning Opportunity course)

**FRE 1020. Beginning French II** (3).S.

Continuation of skills development in understanding, speaking, reading, and writing French with emphasis on the use of functional, communicative language. Prerequisite: FRE 1010 or consent of the advisor. Laboratory work required. (Global Learning Opportunity course)

**FRE 1030. Accelerated Beginning French** (6). On Demand.

Combines FRE 1010 and FRE 1020. Open to students with no previous experience in French or whose French placement score indicates deficiency. Meets daily for a total of 300 minutes per week. Laboratory work required.

**FRE 1040. Intermediate French I** (3).F.

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: adequate score on the placement test or FRE 1020, or FRE 1030, or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**FRE 1050. Intermediate French II** (3).S.

*GEN ED: Liberal Studies Experience*

Focus on various aspects and perspectives of selected French-speaking cultures outside of France, including francophone peoples of Canada, the Caribbean, and/or the African continent. Continued development of communicative language skills through contact with authentic materials, readings, and films. Prerequisite: FRE 1040 or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**FRE 1060. Accelerated Intermediate French** (6). On Demand.

*GEN ED: Liberal Studies Experience*

Combines FRE 1040 and FRE 1050. Prerequisite: FRE 1020 or the equivalent. Class meets daily for a total of 300 minutes per week. Laboratory work required. (\*NOTE: Only 3 s.h. of this 6 s.h. course may count for general education credit in a theme.) (Global Learning Opportunity course)

IN ORDER TO REGISTER FOR COURSES TAUGHT IN FRENCH ON THE 2000 LEVEL OR ABOVE, STUDENTS MUST COMPLETE FRE 1050 OR FRE 1060 OR MAKE AN ADEQUATE SCORE ON THE PLACEMENT TEST.

**FRE 2005. Intensive Grammar Review** (3).F.

Comprehensive review for thorough understanding of the elements of the French language necessary for students wishing to pursue further studies in French. Prerequisite: FRE 1050 or FRE 1060, or the equivalent, or an adequate score on the placement test. Laboratory work required. Required for minors and majors.

**FRE 2006. French Sound and Script** (3).F.

A study of the sound system in French, the phonetic alphabet and its use. Oral practice aimed at improving pronunciation and orthography. Prerequisite: FRE 1050 or FRE 1060 or consent of the instructor. Laboratory work required.

**FRE 2010. Spoken French** (3).F;S.

Study of French sounds, vocabulary, and structures targeting listening comprehension and oral self-expression in French. Practice aimed at improving pronunciation, idiomatic usage, discursive and presentational modes of the language. Prerequisite: FRE 1050 or



FRE 1060 or consent of the instructor. Laboratory work required. Required for minors and majors.

**FRE 2025. Introduction to Literature and Writing (3).**S.Alternate years.

This course will focus on the development of skills necessary for critical reading of and writing about literature (examination of genres, concepts of literary structure, language use, and critical theories) through examination of selected works. The course also aims at improving the student's ability to write in French with grammatical correctness. This course satisfies the 2000-level major requirement in French literature. Prerequisite: FRE 2005.

**FRE 2035. The French Speaking World (3).**F.

Initiation to French-speaking cultures of the world, including Europe, West and Central Africa, Quebec, and the Antilles. Continued practice of language skills through various readings, discussions, presentations, and written assignments in French. Prerequisite: FRE 2005 or consent of the instructor. Required for majors.

**FRE 2045. Children's and Adolescent Literature (3).**F.Alternate years.

This course will focus on select literary texts from the French-speaking world, including francophone Europe, Africa, the Antilles, and the Americas that, while certainly enjoyed by adults, were intended for younger reading audiences. Continued development of students' French language skills through readings, written assignments, and class discussions. This course satisfies the 2000-level major requirement in French literature. The course content may vary, but FRE 2045 may count only once in fulfillment of major or minor program requirements in French. Prerequisite: FRE 2005.

**FRE 2055. Women Writers of French Expression (3).**S.Alternate years.

This course will focus on select literary texts by women writers of the French-speaking world, including francophone Europe, Africa, the Antilles, and the Americas. Continued development of students' French language skills through readings, written assignments, and class discussions. This course satisfies the 2000-level major requirement in French literature. The course content may vary, but FRE 2055 may count only once in fulfillment of major or minor program requirements in French. Prerequisite: FRE 2005. (Global Learning Opportunity course)

**FRE 2065. Black Writers of French Expression (3).**F.Alternate years.

This course will focus on select literary texts by black writers of the French-speaking world, including francophone Europe, Africa, and the Antilles. Continued development of students' French language skills through readings, written assignments, and class discussions. This course satisfies the 2000-level major requirement in French literature. The course content may vary, but FRE 2065 may count only once in fulfillment of major or minor program requirements in French. Prerequisite: FRE 2005.

**FRE 2500. Independent Study (1-3).** On Demand.

**FRE 2530-2549. Selected Topics (1-4).**F;S.On Demand.

**FRE 3030. Masterworks of French Literature (3).**F.Alternate years.

A study of selected works of French literature from the Medieval to the Modern period. Prerequisite: one 2000-level FRE literature course (FRE 2025, FRE 2045, FRE 2055, or FRE 2065) or consent of the instructor.

**FRE 3035. Literature and Film (3).**S.Alternate years.

*GEN ED: Junior Writing in the Discipline (WID)*

This course will focus on select literary texts of French expression and cinematographic adaptations of them. This course satisfies the 3000/4000-level major requirement in French literature. The course content may vary, but FRE 3035 may count only once in fulfillment of major or minor program requirements in French. Prerequisite: one 2000-level FRE literature course (FRE 2025, FRE 2045, FRE 2055, or FRE 2065) or consent of the instructor; and RC 2001 or its equivalent.

**FRE 3040. French Culture and Civilization (3).**S.Alternate years.

A study of the culture of France and the francophone world from the Medieval to the Modern period as seen through social and political developments, cultural institutions, and the arts. This course satisfies the 3000/4000-level major requirement in French cultural studies. Prerequisites: FRE 2005 and FRE 2010 or consent of the instructor. (Global Learning Opportunity course)

**FRE 3045. Translation Techniques (3).**F.

*GEN ED: Junior Writing in the Discipline (WID)*

Introduction to practical translation techniques to prepare students of French to produce French-English and English-French translations. Required for majors. Prerequisites: FRE 2005 and one 2000-level FRE literature course (FRE 2025, FRE 2045, FRE 2055, or FRE 2065); and RC 2001 or its equivalent.

**FRE 3050. Masterworks of Francophone Literature (3).**S.Alternate years.

*GEN ED: Junior Writing in the Discipline (WID)*

This course will focus on select literary texts by writers of the French-speaking world beyond France, with special emphasis on (post) colonial literatures of francophone Africa and the Antilles. This course satisfies the 3000/4000-level major requirement in French literature. The course content may vary, but FRE 3050 may count only once in fulfillment of major or minor program requirements in French. Prerequisite: one 2000-level FRE literature course (FRE 2025, FRE 2045, FRE 2055, or FRE 2065) or consent of the instructor; and RC 2001 or its equivalent.

**FRE 3065. Francophone Culture Through Film (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

An in-depth study of selected films that reveal traditional and contemporary aspects of Francophone culture with focus on such issues as immigration and past colonization, nationalism, religion, freedom, education, parenthood, marriage, and aging. Special consideration of films produced in France, Africa, Canada, Belgium, and Switzerland. Laboratory work required. Prerequisites: junior or senior standing and FRE 3080; and RC 2001 or its equivalent.

**FRE 3080. Advanced Grammar and Composition (3).S.** Alternate years.

Intensive study of the various types of expository writing with emphasis on the morphology and idiomatic expressions of French. Prerequisites: FRE 2005 and FRE 2010 or consent of the instructor.

**FRE 3095. Business French (3).** On Demand.

Focus on various types of business correspondence, with emphasis on current, specialized vocabulary pertinent to international trade and business, and ability to write and communicate via business letters, ads, memos, etc. Students must keep a "business portfolio." Prerequisites: junior or senior standing and FRE 2005 or consent of the instructor.

**FRE 3500. Independent Study (1–3).F;S.** On Demand.

**FRE 3510. Junior/Senior Honors Seminar in French (3).** On Demand.

A study of major works, authors, genres, or literary movements in literature of the Francophone world (European, West African, or Caribbean). Enrollment is by invitation of the department, or by application. (Global Learning Opportunity course)

**FRE 3520. Instructional Assistance (1).F;S.** On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**FRE 3530–3549. Selected Topics (1–4).** On Demand.

**FRE 4010. Aspects of Francophone Culture (3).S.** Alternate years.

An in-depth study of French literature outside of France. Special consideration will be given to the themes and style of representative works from Africa, the Antilles, Madagascar, and Canada. Prerequisite: one 2000-level FRE literature course (FRE 2025, FRE 2045, FRE 2055, or FRE 2065) or consent of the instructor.

**FRE 4075. Advanced Conversation (3).S.**

Development of skills necessary to express ideas fluently on contemporary cultural, literary, and professional issues. Prerequisites: junior or senior standing and FRE 2010 or consent of the instructor.

**FRE 4510. Senior Honors Thesis (3).F;S.**

Independent study and research. Honors thesis directed by a member of the French faculty in the Department of Languages, Literatures, and Cultures and graded by a departmental committee. Oral presentation. Prerequisites: completion of LLC 2510 and FRE 3510 with at least a "B" average.

**FRE 4530–4549. Selected Topics (1–4).F;S.** On Demand.

**FRE 4565. Advanced French Expression (3).F.**

*GEN ED: Capstone Experience*

Students will have the opportunity to advance their oral and written proficiencies by examining and using different registers of contemporary spoken French as well as analyzing different written genres. Their oral work will be based on reading and discussing current articles from newspapers and periodicals; their written work will be modeled on selected literary and cultural narratives written by experienced French writers. Prerequisites: senior or graduate standing and FRE 3080, or consent of the instructor. [Dual-listed with FRE 5565.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## GERMAN (GER)

### **GER 1000. Beginning Conversational German (1-3).** On Demand.

Elementary conversational patterns for students without previous knowledge of German. The course is designed to allow students to acquire elementary speaking skills in the German language in preparation for more advanced study in the summer sessions on campus and abroad.

### **GER 1010. Beginning German I (4).F.**

Introduction to basic skills necessary for understanding, speaking, reading, and writing German with emphasis on the use of functional, communicative language. Open to students with no previous experience in German. One small-group conversation section per week required. (Global Learning Opportunity course)

### **GER 1020. Beginning German II (4).S.**

Continuation of skills development in understanding, speaking, reading, and writing German with emphasis on the use of functional, communicative language. Prerequisite: GER 1010 or consent of the advisor. One small-group conversation section per week required. (Global Learning Opportunity course)

### **GER 1030. Accelerated Beginning German (6).F.** On Demand.

Combines GER 1010 and GER 1020. Open to students with no previous experience in German or whose German placement score indicates deficiency. Meets daily for a total of 300 minutes per week. Laboratory work required.

### **GER 1040. Intermediate German I (3).F.**

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: adequate score on the placement test or GER 1020, or GER 1030, or the equivalent. Laboratory work required. (Global Learning Opportunity course)

### **GER 1050. Intermediate German II (3).S.**

*GEN ED: Liberal Studies Experience*

A continuation of GER 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: GER 1030 or GER 1040, or the equivalent. Laboratory work required. (Global Learning Opportunity course)

### **GER 1060. Accelerated Intermediate German (6).S.** On Demand.

*GEN ED: Liberal Studies Experience*

Combines GER 1040 and GER 1050. Prerequisite: GER 1020 or GER 1030, or the equivalent. Class meets daily for a total of 300 minutes per week. Laboratory work required. (\*NOTE: Only 3 s.h. of this 6 s.h. course may count for general education credit in a theme.) (Global Learning Opportunity course)

IN ORDER TO REGISTER FOR COURSES TAUGHT IN GERMAN ON THE 2000 LEVEL OR ABOVE, STUDENTS MUST COMPLETE GER 1050 OR GER 1060 OR MAKE AN ADEQUATE SCORE ON THE PLACEMENT TEST.

### **GER 2000. German Discussion Section (1).On Demand.**

German discussion section offered in conjunction with selected content courses. There will be weekly discussion and assignments in German relating to attached content courses. Course can be repeated up to three times for credit. Prerequisite: GER 1050 or equivalent.

### **GER 2005. Intensive Grammar Review (3).F.** On Demand.

Comprehensive review for thorough understanding of the elements of the German language necessary for students wishing to pursue further studies in German. Prerequisite: GER 1050 or GER 1060, or the equivalent, or an adequate score on the placement test. Laboratory work required.

### **GER 2010. Conversation and Composition I (3).F.**

Emphasis on acquisition of a practical vocabulary and active use of the language. Shorter readings on contemporary German life provide subject matter for in-class discussion and regular written compositions. Prerequisite: GER 1050 or GER 1060, or the equivalent, or an adequate score on the placement test. Laboratory work required. Required for minors. (Global Learning Opportunity course)

### **GER 2015. Conversation and Composition II (3).S.**

Continues the goals of GER 2010, but with added emphasis on stylistic improvement in speaking and writing. Prerequisite: GER 2010 or consent of the advisor. Required for minors. (Global Learning Opportunity course)

**GER 2025. Introduction to Literature (3).F;S. On Demand.**

Development of skills necessary for understanding of genre, concepts of literary structure, language, and criticism through examination of selected works. Prerequisite: GER 2010.

**GER 2035. German Through Film (3).On Demand.**

A study of modern German language and culture through film with special emphasis on cinematic representation of historical, political, and social contexts. Prerequisite: GER 2005 or GER 2010 or consent of the instructor. (Global Learning Opportunity course)

**GER 2050. Great German Cities I: Settlement Through the Middle Ages (3).SS.**

Taught in Germany as part of the department's short term study abroad program in Trier. This course offers an introduction to early German culture and civilization through the living laboratory of the city of Trier, which was a capital of the Roman empire and a thriving medieval cathedral town. Prerequisite: GER 1050 or consent of the instructor.

**GER 2055. Great German Cities II: The Modern City in Cultural Context (3).SS.**

Taught in Germany as part of the department's short term study abroad program in Trier. This course offers an introduction to the social, political and cultural realities of contemporary Germany through the lens of development in the city of Trier, an ancient city constantly coming to terms with (and sometimes into conflict with) the demands of living in the twenty-first century. Prerequisite: GER 1050 or consent of the instructor.

**GER 2500. Independent Study (1-3).F;S. On Demand.**

**GER 2530-2549. Selected Topics (1-4).F;S.On Demand.**

**GER 3015. Selections of German Literature I (3).F.**

A study of the works of representative German authors from the 8th to the 18th century. Prerequisite: GER 2010 and GER 2015 or consent of the advisor.

**GER 3021. Märchen (3).On Demand.**

Study of 19th century German Märchen in cultural, historical and literary context. These Märchen include the well-known fairy tales of Jakob and Wilhem Grimm (Kinder- und Hausmärchen) as well as the literary fairy tales of Romantic authors such as Ludwig Tieck and E.T.A. Hoffmann. Prerequisites: GER 2010 and GER 2015 or consent of the instructor. (Global Learning Opportunity course)

**GER 3025. Selections of German Literature II (3).S.**

A study of the works of representative German authors of the 19th and 20th centuries. Prerequisite: GER 2010 and GER 2015 or consent of the advisor.

**GER 3030. German Phonetics and Diction (3).S. On Demand.**

A thorough study of the sound system in German. Oral practice and laboratory. The goal is to achieve a near native pronunciation. Prerequisites: GER 2010 and GER 2015 or consent of the advisor.

**GER 3050. German Culture and Civilization Before 1900 (3).F.On Demand.**

Study of German institutions, philosophy, literature, and art prior to 1900. Prerequisites: GER 2010 and GER 2015 or consent of the instructor. (Global Learning Opportunity course)

**GER 3055. Culture and Civilization of Modern Germany (3).S.**

A study of the major cultural and literary changes in Germany after World War II, including changes in the social, economic, and educational systems. Prerequisites: GER 2010 and GER 2015 or consent of the advisor. (Global Learning Opportunity course)

**GER 3075. Advanced Conversation (3).S.**

Review of the more difficult structures of the language. Introduction of additional vocabulary and idiomatic expressions which will allow the student to express complex ideas on contemporary and professional issues with fluency and an acceptable pronunciation. Prerequisites: GER 2010 and GER 2015 or consent of the advisor.

**GER 3080. Advanced Grammar and Composition (3).F.**

Development of skills necessary to express fluently, and in depth, ideas on contemporary, cultural, literary, and professional issues. Prerequisites: junior or senior standing, GER 2010 and GER 2015 or consent of the advisor.

**GER 3090. Business German (3).F.**

This course provides an insight into the current German business world. Acquisition of the specialized language of social security, international finance, marketing, import and export trade, and trade unions. Prerequisites: GER 2010 and GER 2015, or consent of the advisor.

**GER 3500. Independent Study** (1–3).F;S. On Demand.

**GER 3520. Instructional Assistance** (1).F;S. On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**GER 3530–3549. Selected Topics** (1–4).F;S. On Demand.

**GER 3550. German Customs and Folklore** (3).SS.

Taught in Germany for study abroad students only. Study of the German “way of life,” the traditions, festivities, and the spirit of the people. Free informational materials made available by the German government serve as study guides. Prerequisites: GER 2010 and GER 2015 or consent of the advisor.

### JAPANESE (JPN)

**JPN 1010. Beginning Japanese I** (4).F.

Introduction to basic skills necessary for understanding, speaking, reading, and writing Japanese, with emphasis on the use of functional, communicative language. Open to students with no previous experience in Japanese. One small-group conversation section per week required. (Global Learning Opportunity course)

**JPN 1020. Beginning Japanese II** (4).S.

Continuation of skills necessary for understanding, speaking, reading, and writing Japanese with emphasis on the use of functional, communicative language. Prerequisite: JPN 1010 or consent of the instructor. One small-group conversation section per week required. (Global Learning Opportunity course)

**JPN 1040. Intermediate Japanese I** (3).F.

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: JPN 1020 or consent of the instructor. Laboratory work required. (Global Learning Opportunity course)

**JPN 1050. Intermediate Japanese II** (3).S.

*GEN ED: Liberal Studies Experience*

A continuation of JPN 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: JPN 1040 or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**JPN 2000. Japanese Discussion Section** (1).On Demand.

Japanese discussion section offered in conjunction with selected content courses. There will be weekly discussion and readings in Japanese relating to attached content courses. Course can be repeated up to three times for credit. Prerequisite: JPN 1050 or equivalent.

**JPN 2001. Advanced Japanese I** (3).F.

Focuses on acquiring additional proficiency in speaking, listening, reading and writing. Prerequisite: JPN 1050 or consent of the instructor.

**JPN 2003. Advanced Japanese II** (3).S.

Focuses on acquiring more advanced proficiency in speaking, listening, reading and writing. Laboratory work required. Prerequisite: JPN 2001 or consent of the instructor.

**JPN 2500. Independent Study** (1–3). On Demand.

**JPN 2530-2549. Selected Topics** (1-4).F;S.On Demand.

**JPN 3010. Japanese Popular Culture** (3).On Demand.

A survey course taught in English that explores the evolution of Japanese pop culture, including comics (manga), anime, music, fashion and style, and its impact on society.

**JPN 3500. Independent Study** (1–3). On Demand.

**JPN 3520. Instructional Assistance** (1). On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**JPN 3530–3549. Selected Topics** (1–4). On Demand.

## LATIN (LAT)

**LAT 1010. Beginning Latin I** (3).F.

Introduction to Latin and its influence on the Romance languages and English. Emphasis is placed on reading, writing, and translating. Laboratory work required.

**LAT 1020. Beginning Latin II** (3).S.

Mastery of elementary grammar and syntax through readings, written assignments, and laboratory work. Prerequisite: LAT 1010 or consent of the advisor. Laboratory work required.

**LAT 1040. Intermediate Latin I** (3).F.

A study of Latin culture and language as revealed through the work of Cicero and other Latin writers of the classical period. Readings are supplemented with a review of grammar and syntax. Emphasis on Latin literary styles and their influences on the Romance languages. Prerequisite: LAT 1020 or adequate score on the Latin placement test or consent of the advisor.

**LAT 1050. Intermediate Latin II** (3).S.

*GEN ED: Liberal Studies Experience*

A study of classical Latin culture and language as revealed through poetry and prose. Emphasis on major figures such as Catullus, Horace, Vergil, Livy and Petronius. Prerequisite: LAT 1040 or consent of the advisor. (Global Learning Opportunity course)

**LAT 2500. Independent Study** (1–3). On Demand.

**LAT 2530–2549. Selected Topics (1–4).F;S.On Demand.**

**LAT 3010. The Aeneid** (3). On Demand.

Prerequisite: LAT 1050 or four years of high school Latin or permission of the instructor. Key passages are selected for translation and discussion.

**LAT 3020. The Roman Historians** (3). On Demand.

Prerequisite: LAT 1050 or four years of high school Latin or permission of instructor. Translation of selected passages and discussion of literary values of Livy, Sallust and Tacitus.

**LAT 3500. Independent Study** (1–3). On Demand.

**LAT 3520. Instructional Assistance** (1). On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**LAT 3530–3549. Selected Topics** (1–4). On Demand.

**LAT 4010. Roman Satire** (3). On Demand.

Selections from Horace and from Juvenal will be read. Discussions will include each poet's specific characteristics and his influence on western culture.

**LAT 4020. Roman Comedy** (3). On Demand.

Selections from the comedies of Plautus and Terrence will be read. Discussions will include the practice of contamination and the playwright's influence on western culture.

## LANGUAGES, LITERATURES, AND CULTURES (LLC)

Courses offered in English



**LLC 0100. TOEFL Preparation for International Students** (3). On Demand.

Introduction to the TOEFL: Test of English as a Foreign Language as well as an in-depth concentration in each of the three areas of the test: listening comprehension, structure, and reading comprehension. Students will have the opportunity to learn important test-taking strategies to improve their TOEFL scores. Course counts as three hours credit toward course load and full-time student eligibility, but does not count toward hours required for graduation (see "Institutional Credit").

**LLC 1000. English for International Students** (3).F.

*GEN ED: First Year Writing*

Listening, speaking, reading and writing English for advanced students whose first language is not English. Emphasis on communication in a variety of academic and social settings. This course is self-paced to enable the student to concentrate on individual needs and problem areas. In addition to class meetings, students will be assigned a tutor to assist them with assignments.

**LLC 1210. Language and Culture: Selves and Others** (1).F.

This one-credit hour course is required for mentors in the Language and Culture Community. Class requirements will include readings and activities focusing on intercultural communication, as well as participation in intercultural skill building activities. Students (mentors) will work to implement among the first-year students of the Language and Culture Community what they practice and discuss in class with their mentees. LLC 1210 may be repeated for a total credit of three semester hours with different content. Graded on an S/U basis.

**LLC 1530–1549. Selected Topics** (1–4). On Demand.

Can be used for elective credit only.

**LLC 2010. Mythology** (3). On Demand.

Examination of the chief Graeco-Roman myths, their influence on artists and writers of western culture, and their place as examples of human mythopoeic tendencies. Open to all students. No prior knowledge of Latin required for enrollment.

**LLC 2015. Arab Culture Through Film** (3). On Demand.

This course will examine salient social and cultural characteristics of contemporary Arab society as reflected and projected through Arabic cinema and film. Relevant films and documentaries are screened and discussed, each with its own cultural theme and motif. The topics will largely focus on four main themes or parameters: the formation of cultural identity; struggle for independence; popular culture and realism; role and status of women.

**LLC 2025. Literature in Translation** (3).F;S.

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "How We Tell Stories")*

A study of various literatures in translation, from the medieval through the modern period, focusing on the language and culture areas featured in departmental offerings. Course content will vary and may concentrate on poetry, fiction, drama, or a combination. (Global Learning Opportunity course)

**LLC 2040. Border Crossings: U.S. Hispanic Literature and Culture** (3).F;S.

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "Las Americas")*

This course explores the ethnic and cultural diversity of U.S. Hispanic literature and culture, as well as its historical, political, and ideological ties to Latin America. It is designed to highlight local to global connections and to provide a vantage point from which students can reflect on their own experiences and cultural identities. Course is offered in English. (Global Learning Opportunity course)

**LLC 2045. The Spanish-Speaking World** (3).F;S.

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "How We Know What We Know About the Past: Method, Evidence, Knowledge")*

This course provides a broad overview through representative readings and films of both the continuity and the cultural diversity of the Spanish-speaking world, past and present. Topics to be covered will include language, demographics, identity formation, social structure, political institutions, literature, and the arts. Taught in English. (Global Learning Opportunity course)

**LLC 2050. Say What? Language in Mind and Society** (3).F;S.

*GEN ED: Integrative Learning Experience (Theme: "Expressions of Culture")*

An exploration of the issues surrounding human language and its relationship with thought, cognition and culture. Students will have the opportunity to learn how the sounds, structures and meanings of human languages are produced and interpreted, and will explore variation among world languages as well as the relationship among language, society and culture. Different theoretical approaches to these issues will be explained. The course will also examine the interaction between language and mind and the neurological basis of human language, and will look at the application of linguistic principles in language learning and artificial intelligence. (Global Learning Opportunity course)

**LLC 2510. Sophomore Honors Seminar in Literature in Translation (3).F;S.**

A study of various literatures in translation, from the medieval through the modern period, focusing on the language and culture areas featured in departmental offerings. Course content will vary and may concentrate on poetry, fiction, drama, or a combination of genres.

**LLC 2530-2549. Selected Topics (1-4).F;S.On Demand.****LLC 3010. Second Language Acquisition (3).S. Alternate years.**

A survey of the leading theories of language acquisition (experiential, cognitive, linguistic-theoretical) and their application to ESL pedagogy. The fundamental questions addressed in the course will be: how learners acquire a second language; similarities between first and second language acquisition; and, ramifications of second language acquisition for classroom instruction. Prerequisites: two years of a language other than English and LLC 2050 or ENG 3610.

**LLC 3020. Language, Society and the Teaching of ESL (3).S. Alternate years.**

This course examines the interaction of language in society and investigates the practices, tendencies and the associated difficulties of persons identified with one culture seeking to communicate with persons of another culture. The course emphasizes the effects of cross-cultural communication on second language teaching. Prerequisites: two years of a language other than English and LLC 2050 or ENG 3610. (Global Learning Opportunity course)

**LLC 3060. East Asian Film (3).On Demand.**

This course provides a historical, critical, and theoretical survey of East Asian film. It examines influential films produced in China, Japan, and Korea over the last century and the specific political, social, economic, technological and aesthetic factors that have influenced the shape and character of East Asian cinema. All films screened for the course have English subtitles. No knowledge of East Asian languages is required.

**LLC 3120. Teaching Languages: Theory and Practice (6).F;S.**

A study of theories, methods, and best practices for teaching second languages, including instructional strategies, materials and assessment in the K-12 curriculum. This course is designed to allow students to meet the Standards for Second Language Teachers as defined by the NC State Board of Education. Experiences will include development of lesson and unit plans, classroom observations and micro-teaching. (Same as CI 3120.) Required for B.S. degree with K-12 teacher licensure.

**LLC 3240. Cultures of East Asia (3).On Demand.**

An introduction to the history and cultures of East Asia (China, Japan, and Korea), their social and political structures and their religious and philosophical traditions from ancient times to the present.

**LLC 3430. Arthurian Legends (3).On Demand.**

*GEN ED: Liberal Studies Experience*

This course explores the ever-popular legends of King Arthur from the middle ages to the present across time, across national boundaries, and across genres (epic, novel, film, art, music, television series). Readings will focus on Arthurian legends from the French, German, and English traditions.

**LLC 3500. Independent Study (1-3).F;S.****LLC 3520. Instructional Assistance (1). On Demand.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**LLC 3530-3549. Selected Topics (1-4). On Demand.****LLC 3550. Survey of Chinese and Japanese Literatures (3). On Demand.**

To examine works of representative masters in various genres from the beginning to early twentieth century, by studying the translation of the works. Class is conducted in English. (Global Learning Opportunity course)

**LLC 4010. Afro-Hispanic Literature (3). On Demand.**

A survey of Afro-Hispanic contributions to Spanish and Spanish American Literature in works written by Afro-Hispanic authors. An examination of literary themes on the life and culture of Blacks in Spanish-speaking America in the texts of representative Latin American authors underscoring outstanding historical facts and sociological concepts.

**LLC 4020. European Languages and Culture Through Films (3). On Demand.**

Comprehensive analysis of European cultures through films, with special emphasis on the historical, political, social, and philosophical representations of life in selected countries in recent decades.

**LLC 4530-4549. Selected Topics (1-4).F;S.On Demand.**

**LLC 4550. Structure of Modern English for TESL (3).F. On Demand.**

This course will investigate the structure of the English language from the viewpoint of modern linguistics. Focus will be placed on the role of grammar in the second language classroom and methods of teaching grammar in a communicative context. Prerequisites: two years of a language other than English and LLC 2050 or ENG 3610. [Dual-listed with LLC 5550.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**LLC 4551. Materials and Methods in TESL (3).S. On Demand.**

A survey of various methods and materials to teach English to speakers of other languages. Discussion will focus on factors affecting how curricula are developed to most effectively teach speaking, listening, reading, writing, and culture to ESL students. Central to this course will be: an emphasis on various methods used to teach ESL holistically and in the context of a particular content; assessment; materials and resources; and the growth and development of the field of ESL. Prerequisite: two years of a language other than English and LLC 2050 or ENG 3610. [Dual-listed with LLC 5551.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**LLC 4555. Practicum in TESL (3).S. On Demand.**

This course provides future ESL teachers with experience teaching English to speakers of other languages in a supervised setting. As a part of this course, students complete a project/portfolio for use in future instruction. Prerequisites: two years of a language other than English and LLC 2050 or ENG 3610, LLC 3010, LLC 3020, and LLC 4550. May be taken concurrently with LLC 4551. [Dual-listed with LLC 5555.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## PORTUGUESE (POR)

**POR 1010. Beginning Portuguese I (3).F.**

Introduction to basic skills necessary for understanding, speaking, reading and writing Portuguese, with emphasis on the use of functional, communicative language. Open to students with no previous experience in Portuguese. Laboratory work required. (Global Learning Opportunity course)

**POR 1020. Beginning Portuguese II (3).S.**

Continuation of skills development in understanding, speaking, reading, and writing Portuguese with emphasis on the use of functional, communicative language. Prerequisite: POR 1010 or consent of the instructor. Laboratory work required. (Global Learning Opportunity course)

**POR 1040. Intermediate Portuguese I (3).F.**

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: POR 1020 or consent of the instructor. Laboratory work required. (Global Learning Opportunity course)

**POR 1050. Intermediate Portuguese II (3).S.**

*GEN ED: Liberal Studies Experience*

A continuation of POR 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: POR 1040 or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**POR 2530-2549. Selected Topics (1-4).F;S.On Demand.**

## RUSSIAN (RSN)

**RSN 1010. Beginning Russian I (4).F.**

Introduction to basic skills necessary for understanding, speaking, reading, and writing Russian with emphasis on the use of functional, communicative language. Open to students with no previous experience in Russian. One small-group conversation section per week required. (Global Learning Opportunity course)

**RSN 1020. Beginning Russian II (4).S.**

Continuation of skills necessary for understanding, speaking, reading, and writing Japanese with emphasis on the use of functional, communicative language. Prerequisite: RSN 1010 or consent of the instructor. One small-group conversation section per week

required. (Global Learning Opportunity course)

**RSN 1040. Intermediate Russian I (3).F.**

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: RSN 1020 or consent of the instructor. Laboratory work required. (Global Learning Opportunity course)

**RSN 1050. Intermediate Russian II (3).S.**

*GEN ED: Liberal Studies Experience*

A continuation of RSN 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: RSN 1040 or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**RSN 2010. Conversational Russian I (3).F.**

Continues the goals of RSN 1050. Added emphasis on grammar, vocabulary, and stylistic improvements in speaking and writing through film, i.e., listening to Russian conversation as it is spoken today and practicing conversation patterns of modern Russian. Prerequisite RSN 1050 or consent of the instructor.

**RSN 2015. Conversational Russian II (3).S.**

A continuation of RSN 2010, with added emphasis on grammar, vocabulary and stylistic improvements in speaking and writing through discussion of modern Russian short fiction and other contemporary texts (e.g. newspapers, articles, and magazines). Prerequisite: RSN 2010 or consent of the instructor.

**RSN 2500. Independent Study (1–3).On Demand.**

**RSN 2530-2549. Selected Topics (1-4).F;S.On Demand.**

**RSN 3500. Independent Study (1–3).On Demand.**

**RSN 3520. Instructional Assistance (1).On Demand.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**RSN 3530–3549. Selected Topics (1–4).On Demand.**

## SPANISH (SNH)

**SNH 1010. Beginning Spanish I (3).F.**

Introduction to basic skills necessary for understanding, speaking, reading, and writing Spanish, with emphasis on the use of functional, communicative language. Open to students with no previous experience in Spanish or who Spanish placement test score indicates deficiency. Laboratory work required. (Global Learning Opportunity course)

**SNH 1020. Beginning Spanish II (3).S.**

Continuation of skills development in understanding, speaking, reading, and writing Spanish with emphasis on the use of functional, communicative language. Prerequisite: SNH 1010 or consent of the advisor. Laboratory work required. (Global Learning Opportunity course)

**SNH 1030. Accelerated Beginning Spanish (6).F.On Demand.**

Combines SNH 1010 and SNH 1020. Open to students with no previous experience in Spanish or whose Spanish placement score indicates deficiency. Meets daily for a total of 300 minutes per week. Laboratory work required.

**SNH 1040. Intermediate Spanish I (3).F.**

Focus on various aspects of culture, society, literature, traditions, and daily preoccupations through continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: adequate score on the placement test or SNH 1020, or SNH 1030, or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**SNH 1050. Intermediate Spanish II (3).S.**

*GEN ED: Liberal Studies Experience*

A continuation of SNH 1040. Focus on various aspects of culture, society, literature, traditions, and daily preoccupations with continued development of communicative language skills. Reinforcement, expansion, and synthesis of concepts of language and culture through contact with authentic materials. Prerequisite: SNH 1030 or SNH 1040, or the equivalent. Laboratory work required. (Global Learning Opportunity course)

**SNH 1060. Accelerated Intermediate Spanish (6).S.**

*GEN ED: Liberal Studies Experience*

Combines SNH 1040 and SNH 1050. Prerequisite: SNH 1020 or SNH 1030, or the equivalent. Class meets daily for a total of 300 minutes per week. Laboratory work required. (\*NOTE: Only 3 s.h. of this 6 s.h. course may count for general education credit in a theme.) (Global Learning Opportunity course)

IN ORDER TO REGISTER FOR COURSES TAUGHT IN SPANISH ON THE 2000 LEVEL OR ABOVE, STUDENTS MUST COMPLETE SNH 1050 OR SNH 1060 OR MAKE AN ADEQUATE SCORE ON THE PLACEMENT TEST.

**SNH 2005. Intensive Grammar Review (3).F.**

Comprehensive review for thorough understanding of the elements of the Spanish language necessary for students wishing to pursue further studies in Spanish. Prerequisite: SNH 1050 or SNH 1060, or the equivalent, or an adequate score on the placement test. Laboratory work required. Required for minors and majors.

**SNH 2021. Spanish for Healthcare and Social Services (3).F.**

Development of Spanish language skills and cultural knowledge necessary for those who wish to work with Spanish-speaking populations in healthcare or social services. Prerequisites: SNH 1050 or permission of the instructor.

**SNH 2010. Conversational Spanish (3).F;S.**

Emphasis on the acquisition of a practical vocabulary and active use of the language. Prerequisite: SNH 1050 or SNH 1060 or the equivalent, or an adequate score on the placement test. Laboratory work required. Required for minors and majors.

**SNH 2025. Introduction to Literature (3).S.**

Development of skills necessary for understanding of genre, concepts of literary structure, language, and criticism through examination of selected works. Prerequisite: SNH 2005. Required for majors.

**SNH 2500. Independent Study (1-3).F;S. On Demand.**

**SNH 2530-2549. Selected Topics (1-4).F;S.On Demand.**

**SNH 3015. Selections of Spanish Literature I (3).F.**

A study of the works of representative Spanish authors from the Middle Ages to the present. Prerequisite: SNH 2025.

**SNH 3025. Selections of Spanish American Literature (3).S.**

A study of the works of representative Spanish American authors from the Precolumbian period to the present. Prerequisite: SNH 2025.

**SNH 3035. Spanish Phonetics and Diction (3).S.**

A study of the sound system in Spanish, the phonetic alphabet and its use. Oral practice. Prerequisite: SNH 2010 or consent of the advisor. Laboratory work required. Required for majors.

**SNH 3050. Culture and Civilization of Spain (3).F.**

A description of historical events, currents of thought, and artistic trends which have significantly contributed to the shaping of a Spanish vision and practice of life. Prerequisites: SNH 2005 and SNH 2010, or consent of the advisor.

**SNH 3055. Culture and Civilization of Spanish America (3).S.**

A description of historical events, currents of thought, artistic trends, aboriginal and European inheritance, and other factors which significantly contributed to the shaping of a Spanish-American vision and practice of life. Prerequisites: SNH 2005 and SNH 2010, or consent of the advisor.

**SNH 3080. Advanced Grammar and Composition (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

Intensive study of the various types of expository writing with emphasis on the morphology and idiomatic expressions of Spanish. Prerequisites: SNH 2005 and SNH 2010, or consent of the advisor; and RC 2001 or its equivalent. Required for majors.

**SNH 3250. The Arts in Spain (3).SS.On Demand.**

Taught in Spain and on study abroad. This course offers an overview of art produced in Spain throughout its history in the context

of that history. Prerequisites: SNH 2005 and SNH 2010 or consent of the instructor.

**SNH 3251. Spain Today** (3).SS.On Demand.

This course offers an introduction to the social, political and cultural realities of contemporary Spain. Prerequisites: SNH 2005 and SNH 2010 or consent of the instructor.

**SNH 3350. Film in Contemporary Spain** (3).On Demand.

This elective course explores the cultural development of Spain in the last five decades through the work of contemporary Spanish filmmakers. The course will introduce students not only to internationally known Spanish films but also to films less well known to U.S. audiences. Prerequisites: SNH 2005 and SNH 2010 or consent of the instructor.

**SNH 3415. Contemporary Spanish Poetry** (3).On Demand.

The course presents a survey of the most influential poets writing in Spanish (Spain and Latin America) in the twentieth century, among them poets such as: Vicente Huidobro, César Vallejo, Juan Larrea, Jorge Luis Borges, Federico García Lorca, and Pablo Neruda. Selected texts are accompanied by a set of theoretical readings and critical essays. Prerequisite: SNH 2025 or consent of the instructor.

**SNH 3425. U.S. Hispanic Literature** (3).On Demand.

This course examines the literature produced by Spanish-speaking authors in what is now the United States from the 16th century to the present. Students will explore the history and diversity of U.S. Hispanic literature in depth and breadth including, but not limited to, the recent phenomenon known as the Chicano movement. A focus on contemporary Latino/a authors will enable students to develop a critical understanding of the cultural politics of border crossings. Prerequisite: SNH 2025 or consent of the instructor.

**SNH 3500. Independent Study** (1–3).F;S. On Demand.

**SNH 3510. Junior/Senior Honors Seminar in Spanish** (3). On Demand.

A study of major works, authors, genres, or literary movements in literature of the Spanish-speaking world (Iberian, Latin American, South American, or US Hispanic). Enrollment is by invitation of the department, or by application.

**SNH 3520. Instructional Assistance** (1). On Demand.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**SNH 3530–3549. Selected Topics** (1–4).F;S. On Demand.

**SNH 4001. Hispanic Children's and Adolescent Literature** (3).F.

Critical readings of literary works in different genres written for children and adolescents. Study of the evolution and theory of children's and adolescent literature in Latin America and Spain. Special focus on the cultural background, cross-cultural ties, and pedagogy of children's and adolescent literature. Prerequisites: senior standing and SNH 3080, or consent of the instructor. [Dual-listed with SNH 5001.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**SNH 4002. Latin American Thought** (3).On Demand.

This course is a study of the evolution of ideas in Latin America through the literature produced from the second part of the nineteenth century until the present. By reading and critically studying different literary genres (namely poetry, fiction, and essays), the student will gain a comprehensive understanding of how Latin-American poets, novelists, and essayists have shaped, transformed, mapped, and contributed to the evolution of what we call Latin American thought. Likewise, students will learn that Latin America is necessarily integrative and that it is and it has been interconnected with the world throughout history. The skills that the students will have the opportunity to learn in this course can be applied to a number of disciplines beyond literature, namely politics, negotiation, business, and conflict resolution. Prerequisites: SNH 2025 and junior or senior standing.

**SNH 4003. Hispanic Short Fiction** (3).S.

A study of the short story in Hispanic literature, which will examine the genre from a cultural and literary perspective. Readings and commentary of selected short stories, especially by women and ethnic authors, will trace the history of the genre and explore its main themes. Primary sources will be complemented by literary historical and critical readings. Prerequisites: senior standing and SNH 3080, or consent of the instructor. [Dual-listed with SNH 5003.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**SNH 4005. The 20th Century Hispanic Novel** (3).On Demand.

A study of the most representative texts of the 20th century Hispanic novel in relation to the respective literary and cultural movements of the time in which the novels were written. The study of primary texts will be complemented by theoretical and critical readings. [Dual-listed with SNH 5005.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.



**SNH 4045. Theory and Practice of Translation (3).**On Demand.

Introduction to theories of translation, practical techniques for both Spanish-English and English-Spanish translations, and the field of professional translation. Prerequisite: SNH 3080.

**SNH 4063. Hispanic Life-Ways (3).**F.

An overview of present-day Spain and Spanish America through a thematic approach to such topics as geography, demography, national festivals, lifestyles and cultural patterns. Examination of the contributions of Spain and Spanish America and their influence on the United States. Prerequisites: junior or senior standing and SNH 2010.

**SNH 4075. Advanced Conversation (3).**S.

Development of skills necessary to express ideas fluently on contemporary, cultural, literary, and professional issues. Prerequisites: junior or senior standing and SNH 2010 or consent of the advisor.

**SNH 4090. Business Spanish (3).** On Demand.

Focus on various types of business correspondence, with emphasis on current, specialized vocabulary pertinent to trade and business. Prerequisites: junior or senior standing and SNH 2010 or consent of the advisor.

**SNH 4510. Senior Honors Thesis (3).**F;S.

Independent study and research. Honors thesis directed by a member of the Spanish faculty in the Department of Languages, Literatures, and Cultures and graded by a departmental committee. Oral presentation. Prerequisites: completion of LLC 2510 and SNH 3510 with at least a "B" average.

**SNH 4530-4549. Selected Topics (1-4).**F;S.On Demand.

**SNH 4555. History of the Spanish Language (3).**S.

Study of the evolution of the Spanish language, with particular emphasis on the history of standardized Spanish and the development of regional variations of spoken Spanish. The approach takes into account the social, cultural, and political factors that have contributed to linguistic change and have shaped the complex fabric of historical and contemporary varieties of Spanish. Prerequisites: senior standing and SNH 3035, or consent of the instructor. [Dual-listed with SNH 5555.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**SNH 4565. Advanced Spanish Expression (3).**F. On Demand.

*GEN ED: Capstone Experience*

An advanced language course where students will have the opportunity to perfect their mastery of the spoken and written language. Students will explore different writing genres and model their work on the literary and cultural narratives written by experienced Spanish writers, and will be provided with the necessary tools to develop their oral language skills. Prerequisites: senior or graduate standing and SNH 3080, or consent of the instructor. [Dual-listed with SNH 5565.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## Department of Mathematical Sciences (MAT/STT)

*Mark C. Ginn, Chair*

*Richard E. Klima, Assistant Chair*

*Todd A. Abel*

*Terry G. Anderson*

*Alan T. Arnholt*

*William C. Bauldry*

*Michael J. Bossé*

*William J. Cook*

*Deborah A. Crocker*

*Ross M. Gosky*

*Sarah J. Greenwald*

*Holly P. Hirst*

*Jeffrey L. Hirst*

*Phillip E. Johnson*

*Gary D. Kader*

*Anita N. Kitchens*

*Vicky W. Klima*

*Witold A.J. Kosmala*

*Betty B. Long*

*Eric S. Marland*

*Katherine J. Mawhinney*

*Katrina M. Palmer*

*Gregory S. Rhoads*

*René A. Salinas*

*Tracie McLemore Salinas*

*Jose A.T. Sanqui*

*Mary E. Searcy*

*Kevin L. Shirley*

*Erica R. Slate*

*Jill E. Thomley*

The Department of Mathematical Sciences assists students in mastering quantitative skills relevant to careers in business, industry, government, and teaching at the elementary, secondary, and college levels. The Bachelor of Arts and Bachelor of Science degrees in the mathematical sciences offer a flexible curriculum adaptable to the professional objectives of the individual. By combining a strong background in the mathematical sciences with appropriately chosen study in related fields, the degree programs prepare students for their desired careers. The Department offers a Bachelor of Science degree in Actuarial Sciences; a Bachelor of Science degree in Statistics; a Bachelor of Science degree in Mathematics (with six concentration options); a Bachelor of Science degree in Mathematics, Secondary Education; and a Bachelor of Arts degree in Mathematics.

### The Bachelor of Science degree in Actuarial Sciences (106A/52.1304)

The program of study is available at: [www.programsofstudy.appstate.edu/actuarial-sciences-bs-106a-2016-2017](http://www.programsofstudy.appstate.edu/actuarial-sciences-bs-106a-2016-2017)

### The Bachelor of Arts degree in Mathematics (261A/27.0101)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-ba-261a-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-ba-261a-2016-2017)

### The Bachelor of Science degree in Mathematics (260\*/27.0101)

For the Bachelor of Science in Mathematics, students must select one of the following concentrations:

#### Business concentration (260D)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-business-260d-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-business-260d-2016-2017)

#### Computation concentration (260E)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-computation-260e-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-computation-260e-2016-2017)

#### General Mathematics concentration (260B)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-general-mathematics-260b-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-general-mathematics-260b-2016-2017)

#### Life Sciences concentration (260F)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-life-sciences-260f-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-life-sciences-260f-2016-2017)

#### Physical Sciences concentration (260G)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-physical-sciences-260g-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-physical-sciences-260g-2016-2017)

#### Statistics concentration (260H)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-statistics-260h-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-statistics-260h-2016-2017)

#### Secondary Education concentration (260I)[T]

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-bs-secondary-education-260i-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-bs-secondary-education-260i-2016-2017)

Every mathematical sciences major is assigned an advisor. Degree candidates should seek approval of their program of study as early as possible, but no later than three semesters before their intended date of graduation. Students pursuing multiple majors are especially encouraged to seek early departmental advising. Visit the departmental website at [www.mathsci.appstate.edu](http://www.mathsci.appstate.edu) or contact the departmental chair at (828) 262-3050 for additional information.

## A minor in Mathematics (260/27.0101) (13 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/mathematics-minor-260-2016-2017](http://www.programsofstudy.appstate.edu/mathematics-minor-260-2016-2017)

## A minor in Statistics (289/27.0501) (12 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/statistics-minor-289-2016-2017](http://www.programsofstudy.appstate.edu/statistics-minor-289-2016-2017)

## Honors Program in Mathematical Sciences

The Mathematical Sciences Honors Program offers honors courses to students who have exhibited outstanding ability and interest in mathematics. Students who successfully complete MAT 3510 with at least a grade of "B" and have earned at least a 3.45 GPA in mathematics courses are eligible for MAT 4510, Honors Thesis. Students who earn at least a "B" in MAT 4510 and complete a total of at least nine semester hours of honors courses in mathematics will graduate with "honors" in mathematics. Honors courses carry full credit toward the major or, for non-majors, full elective credit. Students must earn a grade of 'B' (3.0 grade points) or higher on all honors coursework taken to fulfill any honors requirements.

## Master of Arts Degrees in Mathematics

The Department of Mathematical Sciences offers a Master of Arts degree in Mathematics, Education with a concentration in Secondary School Teaching, and a general Master of Arts degree in Mathematics with a concentration in College Teaching (non-teaching). For information about these degree programs, please consult the *Graduate Bulletin*.

## Courses of Instruction in Mathematics (MAT) and Statistics (STT)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### MATHEMATICS HONORS (MAT)

#### MAT 1120. Calculus With Analytic Geometry II, Honors (4).F.

An honors section of MAT 1120. Enrollment by invitation of the departmental honors committee. A study of the logarithmic and exponential functions, circular functions and their inverses, techniques of integration, improper integrals, infinite series, Taylor polynomial and power series. Prerequisite: MAT 1110 (with a grade of "C-" or higher). (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### MAT 2510. Sophomore Honors Seminar (4).S.

Proof techniques and their application to selected mathematical topics. Enrollment by invitation of the departmental honors committee. (Students may not receive credit for both MAT 2510 and MAT 2110.) Prerequisite: MAT 1120. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### MAT 3510. Junior Honors Seminar (3).F;S.

Development of selected concepts related to modern algebra, analysis, differential equations, and/or probability/statistics not generally found in the traditional curriculum. Enrollment by invitation of departmental honors committee. Prerequisites: calculus sequence, modern algebra, linear algebra. May be repeated for credit when content is not duplicated. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### MAT 4510. Senior Honors Thesis (3).F;S.

##### GEN ED: Capstone Experience

Independent study and research. Thesis directed by a member of the Department of Mathematical Sciences. Prerequisites: completion of MAT 3510 and a 3.45 GPA in mathematics. Enrollment by invitation of the departmental honors committee.

### MATHEMATICS (MAT)

#### MAT 0010. Developmental Mathematics (3).F;S.

This course is intended for those persons who have had previous exposure to Algebra but who still have deficiencies and are not prepared for MAT 1010 or MAT 1020. It is mandatory for students whose scores on the mathematics placement test indicate a deficiency. The course content is elementary algebra. Self-development and study skills are emphasized. The course meets five days per week, and counts as three hours credit toward course load and full-time student eligibility, but does not count toward hours required for graduation (see "Institutional Credit").

## **MAT 1005. A Brief Introduction to Mathematics (1).S.**

*GEN ED: Quantitative Literacy*

This course is an introduction to mathematical problem solving. Emphasis is on the development of conceptual understanding rather than on computational drill. Using appropriate computational tools, including computers, is fundamental to the course. All sections cover personal finance. MAT 1005 is not open to students with 4 hours of QL credit. Prerequisite: 3 hours of QL credit.

## **MAT 1010. Introduction to Mathematics (4).F;S;SS.**

*GEN ED: Quantitative Literacy*

A course in mathematical problem solving for students who are not required to take calculus. Emphasis is on the development of students' quantitative literacy and number sense rather than computational drill. Computational tools such as spreadsheets will be used to solve a variety of real world problems. All sections cover basic consumer statistics and probability, with additional topics drawn from a variety of fields such as art, music, finance, physical or biological science, geometry, cryptology, measurement, and election theory. Not open to students who are enrolled in or have credit for MAT 1020, MAT 1030, or MAT 1110. Students may not receive credit for both MAT 1010 and MAT 1020. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 1020. College Algebra with Applications (4).F;S;SS.**

*GEN ED: Quantitative Literacy*

A study of algebraic concepts and applications for students who are not required to take calculus, but who require a working knowledge of algebra and functions. Tabular, graphical, and algebraic presentations are investigated, with emphasis on linear, power, exponential, and logarithmic models. Applications are chosen from a variety of topics, including in particular finance, units and measurement, right triangle trigonometry, and population modeling. Not open to students who are enrolled in or have credit for MAT 1010, MAT 1030, or MAT 1110. Students may not receive credit for both MAT 1010 and MAT 1020. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 1025. Precalculus (4).F;S.**

An overview of algebraic concepts and a thorough treatment of functions such as rational, logarithmic, exponential, and trigonometric. Included will be a rigorous treatment of analytic geometry. Recommended for students with less than four units of high school mathematics who plan to take MAT 1110. Students may not receive credit for MAT 1020 after receiving credit for MAT 1025. Not open to students who have credit for MAT 1110. Prerequisite: must pass placement test or MAT 0010. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 1030. Calculus With Business Applications (4).F;S.**

*GEN ED: Quantitative Literacy*

An introduction to the concepts of differentiation and integration with particular emphasis upon their applications to solving problems that arise in business and economics. This course is designed primarily for business and economics majors and is not open to mathematics majors or students with credit for MAT 1110. Prerequisite: MAT 1020 or MAT 1025 or equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 1035. Business Mathematics With Calculus (3).F;S;SS.**

*GEN ED: Quantitative Literacy*

This course is an overview of algebraic concepts and a thorough treatment of functions such as rational, logarithmic, and exponential, including an introduction to the concepts of differentiation with particular emphasis upon their applications to solving problems that arise in business, finance, and economics. This course is designed primarily for business and economic majors and is not open to mathematics majors or students with credit for MAT 1110 [Calculus With Analytic Geometry I]. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 1110. Calculus With Analytic Geometry I (4).F;S.**

*GEN ED: Quantitative Literacy*

A study of limits, continuity, differentiation, applications of the derivative, the differential, the definite integral, the fundamental theorem, and applications of the definite integral. Prerequisite: MAT 1025 (with a grade of "C-" or higher) or equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 1120. Calculus With Analytic Geometry II (4).F;S.**

A study of the logarithmic and exponential functions, circular functions and their inverses, techniques of integration, improper integrals, infinite series, Taylor polynomial and power series. Prerequisite: MAT 1110 (with a grade of "C-" or higher). (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 2030. Mathematics for the Elementary School Teacher (3).F;S.**

This course is an introduction to mathematical concepts, processes, and reasoning for the prospective elementary school teacher.

Topics include patterns, relationships, functions, data, probability, and statistics. Not open to mathematics majors or minors. Prerequisite: MAT 1010 or higher or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**MAT 2110. Techniques of Proof (3).F;S.**

A study of methods of proof used in mathematics. Topics include propositional calculus, predicate calculus, and several first order theories. Prerequisite: MAT 1120 or permission of the instructor.

**MAT 2130. Calculus With Analytic Geometry III (4).F;S.**

A study of parametric equations, vectors, vector-valued functions, function of several variables, double and triple integrals, and vector analysis. Prerequisite: MAT 1120 (with a grade of "C-" or higher). (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**MAT 2240. Introduction to Linear Algebra (3).F;S.**

A study of vectors, matrices and linear transformations, principally in two and three dimensions, including treatments of systems of linear equations, determinants, and eigenvalues. Prerequisite: MAT 1120 or permission of the instructor.

**MAT 2310. Computational Mathematics (3).F.**

This course engages students in mathematical investigations in various computational environments. Students will investigate numerical computation in symbolic systems and spreadsheets as well as traditional programming environments. Topics covered include basic programming structures, computer arithmetic, and mathematical applications. Instructor will choose from applications such as statistical calculations, infinite series estimation, root finding, and integration. Prerequisite: MAT 1120.

**MAT 2500. Independent Study (1-3).F;S.**

**MAT 3010. Survey in the History of Mathematics (2).F.**

This course is a study of mathematics as a human intellectual endeavor impacting our culture, history, and philosophy. Includes analyses from the mathematical, historical, and philosophical perspectives of several significant developments from various fields of mathematics. The specific developments considered will vary from semester to semester. Prerequisite: MAT 2110 or MAT 2510 or permission of the instructor.

**MAT 3015. Junior Seminar for Mathematics Majors in Education (2).S.**

This course will address mathematics content and pedagogy issues of importance to secondary mathematics teachers. The North Carolina Mathematics Curriculum for high school will be introduced with emphases on functions and other selected topics. Class discussions, group activities, written assignments, and oral presentations will be integral parts of the course. A field experience and other professional development activities will be required outside of class. Prerequisites: MAT 2240 and MAT 3010.

**MAT 3030. Investigating Mathematics and Learning (4).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course prepares prospective teachers to construct a comprehensive understanding of effective mathematics instruction in grades K-6 with selected instructional activities designed for implementation during field placement experiences. The course includes content, methods, and materials of elementary school mathematics instruction. Topics include the content strand number and operations and process strands connections, communication, problem solving, reasoning and proof, and representation. The course emphasizes instructional design principles for teaching number and operation. Effective communication of mathematical ideas is a focal point of the course. Prerequisites: MAT 2030 and RC 2001 or its equivalent. (Same as CI 3030.)

**MAT 3110. Introduction to Modern Algebra (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Topics covered include equivalence relations, groups, subgroups, homomorphisms, isomorphisms, and a survey of other algebraic structures such as rings, integral domains, and fields. Prerequisites: MAT 2110 or MAT 2510, and RC 2001 or its equivalent. Corequisite: MAT 2240.

**MAT 3130. Introduction to Differential Equations (3).F;S.**

A theory of ordinary differential equations with applications and classical methods for their solutions including series and Laplace transform techniques. Some numerical methods and differential equations software might be introduced. Prerequisite: MAT 1120, with MAT 2240 recommended.

**MAT 3220. Introduction to Real Analysis I (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

A treatment of the calculus of functions of real variables including sequences, limits of functions, continuity and differentiation. Pre-

requisites: MAT 2110 or MAT 2510, and RC 2001 or its equivalent.

**MAT 3310. Discrete and Continuous Mathematical Models (3).F.**

An introduction to the process of mathematical modeling. Topics will include an overview of the modeling process as well as graph theory, discrete and continuous dynamics, linear programming, combinatorics, and curve fitting with a particular emphasis on their use in modeling real world situations. It will also contain a treatment of topics from calculus, including the derivative and definite integral with an emphasis on their use in solving real world problems. Prerequisite: MAT 1120. Corequisite: MAT 2240 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**MAT 3330. Financial Mathematics (3).F.**

The objective of this course is to help students learn about the theory of interest as covered on the Casualty Actuarial Society (CAS)/Society of Actuaries (SOA) Course 2 examination. Topics include mathematical theory of compound interest, force of interest, annuities, equations of value, yield rates, amortization, sinking funds, bonds, depreciation, and other topics in finance. The concepts and models that will be discussed are a key part of modern actuarial science. Prerequisite: MAT 1120 or permission of the instructor.

**MAT 3340. Actuarial Models (3).F.**

This course covers contingency models including life contingent models. Topics covered include but are not limited to survival distributions, life insurances, life annuities, premium and reserve calculations, multiple life and multiple decrement models. Prerequisites: MAT 3330 and STT 3850.

**MAT 3350. Introduction to Mathematical Biology (3).S.**

An introduction to the mathematics of modeling biological systems. Topics will be discussed in the context of both continuous and discrete models and be taken from a broad range of biological fields such as population ecology, evolutionary biology, cell biology, genetics, and molecular biology. Numerical techniques for analysis and simulation will be introduced. Prerequisites: MAT 1120 and junior standing.

**MAT 3500. Independent Study (1–3).F;S.**

**MAT 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**MAT 3530–3549. Selected Topics (1–4). On Demand.**

**MAT 3610. Introduction to Geometry (3).F;S.**

A study of the development of Euclidean geometry through multiple perspectives, including synthetic and metric. Topics to be considered include the nature of axiomatic systems and proofs, parallelism, similarity, measurement, constructions, polyhedra, utilizing appropriate technology, and at least one non-Euclidean geometry. The course will focus on concept development and connections among mathematical perspectives. Prerequisite: MAT 2110 or MAT 2510.

**MAT 3910. Introduction to the Logic and Structure of Mathematics I (4).F**

A problem-based course investigating fundamental concepts in K-8 mathematics from an advanced standpoint. To be included are topics from algebra, geometry, number theory, and mathematical logic, with the goal of developing mathematical ways of thinking. Prerequisite: junior or senior standing or permission of the instructor.

**MAT 3920. Introduction to the Logic and Structure of Mathematics II (4).S.**

This course is an extension of 3910. It focuses on deepening understanding of algebra, including topics related to functions, trigonometry, and an intuitive approach to calculus. Prerequisite: MAT 3910 or permission of the instructor.

**MAT 4010. Current Topics in Mathematics (1–3).On Demand.**

Permission to register must be given by the departmental chair.

**MAT 4011. Current Topics in Mathematics Capstone (1).On Demand.**

*GEN ED: Capstone Experience*

MAT 4011 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4010 with the same section number.



## **MAT 4015. Advanced Seminar in Secondary Mathematics Education (3).F**

This course is an extension of the junior seminar for mathematics majors in education. The course will extend the examination of the North Carolina Mathematics Curriculum for high school begun in MAT 3015 with emphases on geometry and other selected topics. Class discussions, group activities, written assignments, and oral presentation will be integral parts of the course. A field experience and other professional development activities are required outside of class. Prerequisites: MAT 3015 and a 4000 level mathematics or statistics course in the program of study for secondary mathematics majors in education or permission of the instructor. [Dual-listed with MAT 5015.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **MAT 4040. Mathematics Capstone (1).F;S.**

*GEN ED: Capstone Experience*

MAT 4040 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Prerequisites: either MAT 3110 or MAT 3220, and senior standing in mathematics or permission of the instructor.

## **MAT 4140. Differential Geometry (3). On Demand.**

An introductory course in the differential geometry of curves and surfaces in space, presenting both theoretical and computational components, intrinsic and extrinsic viewpoints, and numerous applications. The geometry of space-time will also be considered. Prerequisite: MAT 2130. Corequisite: MAT 2240.

## **MAT 4141. Differential Geometry Capstone (1).On Demand.**

*GEN ED: Capstone Experience*

MAT 4141 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4140.

## **MAT 4220. Introduction to Real Analysis II (3).On Demand.**

A continuation of MAT 3220, including the Riemann integral, infinite series, and sequences and series of functions. Prerequisite: MAT 3220.

## **MAT 4221. Introduction to Real Analysis II Capstone (1).On Demand.**

*GEN ED: Capstone Experience*

MAT 4221 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4220.

## **MAT 4310. Numerical Methods (3).S.**

Development and application of numerical methods. Topics covered include computer arithmetic and error, interpolation and approximation, roots of nonlinear equations, and numerical integration. Also covered: solution techniques for either linear systems of equations or ordinary differential equations. Prerequisite: MAT 2310 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **MAT 4311. Numerical Methods Capstone (1).S.**

*GEN ED: Capstone Experience*

MAT 4311 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4310.

## **MAT 4330. Senior Seminar in Actuarial Sciences (3).S.**

*GEN ED: Capstone Experience*

A course designed to provide majors in Actuarial Sciences the opportunity to study actuarial problems from a variety of sources. The emphasis will be on the oral and written presentation of results. The course should prepare the student for making the transition from academic courses to actuarial practice. Students taking this course should have completed most of the Actuarial Sciences curriculum. Students are also encouraged to register for at least one Society of Actuaries professional exam during this course. Prerequisite: MAT 3330 and STT 3250.

**MAT 4340. Introduction to Operations Research (3).** On Demand.

A thorough study of linear programming including duality theory and sensitivity analysis. At least two other topics related to mathematical applications in the management sciences queuing theory, Markov processes, game theory, decision analysis, network analysis, etc. will be covered. Prerequisites: MAT 2240 and STT 3850. [Dual-listed with MAT 5340.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**MAT 4341. Introduction to Operations Research Capstone (1).** On Demand.

*GEN ED: Capstone Experience*

MAT 4341 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4340.

**MAT 4400. Senior Research (1–3).** F;S.

A research project under the supervision of a mathematics faculty mentor. Written updates of progress will be completed every five weeks. A formal, typeset technical report of the results is to be submitted to the faculty upon completion of the project. Students cannot receive credit for both MAT 4510 and MAT 4400. Prerequisite: one 4000- level mathematics course.

**MAT 4420. Dynamical Systems Theory (3).** F.

Development and application of the theory of dynamical systems. Topics include phase plane analysis, bifurcation theory, and chaos theory. Basic applications relevant to each topic are included. Additional topics may include fractional dimensions, differential equations, and cellular automata. Prerequisite: MAT 3130 or MAT 3310.

**MAT 4421. Dynamical Systems Theory Capstone (1).** F.

*GEN ED: Capstone Experience*

MAT 4421 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4420.

**MAT 4590. Advanced Topics in Differential Equations (3).** S.

Development and application of advanced topics in differential equations. Topics may include foundational theories of differential equations, partial differential equations, perturbation theory, calculus of variations, distribution theory, transform theory, or other advanced topics. Prerequisite: MAT 3130. Barring duplication of content, MAT 4590 may be repeated for a total credit of six semester hours. [Dual-listed with MAT 5590.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**MAT 4591. Advanced Topics in Differential Equations Capstone (1).** S.

*GEN ED: Capstone Experience*

MAT 4591 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4590.

**MAT 4710. Introduction to Topology (3).** On Demand.

A study of the basic concepts of general topological spaces including such topics as metric spaces, continuous functions, connectedness, product spaces, and compactness. Prerequisite: MAT 3220. [Dual-listed with MAT 5710.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**MAT 4711. Introduction to Topology Capstone (1).** On Demand.

*GEN ED: Capstone Experience*

MAT 4711 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4710.

**MAT 4720. Abstract Algebra (3).** On Demand.

A study of intermediate group theory, including group actions and the Sylow theorems; and ring theory, including polynomial rings, factorizations in principal ideal domains, and modules. Prerequisite: MAT 3110 or permission of the instructor. [Dual-listed with MAT

5210.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **MAT 4721. Abstract Algebra Capstone (1).**On Demand.

*GEN ED: Capstone Experience*

MAT 4721 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4720.

## **MAT 4910. Informal Geometry (3).**F.

This course is an informal treatment of the geometric concepts in the elementary and middle school mathematics curriculum. The topics considered include polygons, congruence, similarity, tilings, transformations, symmetry, angles, constructions, area, perimeter, circles, and polyhedra. Prerequisite: MAT 3910 or MAT 3920 or permission of the instructor. [Dual-listed with MAT 5965.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. Does not count in the program for mathematics majors or minors.

## **MAT 4930. Basic Concepts of Probability and Statistics (3).** On Demand.

This course examines the concepts underlying the elementary and middle school curriculum in probability and statistics. Probability models will be studied using both mathematical approaches and simulations. Statistics will be presented as a problem solving process involving question formulation, data collection, data analysis and the interpretation of results. Prerequisite: MAT 3910 or MAT 3920 or permission of the instructor. [Dual-listed with MAT 5935.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. Does not count in the program for mathematics majors or minors.

## **MAT 4990. Numerical Linear Algebra (3).** On Demand.

Methods for solving systems of linear equations with an emphasis on large, sparse systems. LU factorization including storage schemes, graph theory, ordering algorithms, and block factorization. Iterative methods including Jacobi, SOR, and conjugate gradient. Eigenvalue methods including power method, QR factorization, and Lanczos methods. Parallel matrix computations. Prerequisite: MAT 4310. [Dual-listed with MAT 5390.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **MAT 4991. Numerical Linear Algebra Capstone (1).**On Demand.

*GEN ED: Capstone Experience*

MAT 4991 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in mathematics and the relationships of mathematics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with MAT 4990.

## STATISTICS (STT)

### **STT 1805. A Brief Introduction to Statistics (1).**S.

*GEN ED: Quantitative Literacy*

This course is an introduction to statistical thinking. Emphasis is on the development of conceptual understanding rather than on computational drill. Using appropriate computational tools, including computers, is fundamental to the course. The course will cover the statistical method, making and reading graphs, detecting bias, univariate statistics, categorical statistics, linear regression and some basic probability. STT 1805 is not open to students with 4 hours of QL credit. Prerequisite: 3 hours of QL credit.

### **STT 1810. Basic Statistics (3).**F;S.

*GEN ED: Quantitative Literacy*

An introduction to statistical problem solving. Topics include organization and presentation of data; measures of location, variation, and association; the normal distribution, sampling distributions, and statistical inference. Emphasis will be on conceptual understanding and interpretation of results rather than theoretical development. Statistical software will be utilized in the analysis of data and in the development of statistical and probabilistic concepts. STT 1810 is not open to students with credit for STT 2810, STT 2820, STT 3850, or STT 4811. Prerequisite: MAT 1010 or higher. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

### **STT 2810. Introduction to Statistics (3).**F;S.

*GEN ED: Quantitative Literacy*

An introduction to statistical problem solving and methodology. Topics include tabulation and graphical representations of univariate and bivariate data; probability, statistical distributions, confidence intervals and hypothesis testing. Emphasis will be on conceptual understanding and interpretation of results rather than theoretical development. Statistical software will be utilized in the analysis

of data and in the development of statistical and probabilistic concepts. STT 2810 is not open to students with credit for STT 1810, STT 2820, STT 3850, or STT 4811. Prerequisite: MAT 1010 or higher. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 2820. Reasoning with Statistics (4).F;S.**

*GEN ED: Quantitative Literacy*

An introduction to the design, analysis, and interpretation of statistical studies. Topics include representations for univariate and bivariate data distributions; designed methods for data collection and the role of randomness in statistical studies; probability and statistical distributions; statistical estimation, and statistical significance. Emphasis will be on the development of conceptual understanding and interpretation of results through simulation rather than a theoretical development. Statistical software will be utilized in the analysis of data in the development of statistical and probabilistic concepts. STT 2820 is not open to students with credit for STT 1810, STT 2810, STT 3850, or STT 4811. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 3250. Fundamentals of Probability (4).S.**

Topics include a study of sample spaces, counting rules, conditional probability and independence, random variables and their properties, moment generating functions, named distributions, both discrete and continuous, transformations, the Central Limit Theorem, covariance and correlation coefficients, order statistics, and multivariate probability distributions. Prerequisite: MAT 2130.

## **STT 3500. Independent Study (1-4).F;S.**

## **STT 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

## **STT 3530-3549. Selected Topics (1-4). On Demand.**

## **STT 3820. Statistical Methods I (3).F;S.**

*GEN ED: Quantitative Literacy*

A continuation of STT 2810 or STT 2820. A study of parametric and non-parametric statistical methods and inferential procedures. Topics commonly covered include an introduction to methods of data collection such as simulation, surveys and experiments; single-parameter inference for means and proportions; techniques for comparing two distributions; error rates and power; inference for simple linear regression and multiple regression least squares models; introductions to one-way and two-way analysis of variance models; and contingency table analysis. Nonparametric alternatives are presented for many methods in the course when the assumptions for parametric methods are not met. Emphasis is on a non-theoretical development of statistical techniques and on the interpretation of statistical results. Statistical software will be utilized in analysis of data. Prerequisite: STT 2810 or STT 2820 or equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 3830. Statistical Methods II (3).F.Odd-numbered years.**

A continuation of STT 3820. Topics commonly covered include experimental design; intermediate topics in least-squares regression modeling, such as multiple regression, residual analysis, transformations, higher order model terms and interactions, categorical predictors, diagnostic statistics for assessment of model fit, and model selection; one-way and two-way analysis of variance, including blocking and factorial designs. Emphasis is on a non-theoretical development of statistical techniques and on the interpretation of statistical results. Statistical software will be utilized in the analysis of data. Prerequisite: STT 3820 or equivalent. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 3840. Elementary Probability and Survey Sampling (3).On Demand.**

The course begins with an introduction to discrete probabilities and related applications. In particular, the application of probability to sampling is studied in detail. The remainder of the course is devoted to the theory of sampling and sampling techniques. Applications are highlighted through examples and illustrated problems. Prerequisite: STT 2810 or STT 2820 or permission of the instructor.

## **STT 3850. Statistical Data Analysis I (4).F;S.**

This course provides an overview of modern statistical data analysis. Programming with data, including simulations and bootstrapping, will be an integral part of the course. Techniques for parsing univariate and multivariate data sets will be examined. Coverage of probability, random variables, standard probability distributions and statistical sampling distributions will be sufficient to prepare the student for statistical inference. Inferential topics will include parameter estimation, hypothesis testing for proportions, means and medians, goodness of fit tests, and tests for independence. Standard and computationally intensive regression techniques will also be covered. Prerequisite: MAT 1110. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 3851. Statistical Data Analysis II (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

The goal of this course is to provide students with exposure to a variety of statistical procedures in order to develop their ability to understand statistically based research. As the course will focus on proper data analysis, sufficient practice with solving real problems using real data will be required. A variety of standard statistical methodologies will be covered including multiple regression, the analysis of variance, and the analysis of covariance. Additionally, several computationally intensive methods will be explored including, but not limited to, areas such as robust regression, bootstrapping, and permutation tests. Students will be required to complete several data analysis projects that utilize professional editing tools and demonstrate reproducible statistical research. Prerequisites: STT 3850 and RC 2001 or its equivalent.

## **STT 4811. Statistical Concepts and Applications I (3).F.**

This course introduces students at the post-calculus level to statistical concepts, applications, and theory. Topics include: comparisons with categorical and numerical data, statistical significance, sampling and sampling distributions, and randomized experiments. Statistical concepts will be developed through simulations, and applications will focus on statistical problem-solving. The course will introduce prospective teachers to the content and pedagogy recommended by the National Council of Teachers of Mathematics' Standards and the American Statistical Association's Guidelines with regard to statistics and probability at the introductory level. Prerequisite: MAT 1120. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 4812. Statistical Concepts and Applications II with Probability Modeling (3).S.**

This course is a continuation of STT 4811. Topics include: exploring and modeling relationships, comparing several populations, combinatorial analysis, axiomatic probability, and conditional probability. Statistical concepts will be developed through simulations, and applications will focus on statistical problem-solving. The mathematical foundations of probability will be developed and explored through simulations. The course will prepare prospective teachers to implement the National Council of Teachers of Mathematics' Standards and the American Statistical Association's Guidelines with regard to statistics and probability at an intermediate level. Prerequisite: STT 4811. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **STT 4820. Design and Analysis of Experiments (3).On Demand.**

The course begins with a review of sampling, sampling distributions, and simple comparative experiments. Single factor experiments with both fixed and random effects are considered. Designs illustrated include randomized blocks, latin squares and factorial experiments. Mixed models and rules for expected mean square are presented. Model adequacy, sample size considerations, power determinations and restrictions on randomization procedures are discussed. The use of statistical software packages is integrated throughout the course. Prerequisite: STT 3820, or permission of the instructor. [Dual-listed with STT 5820.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **STT 4821. Design and Analysis of Experiments Capstone (1).On Demand.**

*GEN ED: Capstone Experience*

STT 4821 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in statistics and the relationships of statistics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with STT 4820.

## **STT 4830. Linear Regression Models (3).F.**

An introduction to least squares estimation in simple and multiple regression models. The matrix approach is used in the more general multiple regression model. Considerable attention is given to the analysis of variance, aptness of the model tests, residual analysis, the effects of multicollinearity, and variable selection procedures. Prerequisites: MAT 2240 and STT 3830. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with STT 5830.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **STT 4831. Linear Regression Models Capstone (1).F.**

*GEN ED: Capstone Experience*

STT 4831 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in statistics and the relationships of statistics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with STT 4830.

## **STT 4840. Regression and Time Series Forecasting (3).F.**

Introduction to regression and time series forecasting models applied to problems in economics, business and the social sciences with emphasis on the use of computer technology. Topics include least squares parameter estimation, simple and multiple linear regression models, trend and seasonal regression models, seasonal and non-seasonal ARIMA

models, model assumptions diagnostics, variable selection, model evaluation and monitoring, smoothing techniques and dealing with non-stationarity. Prerequisites: MAT 2240, STT 3250, and STT 3850 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**STT 4841. Regression and Time Series Forecasting Capstone (1).F.**

*GEN ED: Capstone Experience*

STT 4841 satisfies the general education capstone requirement for mathematics majors with concentrations other than education. Students will explore current, relevant, or advanced undergraduate topics in statistics and the relationships of statistics with other fields. Oral and written communication skills are emphasized. Graded on an S/U basis. Corequisite: Must be taken concurrently with STT 4840.

**STT 4870. Senior Seminar in Statistics (2).On Demand.**

A course designed to provide majors in statistics and other related fields the opportunity to study statistics problems from a variety of sources and to examine their statistical analyses. The emphasis will be on the oral and written presentations of statistical results. The course should prepare the student for making the transition from academic courses to statistical practice. Students taking this course should have completed most of the courses offered in the statistics curriculum. Prerequisite: permission of the instructor.



## Department of Philosophy and Religion (PHL/REL)

*Kevin Schilbrack, Chair*

*Laura Ammon*

*Christopher J. Bartel*

*Anna M. Cremaldi*

*Rodney K. Duke*

*Thomas B. Ellis*

*Richard Elmore*

*Sandie L. Gravett*

*Kim Q. Hall*

*Davis Hankins*

*Alan J. Hauser*

*William M. Hutchins*

*Jack Kwong*

*Cuong Mai*

*Conrad E. Ostwalt, Jr.*

*T. Patrick Rardin*

*Randall W. Reed*

*Matthew Ruble*

*Richard A. Spencer*

*Jesse Taylor, Jr.*

*Joseph Weiss.*

The objectives of the Department of Philosophy and Religion are to provide students with a critical study of historical and contemporary figures and ideas in philosophy and religious studies; to promote critical examination of and reflective discourse about important ideas, institutions, and practices that have shaped and continue to shape our world; and to cultivate the skills necessary for advancing knowledge in the disciplines of philosophy and religion.

In keeping with these objectives, the department offers two undergraduate majors and minors: a major and minor in Philosophy, and a major and minor in Religious Studies. For participants in the graduate program, a limited amount of graduate work is available, including a graduate minor in Philosophy, and one in Religious Studies. The graduate minors are designed for students on an individual basis. For further information, contact the departmental chair.

Philosophy provides an opportunity to study and critically engage with ideas that have grounded historical and contemporary understanding of the nature of knowledge, truth, power, reality, beauty, mind, body, identity, experience, justice, and morality. A degree in Philosophy prepares students to clarify complex issues; to reason clearly, critically, and persuasively; and to analyze and solve problems.

Religious Studies provides an opportunity to study and critically engage religious beliefs, practices, and institutions that have shaped our world. A degree in Religious Studies prepares students to participate in the academic study of religion; to understand and interrogate ideas informing diverse religions in the world; and to engage in clear and critical discussion of religious issues.

### Honors Program in Philosophy and Religious Studies

The Department of Philosophy and Religion offers an honors program for students with a minimum overall GPA of 3.4. To graduate with "honors in philosophy" or "honors in religious studies," a student must be a Philosophy major or a Religious Studies major and complete at least 9 semester hours of work in departmental honors courses with a cumulative GPA of 3.4 or above in those courses. Six of the hours will be comprised of honors coursework and three of the hours must be either PHL 4510 or REL 4510, Senior Honors Thesis. A grade of B (3.0 grade points) or better is required for Honors Credit in each class.

### Internship Program

The department offers an internship program to augment the academic program of majors and minors who will be seeking employment upon graduation. Internship programs are devised on an individual basis. For more information, contact Dr. Monique Lanoix or Dr. Rodney Duke, Directors of the department's Internship Program.

### Philosophy

#### The Bachelor of Arts degree in Philosophy (101A/38.0101)

The program of study is available at: [www.programsofstudy.appstate.edu/philosophy-ba-101a-2016-2017](http://www.programsofstudy.appstate.edu/philosophy-ba-101a-2016-2017)

#### Minor in Philosophy (266/38.0101) (18 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/philosophy-minor-266-2016-2017](http://www.programsofstudy.appstate.edu/philosophy-minor-266-2016-2017)

### Religious Studies

#### The Bachelor of Arts degree in Religious Studies (102A/38.0201)

The program of study is available at: [www.programsofstudy.appstate.edu/religious-studies-ba-102a-2016-2017](http://www.programsofstudy.appstate.edu/religious-studies-ba-102a-2016-2017)

#### Minor in Religious Studies (103/38.0201) (18 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/religious-studies-minor-103-2016-2017](http://www.programsofstudy.appstate.edu/religious-studies-minor-103-2016-2017)

### Courses of Instruction in Philosophy (PHL) and Religious Studies (REL)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

## PHILOSOPHY (PHL)

### **PHL 1000. Introduction to Philosophy** (3).F;S.

*GEN ED: Liberal Studies Experience*

A general introduction to the basic patterns and methods of philosophy as presented through representative thinkers.

### **PHL 1040. Critical Thinking Skills** (3).F;S.

An introduction to the art of critical thinking, including identifying problems, locating assumptions and analyzing their impact on the products of thought, assessing causal claims, learning problem solving strategies, and examining creativity.

### **PHL 1100. Logic I** (3).F;S.

*GEN ED: Liberal Studies Experience*

This course is an introduction to logical reasoning. It will include the study of truth-functions, translations of English sentences into logical notation, truth-tables, deductions, and some fallacy identification. The concepts of validity, consistency, tautology, contradiction, and logical equivalence are introduced. Additional topics, such as category syllogisms, inductive reasoning, and quantification may be included at the discretion of the instructor.

### **PHL 1501. Mind, Knowledge, and Reality** (3).F;S.

*GEN ED: Liberal Studies Experience*

This course explores some of the central philosophical problems that arise in the study of knowledge. In particular, it will address the following questions: What is knowledge? What are the social dimensions of knowledge? Is knowledge a social construction? How do disciplines outside of philosophy (e.g., psychology and neuroscience) help inform the study of knowledge? We will draw readings from both historical and contemporary writers in philosophy and other disciplines.

### **PHL 1502. Philosophy and Popular Culture** (3).F;S.

*GEN ED: Integrative Learning Experience (Theme: "How We Tell Stories")*

This course will examine the ways in which stories may be used to express or examine philosophical ideas. Many works of fiction explicitly engage with philosophical concerns regarding (for instance) the nature of truth, knowledge, and morality. This course will enable students to recognize such themes in works of fiction and will provide them with the vocabulary needed to analyze and understand those concepts.

### **PHL 1503. Selves, Bodies, and Cultural Diversity** (3).F;S.

*GEN ED: Liberal Studies Experience*

The course goal is to elucidate how philosophers make local to global connections. The topics of this course are personal identity, human knowledge, and ethical standards. Students will study these topics from various philosophical worldviews, such as, rationalism, empiricism, existentialism and feminism. Issues of global cultural diversity are addressed, such as gender and racial equality.

### **PHL 1504. Everyday Philosophy: Perspectives on Science and Technology** (3).F;S.

An introduction to philosophical approaches to special problems, topics, or issues in science and technology. The subject matter of this course will vary.

### **PHL 1530–1549. Selected Topics** (1–4). On Demand.

### **PHL 2000. Philosophy, Society, and Ethics** (3).F;S.

*GEN ED: Liberal Studies Experience*

An introduction to ethical reasoning and an examination of moral problems in contemporary social issues.

### **PHL 2013. Philosophy of Art** (3).F.

*GEN ED: Integrative Learning Experience (Theme: "Imagination, Innovation, and Meaning")*

This course will examine contemporary debates in the philosophy of art. In particular, we will examine theoretical attempts to define art, the role of authorial intention in the interpretation and appreciation of art, and the role and scope of imagination in the appreciation and interpretation of the arts.

### **PHL 2015. Environmental Ethics** (3).F;S.

*GEN ED: Integrative Learning Experience (Theme: "Sustainability and Global Resources")*

This course is an introduction to ethical dimensions of environmental issues. Students will have the opportunity to study theoretical perspectives such as deep ecology, ecofeminism, Native American views of the land, and social ecology. The course will also consider environmental ethical issues such as the moral status of nature, pesticide use, environmental racism, the treatment of animals, deforestation, world population growth, and what it means to live an ecologically responsible life. (Global Learning Opportunity course)

**PHL 2100. Logic II (3).S.**

A study of some major systems of logic, including a formal study of truth functions and quantification. The notions of proof, theorem and axiom are defined and some theory of logic is included. At the discretion of the instructor, additional topics may be included (for example, the logic of relations, boolean algebra systems, modal logic, the logic of probability or inductive logic).

**PHL 2500. Independent Study (1-4).F;S.**

**PHL 2530-2549. Selected Topics (1-4). On Demand.**

**PHL 3000. Ancient Philosophy (3).F.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

A study of the major philosophers of Greece and Rome including the pre-Socratics, Socrates, Plato, Aristotle, the Stoics, the Epicureans, and the skeptics. (Global Learning Opportunity course)

**PHL 3013. Philosophical Aesthetics (3).S.**

*GEN ED: Liberal Studies Experience*

This course will take a philosophical look at the nature of aesthetic experience. Our concern will be to understand what makes aesthetic experience unique, what are the causes of aesthetic experience, how aesthetic experience might be related to our appreciation of art and nature, and to examine what role knowledge and belief may play in aesthetic experience.

**PHL 3015. Medical Ethics (3).S.**

*GEN ED: Liberal Studies Experience*

This course aims to introduce students from a variety of backgrounds with an interest in health care to the central issues and controversies in medical ethics. The goal is to prepare students to enter the growing fields of medical practice and research equipped with adequate knowledge of ethical issues pertaining to health care practice and research.

**PHL 3020. Metaphysics (3).F. Alternate years.**

*GEN ED: Liberal Studies Experience*

This course will provide an advanced introduction to metaphysics, a branch of philosophy concerned with questions and issues that arise out of the study of the nature of reality.

**PHL 3030. Feminist Philosophy (3).S.**

*GEN ED: Integrative Learning Experience (Theme: "Revolutions: Social and Political")*

This course examines conceptual and normative issues in contemporary feminist theory. Issues to be discussed include power and the production of knowledge, resistance, violence against women, sex and gender, the interrelatedness of gender, race, class, and sexuality, body image, the personal as political, and the relation between feminist theory and activism. The class also considers western and non-western feminist discussion of these themes. The goal is for each student to gain an appreciation of the diversity and complexity of feminist thought, as well as insight concerning the relation between women's experiences and feminist theorizing.

**PHL 3040. Social and Political Philosophy (3).F. Alternate years.**

This course examines some of the major developments in Western political thought. Through a philosophical lens, students will examine the various and changing concepts that shape current political arrangements.

**PHL 3050. Philosophy of Race (3).F. Alternate years.**

*GEN ED: Integrative Learning Experience (Theme: "Intersections: Race, Class, and Gender")*

This course will examine the metaphysical epistemological, social, political, and ethical dimensions of race. Class readings will include both historical and contemporary philosophical approaches to race and racism.

**PHL 3200. Modern Philosophy (3).S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

A study of views of eminent philosophers of the seventeenth and eighteenth centuries, including Descartes, Hume, and Kant.

**PHL 3300. A Critique of Worldmaking (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course studies the major developments in recent analytic philosophy which have led to a radical challenge to common sense, Nelson's Goodman's Critique of Worldmaking. The basic principle is that worlds are made by making world-versions. The critique is a comparative study of world-versions and their making. We assess how well such a critique has advanced analytic philosophy. Our readings may be drawn from philosophers such as: Ayer, Carnap, Wittgenstein, Dewey, James, Goodman, Quine, Kuhn, and Rorty. Prerequisite: RC 2001 or its equivalent.

**PHL 3400. Contemporary Continental Philosophy (3).F.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course examines some important philosophers and movements in continental philosophy. Philosophical movements such as Phenomenology, Existentialism, Critical Theory, Feminism, Postcolonial Theory, and Poststructuralism will be discussed. Prerequisite: RC 2001 or its equivalent.

**PHL 3500. Independent Study (1–4).F;S.**

**PHL 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**PHL 3530–3549. Selected Topics (1–4). On Demand.**

**PHL 3550. Philosophy of Mind (3).S.**

*GEN ED: Liberal Studies Experience*

This course will examine some fundamental questions that arise in the philosophy of mind: What does it mean to say that a person has a mind? Are mental states (such as beliefs and desires) nothing but brain states, or are they states of a different kind? Do robots or animals have minds? The course will also provide a historical survey of various philosophical theories of mind, including substance dualism, philosophical and methodological behaviorism, identity theories, functionalism and connectionism.

**PHL 3600. Philosophy of Science (3).S.**

*GEN ED: Liberal Studies Experience*

An investigation of the foundations, structure, actual attainments, and ideals of the sciences.

**PHL 4000. Nature of Knowledge (3).S.**

A study of the traditional problems of the origin, nature, and limitations of knowledge. What do we know and how do we know it? Prerequisites: three semester hours in a PHL course at or above the 2000 level or consent of the instructor.

**PHL 4300. Ethical Theory (3).F.**

An examination of some major ethical theories and issues raised in relation to epistemology and language, such as the status of knowledge in ethics and the function of ethical language. Prerequisites: Three semester hours in a PHL course at or above the 2000 level or consent of the instructor.

**PHL 4510. Senior Honors Thesis (3). On Demand.**

Independent study and research, directed by a member of the Philosophy faculty in the Department of Philosophy and Religion and a member of another department appropriate to the topic selected by the student. Prerequisites: six semester hours of Honors work below the 4000 level.

**PHL 4549. Seminar (3).F;S.**

An intensive study of special problems, topics, or issues related to the study of philosophy. The subject matter of this course will vary and barring duplication of subject matter, a student may repeat the course for credit. Prerequisite: Six semester hours in PHL courses at or above the 2000 level or consent of the instructor. [Dual-listed with PHL 5649.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PHL 4700. Senior Research: Philosophy (3).S.**

*GEN ED: Capstone Experience*

Designed for majors in Philosophy. Development and completion of an independent research project in the context of a seminar in which the student's ideas, drafts and thesis are questioned and defended. In addition to the discussion of each student's work, issues regarding the nature of philosophy will be discussed. This course provides an opportunity to utilize philosophical skills in a systematic analysis of a philosophical problem. Each student will develop a thesis to be presented and defended in a public forum. Prerequisites: nine semester hours in PHL courses at or above the 2000 level or consent of the instructor.

**PHL 4900. Internship (3–6). On Demand.**

Field work in applied philosophy. Proposal must be approved by the philosophy faculty. Graded on an S/U basis.

## RELIGIOUS STUDIES (REL)

### **REL 1010. Religion and Imaginary Worlds (3).F;S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

This course will explore various expressions of religious imagination in cultural products such as literature that reflect or contribute to religion and religious ideas. A variety of types of literature (including biblical and modern) will be used. The class is organized around the literary critique of religious issues and the postmodern crisis of belief. The class will also consider literary theory and the critical issues involved in transferring literature to other media forms.

### **REL 1100. Religion and Contemporary Issues (3).F.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course examines the relationship between religion and the issues that confront our world. Through the exploration of writings of religious significance and other material and media artifacts (art, architecture, music, media, political rhetoric, film, etc.), the course considers how cultural and social influences shape religious expression and contribute to religion as a force in contemporary life both locally and globally. (Global Learning Opportunity course)

### **REL 1110. Religions of the World (3).F;S.**

*GEN ED: Liberal Studies Experience*

This course introduces the major living religions of the world. (Global Learning Opportunity course)

### **REL 1115. Religion Goes to The Movies (3).F;S.**

*GEN ED: Liberal Studies Experience*

This course explores how religious expression communicates on film as well as how it relates to the cultural circumstances from which particular films emerged. We apply widely used theoretical approaches to the critical study of religion to provide insight into the interpretation of select films and consider how the academic study of religion relates the notions of religion, film, culture and imagination.

### **REL 1120. Death, Grieving, and Immortality (3).S.**

*GEN ED: Liberal Studies Experience*

How do different religious traditions think about illness and end of life issues? What rituals do adherents perform? This course explores how religious belief and practice impact treatment decision making and includes consideration of specific issues such as suicide, euthanasia, and organ donation. It also examines funeral and bereavement rituals for both disposition of bodies as well as for individual and community mourning and support.

### **REL 1530-1549. Selected Topics (1-4). On Demand.**

### **REL 2010. Old Testament: The Jewish Scriptures (3).F;S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

An analysis of Old Testament literature as the product of the life of the Israelite people. Students will have the opportunity to examine selected documents in terms of their literary structure, historical context, and religious perspective.

### **REL 2020. New Testament (3).F;S.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "How We Tell Stories")*

An analysis of early Christian literature as the product of the lives of the first followers of Jesus Christ. Students will have the opportunity to examine selected documents in terms of their literary structure, audience, historical context, religious perspective, and their relation to the broader Christian community and Western culture.

### **REL 2030. Islamic Literature (3).S.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

An exploration of the Qur'an and of works that have shaped, illustrated, or supplemented Islamic beliefs and practices. (Global Learning Opportunity course)

### **REL 2110. Judaism (3).F.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

An examination of the history, literature, and faith of post-exilic Judaism, with concentration on selected topics and periods. (Global Learning Opportunity course)

## **REL 2120. Christianity (3).S.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

An exploration of Christianity from the early period through the Enlightenment and rise of contemporary Christian movements, students will explore the history of the church, its doctrinal emphases, and its practice in a variety of locations and time periods. (Global Learning Opportunity course)

## **REL 2130. Islamic Religion and Culture (3).F.**

*GEN ED: Liberal Studies Experience*

A selective survey of the religion and its expression in Islamic civilization from the time of the prophet Muhammad to the contemporary Islamic revival. (Global Learning Opportunity course)

## **REL 2140. Hinduism (3).F.**

An interdisciplinary examination of complex Hindu religious and philosophical traditions from Vedic culture to the contemporary period, covering such topics as deity, guru, cosmos, body, ritual, karma, dharma, and yoga. (Global Learning Opportunity course)

## **REL 2150. Buddhism (3).F.**

*GEN ED: Historical Studies Designation; Liberal Studies Experience*

This course surveys the historical development of Buddhist traditions in Asia, beginning with ancient India and continuing with the emergence of major schools and traditions in China, Japan, Tibet, and Southeast Asia. We will also examine Buddhism and modernity in Asia and representations and practices of Buddhism in Western popular culture and society. (Global Learning Opportunity Course)

## **REL 2210. Gods, Ghosts and Ancestors (3).F.Alternate years.**

This course introduces students to the main religious traditions of China and the enduring religious themes and philosophical issues which have informed traditional Chinese literature, society, culture and politics. Students will examine the origins, rise, and endurance of Chinese popular religion, Confucianism in its social and political forms, Daoism as a philosophical movement and as a series of religious innovations, and Buddhism's transmission into China and its subsequent flourishing and transformation of Chinese culture and society. In each instance students will examine a broad array of phenomena, from scriptural texts to hagiography, from ritual manuals to medical texts, from miracle stories of talking animals to poetic flights into the starry heaven and beyond, from tales of ghosts and ancestors to accounts of the deeds of shamans and sages. (Global Learning Opportunity course)

## **REL 2500. Independent Study (1-4).F;S.**

## **REL 2530-2549. Selected Topics (1-4). On Demand.**

## **REL 3010. Biblical Prophets: Justice and Hope (3).S.**

A study of the prophetic movement and its literature in ancient Israel and the ancient Near East.

## **REL 3020. After Jesus: Paul to Christianity (3).F.**

This class will examine the development of a rich variety of communities, traditions and theologies that developed in years after Jesus' life. It will explore the development of Paul's communities and the groups and thinkers who appropriated, reinterpreted and/or opposed Paul's work in both antiquity and the contemporary world.

## **REL 3030. Gender, Sexuality, and the Bible (3).F.**

This course provides an extensive inquiry into the constructions of gender and sexuality in the Hebrew Bible, New Testament and Apocrypha. Feminist biblical criticism will be emphasized along with a careful study of what we can know about gender and sexuality in the periods in which these texts were composed.

## **REL 3040. Bible and Science (3).F.Alternate years.**

An exploration of the historical development of Western modern science in light of its interactions with biblical theology and interpretation, and of the key topics and issues of the current debate/discussion concerning biblical teaching and contemporary science.

## **REL 3100. Church and State in Latin America (3).S.**

*GEN ED: Integrative Learning Experience (Theme: "Las Americas")*

Christianity in Latin America takes several forms, most notably through the controversial movements involving liberation theology. This course will explore the relationship between Church and State in Latin America, treating religion as one component of a multi-disciplinary approach to the problems of poverty and social injustice both historically and contemporarily.

## **REL 3110. Religion in America (3).F.**

*GEN ED: Integrative Learning Experience (Theme: "American Culture: Past and Present")*

An examination of religious beliefs and practice in the United States.



**REL 3120. African Thought (3).S.**

*GEN ED: Liberal Studies Experience*

A selective survey of insights, systems of thought, and cosmologies of traditional folk religions, of African versions of global religions and of contemporary intellectuals. (Global Learning Opportunity course)

**REL 3150 Religion, Gender, and the Body (3).S.Alternate Years.**

This course examines how religions configure the human body as both a problem and an opportunity. Students will examine theories concerning the social and cultural construction of gender, sexuality, and embodiment, and the implications of these theories for the study of religion. Case studies will help students gain proficiency in applying the theoretical insights of cultural and gender studies not only to specific cultural and historical settings, but also to similar phenomena in other times and places. (Global Learning Opportunity course)

**REL 3160. Life and Teachings of Jesus (3).S.Alternate years.**

An examination of the historical Jesus of Nazareth, his life, message, and teachings, using the various methods of Biblical Criticism. The class will focus on what can be known about the historical Jesus and different methodologies used in that pursuit.

**REL 3170. Religion and Violence (3).S.Alternate years.**

*GEN ED: Integrative Learning Experience (Theme: "War and Peace")*

Why does the history of world religions admit to several moments of violence? Why do the religious commit acts of violence not only against others but against themselves as well, for example, through acts of sacrifice and penance? Employing a multi-disciplinary approach, the course will address not only the historical, and what could possibly be perceived as the accidental, nature of violence in religion, but also and provocatively the structural role of violence in religion. (Global Learning Opportunity course)

**REL 3180. American Judaism (3).S.**

A study of Judaism in the American environment since 1654, focusing on its unique adaptation to the religious, social, political, and geographic environment of the United States.

**REL 3500. Independent Study (1-4).F;S.****REL 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**REL 3530-3549. Selected Topics (1-4). On Demand.****REL 3560. Religion and Science Fiction (3).S.Alternate years.**

This course will boldly go where no one has gone before through a variety of texts, films and media, in order to discover the ways science fiction authors imagined religion, class, race, culture, economics, and history in this and other worlds. We will analyze contemporary science fiction novels, films, television shows, and short stories, looking at how authors construct their worlds and reconstruct ours.

**REL 3600. Study Tour Abroad (3-6).S;SS.OnDemand.**

An intensive course exploring religious ideas and expression at a remote site.

**REL 3700. Theories of Religion (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

An introduction to major issues and the methods employed in the academic study of religion. Students will focus on acquiring the skills necessary to accomplish research in the field of religious studies. Prerequisites: RC 2001 or its equivalent.

**REL 3710: Religion, Ecology, & Biology (3) F.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course introduces the student to the ecological and biological study of religion. The course specifically considers the extent to which evolutionary theory illuminates the origins, functions, and continuing vitality of religious belief, behavior, and experience, taking time along the way to consider the unscientific theory of intelligent design and the controversies associated therewith. In addition to a general evolutionary account of religion, the course assesses the role of infectious disease ecologies in the evocation of religious diversity. Prerequisite: RC 2001 or its equivalent.

**REL 3715. Biblical Interpretation (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

An intensive examination of methods and issues in biblical interpretation, with extensive experience in the interpretation of specific biblical texts from both testaments. Major issues in the history of interpretation will be discussed, with emphasis on contemporary

methods. Prerequisites: REL 2010 or REL 2020 and junior or senior standing, or permission of the instructor and RC 2001 or its equivalent.

**REL 3725. Religion and Empire (3).F.Alternate years.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course explores the nature of empire and its conflicted relationship with religion. It will cover different case studies from differing geographic and historic locales. Religion and empire have moved hand in hand shaping the way that both colonizer and colonized understood, practiced, and created religion. In the process of expanding their world (and altering other worlds), colonizers came to think about themselves in terms of new identities; and colonized peoples forged their own identities in the midst of struggle. Prerequisite: RC 2001 or its equivalent.

**REL 3740. Religion and Social Theory (3).S.Alternate years.**

*GEN ED: Junior Writing in the Discipline (WID)*

An examination of the different explanations of the role of religion in the world and its function within human society. The class will focus on the specific application of such theory to real world religious phenomena. Prerequisite: RC 2001 or its equivalent.

**REL 3750. Minds, Brain, and Religion (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

An introduction to the psychological study of religious belief, experience, and behavior through a survey of various sub-disciplines within psychology: e.g., Freudian psychoanalysis, existential psychology, object relations theory, attachment theory, cognitive psychology, and evolutionary psychology. Prerequisites: RC 2001 or its equivalent.

**REL 3760. Religion and Reason (3).S.Alternate years.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course focuses on the analysis and discussion of religion in general rather than on any particular belief system and is a field of study that has been embraced by both believers and nonbelievers. The course discusses texts by secular and religious commentators about the nature of religion and of religious experience, and considers epistemological, ontological, logical, aesthetic, and ethical concepts and claims of religions. Prerequisite: RC 2001 or its equivalent.

**REL 4115. Religion and Cultural Forms (3).S.**

An examination of the way religious themes and issues have found expression in various types of cultural forms such as literature, art, myth, ritual, etc.

**REL 4510. Senior Honors Thesis (3). On Demand.**

Independent study and research. Honors thesis directed by a faculty member in Religious Studies and a member of an affiliated department or program appropriate to the topic selected by the student. Prerequisite or co-requisite: completion of six semester hours of Honors work. A grade of B or better is required for Honors Credit in each class.

**REL 4700. Senior Seminar (3).F;S.**

*GEN ED: Capstone Experience*

An intensive study of special problems, topics, or issues related to the study of religion. The subject matter of this course will vary with the topic selected being focused on literature in the fall and culture in the spring. Prerequisite: completion of at least six semester hours of religious studies (REL) course work at the 3000 or 4000 level including one methods course (one course in the REL 3700 sequence).

**REL 4900. Internship (3-6). On Demand.**

Graded on an S/U basis.

## Department of Physics and Astronomy (PHY/AST)

*Michael M. Briley, Chair*

*Patricia E. Allen*

*François Amet*

*Jennifer L. Burris*

*Anthony G. Calamai*

*Daniel B. Caton*

*J. Sid Clements*

*Tonya S. Coffey*

*Brad R. Conrad*

*Richard O. Gray*

*Brooke C. Hester*

*Courtney E. McGahee*

*James P. Sherman*

*David J. Sitar*

*Rachel L. Smith*

*Christopher S. Thaxton*

The objectives of the Department of Physics and Astronomy are:

1. To prepare students for a variety of careers which require a technical background or for studies at the graduate level
2. To provide service courses at appropriate levels for students in many disciplines

The versatility of physicists is a result of a basic education which emphasizes fundamental phenomena in nature. Understanding these fundamentals allows a physicist to solve a wide range of problems in many different fields, from energy resources and the environment to transportation and communications.

By taking appropriate physics courses, one can simultaneously learn about the physical side of nature in a most general way, acquire useful specific knowledge, and satisfy general education science requirements.

In keeping with these objectives, three undergraduate degrees in Physics and a graduate degree in Engineering Physics are offered. Minors are offered for both the undergraduate and the graduate student. A pre-engineering curriculum (see the College of Arts and Sciences section of this catalog) provides preparation necessary for transfer into engineering programs both in North Carolina and elsewhere.

### **The Bachelor of Arts degree in Physics (269A/40.0801)**

The program of study is available at: [www.programsofstudy.appstate.edu/physics-ba-269a-2016-2017](http://www.programsofstudy.appstate.edu/physics-ba-269a-2016-2017)

### **The Bachelor of Science degree in Physics (without teacher licensure) (270\*/40.0801) with a concentration in Applied Physics (270B)**

The program of study is available at: [www.programsofstudy.appstate.edu/physics-bs-applied-physics-270b-2016-2017](http://www.programsofstudy.appstate.edu/physics-bs-applied-physics-270b-2016-2017)

### **The Bachelor of Science degree in Physics (with teacher licensure) (270\*/40.0801)[T] with a concentration in Secondary Education (270C)**

The program of study is available at: [www.programsofstudy.appstate.edu/physics-bs-secondary-education-270c-2016-2017](http://www.programsofstudy.appstate.edu/physics-bs-secondary-education-270c-2016-2017)

### **An undergraduate minor in Physics (270/40.0801) (16–18 semester hours)**

The program of study is available at: [www.programsofstudy.appstate.edu/physics-minor-270-2016-2017](http://www.programsofstudy.appstate.edu/physics-minor-270-2016-2017)

### **An undergraduate minor in Astronomy (207/40.0801) (22–24 semester hours)**

The program of study is available at: [www.programsofstudy.appstate.edu/astronomy-minor-207-2016-2017](http://www.programsofstudy.appstate.edu/astronomy-minor-207-2016-2017)

## **Honors Program in Physics and Astronomy**

The Department of Physics and Astronomy offers an honors program which culminates in a senior honors research and thesis course (PHY 4510 or AST 4510) open to majors in physics and astronomy with an outstanding undergraduate record. In order to graduate with "honors in physics and astronomy," a student must have a minimum GPA of 3.45, overall and in physics and astronomy and must take nine semester hours of honors credits, including PHY 3560 or AST 3560, and PHY 4510 or AST 4510 (with a grade of "B" or higher). Students may arrange to take specific additional physics and astronomy courses on an honors basis by negotiating an honors contract with the course instructor before class begins. The honors contract, which must be approved by the Department of Physics and Astronomy Honors Committee, allows the student to receive honors credit for a regular course in physics or astronomy by specifying the additional assignments that the student must perform in order to receive honors credit. Additional information may be obtained from the departmental honors director or the departmental chair. Students must earn a grade of 'B' (3.0 grade points) or higher on all honors coursework taken to fulfill any honors requirements.

## **Master of Science degree in Engineering Physics**

The Department of Physics and Astronomy offers a Master of Science degree in Engineering Physics with concentrations in: 1) Systems and Laboratory Automation; 2) Professional Science Master's (PSM) in Instrumentation and Automation; and 3) Professional Science Master's (PSM) in Nanoscience for Advanced Materials. Students interested in the M.S. degree are requested to consult the *Graduate Bulletin* for further information. A graduate minor in Engineering Physics is also available.

## Courses of Instruction in Physics (PHY) and Astronomy (AST)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### PHYSICS (PHY)

#### **PHY 1101. How Things Work (4).F.**

*GEN ED: Science Inquiry Perspective (Themes: "How Things Work" and "Physics of Self Expression")*

An introductory survey of the ideas of mechanics, fluids, wave motion, sound, light, and special relativity. Objects from our daily environment will be considered as their operation, histories, and relationships to one another are explored. This course seeks to dispel the mysteries surrounding everyday phenomena. Lecture three hours, laboratory two hours. Corequisite: MAT 1010 or MAT 1020 or MAT 1025. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### **PHY 1102. Environment and Everyday Life (4).S.**

*GEN ED: Science Inquiry Perspective (Theme: "How Things Work")*

An introductory survey of thermodynamics, electricity, magnetism, atomic and nuclear physics. Objects from our daily environment will be considered as their operation, histories, and relationships to one another are explored. Lecture three hours, laboratory two hours. Prerequisite: PHY 1101. PHY 1102 is not open to students who have credit for PHY 1830. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### **PHY 1103-PHY 1104. General Physics I-II (4-4).F;S-F;S.**

*GEN ED: (PHY 1103 and PHY 1104) Science Inquiry Perspective (Theme: "Physics of Our Technological World")*

A study of the basic principles of physics including mechanics, thermodynamics, sound, electricity and magnetism, optics, and modern physics. Corequisite for PHY 1103: MAT 1020 or MAT 1025 or the equivalent. Prerequisite for PHY 1104: PHY 1103 or the equivalent. Lecture three hours, laboratory two hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

#### **PHY 1111. How Things Work - Lab (1).F.**

*GEN ED: Science Inquiry Perspective (Themes: "How Things Work" and "Physics of Self Expression")*

An introductory laboratory survey of the ideas of mechanics, fluids, wave motion, sound, and light. Objects from our daily environment will be considered as their operation, histories, and relationships to one another are explored. Laboratory two hours. Prerequisite: 3 credit hours of PHY 1101 transferred from another institution.

#### **PHY 1112. Environment and Everyday Life - Lab (1).S.**

*GEN ED: Science Inquiry Perspective (Theme: "How Things Work")*

An introductory laboratory survey of thermodynamics, electricity, magnetism, atomic and nuclear physics. Objects from our daily environment will be considered as their operation, histories, and relationships to one another are explored. Laboratory two hours. Prerequisite: 3 credit hours of PHY 1102 transferred from another institution.

#### **PHY 1113. General Physics I - Lab (1).F.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics of Our Technological World")*

A laboratory study of the basic principles of physics including mechanics, thermodynamics, sound, electricity and magnetism, optics, and modern physics. Laboratory two hours. Prerequisite: 3 credit hours of PHY 1103 transferred from another institution.

#### **PHY 1114. General Physics II - Lab (1).S.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics of Our Technological World")*

A laboratory study of the basic principles of physics including mechanics, thermodynamics, sound, electricity and magnetism, optics, and modern physics. Laboratory two hours. Prerequisite: 3 credit hours of PHY 1104 transferred from another institution.

#### **PHY 1150-PHY 1151. Analytical Physics I-II (5-5).F;S-F;S.**

*GEN ED: (PHY 1150 and PHY 1151) Science Inquiry Perspective (Theme: "Physics with Calculus")*

An analytical and quantitative treatment of physics at a somewhat more advanced level than the PHY 1103-PHY 1104 sequence using calculus. Intended primarily for students majoring in the natural sciences, mathematical sciences, and pre-engineering. Topics covered include mechanics, heat, light, sound, electricity, magnetism, and quantum phenomena. Corequisite for PHY 1150: MAT 1110. Corequisite for PHY 1151: MAT 1120. Lecture four hours, laboratory three hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **PHY 1160. Analytical Physics I - Lab (1).F.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics with Calculus")*

Laboratory exercises in mechanics, heat, light, sound, electricity, magnetism, and quantum phenomena at a somewhat more advanced level than the PHY 1103-PHY 1104 sequence using calculus. Intended primarily for students majoring in the natural sciences, mathematical sciences, and pre-engineering. Laboratory three hours. Prerequisite: 3-4 credit hours of PHY 1150 transferred from another institution.

## **PHY 1161. Analytical Physics II - Lab (1).S.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics with Calculus")*

Laboratory exercises in mechanics, heat, light, sound, electricity, magnetism, and quantum phenomena at a somewhat more advanced level than the PHY 1103-PHY 1104 sequence using calculus. Intended primarily for students majoring in the natural sciences, mathematical sciences, and pre-engineering. Laboratory three hours. Prerequisite: 3-4 credit hours of PHY 1151 transferred from another institution.

## **PHY 1810. Light and Color (4).On Demand.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics of Self Expression")*

An introductory course intended primarily for students of the fine and applied arts as well as others interested in optical phenomena. Topics include the perception of light and color, color mixing, polarized light, photography, lasers, and holography. The laboratory will involve hands-on investigation of the properties of light using various methods including but not limited to lasers, spectrometers, lenses and mirrors, and photographic equipment. Lecture three hours, laboratory two hours. Prerequisite: MAT 1025 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **PHY 1812. Acoustics and Harmonics (4).F.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics of Self Expression")*

An exploration of sound and the underlying physical principles that govern it: Newton's laws of motion, energy, power, pressure, elasticity, oscillations, waves, resonances, and harmonics, as well as the quantitative application of these principles to topics such as: musical intervals, the equal-tempered scale, the decibel scale, harmony, dissonance, overtones, hearing, voices, and the construction and timbre of musical instruments. Lecture three hours, laboratory two hours. Prerequisite: MAT 1010 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **PHY 1814. Sound and Recording (4).S.**

*GEN ED: Science Inquiry Perspective (Theme: "Physics of Self Expression")*

An exploration of acoustics, electronic circuits and signal processing as it applies to the creation and recording of sound and music. Topics to be covered include: AC and DC circuits, filtering, amplification, mechanical and electromagnetic properties of speakers, microphones, analog and digital recording, acoustics of rooms, digital audio signal processing, electronic synthesizers, multi-track recording, and mastering. Lecture three hours, laboratory two hours. Prerequisite: PHY 1812 or PHY 1103 or PHY 1150. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

## **PHY 1830. The Physical Principles of Energy and Sustainability (3).F;S.**

*GEN ED: Integrative Learning Experience (Theme: "Sustainability and Global Resources")*

An introduction to the physical principles governing energy and renewable technologies. Topics will include: thermal, geothermal, electrical, magnetic, wind, solar, hydroelectric, nuclear, and other sources of energy as well as other sustainable technologies such as conservation of material resources. PHY 1830 is not open to students who have credit for PHY 1102.

## **PHY 2010-PHY 2020. Intermediate Physics I-II (4-4).F-S.**

A study of basic formulations and concepts in classical physics including mechanics, static and dynamic electricity, and magnetism. Calculus and vector methods are used. Intended primarily for students majoring or minoring in physics. Prerequisites: PHY 1104 or PHY 1151, and for PHY 2010: MAT 1120; for PHY 2020: MAT 2130. Lecture four hours.

## **PHY 2210. Physics Laboratory Techniques and Data Analysis (3).S.**

*GEN ED: Junior Writing in the Discipline (WID)*

A course designed for physics majors emphasizing experimental techniques, measurements, data and error analysis, experimental planning and evaluation, and report writing. Intermediate classical experiments with both oral and written reports. Lecture two hours, laboratory two hours. Prerequisite: RC 2001 or its equivalent. Corequisite: PHY 2020.

## **PHY 2500. Independent Study (1-4).F;S.**

## **PHY 2700. Computer Interfacing (3).F. Even-numbered years.**

An introduction to the basic principles of computer interfacing and machine language programming. Topics to be covered include analog

to digital, digital to analog, voltage to frequency conversion, data transmissions, and applications of these topics using departmental microcomputers. Prerequisite: PHY 1104 or PHY 1151.

**PHY 3001. Analytical Methods in Physics (3).S.**

This course prepares students for the mathematical rigor associated with the junior and senior level theoretical physics courses. Topics include: series, complex numbers, partial differentiation, multiple integrals, vector analysis, Fourier series and transforms, differential equations, and special functions. The course will focus on mathematics required for Classical Mechanics (PHY 3010), Electromagnetic Fields and Waves (PHY 3020), and Quantum Mechanics (PHY 4640). Prerequisite: MAT 2130 with a grade of "C" or higher; Corequisite: PHY 2020.

**PHY 3010. Classical Mechanics (3).F.**

A study of classical problems in mechanics. Topics include motion in noninertial reference frames, particle systems and collisions, rigid bodies, and Lagrangian mechanics. Prerequisite: PHY 3001 with a grade of "C" or higher. Corequisite: MAT 3130 or permission of the instructor.

**PHY 3011. Classical Mechanics II (3). On Demand.**

A continuation of PHY 3010, Classical Mechanics. This course covers advanced applications of Lagrange's equations, Hamilton's equations, an introduction to the mechanics of continuous media, elementary tensor algebra, and the rotation of a rigid body in space. Prerequisites: PHY 3010, MAT 3130 and permission of the instructor.

**PHY 3020. Electromagnetic Fields and Waves (3).S.**

A study of electromagnetic theory, including the solution of electrostatics problems using Laplace's equation, fields in dielectric media, magnetic fields of steady and varying currents, and the development and application of Maxwell's equations. Prerequisites: PHY 2020 and PHY 3001 with a grade of "C" or higher in each, and MAT 3130 or permission of the instructor.

**PHY 3021. Electromagnetic Fields and Waves II (3). On Demand.**

A continuation of PHY 3020, Electromagnetic Fields and Waves. This course covers applications of Maxwell's Equations, including the propagation of plane electromagnetic waves in free space and other media; the general principles of guided waves; and the radiation of electromagnetic waves, including a discussion of the electric dipole antenna. Prerequisites: PHY 3020 and permission of the instructor.

**PHY 3140. Environmental Physics (3).F.**

A study of the physical principles underlying current environmental problems and issues such as global climate change and ozone depletion, and an examination of possible mitigating technologies. Other topics include the interaction of electromagnetic radiation and planetary atmospheres, radiative forcing, the greenhouse effect and the increased concentration of greenhouse gases in the earth's atmosphere, the paleoclimate of the earth and global climate change, alternative energy sources, and the viability of nuclear power. Prerequisite: PHY 1104 or PHY 1151.

**PHY 3150. Atmospheric Physics (3).S..**

An introduction to the principles of atmospheric physics. After a survey of climatology and the hydrologic and carbon cycles, this course focuses on important aspects of atmospheric physics including thermodynamics, radiative transfer, atmospheric chemistry, cloud microphysics, atmospheric and fluid dynamics, weather systems, boundary layer physics, and climate dynamics. Lecture two hours, laboratory two hours. Prerequisites: PHY 1150 and PHY 1151. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**PHY 3160. Introduction to Geophysics (3).S.**

An introductory survey of whole earth geophysics through theory and practice. The theory portion of the course covers seismology (techniques in reflection and refraction seismology), geothermics, radioactive dating, surface processes, tectonics, orogenics, gravity and gravimetric techniques, electrical and magnetic surveys, and borehole logging. The practical component of the course includes the utilization of several of these methods to study subsurface environments. Lecture two hours, laboratory two hours. Prerequisites OR corequisites: one introductory geology course (GLY 1101, GLY 1102, GLY 1103, GLY 1104, GLY 1105, or GLY 1510) plus PHY 1103 (or PHY 1150), and MAT 1110, or permission of the instructor. (Same as GLY 3160.)

**PHY 3210-PHY 3211. Modern Physics I-II (3-3).F-S.**

An introduction to the theories and experiments of 20th-century physics: special relativity; wave-particle duality; atomic structure; and natural and artificial radioactivity. Elementary results from quantum theory will be applied to the solid state and the nucleus. Descriptive treatment of frontier topics such as particle physics, accelerators, and superconductivity. Prerequisite: PHY 1151 or corequisite PHY 2010. Lecture three hours.



**PHY 3230. Thermal Physics (3).F.**

A study of the laws of thermodynamics and their applications. An introduction to kinetic theory and statistical mechanics is included. Prerequisites: PHY 1104 or PHY 1151, and MAT 2130. Lecture three hours.

**PHY 3350. Physical Science Investigations (3). On Demand.**

A course primarily for elementary education majors who choose their academic concentration in science. Simple demonstrations and laboratory experiments will emphasize a conceptual approach to the physical ideas usually introduced in the elementary science curriculum. Lecture two hours, laboratory two hours.

**PHY 3400. Physics Instruction Practicum (3).F.**

An introduction to the practical aspects of teaching high school physics. Some of the topics covered include current educational issues, resources required for laboratories, construction and presentation of physics demonstrations, classroom presentations, and the use of computers in the classroom. The course includes guest speakers, field trips, projects (individual and group), and classroom presentations. Lecture two hours, laboratory two hours. Prerequisite: PHY 1104 or PHY 1151 or consent of the instructor.

**PHY 3500. Independent Study (1-4).F;S.****PHY 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process at the University level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**PHY 3521. Secondary Science Field Experience (1).F;S.**

A supervised experience in the instructional process at the secondary school level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours. Required of all teacher-licensure candidates in physics.

**PHY 3530-3549. Selected Topics (1-4). On Demand.**

*For example:* Energy (2), a survey course designed to provide an understanding of energy options on personal, national, and global levels. The course explores fossil and nuclear fuel reserves, electric power production, and various energy alternatives, particularly solar energy. No prerequisite.

**PHY 3560. Undergraduate Research (1-3). On Demand.**

The student will participate in on-going faculty-directed research. This will include involvement in the solution of a theoretical problem or in experimental work such as the design of an experiment or experimental apparatus, acquisition of data, and/or data reduction and analysis. This course is required for students planning to graduate with departmental honors. For honors credit, the work must also include presentation of the results in a scholarly publication or at a professional meeting. Course may be repeated for a total credit of four semester hours. Graded on an S/U basis.

**PHY 3850. Environucleonics (3). On Demand.**

A study of how atomic and nuclear radiation interact with humans and their environment—with special emphasis on the technology of measurement and criteria for evaluation. Discussions of basic radiation properties and radiation detection as well as special analysis techniques such as neutron activation and X-ray fluorescence will be integral to the course. Prerequisite: PHY 1104 or PHY 1151. Lecture three hours.

**PHY 3851. Environucleonics Laboratory (1). On Demand.**

Laboratory investigation and skills development aligned with the methods of PHY 3850. Basic detection involving GM, gas flow and scintillation detector systems, pulse height analysis, statistical tests and treatment of data, utilization of neutron activation and X-ray fluorescence will be featured. Field trips may be required. Corequisite or prerequisite: PHY 3850. Laboratory three hours.

**PHY 4020. Computational Methods in Physics and Engineering (3).F.**

A course designed to introduce the student to modern techniques and algorithms in computational physics, involving solutions of real physical systems using techniques from interpolation, optimization, non-linear least squares, the numerical integration of ordinary and partial differential equations, Monte Carlo methods, Fourier analysis and stability analysis. Applications of these techniques will be selected from the areas of mechanics, optics, modern physics, astrophysics, engineering, signal processing, and electromagnetism. Programming will be carried out in a computer language such as 'C' or Fortran. Prerequisites: PHY 2010 and PHY 2020 (with a grade of "C" or higher in each) and MAT 2130, or permission of the instructor. Lecture two hours, laboratory two hours. (COMPUTER) [Dual-listed with PHY 5020.] Dual-listed courses require senior standing; juniors may enroll with permission of the department

## **PHY 4210 Methods of experimental Physics (4).F;S.**

*GEN ED: Capstone Experience*

Measurement theory, analysis, interpretation and evaluation of data experiment design and scientific report writing. A limited number of advanced laboratory experiments will be performed which illustrate important concepts and methods. Literature searches, written reports and some oral reports will be required. Lecture two hours, laboratory three hours. Prerequisite: PHY 2210.

## **PHY 4330. Digital Electronics (4).F.**

This course provides an introduction to digital electronics, with an emphasis on the study of components that are building blocks for digital devices and equipment, especially microcomputers. Emphasis will be placed on the design of combinatorial, sequential, and state machine (ASM) circuits, including simplification by Boolean algebra, Karnaugh maps, and computer-aided tools. Hardware description languages will be used to implement designs on programmable logic devices (PLD). Topics to be covered include: number systems, Boolean algebra, logic families, gates, flip-flops, medium scale integration devices, combinatorial and sequential circuits, ASM, PLD, arithmetic logic units, memory, input-output, D/A, A/D, and a generic CPU. The industry-oriented, hands-on labs involve circuit construction, testing and trouble-shooting using modern test equipment. Lecture three hours, laboratory three hours. [Dual-listed with PHY 5330.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **PHY 4510. Senior Honors Research and Thesis (1- 3). On Demand.**

Independent in-depth research and preparation of a thesis on a significant topic in physics, directed by a member of the Department of Physics and Astronomy faculty. A thesis is presented orally and in writing to the department. The course grade is determined by the thesis advisor and the departmental honors committee. Required for graduation with honors in physics. Prerequisites: PHY 3560 or equivalent, GPA of at least 3.45 overall and in physics and astronomy courses, approval of proposed research topic and methods by the departmental honors committee, and assignment of research thesis advisor during the semester prior to enrollment in this course.

## **PHY 4620. Optics (4).F.**

A rigorous introduction to geometric and wave optics with applications including lasers, interferometers, spectroscopy, telescopes, fiber optics, and remote sensing. Basic electromagnetic wave theory is employed to describe the interaction of electromagnetic radiation with matter including absorption, dispersion, reflection, and scattering. Geometric optics is employed to study image formation by optical systems using both ray-tracing and matrix optics methods. Wave optics is used to study interference, diffraction, and coherence. This leads into a detailed lab-based unit dealing with interferometry and optical system alignment, with applications to optical component testing, spectral analysis of light sources, and coherence. The course also includes a semester synthesis project. Lecture three hours, laboratory three hours. Prerequisite: PHY 3001 or equivalent (with a grade of "C" or higher). (PHY 3020 is a suggested prerequisite, but students may also enroll with permission of instructor). [Dual-listed with PHY 5620.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **PHY 4640. Quantum Mechanics (3).S.**

A study of the Schrödinger equation and its solutions for various common potentials. Prerequisites: PHY 3010, PHY 3210 (with a grade of "C" or higher), and MAT 3130 or permission of the instructor.

## **PHY 4730. Analog Systems (4).F.**

The theory and operation of DC and AC circuits with discrete passive and active components. Included are resistors, capacitors, inductors, diodes, bipolar transistors, field effect transistors, and operational amplifiers. An in-depth analysis of circuit theorems, phasors, differential equations, and simulations predicting the behavior of systems of analog devices will be explored in lecture and laboratory. The use and limitations of common electronics instrumentation such as multimeters, oscilloscopes, and function generators will also be explored. Lecture three hours, laboratory three hours. Corequisite: PHY 3210 or permission of the instructor. [Dual-listed with PHY 5730.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **PHY 4820. Medical Physics (3).S.**

A study of the application of the basic principles of physics to a selection of medical topics involving human body characteristics and functions and to instrumentation used to diagnose and treat illness and injury. Prerequisite: PHY 1104 or PHY 1151. Lecture three hours.

## **PHY 4845. Nanoscience and Technology (3).S.**

A survey of the current state of nanoscience and nanotechnology from both a theoretical and practical standpoint. Topics include, but are not limited to, nano-fabrication, tools (e.g. SEM, STEM, FIB, STM, AFM, etc.), nanomechanics, nanomaterials, Buckyballs and nanotubes, thin films, nano self-assembly, nano-scale heat transfer, thermoelectric devices, and nano-optics. Where applicable, content will be enhanced through direct experience with the available instrumentation. Prerequisite: senior standing in Physics or Chemistry, or consent of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with PHY 5845.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **PHY 4860. Physical Principles of Electron Microscopy (3).F.**

This course provides an overview of the fundamental principles of scanning electron microscopy, including all electron optical components (electron sources and guns, electron lenses, deflectors, and stigmators) and complete electron optical system physics. This overview is complemented by a thorough investigation of the electron beam-solid interaction physics and the resulting measurable signals. Image formation physics and a wide range of applications including qualitative and quantitative analysis techniques are fully developed in this course. PHY 4860 is accompanied by an optional laboratory course, PHY 4861. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with PHY 5860.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **PHY 4861. Physical Principles of Electron Microscopy Laboratory (1).F.**

This laboratory provides an introduction to the instrumentation and methods of scanning electron microscopy, including all electron optical components (electron sources and guns, electron lenses, deflectors, and stigmators). Electron beam-solid interaction physics and the resulting measurable signals are investigated. Image formation physics and a wide range of applications including qualitative and quantitative analysis techniques are fully developed in this course. PHY 4861 is accompanied by a required lecture section. Corequisite: PHY 4860. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.) [Dual-listed with PHY 5861.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **PHY 4880. Special Topics in Physics (3). On Demand.**

A course devoted to a single topic.

## **PHY 4900. Internship (3-12).F;S.**

Supervised work in applied physics in an industrial or other laboratory setting. Students must obtain approval of the departmental internship coordinator prior to enrolling. Graded on an S/U basis.

## ASTRONOMY (AST)

### **AST 1001. Introductory Astronomy I – The Solar System (4).F.**

*GEN ED: Science Inquiry Perspective (Theme: "Voyages Through the Cosmos")*

Topics to be covered include constellations, telescopes, the sun and moon, planets, asteroids, comets, the origin of the solar system and the search for extra-terrestrial life. The laboratory includes visual observations and electronic imaging of astronomical objects as well as a field trip to Appalachian's Dark Sky Observatory. Lecture three hours, laboratory two hours. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

### **AST 1002. Introductory Astronomy II – Stars and Galaxies (4).S.**

*GEN ED: Science Inquiry Perspective (Theme: "Voyages Through the Cosmos")*

A study of astronomical objects located beyond our solar system. Topics to be covered include the structure and evolution of the stars, pulsars, black holes, gaseous nebulae, star clusters, galaxies, quasars and the structure of evolution of the Universe. Night observations of these types of objects will be made. Lecture three hours, laboratory two hours. Prerequisite: AST 1001. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

### **AST 1011. Introductory Astronomy I – The Solar System Lab (1).F.**

*GEN ED: Science Inquiry Perspective (Theme: "Voyages Through the Cosmos")*

Includes visual observations and electronic imaging of astronomical objects as well as a field trip to Appalachian's Dark Sky Observatory. Laboratory two hours. Prerequisite: 3 credit hours of AST 1001 transferred from another institution.

### **AST 1012. Introductory Astronomy II – Stars and Galaxies Lab (1).S.**

*GEN ED: Science Inquiry Perspective (Theme: "Voyages Through the Cosmos")*

Night observations of stars, gaseous nebulae, star clusters, and galaxies will be made as part of a study of astronomical objects located beyond our solar system. Laboratory two hours. Prerequisites: AST 1001 and 3 credit hours of AST 1002 transferred from another institution.

### **AST 1050. Astrobiology: Exploring Life in the Universe (3).S.**

This course will introduce students to the field of astrobiology -- the scientific search for life in the Universe. This interdisciplinary course will include aspects of the fields of astronomy, biology, physics, geology and chemistry, as well as history and social interest in the human condition. Topics will include (although not be limited to) the origin of life in the Universe; the evolution of life on Earth; current science missions on searching for life; the search for extraterrestrial intelligence; and human exploration beyond our planet. All topics will stem from a scientific basis, integrating relevant historical and contemporary social and cultural issues. Lectures will

be a mix of slides and video, discussion, and student-led presentation of astrobiology in the news. Credit for AST 1001 or AST 1002 recommended but not required.

**AST 1530–1531. Selected Topics** (1–4). On Demand.

**AST 2001. Observational Astronomy** (3).F.

An introduction to the operation of astronomical instruments and to the acquisition and analysis of astronomical data. Topics to be covered will include, among others, astronomical coordinates and time systems, planning of observational programs, telescope and instrumentation operation and basic digital image analysis. Observations will be conducted at the campus observatory, emphasizing the use of the techniques studied in the lecture. Lecture two hours, laboratory two hours. Prerequisite: AST 1002.

**AST 3001. Techniques in Astronomical Photometry** (3).S. Even-numbered years.

A study of advanced techniques of modern astronomical photometry. Lecture topics include solid state (CCD) imaging hardware, image processing software and techniques, filters and color systems, and CCD aperture photometry. Observations will be conducted at the campus observatory, emphasizing the use of the techniques studied in the lecture. Lecture two hours, laboratory two hours. Prerequisite: AST 2001.

**AST 3002. Techniques in Astronomical Spectroscopy** (3).S. Odd-numbered years.

A study of advanced techniques of modern astronomical spectroscopy. Lecture topics include basic and advanced stellar spectrograph designs, stellar spectral classification, and applications of spectroscopic data to the determination of radial velocities and chemical abundances. Observations will be conducted at the campus observatory, emphasizing the use of the techniques studied in the lecture. Lecture two hours, laboratory two hours. Prerequisite: AST 2001.

**AST 3100. Astrophysics** (3).S. Even-numbered years.

A study of the astrophysical processes which occur in stars, nebulae, and the interstellar medium. Topics to be covered include energy generation and transfer in stars, spectral line formation and stellar structure and evolution. Prerequisites: AST 1002, PHY 1151, MAT 1120.

**AST 3200. Astromechanics** (2). On Demand.

An introduction to classical and modern techniques in the study of orbiting celestial bodies. Lecture topics will include the solution of the 2-body problem with applications to comet orbits, the restricted 3-body problem, and solutions to the n-body problem. Prerequisites: PHY 1103 or PHY 1150; and MAT 1120. Lecture two hours.

**AST 3530-3549. Selected Topics** (1–4). On Demand.

Selected topics courses may be taught on any of a number of special and current topics in astronomy. For instance, Robotic Exploration of the Solar System; Supernovae; Neutron Stars and Black Holes. Prerequisites: AST 1001 and AST 1002.

**AST 3560. Undergraduate Research** (1–3). On Demand.

The student will participate in on-going faculty-directed research. This will include involvement in the solution of a theoretical problem or in experimental work such as the design of an experiment or experimental apparatus, acquisition of data, and/or data reduction and analysis. This course is required for students planning to graduate with departmental honors. For honors credit, the work must also include presentation of the results in a scholarly publication or at a professional meeting. Course may be repeated for a total credit of four semester hours. Graded on an S/U basis.

**AST 4510. Senior Honors Research and Thesis** (1–3). On Demand.

Independent in-depth research and preparation of a thesis on a significant topic in astronomy, directed by a member of the Department of Physics and Astronomy faculty. A thesis is presented orally and in writing to the department. The course grade is determined by the thesis advisor and the departmental honors committee. Required for graduation with honors in physics. Prerequisites: AST 3560 or equivalent, GPA of at least 3.45 overall and in physics and astronomy courses, approval of proposed research topic and methods by the departmental honors committee, and assignment of research thesis advisor during the semester prior to enrollment in this course.

## Wiley F. Smith Department of Psychology (PSY)

*James C. Denniston, Chair*

*Denise M. Martz, Assistant Chair*

*Yalcin Acikgoz*

*Cynthia M. Anderson*

*Mary E. Ballard*

*Doris G. Bazzini*

*Hall P. Beck*

*Shawn M. Bergman*

*Joshua J. Broman-Fulks*

*Will H. Canu*

*Lisa (Grizzard) Curtin*

*James R. Deni*

*Christopher A. Dickinson*

*Lisa J. Emery*

*Jamie Y. Fearrington*

*Paul A. Fox*

*Sandy G. Gagnon*

*Amy T. Galloway*

*Robert W. Hill*

*Timothy J. Huelsman*

*John Paul Jameson*

*Pamela Kidder-Ashley*

*Robyn L. Kondrad*

*Timothy D. Ludwig*

*Lindsay C. Masland*

*Kurt D. Michael*

*Andrew E. Monroe*

*Lynn H. Mosteller*

*Andrew R. Smith*

*Kenneth M. Steele*

*Douglas A. Waring*

*Rose Mary Webb*

*Twila A. Wingrove*

*Mark C. Zrull*

The Wiley F. Smith Department of Psychology is the sole agency at Appalachian State University charged with the responsibility for developing, maintaining, and delivering undergraduate and graduate curricula in psychology. The Department is dedicated to the ideal that an understanding of psychological science contributes to a liberal education and forms the foundation for careers in psychology and for other endeavors. Departmental faculty promote intellectual curiosity, critical thinking, and a culture of learning through meaningful educational, scholarly, and service experiences. In support of this mission, the faculty of the Department provide mentoring and collaborative educational experiences, engage in scholarship, and serve the discipline, the university, and the community.

The faculty of the Department of Psychology value:

1. An array of high quality experiences that provide learners with depth and breadth in their education
2. Mentoring students in the discovery of psychological science within the traditional classroom context, the laboratory, and the greater community
3. Scientifically-informed applied experiences
4. Collaborative and interdependent relationships among students, faculty, staff, administration, alumni, and the community, both within psychology and across disciplines
5. Diverse contributions to the Department's mission

### The Bachelor of Arts degree in Psychology (251A/42.0101)

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-ba-251a-2016-2017](http://www.programsofstudy.appstate.edu/psychology-ba-251a-2016-2017)

### The Bachelor of Science degree in Psychology (252\*/42.0101)

For the Bachelor of Science in Psychology, students must select one of the following concentrations:

#### Business concentration (252D):

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-bs-business-252d-2016-2017](http://www.programsofstudy.appstate.edu/psychology-bs-business-252d-2016-2017)

#### Health Studies concentration (252E):

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-bs-health-studies-252e-2016-2017](http://www.programsofstudy.appstate.edu/psychology-bs-health-studies-252e-2016-2017)

#### Human Services concentration (252F):

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-bs-human-services-252f-2016-2017](http://www.programsofstudy.appstate.edu/psychology-bs-human-services-252f-2016-2017)

#### Natural Science concentration (252C):

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-bs-natural-science-252c-2016-2017](http://www.programsofstudy.appstate.edu/psychology-bs-natural-science-252c-2016-2017)

#### Social Science concentration (252G):

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-bs-social-science-252g-2016-2017](http://www.programsofstudy.appstate.edu/psychology-bs-social-science-252g-2016-2017)

### Minor in Psychology (275/42.0101) (18 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/psychology-minor-275-2016-2017](http://www.programsofstudy.appstate.edu/psychology-minor-275-2016-2017)

## Honors Program in Psychology

The Department of Psychology offers honors courses at the undergraduate level to students who have distinguished academic records and/or are nominated by a faculty member, and are invited by the departmental honors committee. Credit earned in honors courses may be applied toward the major, the minor, or the electives required for graduation. To graduate with "honors in psychology," a student must be recommended by the departmental honors committee and meet the criteria for such consideration: a minimum overall GPA of 3.45; a minimum GPA of 3.5 in psychology courses; and successful completion of the honors sequence. The honors sequence consists of nine semester hours of honors courses, with at least a grade of "B" in each. Six semester hours may be selected from: PSY 1200 (honors), PSY 3511, and PSY 3512. A student may substitute any course that is numbered PSY 3000 or higher, except for PSY 3000, PSY 3100, PSY 3500, PSY 3511, PSY 3512, PSY 3520, PSY 3530-3549, PSY 4001, PSY 4002, PSY 4511, PSY 4512, and PSY 4900, for a course in the honors sequence by satisfactorily completing an honors contract (made between the student and the professor teaching the course). Three semester hours are senior honors thesis courses (PSY 4511 and PSY 4512) to be taken over two semesters. The honors program requires a minimum of three semesters to complete. Honors courses are not offered during summer sessions.

## Master of Arts degrees in Psychology

The Department of Psychology offers a Master of Arts degree in Psychology, General Experimental which requires 33 semester hours including a thesis; a Master of Arts degree in Industrial-Organizational Psychology and Human Resource Management which requires 48 semester hours; and a Master of Arts degree in Clinical Health Psychology which requires 57 semester hours with an optional thesis. The Master of Arts/Specialist degree in School Psychology requires 72 semester hours. Persons interested in any of these degrees are requested to consult the *Graduate Bulletin* for further information.

## Courses of Instruction in Psychology (PSY)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### PSYCHOLOGY HONORS (PSY)

#### **PSY 1200. Psychological Foundations (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

An honors section of PSY 1200. Survey of basic principles and selected topics in psychology. Students will have the opportunity to develop original critical thought in writing and discussion. Enrollment by invitation of the department or by application.

#### **PSY 3511. Honors Colloquium (3).F.**

In depth study of selected topic(s) in psychology, encouraging independent scholarship in writing and discussion. Enrollment is by invitation of the department or by application. May be taken twice if course content is significantly different. Prerequisite: PSY 1200.

#### **PSY 3512. Honors Colloquium (3).S.**

In depth study of selected topic(s) in psychology, encouraging independent scholarship in writing and discussion. Enrollment is by invitation of the department or by application. May be taken twice if course content is significantly different. Prerequisite: PSY 1200.

#### **PSY 4511. Senior Honors Thesis I (1). On Demand.**

Independent study and research leading to proposal of an honors thesis; directed by a member of the psychology department. The student will register for this course during the semester prior to the final semester as an undergraduate. Enrollment by qualified applicants only. Prerequisites: PSY 1200 and successful completion of at least one honors course.

#### **PSY 4512. Senior Honors Thesis II (2). On Demand.**

Independent study and research leading to completion of an honors thesis; directed by a member of the psychology department. The student will register for this course during the final semester as an undergraduate. Enrollment by qualified applicants only. Prerequisite: successful completion of PSY 4511.

### PSYCHOLOGY (PSY)

#### **PSY 1200. Psychological Foundations (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course will focus on the biological and cognitive foundations of individual behavior, as well as the individual in the social context. Research on psychological phenomena will be reviewed to demonstrate the logic of the scientific method, to foster critical thinking, to identify potential shortcomings in interpretations of behavior (e.g., claims presented in the popular media), and to describe linkages



to everyday experiences (e.g., aesthetic and perceptual judgments, improved studying, friendship and attraction, and development of political attitudes). Students will have the opportunity to learn how to use empirical data to draw sound conclusions about behavior. Finally, connections to other thematic areas of scholarly inquiry within other disciplines will be presented.

**PSY 1530-1549. Selected Topics (1-4).**On Demand.

An examination of one or more topics drawn from or related to an area of psychology. Topics vary from year to year depending on and guided by the interests of faculty and students.

**PSY 2100. Psychology of Parenting (3).**F;S.

*GEN ED: Integrative Learning Experience (Theme: "Social Relations Across Contexts")*

The study of social, multi-cultural, cognitive, and behavioral principles in psychology as applied to the theory and practice of parenting..

**PSY 2200. Careers in Psychology (1).**F;S.

An overview of the various career options in the field of psychology and the educational and training experiences required to pursue these options. Graded on an S/U basis. Prerequisite: PSY 1200.

**PSY 2210. Psychology of Human Growth and Development (3).**F;S.

The study of research and theory of human physical, cognitive, social and emotional development from conception through maturity. Topics include descriptions of typical human development and application of the principles of developmental psychology.

**PSY 2211. Psychology of Personality (3).**F;S.

Basic principles of personality structure, dynamics, development, assessment, and theory are discussed. Consideration is given to environmental and biological determinants of personality. Students who have previously received credit for PSY 2211 may not enroll in or receive credit for PSY 2211.

**PSY 2212. Abnormal Psychology (3).**F;S.

An overview of the major forms of psychological disorders in children and adults. Emphasis is placed on theory and research related to the classification, description, etiology, and treatment of maladaptive behaviors and psychological disorders. Students who have previously received credit for PSY 2212 may not enroll in or receive credit for PSY 2212.

**PSY 2213. Survey of Social Psychology (3).**F;S.

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Social Relations Across Contexts")*

An overview of the basic principles of social psychology. A survey of the research findings and how they may be applied to real world situations. Students who have previously received credit for PSY 2213 may not enroll in or receive credit for PSY 2213.

**PSY 2305. Psychology of Gender (3).** On Demand.

An examination of selected psychological theories and research of the effects of gender. Emphasis is placed on the cognitive, biological and sociocultural explanations of gender similarities and differences.

**PSY 2500. Independent Study (1-3).**F;S.

Prerequisite: PSY 1200.

**PSY 2700. Behavior Change (3).**F;S.

An introduction to behavior change principles and procedures employed in the helping professions. Instructional and practical experiences focus on the acquisition of communication and problem-solving skills used to manage problem behaviors. Students who have previously received credit for PSY 2700 may not enroll in or receive credit for PSY 2700.

**PSY 3000. Educational Psychology (3).**On Demand.

An overview of the development of the student and an analysis of the principles of classroom learning. Applicable theories of child and adolescent development and major concepts, theories, and research in the acquisition of knowledge and interpersonal social skills are emphasized. Special attention is given to the educational application of these principles. Prerequisite: PSY 1200.

**PSY 3010. Psychology Applied to Teaching (3).**F;S.

This course provides an overview of the development of the student and an analysis of the principles of classroom learning, classroom management, and behavioral guidance. Research-based theories of child and adolescent development and major concepts, theories, and research in the acquisition of knowledge and interpersonal social skills and in the guidance and management of student behavior in the classroom are examined and critiqued. The course introduces students to research and theory on group and individual differences; various types of diversity, including characteristics of students with disabilities and students from culturally and linguistically diverse backgrounds; and foundational concepts and principles of educational assessment and accountability, including the Response to Intervention model. Applications and implications for teaching and learning are emphasized. Forty (40) hours of field experiences

are required. PSY 3010 may be taken prior to or after admission to teacher education. Prerequisite or corequisite: CI 2300.

**PSY 3100. Research Methods in Psychology (4).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Basic research/design concepts such as variables, confounding, causation, levels of measurement, observational research strategies, experimental design and control procedures, and use of descriptive, correlational and inferential statistics will be introduced. Students will have the opportunity to develop competence in conducting literature reviews, report writing in APA style, data collection and analysis. Lecture three hours, laboratory two hours. Prerequisites: PSY 1200, RC 2001 or its equivalent, and STT 2810 or STT 2820 (with a grade of "C" or higher in STT 2810 or STT 2820). (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**PSY 3207. Organizational Psychology (3).F;S.**

A survey of organizational psychology based on classical and contemporary research. Emphasis is placed on the practical application of principles to problems at the micro (individual, interpersonal, and group) and macro (environmental) levels. Prerequisite: PSY 1200.

**PSY 3210. Child and Adolescent Psychology (3).F;S.**

An in-depth consideration of contemporary and classic issues and topics from child and adolescent psychology. Emphasis will be on evaluating theory and research, encouraging both understanding and critical thinking about the literature in developmental psychology. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3211. Personality and Individual Differences (3).F;S.**

An in-depth examination of the principles underlying personality psychology, including genetic and environmental influences in personality development. Emphases will be on understanding the measurement of dimensions of personality and the methods used in personality psychology research by focusing on the current empirical literature. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3212. Psychopathology (3).F;S.**

An in-depth review of the major forms of psychopathological conditions across the lifespan. Emphasis is placed on theory, research, and original empirical readings related to the classification, description, etiology, and treatment of maladaptive behaviors and psychological disorders. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3213. Social Psychology (3).F;S.**

An intensive investigation of core principles in social psychology with thoughtful consideration of basic and applied research in the area as well as application to real world issues. Course will involve empirical readings related to major topical areas in the field. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3214. Principles of Learning (3).F;S.**

A survey of the basic principles, mechanisms, and theories of learned behaviors. Emphasis is placed on basic learning processes associated with Pavlovian and operant conditioning discovered through research with nonhuman animals. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3215. Perception (3).F;S.**

A survey of basic principles and mechanisms of perception. Visual and auditory perceptual systems are emphasized. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3216. Biological Psychology (3).F;S.**

A survey of the physiological, anatomical, and chemical correlates of behavior. Topics will include basic processes associated with these course components as well as discussion of how these processes are related to various neurological disorders. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3217. Cognitive Processes (3).F;S.**

A survey of classical and modern theories of human thought processes as they relate to performance in memory tasks, concept learning, and problem solving. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3218. Adult Development (3).F;S.**

An in-depth examination of development in adulthood, with coverage of physical, social, and psychological change over time. Emphasis will be on evaluating current theory and research, encouraging both understanding and critical thinking about the extant literature on the psychology of adulthood. Prerequisite or corequisite: PSY 3100 or permission of the instructor.

**PSY 3500. Independent Study (1-4).F;S.**

Prerequisite: PSY 1200.

**PSY 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisites: PSY 1200, must be majoring in psychology, and junior or senior standing. May be repeated for a total credit of three semester hours.

**PSY 3530–3549. Selected Topics (1–4). On Demand.**

In depth examination of specialized areas of psychology. Topics vary from year to year depending upon the interests of students and faculty. Prerequisite: PSY 1200.

**PSY 3653. Health Psychology (3).F;S.**

A survey of major physical disabilities including cardiovascular disease, diabetes, Aids, cancer, pain, obesity, eating disorders, and injury using a behavioral medicine orientation. Behavioral medicine represents a multidimensional approach to integrating behavioral and biomedical information in determining disease etiology and in prescribing comprehensive treatment. Prerequisite: PSY 1200.

**PSY 4001. Research Assistant (1–3).F;S.**

A supervised experience in which the student does psychological research on a faculty member's project under the direction of a faculty member. Graded on an S/U basis. Prerequisites: PSY 1200 and must be majoring in psychology. May be repeated for a total credit of six semester hours.

**PSY 4002. Supervised Research (1–3).F;S.**

A supervised experience in which the student does psychological research under the direction of a faculty member. The project will be developed by the student in consultation with their supervisor and should be considered the student's project. Prerequisites: PSY 1200, PSY 3100, and must be majoring in psychology. May be repeated for a total of six semester hours credit.

**PSY 4020. Applying to Graduate School (1).F.**

This class is intended for psychology majors to step students through the process of applying to graduate school starting with deciding on what type of program to apply to and ending with a completed application. Also included are other options that exist besides graduate school. Graded on an S/U basis. Prerequisite: PSY 2200.

**PSY 4206. Industrial Psychology (3).F;S.**

A survey of the field of human resource management based on fundamental psychological principles and psychometric theory. Topics considered include job analysis and evaluation, performance appraisal, and personnel selection. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor.

**PSY 4207. Evolutionary Psychology (3).F;S.**

This course examines how human thinking, motivation, behavior, and social relationships can be understood from the perspective that many aspects of human behavior involve sets of processes designed by natural selection to solve adaptive problems faced by our evolutionary ancestors. Key topics may include: problems of survival, long-term mating, sexuality, parenting, kinship, cooperation, aggression and warfare, conflict between the sexes, status, prestige, social dominance, and how evolutionary theory can provide a unified approach to understanding the different branches of psychology. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor. [Dual-listed with PSY 5207.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PSY 4208. Forensic Psychology (3).F;S.**

An in-depth study of the ways in which psychology and the law interact. Topics will include a study of the way in which researchers and mental health professions contribute to legal issues as well as the ways in which research and mental health practice are governed by the law. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor. [Dual-listed with PSY 5208.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PSY 4211. Personality Laboratory (1).On Demand.**

Practical application of theory and empirical findings in personality psychology. Methods of personality assessment will be critically examined. Students will generate testable hypotheses and design and implement correlational and experimental research studies informed by basic principles of personality theory. Prerequisite: PSY 3100 or permission of instructor. Prerequisite or corequisite: PSY 3211 or permission of the instructor.

**PSY 4213. Social Psychology Laboratory (1).On Demand.**

Lab activities designed to provide experiential learning through hands-on experimental participation in the field of social psychology. Both classic and novel theories will be examined using the scientific method. Students will work from theoretical assumptions to

generate hypotheses that will be empirically examined. Prerequisite: PSY 3100 or permission of instructor. Prerequisite or corequisite: PSY 3213 or permission of the instructor.

**PSY 4214. Learning Laboratory (1).**On Demand.

A laboratory course designed to establish an understanding of basic procedures used to investigate classical and operant conditioning. Laboratory modules address how various principles of learning (e.g., effects of reinforcement, contiguity, contingency, etc.) affect the acquisition and performance of Pavlovian and operant behavior. Students will conduct research on human and non-human subjects, analyze the obtained data, and summarize their findings in laboratory reports conforming to APA style. Prerequisite: PSY 3100 or permission of instructor. Prerequisite or corequisite: PSY 3214 or permission of the instructor.

**PSY 4215. Perception Laboratory (1).**On Demand.

A laboratory course providing classic and current experimental paradigms used to address questions in the psychology of perception, and exposure to experiment design, data collection and analysis, and report writing. Prerequisite: PSY 3100 or permission of the instructor. Prerequisite or corequisite: PSY 3215 or permission of the instructor.

**PSY 4216. Biological Psychology Laboratory (1).**On Demand.

A laboratory course providing activities in biological psychology including basic neuroanatomy and histology, some laboratory skill training, and exposure to behavioral and neuroscience research methods, experiment design, data collection and analysis, and report writing. Prerequisite: PSY 3100 or permission of the instructor. Prerequisite or corequisite: PSY 3216 or permission of the instructor.

**PSY 4217. Cognitive Psychology Laboratory (1).**On Demand.

A laboratory course providing exposure to classic and current experimental paradigms used to address questions in cognitive psychology, and exposure to experiment design, data collection and analysis, and report writing. Prerequisite: PSY 3100 or permission of the instructor. Prerequisite or corequisite: PSY 3217 or permission of the instructor.

**PSY 4220. Community Psychology (4).**On Demand.

A survey of community psychology principles and practice, including a review of basic community research methodologies. Course will require participation in a community research or program development project. Prerequisite: PSY 3100 Research Methods or permission of the instructor.

**PSY 4562. Psychology of Adulthood and Aging (3).**F;S.

Overview of the Psychology of Aging, with coverage of sensory, cognitive, and socio-emotional changes relevant to applied professions. Emphasis will be on applications of existing theory and research, and on encouraging an understanding of how to understand and interact with adults of all ages. Prerequisite: PSY 1200. [Dual-listed with PSY 5562.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PSY 4640. Seminar in Psychology (3).** On Demand.

In depth analysis and evaluation of a contemporary research issue in psychology. Topics vary from year to year depending upon the interests of students and faculty. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor, and must be majoring or minoring in psychology.

**PSY 4655. Contemporary Issues in Psychology (3).**F;S.

*GEN ED: Capstone Experience*

An investigation and discussion of psychological phenomena using scientific methodology and empirical research to evaluate causal claims, evaluate research, assess validity and engage in critical thinking. A focus of the class will be the use of empirical research literature, as well as oral and written assignments to improve reasoning skills in order for students to become more critical consumers of information from both academic and popular sources. Topics will span multiple areas of psychology. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor.

**PSY 4658. History and Systems of Psychology (3).**F;S.

*GEN ED: Capstone Experience*

An analysis of the philosophical and empirical antecedents of modern psychology and the contemporary systems which emerge from these. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor.

**PSY 4660. Psychological Tests and Measurements (3).**F;S.

An overview of the basic concepts of psychological measurements, strategies used to develop psychological tests, important legal and ethical issues in testing and measurement, as well as relevant historical and theoretical perspectives. Students will be introduced to the uses of psychological tests and measurements in various types of settings, such as clinical, educational, and industrial/organizational. Prerequisite: PSY 3100 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion

of MAT 0010.)

**PSY 4700. Applied Behavior Management (3).S.**

An advanced study of the philosophy, principles, and procedures of applied behavior analysis and a review of selected research. Practical, ethical, and legal constraints on behavioral interventions are considered. Research conducted in institutional, educational and home settings is emphasized. Prerequisites: PSY 1200 and PSY 3100 or permission of the instructor. [Dual-listed with PSY 5800.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

**PSY 4905. Fieldwork in Applied Psychology (1-6).F;S.**

The Psychology Internship Program provides students with practical experience in an agency related to psychology and will grant academic credit for satisfactory completion of approved work experience along with internship course requirements. Students can work with organizations that provide an opportunity to gain experience in a supervised role, with responsibilities that are relevant to psychology. The internship must include planned educational objectives, and be approved by the Department of Psychology Internship Coordinator in advance. Prerequisites: PSY 3100 and must be majoring in psychology. Enrollment is by permission of instructor only.

## Department of Sociology (SOC)

*Amy Dellinger Page, Chair*

*Elizabeth L. Davison  
W. Edward Folts  
Ellen C. Lamont  
Cameron D. Lippard  
Martha McCaughey*

*Kenneth B. Muir  
Bradley Nash, Jr.  
Pavel I. Osinsky  
James R. Peacock  
Robert T. Perdue*

*Ed Rosenberg  
Kenneth J. Sanchagrin  
Kelly M. Thames*

The mission of the Department of Sociology is to create a learning environment that promotes a scientific understanding of social life. Through teaching, scholarship, and service, the Department of Sociology provides educational experiences that encourage student to think sociologically about the significance of social structures and processes, multicultural perspectives, and emerging interdependencies among members of the global community. Through a variety of major concentration options, both for undergraduate and graduate students, and both on campus and online, we provide our students with academic programs and varied practical experiences that enhance their understanding and application of sociology and the sociological imagination. The curriculum foci range from local to global, and include recognition and study of the unique social, cultural, and historical features of our geographic region. We encourage and support both basic and applied scholarship by faculty, especially in publishing and presenting scholarly works, and in other activities that enhance professional competence. We endorse research collaboration with our students. We encourage and support faculty participation in service to the university, professional organizations, and local to global communities. As part of a liberal arts education, the Department of Sociology encourages the development of critical thinking, effective communication, responsibilities of community membership, and other transferable skills as part of career preparation. By modeling intellectual curiosity and the resulting acquisition of knowledge, critical thinking, cultivating intercultural competence as part of an overall spirit of inclusion, and engaging ourselves from local to global levels, we endeavor both to become, and help students become, informed and contributing members of society, committed to creating, maintaining and enhancing health, just, and sustainable social structures from micro to macro levels.

### **The Bachelor of Arts degree in Sociology (290A/45.1101)**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-ba-290a-2016-2017](http://www.programsofstudy.appstate.edu/sociology-ba-290a-2016-2017)

### **The Bachelor of Science degree in Sociology (non-teaching) (284\*/45.1101)**

For the Bachelor of Science in Sociology, students must select one of the following concentrations:

#### **Applied Research Methods concentration (284D):**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-bs-applied-research-methods-284d-2016-2017](http://www.programsofstudy.appstate.edu/sociology-bs-applied-research-methods-284d-2016-2017)

#### **Individually Designed concentration (284I):**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-bs-individually-designed-284i-2016-2017](http://www.programsofstudy.appstate.edu/sociology-bs-individually-designed-284i-2016-2017)

#### **Social Inequalities concentration (284K):**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-bs-social-inequalities-284k-2016-2017](http://www.programsofstudy.appstate.edu/sociology-bs-social-inequalities-284k-2016-2017)

#### **Criminology, Deviance and Law concentration (284L):**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-bs-criminology-deviance-and-law-284l-2016-2017](http://www.programsofstudy.appstate.edu/sociology-bs-criminology-deviance-and-law-284l-2016-2017)

#### **Families and Intimate Relationships concentration (284M):**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-bs-families-and-intimate-relationships-284m-2016-2017](http://www.programsofstudy.appstate.edu/sociology-bs-families-and-intimate-relationships-284m-2016-2017)

#### **Sociology of Health and Aging concentration (284N):**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-bs-health-and-aging-284g-2016-2017](http://www.programsofstudy.appstate.edu/sociology-bs-health-and-aging-284g-2016-2017)

### **Minor in Sociology (290/45.1101) (18 semester hours)**

The program of study is available at: [www.programsofstudy.appstate.edu/sociology-minor-290-2016-2017](http://www.programsofstudy.appstate.edu/sociology-minor-290-2016-2017)

### **Minor in Gerontology (253/30.1101) (15 semester hours)**

The program of study is available at: [www.programsofstudy.appstate.edu/gerontology-minor-253-2016-2017](http://www.programsofstudy.appstate.edu/gerontology-minor-253-2016-2017)



## Honors Program in Sociology

The Department of Sociology offers an honors program composed of nine semester hours of disciplinary honors work including a three semester hour honors thesis. Disciplinary honors courses will be drawn from designated honors courses offered at the introductory, intermediate and advanced course levels in the department. Enrollment in sociology honors courses is by permission of the departmental honors coordinator. However, to graduate with "honors in sociology," a student must be a major, have maintained an overall grade-point average of 3.4 and an overall sociology grade-point average of 3.4, have no grade less than "B" in any honors-designated course, and have completed a departmental honors thesis.

## Graduate Programs

The Department of Sociology offers graduate certificate programs in Gerontology and Sociology. Students interested in these programs should consult the *Graduate Bulletin* for further information.

## Courses of Instruction in Sociology (SOC)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

### SOCIOLOGY (SOC)

#### **SOC 1000. The Sociological Perspective (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course applies the sociological perspective to the experience of individuals within differing social contexts, ranging from interpersonal interactions and small groups to larger organizations and the broader society. Relationships between individuals and their societies are examined with respect to a variety of issues, including socialization processes and cultural diversity; the nature of gender, racial, and other social identities; and institutional settings ranging from the family to the economy and government. Required for majors and minors.

#### **SOC 1100. Social Problems in American Society (3).F;S.**

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Revolutions: Social and Political")*

A survey course which examines the major social problems in America today, such as poverty, racism, sexism, aging, militarism and war, environmental abuse, crime, mental illness, drug abuse and alcoholism.

#### **SOC 1110. Sociology of Intimate Relationships (3).F;S.**

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Social Relations Across Contexts")*

Sociological perspectives and knowledge concerning intimate relationships, marriage, and family life in American society. General topics include marriage and marital relations; the family as a social institution; intimacy and love; sex, sexuality, and sexual relations; gender relations; singlehood; family dynamics; parenthood and child rearing; family crisis, conflict, and change; and marital separation, divorce, and remarriage.

#### **SOC 1530–1531. Selected Topics (1–4). On Demand.**

This course cannot be applied to the sociology major or minor or applied to general education requirements.

#### **SOC 2020. Social Deviance (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course explores the social construction of deviance and the social causes of and explanations for deviant behavior. The course emphasizes theoretical explanations of social deviation illustrated with substantive examples as they occur in a social context.

#### **SOC 2040. Popular Culture (3).S. Alternate years.**

Examines the nature and use of popular culture, and the popular forms of everyday life in America, including popular beliefs, popular images of objects and people, popular events and rituals, and the popular arts. Among topics considered are soap operas, sports, rock and popular music, movies, plays, art, comics, fashions, popular literature, and other forms of mass-mediated culture.

#### **SOC 2050. Social Diversity and Inequalities (3).S.**

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Intersections: Race, Class, and Gender")*

This course utilizes intersectionality as a conceptual anchor to examine the social diversity, inequality, and power differentials that exist with the United States and abroad. Among the topics covered are how such social identities of race, ethnicity, gender, social class, sexuality, religion, nationality, region, and other social statuses are related to social stratification, intergroup relations, and other social patterns. Discussion centers on how these socially-constructed statuses provide rationales for privilege and oppression and their relationship to the structural distribution of power and control across contexts.

**SOC 2060. Religion and Society (3).F.** Alternate years.

A general introduction to a sociological perspective on religion. Examines the social meaning and consequences of religion in both its religious and secular roles in modern society.

**SOC 2500. Independent Study (1–4).F;S.****SOC 2700. Sociology of Sport (3).S.**

This course examines the social significance of sport. Attention will focus on sport as an institution, social process, and its relation to social organization, race, gender, class, and major institutions such as family, education, mass media, government and economics. Students will be provided with an understanding of the impact of sport on culture and vice versa.

**SOC 2850. Constructions of Gender (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

Introduction to current sociological perspectives on gender, with an emphasis on the U.S. Examines the ways gender shapes individuals, intersects with class, race/ethnicity, and sexuality, and how constructions of gender contribute to and reflect inequality in society.

**SOC 3100. Gerontology (3).F;S.**

*GEN ED: Social Science Designation; Liberal Studies Experience*

This course will provide a broad overview of the physical, psychological, social, and cultural aspects of aging. Major concepts, issues, and current research on aging will be analyzed, and current and proposed federal, state, and local programs impinging on the aged will be examined.

**SOC 3150. Environmental Sociology (3).F.**

Sociological examination of the relationships between society and the environment. Special attention is given to the respective roles economic systems, race, gender, culture and other social factors play in fostering or limiting environmental degradation.

**SOC 3320. Conflict Resolution, Reconciliation, and Peace (3).F.**

Investigates theories of societal conflict, the conditions under which conflict leads to violence, and the techniques of peace and reconciliation used in local and global contexts to show theory in practice.

**SOC 3340. Criminology (3).F;S.**

Study of origins and purposes of criminal law; survey of the various theoretical approaches to the study of crime causation; examination of various categories of criminal behavior including violent crime, occupational crime, political crime, criminal sexuality; and an overview of the criminal justice system which seeks to deter, convict and punish offenders.

**SOC 3350. Corrections (3).F.**

A study of current social problems and legal disputes related to the adult correctional system as a part of the larger adult criminal justice system. Topics covered include disparities traceable to gender, race/ethnicity, and sexuality within the criminal justice system, the proliferation of private prisons, local and global policing issues, and alternative forms of corrections, such as restorative justice, drug courts, and correctional boot camps.

**SOC 3360. Juvenile Delinquency (3).S.**

A study of the history and development of the juvenile correctional system as part of the larger juvenile justice system. Includes definitions of delinquency, a survey of various theoretical approaches to delinquency causation and punishment, a comparison of the juvenile and adult systems of correction and an overview of the special problems of juvenile offenders.

**SOC 3370. Sexual Deviance and Violence (3).S.**

Examines the cultural and historical contexts of sexual attitudes and behavior, the definition of deviance, theories of deviance, and specific forms of sexually deviant behavior. Treatment strategies are considered.

**SOC 3500. Independent Study (1–4).F;S.****SOC 3520. Instructional Assistance (1).F;S.**

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**SOC 3530–3549. Selected Topics (1–4). On Demand.**

An opportunity to study a special topic or combination of topics not otherwise provided for in the sociology curriculum. May be repeated for credit when content does not duplicate.

**SOC 3550. Sociology of Work and Organizations (3).F.**

An examination of the social context of work and related organizations, including issues pertaining to job satisfaction, organizational structure and dynamics, managerial strategies and leadership, and the nature of occupations and professions. The impact of contemporary social transformations such as labor force diversity, technological development, and economic globalization are also analyzed.

**SOC 3600. Medical Sociology (3).F.**

A study of health care, medical settings, and the medical professions. Includes the creation and epidemiology of disease and illness, the structure of the health care industry, doctor-patient interaction, and major health care problems.

**SOC 3710. Sociology of Appalachian Communities (3).S.**

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "Appalachian Mountains: Community, Culture, and Land")*

This course examines Appalachian communities from the sociological perspective, with a focus on how the region gives rise to a unique configuration of cultural, institutional, and other social practices. Specific attention is also given to the differences between urban and rural Appalachian communities, as well as the complex relationships Appalachia has with the broader component of American society.

**SOC 3750. Propaganda, Media and Society (3).F.**

This course will focus on the processes and effects of mass media in the United States from a sociological perspective. It will analyze the effect of the media on human groups and behavior and how media interacts with social organizations such as family, education, and government. The historical development of the media as it relates to socialization patterns and racial and sexual diversity will be explored and the media's function as a means of propaganda in the U.S. will be analyzed.

**SOC 3800. Sociology of War (3).F.**

*GEN ED: Social Science Designation; Integrative Learning Experience (Theme: "War and Peace")*

A study of the sociological effects of war on individuals, families, and communities. Topics that are covered include military conscription and the draft, the role of minorities in the military, pro-war and anti-war movements, readjustment problems of veterans, war crimes, the portrayal of war in film and music, ethnocentrism and cultural differences, general causes of war and conflict resolution.

**SOC 3885. Research Methods I (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

Relationship of theory to research; research design, sampling procedures, application of research methodologies. Required of majors. Prerequisites: six semester hours in sociology, including SOC 1000; and RC 2001 or its equivalent.

**SOC 3890. Research Assistance (1). On Demand.**

Supervised involvement in faculty research project. May be repeated for a total credit of three semester hours. Graded on an S/U basis.

**SOC 3895. Research Methods II (3).F;S.**

Data preparation and analysis, computer applications, presentation and interpretation of findings. Required of majors. Prerequisite: SOC 3885 or permission of the instructor. (ND Prerequisite: passing the math placement test or successful completion of MAT 0010.)

**SOC 3950. Sociological Theory I (3).F;S.**

This course examines the major theories that have contributed the most to our understanding of social behavior and human relationships. The course covers the early history of sociology. Required of majors. Prerequisite: six semester hours in sociology, including SOC 1000.

**SOC 3960. Sociological Theory II (3).F;S.**

*GEN ED: Junior Writing in the Discipline (WID)*

This course examines the major theories that have contributed the most to our understanding of social behavior and human relationships. The course covers contemporary theories and recent trends. Required of majors. Prerequisites: SOC 1000 and SOC 3950.

**SOC 4150. Sociology of Law (3).F.**

This course is an introduction to the sociology of law. The primary focus of this course is the sociological perspective on laws and their application in the modern world. Special emphasis will be placed on the interplay between laws and social institutions and on laws contributing to the distinctive characteristics of the modern world.

## **SOC 4250. Social Movements (3).F.Alternate years.**

A conceptual and substantive study of collective action and social change efforts in contemporary society. The internal organization and strategies of social movements, as well as the political and societal responses they facilitate, are also analyzed.

## **SOC 4340. Punishment and Social Control (3).F.**

Offers an in-depth study of the use, justification, and consequences of formal criminal punishment as well as informal social control. Topics covered include theories of criminal punishment, the rise of mass incarceration and the prison-industrial complex, non-institutional community-based approaches to punishment, consequences of different punishment practices, the rise of surveillance, and comparisons of approaches to punishment and social control across different countries and societies. Prerequisite: SOC 3340.

## **SOC 4350. Constructing Bodies and Sexualities (3).F;S.**

This course examines the social construction of bodies and the way in which those constructions inform our conceptions of sexuality and procreation. In addition, the course examines how research on sexuality and sexual orientation is conducted and the unique ethical concerns and methodological challenges in researching sexuality. Social policies relevant to bodies and sexualities are also covered. Prerequisite: SOC 2850.

## **SOC 4390. Applied Sociology Seminar (3).F;S.**

This course is REQUIRED prior to taking SOC 4900 (Internship). Topics include: (1) an introduction to applied sociology, (2) the history, value and rationale of experiential learning, (3) personal values discovery and skills assessment, (4) exploring career options requiring sociological skills, (5) developing job seeking skills and preparing for an internship, (6) learning to turn academic education into job transferable skills, and (7) applying sociological skills in the work environment. Prerequisite: six semester hours in sociology, including SOC 1000.

## **SOC 4450. Senior Seminar (3).F;S.**

*GEN ED: Capstone Experience*

Synthesis, application, and evaluation of sociological perspectives to enhance the understanding of sociology, social behavior, and social issues. Consideration of major theoretical and methodological approaches in sociology and application of the sociological imagination, principles, and concepts to everyday life. Emphasis on the development of critical and analytical thinking skills. Required of majors. Prerequisites: SOC 3885, SOC 3895, SOC 3950, and SOC 3960.

## **SOC 4510. Senior Honors Thesis (3).On Demand.**

Independent study and research. Honors thesis directed by a member of the Department of Sociology. Prerequisites: completion of six semester hours of departmental honors work and permission of the departmental honors coordinator.

## **SOC 4530-4549. Selected Topics (1-4).On Demand.**

An opportunity to study a special topic or combination of topics not otherwise provided in the sociology curriculum. May be repeated for credit when content does not duplicate.

## **SOC 4560. Race and Ethnicity (3).F.**

*GEN ED: Historical and Social Perspective (Theme: "Cultural Diversity")*

Critically examines how race and ethnicity are socially constructed, defined, and perpetuated throughout social institutions. Utilizes sociological theories and current research that demonstrate the extent of racial/ethnic inequalities. Social justice efforts to reduce racial and ethnic inequalities are also addressed. [Dual-listed with SOC 5560.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

## **SOC 4600. Political Sociology (3).F.Alternate years.**

Explores power, politics, the state, civil society, culture, networks, political regimes, and contemporary political processes from comparative-historical and global perspectives.

## **SOC 4650. Women, Crime, and the Justice System (3). S.**

Overview of women's experiences with crime and the criminal justice system with reference to experiences of men for purposes of comparison. Topics covered include the roles of race, ethnicity, and poverty in women's experiences; theories of crime; inequalities in police citizen interactions; imprisonment; gendered perceptions held by corrections agents; and other aspects of the criminal justice system experience. Prerequisite: SOC 3340.

## **SOC 4750. Wealth, Power, and Privilege (3).S.**

Examines the theories and consequences of the unequal distribution of wealth, power, and privilege. Focuses on how institutions manifest and support stratification, including political power, work, family, and education.

**SOC 4800. Sociology of Families (3).S.**

Examines current sociological perspectives on families, with an emphasis on recent U.S. family trends. Explores the consequences of social, political, and economic change for family life. Focuses on current debates over contemporary family well-being, including changing meanings of family, transformations in gender roles, work/family conflicts, economic instability, and the effects of public policy on family life. Prerequisite: SOC 1110 and junior standing.

**SOC 4850. Global Sociology (3).S.**

Examines contemporary processes and controversies of globalization with a primary focus on economic, political, cultural, and environmental dimensions of these transformations. (Global Learning Opportunity course)

**SOC 4900. Internship (3-6).F;S.**

Supervised placement in a setting which provides an opportunity for students to observe and practice sociological skills. Graded on an S/U basis. Prerequisites: SOC 4390 and completion of 90 semester hours of coursework, including 18 semester hours of sociology coursework, with a minimum overall GPA of 2.0.

## Watauga Residential College

Clark Maddux, Director

[www.watauga.appstate.edu](http://www.watauga.appstate.edu)

Watauga Residential College is an interdisciplinary, alternative general education program located in the Living Learning Center (LLC). Watauga pursues its mission through a sequenced, experiential curriculum that incorporates community-based research and multicultural immersion, consciously connecting students' academic, social, cultural, and residential experiences. The curriculum and community create an atmosphere of discovery that blends academic accomplishments with an understanding of the responsibilities of community membership.

Watauga Residential College is structured to develop students' expertise in the three dimensions of knowledge, skills, and competency. Knowledge comes from a full understanding of and the ability to synthesize information after assessing its relevance and quality. Skills are based on the appropriate methods of searching, assembling, demonstrating, and communicating knowledge and practice. Competency is broadly defined as the ability to combine knowledge, practical skills, and the social understanding and behaviors necessary to be a fully functioning member of a community at many levels, from the individual to the small work group to the larger community. The program takes a holistic approach to living and learning, emphasizing the academic and social community through collaborative team teaching and shared co-curricular activities and modeling a way of being that includes but surpasses academic excellence.

Students coordinate their courses in Watauga with Appalachian's General Education requirements, with classes in their major, and with electives. Watauga classes fit a variety of formats: lectures, smaller discussion sections, small project groups, linked classes, and trips beyond the classroom, providing many different approaches for comprehensive learning, ensuring that one or more of these formats will be ideally suited to a diverse population of students. These classes require students to be active participants in all phases of learning—listening, discussing, questioning, researching, and collaborating on group projects.

The residential component, and the resulting community, both complement and support Watauga's academic mission. The bonding among faculty, staff, and students is a natural result of shared academic work, community-based research, collaborative group projects, and the necessary involvement of all residents in the dynamics of a residence hall that is to an extent self-governing. The Watauga community provides an identity for all students in the program and is the basis upon which all activities, from the structured to the spontaneous, take place. At the same time, students remain free to pursue their choice of a major and to enjoy a wide range of student activities offered by Appalachian, including intramurals, service clubs, student government, fraternities and sororities. Watauga Residential College offers the benefits of a small, close-knit academic community within the broad range of opportunities available at a comprehensive university.

All Watauga freshmen live in the Living Learning Center, sharing this space with future educators, international exchange and degree-seeking students, and members of the Language and Culture Community, as well as upper-class students in all four programs. Because of the proximity of faculty offices, classrooms, kitchens, and lounges, as well as a music room, library, and vegetable garden (The Edible Schoolyard), residents of the LLC and program faculty frequently interact at all levels from the social to the academic.

Watauga Residential College attracts a diverse group of students from a variety of ethnic, political, religious, and geographic backgrounds. Computer enthusiasts and creative writers, artists and scientists, actors and activists, entrepreneurs and missionaries all feel equally at home in Watauga.

### Minor in Experiential, Integrative Learning (148/24.0199) (15 semester hours)

The program of study is available at: [www.programsofstudy.appstate.edu/experiential-integrative-learning-minor-148-2016-2017](http://www.programsofstudy.appstate.edu/experiential-integrative-learning-minor-148-2016-2017)

A Minor in Experiential, Integrative Learning consists of 15 semester hours of WRC coursework. A minimum of 9 hours must be completed "in residence" at Appalachian State University. 9 hours must be WRC courses at the 2000 level or above; 3 of the 15 hours must be WRC courses at the 3000 level or above; and a 3 hour capstone course is required.

This minor is open to any student in the University regardless of their major or their enrollment in Watauga Residential College. Courses that are cross-listed between WRC and another department may count when the transcript records the other department (e.g., IDS 2302).

### How to Apply for the Individual Experiential Option:

Consult with the Watauga Residential College Program Director to identify the capstone experience prior to completion of 60 semester hours. The Capstone Proposal Form must be submitted by the end of September for a spring experience and by the end of February for a summer or fall experience.

### Electronic Portfolio:

Compile all certificate documents into an electronic application portfolio. Submit this portfolio to the WGC Director at the completion of the required 21 hours, with the following documents:

- Research paper and file of presentation for both WRC 1103 and WRC 1104



Final paper/project 2000 level courses and Capstone experience

Documentation of service (20-hour minimum)

Reflective essay on the Watauga experience

Written Capstone Proposal for Independent Experiential Option (if required)

- The portfolio must be submitted by November 1 for December graduation of the same year; by April 1 for May/August graduation of the same year. This portfolio will be reviewed by the Watauga Residential College Core Faculty.

### Courses of Instruction - Watauga Residential College (WRC)

This catalog reflects fall and spring semester offerings. Go to [www.summerschool.appstate.edu](http://www.summerschool.appstate.edu) for courses offered in summer terms. (For an explanation of the prefixes used in the following courses, see the listing of Course Prefixes.)

#### WATAUGA RESIDENTIAL COLLEGE (WRC)

##### **WRC 1010. Introduction to Mathematics for WRC (4).F;S.**

*GEN ED: Quantitative Literacy*

A course in mathematical problem solving for students who are not required to take calculus. Emphasis is on the development of students' quantitative literacy and number sense rather than computational drill. Computational tools such as spreadsheets will be used to solve a variety of real world problems. All sections cover basic consumer statistics and probability, with additional topics drawn from a variety of fields such as art, music, finance, physical or biological science, geometry, cryptology, measurement, and election theory. Not open to students who are enrolled in or have credit for MAT 1010, MAT 1020, MAT 1030, or MAT 1110. Students may not receive credit for both WRC 1010 and MAT 1010 or MAT 1020. Prerequisite: passing the math placement test or MAT 0010.

##### **WRC 1103. Investigations: Local (6).F. Priority enrollment given to Watauga Residential College students.**

*GEN ED: First Year Writing*

An experiential, interdisciplinary study in the humanities and social sciences of significant local issues (historical, economic, social, cultural, ideological, aesthetic) and their relationships with regional, national, and global issues.

##### **WRC 1104. Investigations: Global (6).S. Priority enrollment given to Watauga Residential College students.**

*GEN ED: Liberal Studies Experience*

An experiential, interdisciplinary study in the humanities and social sciences of significant global issues (historical, economic, social, cultural, ideological, aesthetic) and their relationships with local, regional, and national issues.

##### **WRC 2001. 28607: Days in the Life (3).F;S.**

*GEN ED: Second Year Writing*

This course introduces students to writing across the curriculum. Students write in different genres for different academic communities, read a variety of academic texts rhetorically, and analyze the writing conventions of various academic communities. Prerequisites: completion of 30 semester hours of credit including WRC 1103; OR, completion of 30 semester hours of credit including RC 1000 and either UCO 1200 or HON 1515.

##### **WRC 2201. Hearing Voices: Inquiry in Literature (3).F.**

*GEN ED: Literary Studies Designation; Integrative Learning Experience (Theme: "Experiencing Inquiry: How to Ask Questions")*

A study of how literary inquiry is conducted. What is literature? For whom is literature created? How do different types of literature (poetry, essays, novels, etc.) impact our daily lives? Students will participate in experiential learning exercises and will present their findings in undergraduate research symposiums. Course topics will vary.

##### **WRC 2202. What If? Asking Historical Questions (3).S.**

*GEN ED: Historical Studies Designation; Integrative Learning Experience (Theme: "Experiencing Inquiry: How to Ask Questions")*

A study of how historical inquiry is conducted. What does it mean for a fact to be judged either historical, or historically accurate? What is the role of narrative in the construction of history? How is historical evidence produced, judged, and curated? Students will participate in experiential learning exercises and present their findings in undergraduate research symposiums. Course topics of study will vary.

##### **WRC 2203. Peer Leader (1).F;S.**

The performance of academic service within Watauga Residential College, including but not limited to classroom and research assistance.

##### **WRC 2302. Freudian Dreams and Cultural Analysis (3).S.**

*GEN ED: Liberal Studies Experience*

This course will introduce Freud's theories through his own writings, including his classic, *The Interpretation of Dreams*, and will

explore the ways in which psychoanalysis helps illuminate and explain art, literature, film, and culture. (Same as IDS 2302.)

## **WRC 2400. Masterpieces of Latin American Art (3).F.**

*GEN ED: Fine Arts Designation; Integrative Learning Experience (Theme: "Las Americas")*

This course introduces students to Latin America through classics in fine art and literature as well as artesanías (cultural arts) such as weavings, carvings, masks, and confection arts. Students develop an appreciation for the rich cultural legacies through experiential learning, text, digital media, and film culminating in a final investigative project.

## **WRC 2401. Disciplined Cultural Practice (3).F;S.**

*GEN ED: Liberal Studies Experience*

This course examines the discipline and theory of somatic practices and their cultural forms. The history, cultural, and artistic development of a particular martial art or somatic modality will be examined. Components of music, movement, song, traditions, rituals, and the art of mind-body connection, as well as individual practitioners, authors, and theorists of the specific modality will be studied. Students will be required to conduct daily, disciplined practice in the subject of the course and demonstrate improvement in the exercise of a somatic practice. Each section will concentrate on a single practice, including but not limited to: Capoeira, Yoga, or Tai-Chi. May be repeated two times for credit when content does not duplicate.

## **WRC 2403. The Practice of Poetry (3).F.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

This course will introduce students to the basics of poetry writing. An important component of the course will be careful readings and analyses of the poems in our text and other poems provided through public domain and other venues. Approximately half of class time will be spent workshopping student poems and students will also engage in in-class writing assignments. The class will also provide students with an overall historical context for poetry: its scope; trends; its development, especially during the 20th Century; its "schools" and leading practitioners; and various "kinds" of poetry, including formalism and free verse.

## **WRC 2500. Independent Study (1–4).F;S.**

## **WRC 2530–2549. Selected Topics (1–4).On Demand.**

## **WRC 3000. Interrogating Popular Culture (3).S.**

*GEN ED: Social Sciences Designation; Integrative Learning Experience: Experiencing Inquiry: How to Ask Questions*

An exploration of various social science methods (including textual content analysis, cross-cultural comparison, interview and participant observation) for understanding the deeper meaning and social significance of globally diverse products of popular culture. Students will explore a variety of social science concepts derived from anthropology, sociology, folkloristics, gender and ethnic studies, feminism, and deconstruction, while gaining media awareness and research skills.

## **WRC 3203. Why Art? Ways of Responding to the World Around Us (3).F.**

*GEN ED: Fine Arts Designation; Integrative Learning Experience (Theme: "Experiencing Inquiry: How to Ask Questions")*

An interdisciplinary exploration of creative responses to the natural world and constructed environments. Artistic forms studied may include visual art, dance, drama, poetry, music, puppetry, or film.

## **WRC 3210 Poverty: Theory and Practice (3).S.**

*GEN ED: Liberal Studies Experience*

This course introduces students to the theories and history of poverty, with an emphasis on learning the historical and social contexts of poverty through experiential or service-learning. (Same as HIS 3210).

## **WRC 3401. Myth and Meaning (3).F.**

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

A study of the meaning and experience of myth from ancient to modern times; students will examine definitions of myth, their structures and applications, and themes and implications. Special attention is paid to myths of creation, myth and dreams, and questions of meaning based on how we understand myths.

## **WRC 3402. Work as Art and Creative Expression (3).S.**

*GEN ED: Liberal Studies Experience*

A study of nonfiction prose centered around issues of how Americans construe and value work and manual labor. Students will read, discuss, write about, and conduct primary and secondary research related to local artisans and workers.

## **WRC 3403. A Walk in Beauty (3).S.**

*GEN ED: Fine Arts Designation; Liberal Studies Experience*

A study of the art, philosophy, history, and geography of a culture through immersion. The course incorporates conceptual, experiential,

and service-learning structures. A field experience accompanies this course. May be repeated two times for credit when content does not duplicate.

**WRC 3500. Independent Study** (1–4).F;S.

**WRC 3520. Instructional Assistance** (1).F;S.

A supervised experience in the instructional process on the university level through direct participation in a classroom situation. Graded on an S/U basis. Prerequisite: junior or senior standing. May be repeated for a total credit of three semester hours.

**WRC 3525. Pedagogy of Investigations** (2).F;S.

An examination of pedagogical issues that arise in experiential learning. Students will respond in writing to issues emerging from their experiences as peer leaders or instructional assistants. Prerequisites: WRC 1103 and WRC 1104, or their equivalents, and WRC 2201, or its equivalent. Corequisites: WRC 2203 or WRC 3520.

**WRC 3530–3549. Selected Topics** (1–4).On Demand.

**WRC 3665: Black Mountain College** (3). F.

*GEN ED: Literary Studies Designation; Liberal Studies Experience*

This writing intensive course will examine the phenomenon of Black Mountain College: an experimental academic adventure launched in the rural Swannanoa Valley of the North Carolina Mountains. Students will explore the history of BMC, study the writers who lived, taught, and visited the college, and examine the continuing influence of BMC. Students will also consider what it means to be in control of their own learning.

**WRC 4001. Seminar in Experiential, Integrative Learning** (3).F;S.

A senior capstone experience on Watauga Residential College, with an emphasis on demonstrated understanding of the College in relation to the history of residential colleges and on the development of projects or procedures to improve the residential college experience for future students. This course is the culminating course of the Minor in Experiential, Integrative Learning. Instructor permission required.