



# Ursinus College

## **Academic Catalog As of July 1, 2015**

This catalog is intended for current guidance of persons applying for or considering application for admission to Ursinus College, and to assist current Ursinus students and faculty. Information given here is correct as of July 1, 2015. Revisions are made regularly and current information can be found on the Ursinus College Web site at [www.ursinus.edu/catalog](http://www.ursinus.edu/catalog).

This catalog is not a contract; it presents the requirements, offerings, information, and regulations in effect at the time of publication. The college reserves the right, through its established procedures, to change any requirement or other provision at any time. Ursinus College intends to provide notice of any change. However, it is the responsibility of each individual student to become and remain aware of all applicable requirements and provisions that may apply.

Ursinus College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Commission on Recognition of Postsecondary Accreditation. Ursinus is approved by the Department of Education of the Commonwealth of Pennsylvania for the certification of teachers, and is certified by the American Chemical Society. The College is a member of Project Pericles, of the Centennial Conference and of The Annapolis Group.

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# **The Ursinus Plan for Liberal Studies**

## **The Educational Philosophy of Ursinus College**

The mission of Ursinus College is to enable students to become independent, responsible and thoughtful individuals through a program of liberal education. That education prepares them to live creatively and usefully, and to provide leadership for their society in an interdependent world. Liberal education is provided through an academic program that empowers the intellect, awakens moral sensitivity, and challenges students to improve society. Students gain intellectual curiosity, the capacity to think analytically, critically, and creatively, and the skill to express thoughts with logic, clarity, and grace. Further, they develop a deepened sense of human history and an understanding of who they are as persons, what they ought to do as citizens, and how they best can appreciate the diversity and ambiguity of contemporary experience.

The faculty is the cornerstone of our academic program. Faculty members are dedicated to teaching and learning and set high standards for themselves and for students. They choose to be active scholars because they are involved teachers, seeking to transmit their enthusiasm for learning to their students.

The faculty joins with the professional staff in an educational program that extends outside of the classroom. As a predominantly residential community, the College fosters a shared life and provides an opportunity for the comprehensive personal development of all students. By taking active part in the varied programs of the campus, students have the opportunity to develop their intellectual, creative and physical talents and to strengthen their personal values in the context of the principles and traditions of Ursinus.

The College seeks students of varied backgrounds who actively search for meaning and purpose in their lives. It nurtures a sense of community by engaging students and faculty together in an unfinished conversation about liberal learning—how it is grounded in the fundamentals of human experience, broadens the mind, enhances compassion, and prepares us for a life of service.

Liberal education is more than a set of courses; it requires students to integrate insights of various academic disciplines, and to participate actively in the learning process. It takes place best among students of diverse backgrounds actively searching for meaning and purpose in their lives. In order to help students appreciate the diversity and ambiguity of their world, the college seeks to include issues of race, class, and gender across the curriculum.

## **The Liberal Studies Curriculum**

The liberal studies curriculum is grounded in the assumption that individual human beings have intrinsic value. Individuals, however, live in community with other human beings. The challenge of liberal studies is to create independence of thought and spirit while fostering awareness of community connection and obligation.

To meet this challenge, the Ursinus liberal studies curriculum has three components:

The Core, a broad-based common experience to give all students the communications skills, and the scientific, cultural, and historical literacy that are fundamental to a liberally educated person;

Study in Depth in one or more of 27 academic majors, to provide the basis for lifelong engagement in intellectual inquiry;

The Independent Learning Experience prepares students to become independent, life-long learners. Each student must undertake one of the following: a) independent research or creative project; b) internship; c) study abroad; d) student teaching; e) Summer Fellow Program or a comparable summer research program, or f) for pre-engineering students, successful completion of the first two years of engineering school.

## **The Common Intellectual Experience**

The Common Intellectual Experience is a two-semester course for all first year students that brings academic inquiry to bear on the central questions of a liberal education: How should we live our lives? What does it mean to be human? What is the universe and how do we fit into it? Students engage in conversation about a common set of works drawn from diverse historical contexts, cultures and beliefs including their own, selected to prompt thoughtful examination of the central questions of the course. Through this conversation the course accomplishes its goals: to cultivate the self-knowledge necessary to live a considered, independent, and responsible life; and to establish an intellectual community enjoyed by students and faculty alike.

The course fosters the essential skills of critical reading, careful interpretation, effective discussion, clear writing, and the use of evidence to construct a compelling argument. Enrollment in CIE classes is limited to 16 students to provide an atmosphere conducive to intellectual challenge and discovery. The engagement of all students and faculty from all disciplines, the shared syllabus, and the occasional gathering of the entire class for common events allows students to confront as a community the enduring issues of our existence.

## **The Core**

The Common Intellectual Experience Seminars (CIE-100 and CIE-200 — the Common Intellectual Experience sequence) introduce students to the intellectual life of the college through a shared interdisciplinary inquiry during two integrated seminars, one taken in the first semester of the first year, and one completed in the second semester of either the freshman or sophomore year.

To sharpen intellectual discipline and promote understanding across cultures, students take two semesters of a foreign language (modern or classical; IDS-120 may be substituted for students who are eligible.)

One course in mathematics and one in a laboratory science help students enhance their deductive reasoning skills and promote scientific literacy, and foster awareness of the issues of science as they influence the individual and society. Because students need to be able to deal with quantitative materials, they must be sure that one of their courses is designated a “Q” course. The complex relationship of the individual and society is

explored in a social science course, and a view of the human experience is promoted in a humanities course. Both are further promoted through two diversity courses — one focusing on diversity within the United States, and another examining the issues from a global perspective. A greater appreciation for making and regarding art is developed through an art course. Each of these one-course divisional requirements, as well as the diversity courses, help to reinforce and extend the intellectual inquiry begun in CIE-100 and CIE-200, helping students to see the complementary natures of disciplinary and interdisciplinary investigation.

## **The Core Requirements**

- CIE-100 and CIE-200 (The Common Intellectual Experience sequence)
- Two courses of study of the same foreign language (modern or classical or IDS-120 for eligible students)
- One course in mathematics. This deductive reasoning requirement may also be fulfilled by MATH/PHIL-260 (Logic).
- One laboratory course in the sciences, including CS 170, may be used to fulfill this requirement.
- One course in the social sciences (“SS”).
- One course designated as fulfilling the humanities requirement (“H”).
- Two courses emphasizing diversity; one course with an emphasis on diversity in the United States (“D”), and one Global Study course (“G”), examining a culture or cultures whose origins and development lie outside those of Western Europe and the United States or offer a global and/or non-Western perspective. The two courses must have different course prefixes and only one may be in the student’s major.
- One three- or four-credit course (or four credits) in art and art history, music, theater, or dance. Courses in creative writing and certain media production courses also fulfill this requirement (“A”).

*Note: Students must be sure that one of their courses is designated a quantitative reasoning (Q) course.*

For most students the Core will comprise 11 four-credit courses, or 44 credits, representing slightly more than one-third of the 128 credits needed for graduation.

## **Study in Depth**

Through study in depth, students learn the modes of inquiry of an academic discipline, develop the insight to make informed judgments among conflicting methods and interpretations, and acquire the ability to make connections among different disciplines. Study in depth is achieved by the completion of a major.

Majors include at least 32 credit hours in the major department or discipline, at least one writing-intensive (W) course, an oral presentation, and a capstone experience involving students in focused inquiry.

## **Majors**

The following majors have been approved by the faculty:

- American Studies
- Anthropology and Sociology
- Applied Economics
- Art and Art History
- Biochemistry and Molecular Biology
- Biology
- Chemistry
- Computer Science
- Dance
- East Asian Studies
- English
- Environmental Studies
- French
- German
- Health and Exercise Physiology
- History
- International Relations
- Mathematics
- Media and Communication Studies
- Music
- Neuroscience
- Philosophy
- Physics
- Politics
- Psychology
- Religious Studies
- Spanish
- Theater

## **Student-Initiated Majors**

Students who complete the freshman year and whose major interests span two or more recognized academic fields, if they have a cumulative B average (3.0 or above), may arrange a specialized major which combines these two fields, such as biophysics, biopsychology, chemical biology or comparative literature.

In order to set up such a specialized major, the student and the appropriate department heads, in consultation with other department members, must draw up a written statement of all courses and additional major requirements, which may include a comprehensive or an oral examination by members of both departments at the end of the program of studies. The proposal must identify the courses that will satisfy the College's requirements for intensive writing, oral presentation, and capstone experience. This proposed course of studies must then be submitted to the Dean of the College, whose approval is needed. Upon successful completion of the major

requirements so specified, the student will graduate in the subject field specified on the program proposal.

## **Minors**

Students have the opportunity to develop a secondary academic specialty by developing a minor concentration.

The following minor concentrations have been approved by the faculty:

- African American and Africana Studies
- American Studies
- Anthropology
- Applied Ethics
- Art History
- Astronomy
- Biology
- Biostatistics
- Chemistry
- Classical Studies
- Coaching
- Computer Science
- Creative Writing
- Dance
- East Asian Studies
- Economics
- Education, Elementary
- Education, Secondary
- English
- Environmental Studies
- Film Studies
- Finance and Accounting
- French
- Gender and Women's Studies
- German
- German Studies
- History
- Human Performance Assessment
- International Relations
- Japanese
- Latin
- Latin American Studies
- Management Studies
- Mathematics
- Media and Communication Studies
- Music
- Neuroscience
- Peace and Social Justice Studies

- Philosophy
- Physics
- Politics
- Psychology
- Religious Studies
- Scientific Computing
- Sociology
- Spanish
- Statistics
- Studio Art
- Theater
- Wellness Education

*Students who have interests spanning more than one department may design individual minors in consultation with the chairpersons of the involved departments.*

## **Independent Learning Experience (ILE)**

A major academic goal of a liberal arts education is to transform students in meaningful and positive ways. Our mission statement describes specifically the goal of enabling students “to become independent, responsible and thoughtful individuals.” The Independent Learning Experiences (ILE) will help students take responsibility for their education and foster student initiative and independence by enhancing their confidence in their own abilities.

The ILE requirement is fulfilled by a completion of a single project of at least three credits in a single semester or summer in one of these categories: (a) an independent research project or a creative project (including but not limited to honors); (b) an internship; (c) an approved study abroad program or (d) student teaching. The requirement can also be fulfilled by completion of a project in the Summer Fellows program or a comparable summer research program. For pre-engineering students, successful completion of the first of two years at the engineering school satisfies this requirement.

The Independent Learning Experience will provide students with the opportunity to:

1. develop independent thinking skills, their awareness of self and others, and their capacity for reflection by adopting different perspectives and inquiring into their own beliefs.
2. apply knowledge and skills learned in the classroom successfully and thoughtfully to an experience outside of the classroom.
3. gain knowledge and skills that are applicable to future pursuits.
4. produce evidence of their ability to synthesize their learning inside and outside of the classroom (e.g., internship essay, public presentation, research paper) to be shared with others.

## **Departmental and Interdepartmental Honors**

The goals of the Honors Program at Ursinus College are to encourage academic excellence, to promote original research and independent study, and to reward scholarly achievement. Students with high overall academic standing who have demonstrated an exceptional competence, the capacity for independent, original research and disciplined scholarship may be awarded departmental honors or distinguished honors in the department of their major or minor fields of concentration. Students may also be awarded interdepartmental honors or distinguished honors, if they are double majors and complete the requirements for honors in both departments. Interdepartmental or distinguished honors may also be granted to students who complete the requirements for honors in the departments of their major and minor, subject to approval of both departments. Students may receive honors or distinguished honors in their minor departments or programs, with the approval of both their major and minor departments/ programs. **Students' eligibility to do honors outside of their major or minor must be pre-approved by the department in which the honors project is conducted and by the Academic Standards and Discipline Committee.**

**All these awards are made subject to the following regulations:**

1. To be eligible for departmental or distinguished honors, students must have a 3.5 cumulative average based on their last four semesters. Exceptions may be made by the Academic Standards and Discipline Committee at the request of the department.
2. To be admitted to candidacy for departmental or interdepartmental honors or distinguished honors, students must enroll in a first semester of Research/Independent Work 491. By the middle of their first semester of Research/Independent Work 491, a candidate for honors submits a formal proposal including a bibliography and research plan to the department(s) for approval. Near the end of the 491 course, the candidate submits a written status report and makes an oral presentation to the department(s). Upon completion of 491, the student may be invited by the department(s) to pursue honors in the following semester.

Students must obtain written consent of a faculty member who will serve as the project adviser, have their candidacy certified by the chairperson of the department in which they wish to pursue honors. In the case of interdepartmental honors, students must obtain written consent of a faculty project adviser from each department/program, have their candidacy certified by the chairperson/coordinator of one of these departments/programs, and have the research or individual projects approved by both departments/programs.

Students who receive such approval by the end of the first semester will complete a second semester of Research/Independent Work 492.

3. The Honors Project, completed in the second semester of research/independent work, must demonstrate disciplined, independent and original scholarship or creativity. If the candidates receive a passing grade, they will earn credit hours toward graduation, even though their work may not be recommended for honors.

4. An honors committee consists of at least three faculty members, at least two from the department(s) and at least one from outside the department(s). If the committee agrees the

project is moving towards consideration for distinguished honors, an outside evaluator will be secured at least one month prior to the project's defense and added to the committee. The committee evaluates the project and an oral presentation, and examines the candidate by early to mid- April. This committee is chosen by the adviser(s) in consultation with the department chair(s) and the student. . Departmental or interdepartmental honors will be awarded on the recommendation of this committee and the department(s), and the approval of the faculty.

5. After the student submits the final paper and passes the oral presentation, the committee may decide to award distinguished honors, if the student has demonstrated exceptional scholarship, originality, and/or thoroughness, and the project has been vetted by an outside reader. The Honors Committee including the outside reader must be unanimous in their decision to award distinguished honors to the student.

6. Departments specify the date for the candidate to submit a completed thesis. In order that the faculty may consider the awarding of honors or distinguished honors, the candidate must submit the completed thesis in PDF to the Digital Commons by the Monday of the last full week of classes following the format established by the Myrin Library, the approval of the project adviser(s), and approval of the department(s) and of the outside evaluator for distinguished honors.

## **Internships**

An internship is a structured and supervised professional experience for which a student receives academic credit. The Office of Career and Professional Development has information on a wide range of internship opportunities.

## **Guidelines**

Credit for a departmental internship will be established within the department and may be either three or four credits. The faculty internship adviser will determine whether an internship opportunity meets the standards to qualify for academic credit. Approval for academic credit for internship experiences will not be granted for internships in progress or following their completion. Students register for a summer internship during the spring registration period. On-campus internships must be approved by the Academic Standards and Discipline Committee.

## **Qualifications**

Students who meet the following qualifications will be permitted to enroll in an internship for credit:

1. junior or senior status
2. have completed three courses within the department that administers the internship, or permission of the faculty internship adviser;
3. must have a cumulative GPA of 2.0;



Students will be permitted to undertake two internships, provided they are not concurrent, under any of the following conditions:

1. the internship site requires a two-term commitment
2. the student is a double major and wishes an internship in each major
3. the second internship is outside the major (e.g. in the minor)
4. the two internships are within the same major but are so different as to constitute a markedly different experience

Exceptions to these qualifications must be approved by the Academic Standards and Discipline Committee prior to enrolling in the internship.

### **Defined Activities**

The internships will include the following specified activities:

- a. specified number of hours at the internship site; the minimum hourly requirement will be 10-12 hours per week with a minimum of 160 hours per semester – four credits; 120 hours per semester – three credits
- b. submission of the internship registration form (internship learning agreement)
- c. completion of the Online Internship Companion Course (Internship PREP) by the end of the first week of commencing the internship
- d. a journal or daily log recording activities and hours
- e. meetings with the faculty internship adviser
- f. a final research paper or other visible product such as a portfolio, video
- g. whenever possible, a public oral presentation of results
- h. Completion of an internship evaluation within one week of receipt.

### **Grading**

Since the faculty internship adviser is responsible for the final grade, the internship will be graded on the basis of: a) final visible product as defined by internship-granting department, b) input from on-site adviser, c) input from faculty internship adviser

### **International Programs**

The immediate knowledge of the cultural heritage of another country, with its contemporary economic and social problems, affords students an awareness of differing values and an understanding of their own country's relation to issues which confront the world today. Ursinus students grow and learn from a wide variety of international experiences, both for academic credit and not credit -bearing. Students may spend a semester or a summer in an approved study abroad program provided they are students in good standing, are recommended by their major adviser, and, in the opinion of the dean and the faculty, will be worthy representatives of the College and will profit from this experience. Students may apply to study abroad as early as the summer following their freshman year. Juniors are especially encouraged to study abroad, and seniors may apply to study abroad in the fall semester of their last year. All students, regardless

of major, are encouraged to consider study abroad, but they normally should have completed courses through at least the intermediate level in the language of the host country. Students approved to study abroad for a semester are required take a pre-departure orientation course. The course of study must be approved for transfer credit in advance. All approved semester and some short-term programs satisfy the College's ILE requirement. Students may apply their financial aid and merit scholarships to approved semester abroad programs. The Ursinus faculty-led and affiliated programs listed below are a partial list of study abroad options chosen by our students. We also allow students to participate in a number of other overseas programs run by independent organizations. Additional information may be obtained from the Center for International Programs and website. Other international opportunities are supported by the Office of Fellowships and Scholarships, the Office of Career and Professional Development, and the Ursinus Center for Advocacy, Responsibility and Engagement (UCARE).

## **Ursinus College Summer and Winter Interim Programs**

These programs are conducted by Ursinus College faculty. Programs that fulfill the Independent Learning Experience (ILE) are indicated by \*.

### **The Summer Program in Japan\***

This program runs from late May to late June and is offered in collaboration with Tohoku Gakuin University in Sendai, Japan. Students live with families while studying at the university and have an opportunity to visit Hiroshima and Tokyo.

### **Biology of the Neotropics\***

A field study of the rain forests of Costa Rica. Qualified students meet for hours on campus during the fall semester and spend three weeks during winter break in the field. Side trips include visits to cloud forests or coral reefs. The program is offered every other year.

## **Exchange Programs**

These semester or academic year programs are based on student exchange agreements with other institutions or organizations. Students who participate in these programs are officially enrolled at the host institution. Up to 16 credits per semester, but not grades, may transfer.

### **Akita International University (Japan)**

Qualified Ursinus students can study at AIU for the fall or spring semester. In addition to intensive Japanese language courses, AIU offers many courses taught in English in a variety of disciplines, making the program open to students of all majors. Its location gives our students an opportunity to study away from Japan's urban centers, while still having access to a region rich with cultural and recreational activities. AIU houses most

of its exchange students in dorms with Japanese students. A winter term option is available. Previous study of Japanese is desirable but not required. Admission is competitive.

### **Lingnan University of Hong Kong**

Ursinus students may apply to study at Lingnan for the fall and/or spring semester. Lingnan offers coursework taught in English in many disciplines and therefore may be of interest to students in any major. Lingnan houses exchange students in residence halls with local students. A summer option is also available. Previous study of Cantonese is not required.

### **ISEP Exchange**

ISEP is a network of over 300 colleges and universities in more than 50 countries. The consortium allows Ursinus to offer study abroad opportunities in programs or countries that may be of special interest to particular students. Participating students enroll as visiting students for one or two semesters in a foreign university and enjoy virtually all of the rights and responsibilities of local students. Students are housed in residence halls or in private accommodations arranged by the host institution. Each accredited and recognized university is unique and therefore requirements and offerings vary from one host to the next.

### **Ursinus-Tohoku Gakuin University Program (Japan)**

Ursinus students may spend the fall semester at Tohoku Gakuin, our sister university in Sendai, Japan. Classes are conducted in English except for Japanese language classes. Admission is competitive and the program is open to majors in any field who have completed at least one year of Japanese language study at the college level.

### **Partnerships**

Ursinus College is affiliated with several organizations and consortia of colleges and universities that offer high-quality international experiences to our students throughout the world. Qualified students who participate in these programs are visiting students abroad. Normally up to 16 credits, but not grades, may transfer. Students have recently studied abroad under the auspices of the Council for International Education Exchange (CIEE), CAPA Global education Network, Institute for Study Abroad (IFSA), International Christian University (Japan), and School for International Training (SIT). For a complete and updated list of approved programs, please see the Study Abroad Website.

### **Student Teaching**

The teaching semester immerses the students daily within a large and varied community outside Ursinus. The program prepares students for positions in 15 academic disciplines. Ursinus is one of only a small number of institutions in Pennsylvania to offer certification for secondary-school teaching in Japanese language.

In addition to major and core requirements, certification courses are required in order to meet Pennsylvania Department of Education (PDE) regulations. Earning a degree and certification in four years is possible, but candidates must meet with their advisers early in their college career and plan their schedule with care. The Education course sequence provides a variety of field experiences, usually beginning in the sophomore year, to prepare students to step in front of a class during the student teaching semester in the senior year. In order to be admitted to the education program, students must have completed 48 college credits, received a departmental recommendation, passed Praxis I exams (effective April 2, 2012 students must take PAPA exams), and attained a 3.00 overall GPA. They must maintain the minimum of 3.00 GPA throughout the program to be recommended for certification. Passing the necessary Praxis II exams is also a requirement to achieve certification. Students interested in obtaining teaching certification must meet major and Ursinus College Education Department requirements.

Student teaching can take place in either the fall or spring semester, and most apprentice teachers are given two placements during the semester—one at a high school and one in middle school. A special program to prepare interested students to take up careers in urban teaching allows students live in Philadelphia while teaching, reaching beyond Ursinus in all senses of the word.

## **Summer Fellows and Undergraduate Research**

Another program that illustrates the College's commitment to providing meaningful independent research opportunities is the Summer Fellows Program. Established in 1996 for students of all disciplines, the program allows students to participate in a research project or a creative or artistic endeavor on a one-to-one basis with a faculty member. For eight to ten weeks, Summer Fellows live on campus and work closely with their mentors on independent projects. The opportunity for students to live and work together as a community of scholars generates a unique atmosphere of student-faculty collegiality on the Ursinus campus that is highly valued by all participants. The program is highly competitive and about seventy to ninety students participate each summer. To mark the close of the summer program, each year students, faculty, and members of the Ursinus community gather together formally to recognize and celebrate students' outstanding achievements with a Summer Fellows Symposium, an opportunity for student scholars to present their work in a public forum. The program is funded by internal and external grants as well as by gifts from generous alumni.

Students who do not have the time for a major research commitment such as honors or Summer Fellows often participate in a focused research project for at least one semester through Directed Research courses and Independent Study courses. Small grants are available to support research expenses for Honors, Directed Research, and Independent Study courses.

Students to have the opportunity to showcase their work on the Celebration of Student Achievement (CoSA) day each spring when classes are set aside for the presentation of students' scholarly and artistic work. Ursinus students regularly present at the National Conference on Undergraduate Research and at the Sigma Xi Student Research Conference as well as at discipline-specific undergraduate research conferences and

regional professional meetings. Others have co-authored presentations at national meetings and many have won awards for their independent research and artistic accomplishments. Many students also publish with their faculty mentors and in the past five years over one hundred papers have been published in professional journals.

## **Foreign Language Integration Option (FL)**

This program allows students to use their language abilities in courses outside the language departments. Faculty members in the disciplines who wish to make their courses available for the foreign language integration option decide, in conjunction with individual students and in consultation with a member of the modern or classical language departments, on the amount and type of language work involved. This work typically includes readings from books, newspapers or articles, or paper writing, and it substitutes for English language work.

## **Pre-Professional Programs**

### **Pre-Engineering Program**

Arrangements have been made with the engineering school of Columbia University to which a student may apply for transfer after completing three years of prescribed work toward a B.A. at Ursinus College. Ursinus will grant the B.A. or B.S. after the student has satisfied the requirements for that degree, usually on satisfactory completion of the fourth year. The engineering school will grant the engineering degree on satisfactory completion of the fifth year. Transfer to other engineering schools (without formal affiliation) is also possible.

### **Pre-Health Advising Program**

The Premedical Committee at Ursinus serves all students interested in pursuing careers in the health care field. The committee serves students interested in, but not limited to, medical school (allopathic and osteopathic), dental school, veterinary school, optometry school, and physician assistant programs. The Chair of the Premedical committee serves as the “premedical adviser” for all students until junior year, holds group meetings, and organizes speakers. Each junior is assigned an adviser from the interdisciplinary Premedical Committee. Advisers assist in revising personal statements, team up to provide “practice” interviews for students about to apply, and write up composite recommendation letters to send to medical schools.

### **Pre-Legal Advising Program**

The Pre-Legal program provides support for those students considering a career related to the law. The Pre-Legal program is directed by a coordinator assisted by pre-legal faculty advisers from across the disciplines, including Biology, Business and Economics, Chemistry, English, History, and Politics, who are meant to serve as advocates and providers of information to students with whom they come in contact. No particular

major provides the “best” path to a legal career. Students considering legal careers should choose majors and courses that can help them understand human experience while developing the reading, writing, speaking, and reasoning skills necessary for success in legal work. These skills can be obtained from courses in a wide array of departments in humanities, social sciences, and natural sciences.

### **Pre-Theological Studies**

Students who are considering entering a school of theology or seminary after graduation are encouraged to discuss their plans with members of the department of Philosophy and Religion and with the Campus Chaplain. Most seminaries and schools of theology will accept students from any academic major. In general, a broad background in the humanities, arts, social science, and sciences is desirable. Also, students should check with their denomination for more specific details regarding entrance requirements.

## **Requirements for Graduation**

The requirements for the degree of Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) are:

1. The completion of 128 semester hours, of which no more than 12 may be from courses with numbers lower than 100, and all the courses required by the faculty, including the courses required for a major; and
2. A GPA of C (2.00) or above for all courses taken at Ursinus College.

To qualify for the degree of Bachelor of Arts or Bachelor of Science, a student must have successfully completed a minimum of 64 semester hours of credit at Ursinus. Half of the semester hours of credits required in the major department must be taken at Ursinus; exceptions may be granted by the dean of the College. A degree from the College requires that a student spend the two semesters of the senior year as a full-time student.

A full-time student may not take fewer than 12 semester hours per semester. The normal load for a term is 16-18 credits. It is recommended that students normally take no more than 16 credits per semester. Students may register for up to 18 credits with the approval of their advisers. They may not register for more than 18 credits in any semester without special permission from the dean of the College. Students carrying fewer than 12 hours are not permitted to remain or to become residents of College residence halls.

All requirements for graduation must be satisfied before the end of the last day of examination week preceding commencement. Each student must bear responsibility for fulfilling the requirements for graduation.

### **Degrees**

Ursinus College confers the degrees of Bachelor of Arts and Bachelor of Science. For specific requirements of the curricula leading to each of these degrees, see departmental

requirements. Degrees are conferred only at commencement in May of each year and candidates must present themselves in person.

A student in good standing who has earned a minimum of 96 semester hours of credit and who withdraws from the College to enter an accredited graduate or professional school may, with the approval of the faculty, receive a baccalaureate degree from Ursinus after earning any doctoral degree from an accredited institution.

The College may confer the honorary degrees of Doctor of Divinity, Doctor of Humane Letters, Doctor of Pedagogy, Doctor of Science, Doctor of Letters, and Doctor of Laws on persons whose distinguished ability and service have been deemed worthy of such recognition by the faculty and the Board of Directors.

### **Second Bachelor's Degrees**

We usually recommend against students working toward a second bachelor's degree. For those who do desire a second degree, the following applies: Students who hold a bachelor's degree from another institution may be admitted to degree candidacy at Ursinus as transfer students. The student must satisfy all degree requirements at Ursinus, including completion of a minimum of sixty-four (64) semester hours work at Ursinus. Students who hold a bachelor's degree from Ursinus will not be awarded a second degree of the same type (B.A., B.S., or B.B.A.). They may be admitted to candidacy in a second degree area. The student must satisfy all requirements and must complete at least thirty-two (32) additional semester hours beyond what was required for the first degree.

# **Academic Policies**

## **Choice of Studies**

At matriculation, students designate possible areas of academic interest. In the second semester, first-year students may declare a major field to study in depth. Students who have not decided on a major by the end of the second semester will retain their first-year advisers. In the fourth semester, students must designate a major field. The chairpersons of the students' major departments will assign their academic advisers. The approval of the adviser is necessary before a student may register for or enter any course of study, or discontinue any work.

## **Registration**

First-year students register for the fall semester in consultation with their advisers on freshman orientation days held during the summer. Returning students register for the fall semester during the spring registration period published by the Registrar. Registration for the spring term is completed for all students during the fall registration period published by the Registrar.

Before the registration period published by the Registrar, students consult with their advisers to prepare schedules of courses for their college careers. Students must remember that they alone are responsible for making sure they have completed College requirements and departmental requirements. When students change their majors, they must fulfill the requirements of the most recent major department in order to be graduated.

Students may add or drop courses at any time during the first two weeks of classes. No course may be added after the second week of classes. Courses dropped after the second week of classes but before the midpoint of the course will be designated by a W on the student's record. Students who withdraw after the midpoint of a course will receive a grade of WF. Students who withdraw from a course without permission will receive a grade of F. The midpoint dates of a course or the semester are published by the Registrar.

## **Class Attendance**

In keeping with a strong liberal arts tradition that encourages active learning and complete participation in the education process, the college expects students to attend class. Specific attendance policies are set by individual instructors and indicated on the course syllabus at the beginning of each term. Academic warnings will be issued by instructors for all students failing to meet the stated course attendance policies. Excessive absences by first year students and students on academic probation will be reported to the Office of Academic Support and the Dean's Office. Students may be dropped from a course with a grade of F for failing to meet the stated policy.



## Statement on Academic Honesty

Ursinus College is a small community which functions by a social contract among students, faculty, administration and alumni. In order for the spirit of community to endure and thrive, this agreement, based upon shared values and responsibilities and a sense of mutual respect, trust and cooperation, must be preserved. Students have an obligation to act ethically concerning academic matters and the faculty has a responsibility to require academic honesty from students and to be vigilant in order to discourage dishonesty.

Lying, cheating, stealing, plagiarism and other forms of academic dishonesty violate this spirit of mutual respect and collaboration and corrode the atmosphere of openness and free inquiry upon which the educational process is based. Such activities are demeaning and potentially damaging to those who undertake them. Moreover, academic dishonesty is damaging to the student body as a whole, in that it cheapens the achievement of the honest majority of students and subverts the integrity and reputation of the institution with which they will be identified for the rest of their lives.

Students should be aware that there are many legitimate sources of help available on campus. Academic departments often provide help sessions, and the library provides research assistance. The Writing Center and the Tutoring Center are only two examples of academic assistance provided to all students and are designed to enhance the learning process rather than circumventing it, which occurs in cases of academic dishonesty.

The student body, the faculty, and the administration of Ursinus College therefore unanimously condemn academic dishonesty in all its forms and affirm that it is the responsibility of all members of the college community to prevent such activity.

## Grades of Scholarship

When a course has been completed, the standing of the student is expressed by one of the following grades: A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F; or, if the course is a Satisfactory/Unsatisfactory (S/U) course, the student's standing is expressed by the grade S or the grade U.

Letter grades have the following equivalence assigned:

<b>Grade</b>	<b>GPA</b>	<b>Numeric Grade</b>
A+	4.00	98.33
A	4.00	95.00
A-	3.67	91.67
B+	3.33	88.33
B	3.00	85.00
B-	2.67	81.67
C+	2.33	78.33

C	2.00	75.00
C-	1.67	71.67
D+	1.33	68.33
D	1.00	65.00
D-	0.67	61.67
F	0.00	45.00

The mark of S signifies that a student has earned the course credits in an S/U course at the B (3.00) level or higher; this mark is not included in the computation of a student's average. The mark of U in an S/U course is calculated into the student's average as F (0.0).

The mark of W signifies that a student withdrew from the course prior to the midpoint of a course, and is not calculated into a student's average. The mark of WF signifies that a student withdrew from the course after the midpoint of the course, and is calculated into the student's average as an F (0.00). The mark of I, which may be given only with the written permission of the dean, is reserved for cases of incomplete work, due to documented physical incapacitation or other extenuating circumstances beyond the student's control. A plan and schedule for completing the remaining work, agreeable to student and professor, must accompany the request for an I. If the mark of I is not removed within one month after the end of the semester in which the I was given, the grade F will be assigned for the course.

### **Dean's Honor List**

All full-time students achieving an average of 3.50 for a semester are announced six weeks after the end of that semester as members of the Dean's Honor List. It is an Ursinus tradition to publish at the Ursinus Day Academic Convocation the names of those students who have been carried on the Dean's Honor List for the preceding two semesters.

### **Commencement Honors and Graduation with Distinction**

Two commencement honors are assigned: one, the Valedictory, to the person attaining the highest standing in the graduating class; the other, the Salutatory, to the person attaining the next highest standing.

Members of the graduating class who have shown great proficiency in their study at Ursinus College may be graduated with distinction if, in the opinion of the faculty, their credentials warrant such honors. These distinctions, Summa Cum Laude, a cumulative average of 3.85 or above, Magna Cum Laude, 3.67 but less than 3.85; and Cum Laude, 3.5 but less than 3.67, are given only for unusual excellence in all subjects pursued by the candidate. Graduation honors will be calculated at the end of the fall term. If as a result of work done in the spring semester a student should merit distinction or a higher distinction, such honors will be awarded ex post facto.

## **Grade Appeal**

Faculty must follow practices of fairness and objectivity when assigning student grades. Since it is assumed that the final grade is obtained after a careful evaluation of a student's entire academic performance in a class, the course syllabus must contain a clear statement of how a final grade is computed. Even though grading may be considered to be inherently subjective, it does not follow that grading is an arbitrary or capricious practice. Normally, no grade appeal will be accepted unless there is an error in computation or there is evidence of prejudice or caprice.

### **Grade Appeal Procedure**

1. A student who wishes to appeal a final grade must contact the instructor and attempt to resolve the issue.
2. If, upon consultation with the instructor, there is no resolution, the student contacts the chair of the department in which the course is offered, or in the case where there is no chair, the Dean of the College. The chair attempts to resolve the conflict by discussing the issue with the instructor involved. Every effort should be made to resolve the conflict at the departmental level.
3. If there is still no resolution, the student contacts the Office of the Dean of the College, and in writing, describes the nature of the complaint. The Dean discusses the matter with the chair and the instructor and makes a recommendation to the instructor.
4. If there is still no resolution, the Dean will bring the issue to the Academic Standards and Discipline Committee and/or appoint an ad hoc committee of three faculty to make a recommendation to the instructor. The committee will be composed of members acceptable to both the student and the faculty member.

### **Time Frame**

Students must initiate the grade appeal no later than two weeks after the start of the next semester. The appeal process should take no longer than four weeks from the student's initial contact with the instructor to the final recommendation of the ad hoc committee.

### **Repeating Courses**

Students may retake any course, but they shall receive credit only once for the same course. Although a course may be retaken as many times as necessary to receive a passing grade, students may repeat only once courses they passed on the initial try. All grades for courses taken at Ursinus will appear on the transcript, but the last grade earned will replace the previous grades for the purpose of calculating the GPA. Credits earned elsewhere and accepted as transfer credits will not alter the GPA or serve as a replacement grade.

## **Academic Probation**

Any students who have a GPA below C (2.00) at the end of any semester or who have a semester GPA below 2.00 will be placed on academic probation by the Academic Standards and Discipline Committee or by the faculty. Students on academic probation may be restricted in their extracurricular activities. On-campus employment and Ursinus College financial aid may be restricted for a student whose average for the preceding academic year is below C (2.00).

## **Dismissal**

Students will be dismissed from the College if at the end of their first semester their GPA is below 0.67; if at the end of their second semester their GPA is below 1.33; if at the end of their third semester their GPA is below 1.67; if at the end of their fourth semester or 64 semester hours (including transfer credits), or any subsequent semester, their GPA is below 2.00. Students will also be dismissed if they achieve a semester average below C (2.00) for more than two successive semesters, regardless of their cumulative average. Students who earn a semester average of zero will also be dismissed. Exceptions to the above policy must be approved by the faculty, or by the Academic Standards and Discipline Committee acting for the faculty. The action of the faculty, or the Academic Standards and Discipline Committee acting for the faculty, in all cases is final.

Any student may be dismissed from the College for academic violations such as cheating or plagiarism, regardless of the student's academic average. Non-academic reasons for dismissal are outlined in the Student Handbook.

## **Readmission**

Students who have been discontinued for academic reasons may apply for readmission. Unless there are unusual circumstances, applications for readmission will not be considered unless one academic year has passed before the readmission date. Readmission is not automatic. To be considered for readmission, students must demonstrate that they are able and prepared to return to the College for serious academic work. They should take courses at an accredited institution and obtain at least a B (3.00) average. They may work or engage in community service or other volunteer activities that will demonstrate a seriousness of purpose.

Application for readmission is made to the Office of Admission. Students' previous academic performance and social activities at Ursinus will be important factors in the readmission decision. The faculty or the Academic Standards and Discipline Committee must approve readmissions.

## **Withdrawal**

Students who seek to withdraw from the College must notify the dean of the College in writing of this intention and its effective date, and must satisfy all obligations (including

bills, the return of keys, equipment, and other College property). Failure to meet any such obligation will render the student liable to dishonorable dismissal.

## **Study Elsewhere**

Students are permitted to earn credit toward graduation from Ursinus College from another accredited college or approved study abroad program in a semester, interim or summer program if they have been granted permission by their academic advisers and the Registrar or the Dean or the Committee on Academic Standards and Discipline Committee. Required courses in the department of a student's major should be taken at Ursinus. Approval to take such courses elsewhere will be granted by Registrar or the Dean or the Academic Standards and Discipline Committee only with the approval of the chairperson of the major department and if special or mitigating circumstances exist. Credit, but not grades, for approved courses taken elsewhere will be transferred upon successful completion of the course with a grade of C (2.00) or better and upon receipt of an official transcript from the other college. It is recommended that students take these courses at a four-year institution. Students planning to study abroad for a semester, interim or summer program must consult with the study abroad office and receive approval from the International Education Committee. All courses must be approved before the start of the courses at another college or program.

## **Special Academic Opportunities**

### **Student Fellowships and Scholarships**

The Office of Student Fellowships and Scholarships coordinates information on external awards for undergraduate and graduate study and provides support to students wishing to apply for these prestigious awards. In the past five years Ursinus students have received numerous highly competitive national awards including Rhodes, Fulbright, Watson, Udall, Goldwater, and Kemper awards. [Details](#)

### **Academic Honor Societies**

**Phi Beta Kappa:** Phi Beta Kappa is a national academic honor society founded at the College of William and Mary in Williamsburg, Va., on Dec. 5, 1776. The stated purpose of Phi Beta Kappa is to "recognize and encourage scholarship, friendship, and cultural interests." The Ursinus College chapter, Tau of Pennsylvania, was approved on October 19, 1991. Composed of faculty members holding Phi Beta Kappa keys, the chapter confers membership on the basis of "high scholarship, liberal culture, and good character." Election to Phi Beta Kappa is considered the highest academic honor for undergraduate students.

**Cub and Key Society:** The Cub and Key Society was founded in 1939 at Ursinus College to recognize the male leaders of the campus who have distinguished themselves through high scholastic standing, participation in extracurricular activities, and service to the College community. Election to the society is limited to second-semester juniors.

Whitian Society: The Whitian Society was founded in 1939 at Ursinus College by Dr. Elizabeth B. White, professor of history and dean of women. The society recognizes the achievements of women who have distinguished themselves through outstanding academic performance, in addition to leadership and service to the College. Election to the society is limited to second-semester juniors.

### **Discipline-Based Honor Societies**

These include: Alpha Kappa Delta, the international sociology honor society; Beta Beta Beta, an honorary society for the biological sciences; Kappa Mu Epsilon, the national mathematics honor society; Modern Languages Honor Society, the Ursinus College modern languages honor society; Nu Rho Psi, the national honor society in neuroscience; Omicron Delta Epsilon, the international honor society in economics; Phi Alpha Theta, the international history honor society; Phi Epsilon Kappa, the national honor society in health and exercise physiology; Pi Sigma Alpha, the national social science honor society; Psi Chi, the national honor society in psychology; Sigma Iota Epsilon, the national honorary and professional management fraternity; Sigma Pi Sigma, the national physics honor society; Sigma Tau Delta, the national English honor society; Sigma Xi, the national honorary fraternity for the recognition and encouragement of scientific research; Theta Chi, the Ursinus chapter of Lambda Pi Eta, the national communications honor society; and Upsilon Pi Epsilon, the international honor society for the computing and information disciplines. [Details](#)

## **Off-Campus Programs**

### **Washington Internship Initiative**

Ursinus enjoys an affiliation with the Washington Internship Institute (WII), an organization that provides intensive internship experiences and academic coursework within a thematic liberal arts framework. All participants select one of several areas of concentration, including Environmental and Sustainability Policy Studies, Global Health Policy Studies, Global Women's Leadership Development, Inside Washington: Politics and Policy, and International and Foreign Policy Studies. This program gives qualified students the opportunity to work with people and resources in the nation's capital so as to understand better the dynamics of American politics and policymaking.

Under the direction of WII faculty and staff, students participate in seminars with governmental officials, lobbyists, and media representatives; they secure an internship within a governmental office or non-governmental organization, political parties, interest groups, research organizations, or the media; and they complete a major research project on a current issue or policy problem. Candidates must apply to the College in order to be nominated to WII. Semester participants pay Ursinus tuition, room and fees (but not board) and their Ursinus financial aid travels. Summer participants pay tuition, room and fees directly to WII and pay for their own meals, but Ursinus aid does not travel. Interested students should contact Carla Rinde (Career and Professional Development).

## **Howard Semester Program**

This program allows Ursinus students to attend Howard University in Washington, D.C., under an exchange agreement between the two institutions. Students wishing to participate will normally do so for one semester in their junior year. Students pay Howard University's tuition and fees. Contact the Dean's Office for more information.

# African American and Africana Studies

The African American and Africana Studies program provides an opportunity to study the experiences of people of African descent in the African Diaspora (including Latin America), the United States, and Africa. This program explores the human, cultural, social, political, and historical factors that have affected the experiences of African American and Africana people.

## Requirements for Minors

A minor concentration in African American and Africana Studies consists of 20 credits including a 4-credit introductory course, AAAS-200. The courses in the minor deal with aspects of the African American and African Diasporic experiences as they have been framed by the peoples concerned and represented by others. In addition to AAS-200, students must take at least four courses from the following electives, with no more than 2 courses from a single department: ANTH-242, ECON-110, ENGL-222, FREN-203, FREN-252, HIST-222, HIST-223, HIST-231 HIST-323, HIST-329, HIST-331, HIST-367, MCS-340, MCS/GWMS 319, POL-316, POL-399L, RELS 225, SOC-255, SOC-258 or SOC-259, AMST-200. ENGL 212, IR400W, POL 315, POL-399, SOC-110, SOC-245, SOC-275, and/or SPAN-440W may also fulfill this elective requirement when the topic is appropriate and with prior approval from the AAAS coordinator.

## Courses

### **AAAS-200. Issues in African American and Africana Studies** *Faculty*

This is an interdisciplinary, introductory course for the African American and Africana studies program. This discussion-oriented course is designed to integrate the diverse concentrations of the discipline. It will cover the history of the field, and the role and contributions of various disciplines. This course also examines the variables and dimensions of African-American and African Diasporic experiences. Three hours per week. *Four semester hours. (H,D)*

### **AAAS-380. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the AAAS coordinator for further details. Prerequisites: AAAS-200, junior standing, and approval of a faculty internship adviser. 120 hours. *Three semester hours. (I)*

### **AAAS-381. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the AAAS coordinator for further details. Prerequisites: AAAS-200, junior standing, and approval of a faculty internship adviser. 160 hours. *Four semester hours. (I)*

### **AAAS-491W. Independent Research.** *Faculty*

This course is open to candidates for honors of junior/senior status who have completed at least 16 credits in the minor upon consultation with the AAAS coordinator and the student's faculty adviser and formation of an interdisciplinary faculty committee of three persons.

### **AAAS-492W. Independent Research.** *Faculty*

A continuation of AAAS-491W. Pre-requisite: AAAS-491W.



# American Studies

Knowledge of our own culture, its history, literature, and politics, is indispensable to responsible American citizenship. Furthermore, a deeper understanding of American culture enables us to appreciate the ways in which our own culture affects our perception of other cultures. The American Studies program provides an interdisciplinary approach to the study of American life through which students can fully appreciate both its unity and diversity. The American Studies major and minor are useful for students interested in graduate study in American Studies and all the participating disciplines, as well as professional study in areas such as law, social work and journalism. It is also an appropriate major for those seeking certification to teach social studies.

The American Studies major is interdisciplinary. All majors must take AMST-200, a course that demonstrates the possibilities of an interdisciplinary approach to the study of American society. Interdisciplinary study works best, however, when the student is well grounded in at least one specific discipline to serve as a point of departure.

American Studies majors accordingly choose a disciplinary concentration by taking an introductory or methods course, a capstone course, and two American Studies-related electives from one of the core disciplines of the program (English, History, Media and Communication Studies, Politics, and Sociology), as well as electives from American Studies disciplines beyond the concentration. The American Studies major can easily accommodate a dual major, should a student wish to pursue mastery of more than one discipline, but no more than two courses can count for both majors. The major can be completed with 36 credits.

Special topics courses relevant to American Studies may be included in the major or the minor with the prior approval of the Coordinator.

## Requirements for Majors

Required course for all majors: AMST-200 – Issues in American Studies. American Studies majors can fulfill the writing requirement by taking a W course within their disciplinary concentration, and the oral presentation and capstone requirements by taking a 400-level seminar in that same concentration.

### Disciplinary concentration:

Students will elect four courses, including a methods class, an American-themed capstone, and two electives, in one of the American Studies disciplines:

### English concentration:

ENGL-290W; any 2 200- or 300-level American literature courses; a 400-level seminar in American literature

**History concentration:**

HIST-200W, HIST-421W or 400, and two electives from 113, 114, 220, 222, 223, 321, 322, 323, 327, 328, 329.

**Media and Communication Studies concentration:**

MCS-205, 292W, 460W or 462W or 464W, and one elective from 315, 319, 340 or 360.

**Politics concentration:**

POL-218, POL-300, POL-418W, and one elective from 310, 314, 315, 316, 321, 322, 323, 324, 325, 328, 330, 355.

**Sociology concentration:**

ANSO-200, ANSO-460W and two electives from SOC-110, 220 227, 245, 255, 256, 258, 259, 262, 263, 264, 275.

Four electives from at least three different departments outside the student's disciplinary concentration. Students may choose any of the above listed courses (except ENGL-290, HIST-200W, and SOC-100); ART-290; ECON-110, DANC-100, 350A; EDUC-210, 446; ENV 332, 366; MUS-207; RELS-221, 225. Students cannot count more than four courses in any one discipline towards the American Studies major.

Students are strongly encouraged to take more than one version (separate topics) of AMST-200. Students are also encouraged to consider a semester of off-campus study in a national program such as the Washington Semester or the Howard Semester program. The American Studies major is sufficiently flexible to accommodate study abroad.

Students may elect to fulfill some of the above requirements by doing an internship or research courses (including honors) in American Studies.

Students who are working on a double major must choose a disciplinary concentration in American Studies that is different from their other major.

**Requirements for Minors**

A minor concentration in American Studies consists of six courses dealing with aspects of American life.

Four of the following courses, from different disciplines: Any American Literature course in English, HIST-113 or 114, MCS-205, POL-218, SOC-255.

Two of the following: any course listed above; AMST-200; Any American literature course in English, HIST113, 114, 220, 222, 223, 321, 322, 323, 327, 328, 329, 421W; MCS-282, 285, 360, 366, 370; POL-310, 314, 315, 321, 322, 325, 328, 330, 355, 418W; RELS-221, 225; SOC- 110, 220 227, 245, 256, 258, 259, 262, 263, 264, 275; ART-290; ECON-110; DANC-100, 350A; EDUC-210, 446; ENV-332, 366; MUS-207.

## Courses

### **AMST-200. Issues in American Studies Faculty**

This course will introduce students to American Studies by engaging them in an interdisciplinary examination of a broad theme or question about American society and culture. Topics will vary with the instructor(s), but will always be broad and issues and readings will be drawn from different disciplines. An example might be an interdisciplinary examination of the history of Philadelphia as a microcosm of the American experience, or an interdisciplinary examination of race and ethnicity in American society. Three hours per week. *Four semester hours. (D)*

### **AMST-381. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Discuss details with the American Studies Coordinator. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: 12 credits in the major and permission of the internship adviser. *Three semester hours. (I.)*

### **AMST-382. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Discuss details with the American Studies Coordinator. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: 12 credits in the major and permission of the internship adviser. *Four semester hours. (I.)*

### **AMST-391. Independent Study Faculty**

Independent study under the supervision of an American Studies Department adviser. Topic and readings will be decided by the student and the adviser. Substantial reading and writing is required. Prerequisites: 12 credits in the major; and permission of the department adviser. *Four semester hours. (I.)*

### **AMST-400W. Independent Research Faculty**

Independent Research, under the guidance of an American Studies Department adviser, directed toward the production and oral presentation of a research project or paper. Prerequisite: 12 credits in the major and permission of the faculty adviser. *Four semester hours.*

### **AMST-491W. Research/Independent Work Faculty**

This course is open to candidates for honors upon consultation with the American Studies Coordinator and with permission of an American Studies faculty adviser. *Four semester hours. (I.)*

### **AMST-492W. Research/Independent Work Faculty**

A continuation of AMST-491W. Prerequisite: AMST-491W. *Four semester hours. (I.)*

# **Anthropology and Sociology**

Anthropology and Sociology are related disciplines. Both are interested in the social life of groups. Many of the differences that exist between these two disciplines are the result of the original focus of anthropology on non-Western, generally small societies and the Western European origins of sociology, with its founders' focus on the social promise and pathologies of industrialization. Anthropologists who concentrate on small, non-Western societies primarily rely on participant observation as a research tool, while sociologists have employed a mix of quantitative and qualitative methods suitable for the study of modern, large-scale societies.

Today there are scholars in both disciplines using a wide variety of research tools resulting in an overlapping of the methods of these two disciplines. Because of the intrinsic relationship between anthropology and sociology, many of our courses integrate these two disciplines.

We believe that our integration of the disciplines will permit students to better understand human behavior, because they will see the variety of solutions that different societies have developed to resolve human problems, rather than simply analyzing our own society.

The Department of Anthropology and Sociology is deeply committed to the liberal arts and encourages students to take a wide variety of courses in many different disciplines. There are many opportunities for our students. One direction is toward graduate programs in anthropology and sociology, social work, law, public administration, criminology, regional planning, and a variety of other professional degrees in related applied disciplines. Another option is secondary education certification in social studies.

## **Requirements for Majors**

All students majoring in anthropology and sociology must take ANTH-100 or SOC-100 or SOC-110; ANSO-150W (Writing in Anthropology and Sociology); ANSO-200 (Methods); ANSO-400 (History and Theories); ANSO-460W (Seminar); or ANSO-491W or SOC-491W; four additional courses at the 200 level or above; and choose an emphasis in either anthropology or sociology. In addition, all majors are required to take MATH/STAT-141Q (Statistics I). Those interested in teaching certification in Social Studies should consult with the Education Department.

Anthropology and Sociology majors can fulfill the college writing requirement by taking ANSO-150W, and the capstone and oral presentation requirements by taking ANSO-460W or ANSO-491W or SOC-491W.

### **I. Anthropology Emphasis**

Students choosing the anthropology emphasis must take a minimum of 36 semester hours in anthropology and sociology, including either eight credits of ethnography (chosen from ANTH-222, 232, 242 and SOC-255), or four credits of ethnography and ANTH-205, Introduction to Archeology, or ANTH-390, research, with a focus on physical anthropology and prehistoric archaeology. ENGL-214, linguistics and modern

grammar, may be taken by students with an anthropology emphasis as credit toward the major. In addition, it is recommended that anthropology majors fulfill their science requirement in biology, and choose one of the Area Studies minors offered at Ursinus (East Asian Studies or Latin American Studies).

## **II. Sociology Emphasis**

Students choosing the sociology emphasis must take a minimum of 36 semester hours in anthropology and sociology. PSYC-350, Social Psychology: Social Cognition and Influence, or PSYC-352, Social Psychology: Self and Interpersonal Relations, may be taken by students with a sociology emphasis as credit towards the major. In addition, four credit hours in psychology are encouraged. It is highly recommended that students choosing the sociology emphasis should take courses in other disciplines which will provide a broad insight into the human condition, whether these courses are in the humanities, sciences, or other social sciences. Students are encouraged to use this knowledge in their departmental courses.

## **Requirements for Minors**

The Department of Anthropology and Sociology offers minors in both anthropology and sociology. All students minoring in the Department must choose to complete the minor either in anthropology or in sociology.

### **I. Anthropology Minor**

A minor in anthropology requires that students take a minimum of 20 semester hours in anthropology. These courses must include ANTH-100 (SOC-100 or SOC-110 may be substituted) and at least four credits of ethnography (ANTH-222, 232, 242 or SOC-255).

Note: With the possible exception of SOC-100 or SOC-110, courses for the minor should be selected either from the list of anthropology courses or the list of integrated anthropology/sociology courses. Only with special permission may they include courses from the list of sociology courses.

### **II. Sociology Minor**

A minor in sociology requires that students take a minimum of 20 semester hours in sociology. These courses must include SOC-100 or SOC-110 (ANTH-100 may be substituted) and at least two of the last three courses must be taken at the 200 level or above.

Note: With the possible exception of ANTH-100, courses for the minor should be selected either from the list of sociology courses or the list of integrated anthropology/sociology courses. Only with special permission may they include courses from the list of anthropology courses.

## Courses

### **ANSO-150W. Writing in Anthropology and Sociology** *Dr. Oboler*

An introduction to expository writing in anthropology and sociology following the standards in both disciplines. Students will incorporate modern theory and methods in frequent short papers in order to learn strategies to help them with every stage of the writing process, from generating ideas to shaping arguments to revising drafts, to using the appropriate style format. Three hours per week. *Four semester hours.*

### **ANSO-200. Methods in Anthropology and Sociology** *Faculty*

An introduction to data collection, analysis and interpretation in anthropology and sociology. Students will be exposed to a wide variety of data collection techniques including participant observation, interviews, questionnaires, existing source studies, and the like. Students will also learn how to analyze and interpret the data with the aid of statistics. Ultimately, they will examine the relationship between research and theory. Prerequisites: Any 100-level Anthropology or Sociology course, MATH/STAT-141Q as a pre- or co-requisite, or permission of the instructor. Three hours of lecture and discussion plus two hours of lab per week. *Four semester hours.*

### **ANSO-381. Anthropology and Sociology Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact any member of the Department for further information. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: A major in anthropology and sociology, junior standing, at least 12 credits in anthropology/sociology, and approval of the Department internship adviser. A minimum of 160 hours. Graded S/U. *Three semester hours. (I.)*

### **ANSO-382. Anthropology and Sociology Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact any member of the Department for further information. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: A major in anthropology and sociology, and approval of the Department internship adviser. Graded S/U. *Four semester hours. (I.)*

### **ANSO-400. History and Theories of Anthropology and Sociology** *Dr. Gallagher*

A study of anthropology and sociology within the framework of Western thought. An analysis of the development of anthropological and sociological theory from the 19th century until today. Prerequisites: Any 100-level course in Anthropology or Sociology, and ANSO-150W (Writing in Anthropology and Sociology). When possible, students should also have completed ANSO-200 (Methods). Three hours per week. *Four semester hours. (SS.)*

### **ANSO-460W. Seminar in Anthropology and Sociology** *Faculty*

Seminar is the capstone course in the Department of Anthropology and Sociology. As such, it will require that students choose a significant problem that is faced by our society, and using data from anthropology and sociology, as well as information from related disciplines, take an in-depth look at some significant issue. Students will also be required to report their findings in a major paper, and to report their results orally to the other members of the seminar. The topic of the seminar will change each time. Prerequisites: Any 100-level course in Anthropology or Sociology, ANSO-150W (Writing in Anthropology and Sociology), and either ANSO-200 (Methods), or ANSO-400W (History and Theory), or both. Three hours per week. *Four semester hours. (SS.)*

# Anthropology

Anthropology is by definition and scope an interdisciplinary subject which addresses itself holistically to the study of people from many places and many periods of time. Anthropology encompasses four distinct but interconnected subfields of study: physical or biological anthropology, social and cultural anthropology, prehistoric archaeology, and linguistic anthropology. The goal of the Department is to help the student to understand what it means to be human and to appreciate our own value system more fully through an exposure to the systems of others.

## **ANTH-100. Introduction to Sociocultural Anthropology** *Faculty*

Sociocultural anthropology is one of four subfields in anthropology. This course will emphasize sociocultural anthropology but will also briefly look at the other subfields: physical, prehistoric archaeology, and linguistics. Our main focus will be placed on family patterns, kinship relationships, political organization, economic systems, religion, the arts, and social change. Prerequisites: None. Four hours per week. *Four semester hours. (SS, G.)*

## **ANTH-205. Introduction to Archaeology** *Staff*

Archaeology is the subdiscipline of anthropology that seeks to understand cultures of the past on the basis of their material remains. This course provides basic instruction in methods and theory in archaeology, followed by a survey of world prehistory that focuses on the development of societal complexity, as interpreted through archaeological data. Three hours per week. *Four semester hours. (SS.)*

## **ANTH-220. The Maya: Ancient and Modern.** *Faculty*

A study of the Maya people of tropical Mexico, ancient and modern. The ancient Maya will be examined through their architecture, art, and epigraphy, including visits to archaeological sites and museums in tropical Mexico. The modern Maya will be encountered in visits to villages and families in tropical Mexico. Prerequisite: None. Field investigations accompanied by readings, lectures, and an independent glyph project. Four semester hours. (This course is part of the UC in Maya Mexico Program.) *Four semester hours. (G, S.)*

## **ANTH-222. Drugs for Mind and Body** *Dr. Gallagher*

An analysis of the uses of both medicinal and mind altering drugs with emphasis on the original inhabitants of the Americas and a comparative look at their uses in the United States today. While the primary focus of this course is on the utilization of drugs, we can only understand the use within the context of the societies as a whole; therefore, we will also read several ethnographic accounts of Native American societies in which these drugs were used. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, G.)*

## **ANTH/GWMS-225. Gender and Kinship Cross-Culturally** *Dr. Gallagher, Dr. Oboler*

The structure of sex and gender roles has important implications for marriage, the family, and kinship in all societies. This course examines sex and gender roles, sexuality, mate selection, marriage customs, divorce, childbearing, parenting, spousal and other kin relations, across the spectrum of world cultures. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, G.)*

## **ANTH-232. Adaptation in the Pacific and East Asia** *Dr. Gallagher*

This course will explore the physical and spiritual views of the peoples of the Pacific and East Asia both pre-and post-Western contact. On the physical side, we will study topics such as the navigation techniques of the Pacific Islanders domestication of plants in New Guinea and the Pacific and the

relationship to nature and the many inventions of East Asian cultures. On the spiritual side, we will explore the religions of China, Japan, and Austronesia, and the impact of contact with the West as seen in the Cargo Cults of the Pacific. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, G.)*

**ANTH-242. Peoples of Africa** *Dr. Oboler*

The African continent south of the Sahara is a complex array of cultures. This course will introduce students to sub-Saharan Africa by emphasizing both the tremendous diversity of African cultures and the unifying themes that distinguish Africa as a cultural area. Topics include the history of human settlement and population migrations; social, political, and economic organization; traditional and contemporary religion and belief systems; the impact of European colonization; and contemporary social change. The special case of South Africa receives special attention at the end. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, G.)*

**ANTH-251. Intermediate Topics in Anthropology** *Faculty*

An occasional course which will focus on special topics in anthropology. This course is offered as needed. Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours. (SS, G.)*

**ANTH-351. Advanced Topics in Anthropology** *Faculty*

An occasional course which will focus on special topics in anthropology. This course is offered as needed. Prerequisite: Any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS).*

**ANTH/ENV-352. Peoples and Their Environments** *Dr. Oboler*

Human cultural patterns and social institutions are adaptations to particular physical and social environments and also have impacts on those environments. This course is concerned with the relationship between environments and subsistence systems on the one hand, and social/political institutions and belief systems on the other, using case studies from a variety of traditional societies. We will also consider the relationship between the global ecosystem and problems of Third World development, patterns of peasant production, causes and consequences of rapid population growth, and the fate of indigenous peoples. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, G.)*

**ANTH-371. Readings in Anthropology I** *Faculty*

Readings in anthropology is a directed reading course in which a student can further develop an interest he or she began in a course, or can explore an interest in the field for which we do not provide a course. In order to register for readings, a student must have a clear goal, must present a bibliography to the department member who will be supervising the readings course, and the work will be demonstrated. Prerequisites: A student must be a major in anthropology and sociology, and have completed at least four courses toward the major. Six to eight hours of reading per week. *Two semester hours.*

**ANTH-372. Readings in Anthropology II** *Faculty*

A continuation of Anthropology 371. Prerequisites: A student must be a major in anthropology and sociology, and have completed at least four courses toward the major, and have completed ANTH-371. Six to eight hours of reading per week. *Two semester hours.*

**ANTH/HIST-385 Historical Archaeology** *Field School Staff*

A six-week summer archaeology course offered in conjunction with The Speaker's House foundation at the Frederick Muhlenberg house site in Trappe, Pennsylvania. The field school course in Historical Archaeology will combine instruction in archaeological methods and theory with hands-on excavation training and experience at an important historical site. Through assigned readings and classroom discussions, on-site training and experience, and weekly laboratory study, field school students will



learn historical archaeology techniques and develop the ability to identify and interpret discovered artifacts and place archaeological information within a cultural/historical framework. *Six semester hours.*

### **ANTH-390. Research Faculty**

Research involves directed readings and research on an anthropological topic. A student wishing to register for this course must present to the instructor a proposal outlining the research to be completed. The proposal must be approved by the instructor prior to registration. The student must meet with the instructor at regular intervals during the semester, and must submit frequent written progress reports. A final paper will be required. Prerequisites: major or minor status and eight credit hours in the department and the permission of the instructor. *Four semester hours. (I.)*

### **ANTH-491W. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the department chair. Prerequisites: junior or senior status with a minimum of 16 semester hours in anthropology and sociology and the permission of the department chair. *Four semester hours. (I.)*

### **ANTH-492W. Research/Independent Work Faculty**

A continuation of ANTH 491W. Prerequisites: ANTH 491W and permission of the department chair. *Four semester hours. (I.)*

## **Sociology**

Sociology is concerned with the analysis of social life. It is the goal of the department to assist the student in developing insights into why the analysis of social life is considered to be important, what this approach can offer in terms of understanding people, and how it will help us to understand our own society.

### **SOC-100. Introduction to Sociology Faculty**

Designed to introduce students to the discipline of sociology, this course emphasizes basic sociological concepts and their applications to various real-life social situations. Topics discussed include society, culture, social groups, interaction, deviance, social stratification, gender roles, race relations, population, urbanization, social change, and social institutions, particularly religion and the family. Four hours per week. *Four semester hours. (SS.)*

*Note: Students may not receive credit for both SOC-100 and SOC-110.*

### **SOC-110. Contemporary Social Issues Faculty**

This course will analyze a variety of current social issues from a sociological perspective. Issues selected will vary from semester to semester, but we will include topics such as poverty, homelessness, access to medical care, and the death penalty. Class, race, and gender issues will be central to this course. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students may not receive credit for both SOC-100 and SOC-110.*

### **SOC/ENV-220. Environmental Justice Dr. Clark**

This course will examine how the burdens of local and global environmental problems are distributed across race, class, and gender. Through the examination of local, national, and international case studies, we will gain an understanding of how the risks associated with exposure to toxic pollutants and other environmental hazards coincide with pre-existing patterns of inequality, both globally and in the United States. Close attention will be paid to the political-historical processes through which the

distribution of environmental hazard has been produced, and how affected communities have resisted these processes. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS.)*

**SOC/GWMS-227. Marriage and the Family** *Dr. Oboler, Dr. Gallagher*

This course examines transitions, continuity, and variations in marriages and families in the 20th century United States, with some historical, cross-cultural, and cross-national comparisons. The implications of shifts in public policy for “traditional” and non-traditional families are considered, as well as possible and probable future change in family patterns. Prerequisite: any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-235. Sociology of Religion** *Dr. Gallagher, Dr. Oboler*

The sociological study of religion explores the profound impact religion has on our society today as well as the impact that society has on religion. We will analyze the role of religion in reinforcing beliefs, in contributing to social stability, and in advocating change. We will spend some time exploring the religious beliefs of small, traditional non-Western societies and large, complex non-Western societies. We will spend the majority of our time analyzing our own society including the impact of class, race and gender on religious beliefs. Prerequisite: any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-237. Alternative Societies** *Dr. Gallagher*

We live in a world we are taught to understand. We think about this world through the shared language and culture of our society which are tools we are not born with but acquire. Our collective understandings make it easier to communicate with each other, but also make it difficult to question the basic tenets of our society. In order to be able to view ourselves more critically, we need to escape the confines of our society and view ourselves from a perspective outside these boundaries. We will accomplish this goal by exploring alternative ways of understanding the world. We will begin by exploring some general ideas about Utopian societies, we will follow that by looking at an alternative history of the United States. We will examine a 20th century construction of a communal society, and then study the Old Order Amish. Prerequisite: any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-245. Equality and Inequality** *Faculty*

An analysis of the bases and perpetuation of social inequalities, including class, race, gender and other forms of inequality. Theories of causes of stratification and problems of measuring different levels of wealth, power and prestige are examined. Consideration of how social inequality is structured in non-industrial societies precedes emphasis on the nature of social inequality in the United States. Cross-national comparisons of social stratification in modern industrial societies are also made. Prerequisite: Any 100-level course in Anthropology and Sociology or written permission of the instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-248. Sociology of Culture** *Faculty*

Sociology of Culture explores how people make meaning in their lives; groups establish boundaries; group members form identity; and individuals and groups create beliefs, traditions, and practices. How social processes influence cultural production and consumption in fields such as the arts, media, and religion and how taste, status and lifestyle work as markers of identity for both individuals and groups will be investigated. Prerequisite: Any 100-level course in Anthropology or Sociology; or permission of the instructor. This course is taught in the spring semester of odd-numbered years. Three hours per week. *Four semester hours. (SS.)*

**SOC-255. American Ethnic Groups** *Dr. Oboler*

This course focuses on ethnic patterns of community social life in urban, suburban, and rural settings. It explores the range and diversity of American ethnic subcultures. It also studies the processes of

assimilation and diversification of ethnic groups in the national political, economic and cultural framework. Prerequisites: None. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-256. “Other” Minorities** *Dr. Oboler*

Characteristics other than race and ethnicity cause many people to become objects of prejudice and discrimination by the mainstream of society. This course examines the experiences of members of these “other” minorities. Homosexuality, physical and mental disability, and religious minority status are some of the characteristics that will be considered. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-258. African American Experience** *Faculty*

This class explores the experiences of African Americans in the U.S. with the dual focus of exploring the historical context of Black life and many of the contemporary issues facing African Americans. We cannot discuss the position of African Americans in the U.S. without critically examining race and discrimination. Race is a concept that encompasses more than a commonsense understanding; thus, it is one objective of this course to think about the historical development and current manifestations of race in the lives of African Americans. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-259. The Black Middle Class** *Faculty*

This course examines the phenomenon of the black middle class in the United States. It will address the emergence of the black middle class, how it has developed over time, and its current condition. We will read ethnographic, historical, and statistical accounts of the black middle class. Class heterogeneity among African Americans and comparisons of the condition of the black middle class to middle class segments of other racial groups will be addressed. Prerequisite: Any 100-level course in Anthropology or Sociology; or permission of the instructor. This course is taught in the fall semester of odd-numbered years. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-260. Intermediate Topics in Sociology** *Faculty*

An occasional course which will focus on special topics in sociology. This course is offered as needed. Prerequisite: Any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours. (SS.)*

**SOC-262. The Sociology of Consumption** *Faculty*

Why do we consume and how does the purchasing of goods and services aid us in the construction of our identities are questions that will be addressed in this course. We will look at the symbolic, communicative, and political dimensions of consumption. In addition to looking at the practice of consumption, this course will also examine how the design and branding of objects and services communicate value to the consumer. Prerequisite: Any 100-level course in Anthropology or Sociology or permission of the instructor. This course is taught in the spring semester of even-numbered years. Three hours per week. *Four semester hours. (SS.)*

**SOC/GWMS-263. Gender in Contemporary Society** *Dr. Oboler*

After initial examination of the causes of sex differences, focus is placed on the modern American sex/gender role system: socialization and education; economic, political, religious, and family roles; sexual inequality; and gender-based public policy issues. Some cross-cultural and cross-national comparisons are made. Prerequisite: Any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-265. Criminology** *Dr. Gallagher*

Criminology is designed to introduce students to the field. In this course we will look at what constitutes criminal behavior, criminal law, and our system of criminal justice. Students will be introduced to the theoretical explanations used by social scientists and others to account for crime. Students will also learn about the production and collection of crime data, and about the “criminogenic” features of modern societies, particularly the United States. Three hours per week. *Four semester hours. (SS.)*

**SOC-275. Social Problems** *Dr. Gallagher*

Many societal problems have broad historical and/or social implications. In this course, we will analyze a number of these problems, including poverty, racial and ethnic discrimination, sexual discrimination, illness and medical care, the changing family, environmental crises, abortion, terrorism, and war. Three hours per week. *Four semester hours. (SS.)*

**SOC-277 - SOC-280. Readings in Social Thought and Action** *Faculty*

This is a student-initiated tutorial designed as an opportunity for students to read classic and current writings in social theory and social action. Students may register for a maximum of four semesters of the class, and no readings will be repeated within a four-semester cycle. Prerequisites: open to students who have completed three semesters of college work. Graded S/U. One hour per week. *One semester hour.*

**SOC/ENV-285. Environmental Sociology** *Dr. Clark*

This course will introduce the field of environmental sociology – the study of interactions between humans, groups and the environment. Topics may include species extinction, global climate change, deforestation, air and water pollution. Students will become familiar with a variety of theoretical frameworks for analyzing environmental problems and apply them to a range of environmental issues scaled from the local to the global. Participants will emerge with a critical ability to analyze popular accounts of environmental problems and proposed solutions with a sociological eye. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS)*

**SOC/ENV-288. Animals and Society** *Dr. Clark*

This course introduces students to the interdisciplinary field of animal studies, with a particular focus on the sociological literature. Among the issues we will explore are genetic engineering, factory farming, animal experimentation, and the war on “animal rights terrorism.” Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS)*

**SOC/ENV-290. Science, Technology, and Society** *Dr. Clark*

This course introduces students to the interdisciplinary field of Science and Technology Studies (STS). Though the course will focus mainly on biotechnology, it will give students a theoretical toolkit that will help them understand other areas of science and technology as well. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS)*

**SOC-295. Sociology of Medicine** *Dr. Gallagher*

The Sociology of Medicine is an exploration of the health care system from the perspective of the people and institutions who provide health care as well as from the perspective of the recipients of health care. Special emphasis will be given to issues of race, class, gender, religious beliefs, and other aspects of diversity. Three hours per week. *Four semester hours. (SS, D.)*

**SOC-360. Advanced Topics in Sociology** *Faculty*

An occasional course which will focus on special topics in sociology. This course is offered as needed. Prerequisites: Any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS.)*

**SOC-375. Readings in Sociology I** *Faculty*

Readings in sociology is a directed reading course in which a student can further develop an interest he or she began in a course, or can explore an interest in a field in which we do not provide a course. In order to register for readings, a student must have a clear goal, must present a bibliography to the department member who will be supervising the readings course, and the work will be demonstrated.

Prerequisites: A student must be a major in anthropology and sociology, and have completed at least four courses toward the major. Six to eight hours of reading per week. *Two semester hours.*

### **SOC-376. Readings in Sociology II Faculty**

A continuation of SOC-375. Prerequisites: A student must be a major in anthropology and sociology, and have completed at least four courses toward the major, and have completed SOC-375. Six to eight hours of reading per week. *Two semester hours.*

### **SOC-387. Political Sociology Dr. Clark**

Through exposure to classical and contemporary texts of politics and society, students will explore sociological perspectives on the nature, distribution and use of power in America and globally. We will examine the main theoretical contenders in the struggle to explain political phenomena like revolutions, social movements, wars and the emergence of states. As well, the course delves into the intersection of analytical categories such as race, class and gender with politics and the state. We will discuss the main locations and pathways of power in American society, and how power is changing in a “globalizing” world. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS)*

### **SOC-391. Research Faculty**

Research involves directed readings and research on a sociological topic. A student wishing to register for this course must present to the instructor a proposal outlining the research to be completed. The proposal must be approved by the instructor prior to registration. The student must meet with the instructor at regular intervals during the semester, and must submit frequent written progress reports. A final paper will be required. Prerequisite: major or minor status and eight credit hours in the Department and the permission of the instructor. *Four semester hours. (I.)*

### **SOC-491W. Research/Independent Work Faculty**

This course is open to candidates for Departmental honors and to other students with the permission of the department chair. Prerequisites: junior or senior status, with a minimum of 16 semester hours in sociology and anthropology and permission of the department chair. *Four semester hours. (I.)*

### **SOC-492W. Research/Independent Work Faculty**

A continuation of SOC-491W. Prerequisites: SOC-491W and permission of the Department chair. *Four semester hours. (I.)*

## **Applied Ethics**

Applied Ethics is an interdisciplinary minor that explores ethical issues in medicine, business, politics, law, the environment, and other areas. Courses in the minor seek to develop the student’s ability to think critically about moral considerations in various contexts. Courses are drawn from the departments of philosophy, politics, environmental studies, business and economics, and sociology. The minor is a valuable supplement to a variety of undergraduate majors.

### **Requirements for Minors**

A minor in applied ethics consists of 20 credits.

Applied ethics minors must take either PHIL-140 or PHIL-240. It is strongly recommended that one of these courses be among the first courses taken for the minor.

The remaining credits must come from the following: ECON-110; ENV/PHIL-248; ENV/SOC-220; HIST-341, ENV/SOC-288, PHIL-106, PHIL-140, PHIL-240, PHIL-246, PHIL-247, PHIL-344; PHIL/POL-237, PHIL/POL-337, PHIL/POL-338, PHIL/POL-339; POL-328, POL-330, POL-357.

HIST-329, PHIL-309 and/or POL-399 may also count toward the minor when the topic is appropriate and with prior approval from the applied ethics minor coordinator.

For philosophy or politics majors wishing to minor in applied ethics, at least 12 of the 20 credits for the minor must be in addition to credits already counting toward the major.

## **Art and Art History**

Studio Art and Art History offerings focus on the preparation of students in the creation of art, the critical study of Art History and the appreciation of visual culture as an integral part of their liberal arts experience. Coursework covers the broad cultural and intellectual context of human civilization from a visual and historical perspective, and provides an important framework for advanced study in making and interpreting art and the environment. The curriculum integrates art historical foundations with the hands-on creation of art, moving from general survey and introductory courses to advanced studio work, historical studies, and museum practices. The rich resources of the Philip and Muriel Berman Museum of Art and the Philadelphia region will be integral to the learning process. The art and art history major and minors in Studio Art and Art History provide students with an understanding of the human experience through visual and aesthetic means and prepare them for further study in the post-graduate arena and professional internship opportunities, and can serve as a springboard for other professions in the arts and beyond.

Studio Art classes are numbered 101-149; 200-249; 300-349 (except 325), 401, 402, 455. Art History classes are numbered 150-199; 250- 299; 350-380; 390, 391, 450W. Internships (381,382) and departmental honors (491,492) are used for both Studio Art and Art History. An art materials fee is required for all studio art courses as indicated in the catalogue.

### **Requirements for Majors**

A major in Art and Art History consists of 40 credits in Studio Art and Art History. Students may concentrate in either Studio Art or Art History. Students pursuing the Art History concentration can fulfill the capstone, writing and oral presentation requirements by taking ART-450W, or ART-491 and 492. Students pursuing the studio art concentration can fulfill their writing requirement by completing ART-291W and their capstone and oral presentation requirements by taking ART-455, or Art-491 and 492.

### **Requirements for Studio Art Concentration:**

1. Two studio art courses: ART-101 and one of the following: ART-102, 104, 105, 106;

2. ART-150 or 160;
3. ART-291W;
4. ART-310;
5. Four electives selected from Art courses, including a minimum of one art history course at the 200 level or higher (ART-371: Modern Art or ART-372: Contemporary Art are strongly recommended) and a minimum of two courses (studio or art history) at the 300 or 400 level excluding internships ART-381 and 382;
6. One capstone course (ART-455, 491 and 492 for honors)

### **Requirements for Art History Concentration**

1. Two studio art courses: ART-101 and one of the following: ART-102, 104, 105, 106;
2. ART-150 and 160;
3. ART- 291W;
4. Four electives selected from Art History courses. One elective must be an art history course at the 200 level or higher in art before 1800. Another elective must be an art history course at the 200 level or higher in art after 1800. A minimum of two art history courses must be at the 300 or 400 level excluding internships ART-381 and 382; MS-100 may count as an Art History elective (100-level);
5. One capstone course (ART- 450W, or 491 and 492 for honors).

### **Requirements for Minors**

A minor concentration in **Studio Art** consists of 20 credits in art, excluding internships. Four courses in Studio Art (ART-101-106; 130; 201-208; 220, 300 or 400 level studio art classes) and one course in Art History are required. ART-101 and either ART-100 or 291W are strongly recommended.

A minor concentration in **Art History** consists of 20 credits. Art-150, 160 and one course in art history at the 300 or 400 level, excluding internships, are required. One course in Studio Art is also required. MS-100 may count as an elective for the minor (100-level).

### **Courses**

#### **ART-100. Introduction to Visual Culture. Faculty**

This course explores a concept of visuality that crosses cultural and academic boundaries. Students discuss theoretical texts about looking and analyze a wide range of visual materials. The goal is to develop an intellectual framework for engaging with the visual culture in which we live. Three hours per week. *Four semester hours. (A, H)*

**ART-101. Drawing I Prof. Freno**

This course teaches students perceptual drawing, including drawing technique, the study of form through the use of line, shape, light and shade, and pictorial composition. We will work with still life, landscape and the figure. Students are expected to develop a portfolio of work outside of the formal class meetings. We will work in a variety of drawing mediums such as pencil, charcoal, conte, pen and ink, and pastels. Intended for freshmen and sophomores. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-102. Painting I Prof. Aipperspach**

Introduction to the techniques of painting using watercolor and oils. A basic study of form through the use of color. We will work directly from nature, landscape, still life, and the figure, including portrait. Students are expected to develop a portfolio of work outside the class meetings. Intended for freshmen and sophomores. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-104. The Art of Photography I Prof. Kaufman**

To explore the expressive qualities of black & white photography as an art form, the student will learn the use of the camera and basic darkroom techniques. The student will learn how to see photographically through a study of contemporary and historical photography, as well as through practical exercises. Students are expected to develop a portfolio of work outside the class meetings. Students must have access to a camera that accepts 35mm film. A point and shoot 35mm camera is acceptable. Intended for freshmen and sophomores. Four hours per week plus extensive individual work. *Four semester hours.* Art materials fee. (A.)

**ART-105. Printmaking I Prof. Aipperspach**

This course introduces students to the art of printmaking. Students will study relief printing, linoleum block, woodcut in both traditional black and white and color, using multiple blocks, and monotype. Introduction to etching. Students are expected to develop a portfolio of work outside the class meetings. Intended for freshmen and sophomores. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-106. Sculpture I: Introduction to Three-Dimensional Processes. Prof. Freno**

An introduction to the process of making art that transforms topical themes and concepts into three-dimensional form or spaces. Various materials, tools and techniques will be explored as a means to focus design, structural, and conceptual challenges. Projects will be introduced through lectures, slide presentations, and discussion of readings on contemporary practice, and concluded through group critique and discussion. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-107. Digital Photography I. Prof. Kaufman**

Students will be introduced to the functions of digital cameras and to the use of Photoshop and other digital tools to enhance captured images and print the images as part of the digital darkroom. Class time will be devoted to working with digital tools, critiques of student work, discussion of assigned readings and reviewing the work of both traditional photographers and digital artists. Students must have access to a stand-alone Digital Camera preferably with manual controls. Four hours per week plus extensive individual work in the Lab. *Four semester hours.* (A.)

*Note: This course does not serve as a prerequisite for upper level photography courses. Students who intend to do advanced level work in Photography should enroll in Art 104-Photography I.*

**ART/TD-130. Introduction to Design Faculty**

In this studio class, students will be introduced to principles of theatrical design and the artistry of imagination. They will explore how theater designers think about images and use elements such as line, shape, space, mass, texture, light and color to create visual expression and communicate dramatic intention in three-dimensional space. Students will gain an understanding of the effect of lighting,



scenic and costume design choices for theater and dance productions. Four hours per week. *Four semester hours.* (A.)

**ART-150. History of Art I: Ancient Through Medieval** *Dr. Barkun, Dr. Shoaf*

An exploration of the stylistic and conceptual developments of Western architecture, painting and sculpture from prehistory through the Medieval period. A chronological survey and inquiry into questions of form and meaning will guide an investigation of the relationship between art and society. An interdisciplinary approach will be taken. Three hours per week plus museum trips. *Four semester hours.* (A, H.)

**ART-160. History of Art II: Renaissance to Modern** *Dr. Barkun*

A study of architectural monuments, paintings, and sculptures from the Renaissance through the Modern periods. A chronological approach and an inquiry into form and meaning will guide an exploration into the changing concept of space, time and society. Readings from other disciplines will be used to examine contextual issues, such as the political and religious uses of arts, the relationship between art and science, the profound social transformations that occurred during the period and the political significance of artistic practice. Issues such as class, gender, reception and spectatorship, racism, and Eurocentrism will be addressed. Three hours per week plus museum trips. *Four semester hours.* (A, H.)

**ART-201. Drawing II** *Faculty, Freno*

A continuation of the study of form through drawing emphasizing more sustained studio work. Students must develop their techniques in significant independent work beyond the contact hours. Students are expected to develop a portfolio of work outside the class meetings. Prerequisite: ART-101 or permission of instructor. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-202. Painting II** *Prof. Aipperspach*

A continued study of form through the use of color, building on skills acquired in Painting I. Classroom work will consist of painting from life, landscape and figure objects, but emphasis will be on more sustained work and personal exploration. Students will develop a portfolio and expand their techniques in significant independent work beyond the contact hours. Prerequisite: ART-102 or permission of instructor based on portfolio. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-204. The Art of Photography II** *Prof. Kaufman*

A continuation of Art 104. Students will investigate spaces and places defined by time with visual tools that record light. They will convert cultural, social, political, and philosophical issues into visual statements using the medium of photography. Students are expected to develop a portfolio of work outside class meetings. Prerequisite: ART-104 or permission of the instructor. Four hours per week plus extensive individual work. *Four semester hours.* Art materials fee. (A.)

**ART-205. Printmaking II** *Prof. Aipperspach*

A continuation of Printmaking I. Emphasis on etching as well as an introduction to lithography and silk screen printing. Students are expected to develop a portfolio of work outside the class meetings. Prerequisite: ART-105 or permission of the instructor. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-206. Sculpture II: Media, Time, Place** *Prof. Freno*

This course explores historical and contemporary definitions of sculpture through the incorporation of multiple objects and media, site specificity, and the element of time. Lectures, slide presentations, videos and readings will frame investigations, and writing and group discussion will aid in an ability to analyze artworks critically and articulate ideas. Prerequisite: ART-106 or permission of instructor. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

**ART-208. Special Topics in Studio Art** *Profs. Freno, Kaufman, Aipperspach*

The course offers an opportunity to develop creative ability using various two- and three-dimensional media not covered elsewhere. Specific course focus will vary from semester to semester, but topics may include painting, drawing, photography, sculpture, mixed-media or cross-disciplinary practices. Four hours per week plus extensive individual work. *Four semester hours. (A)*

*Note: Art materials fee will vary by section.*

**ART/MCS-209. Documentary Photography** *Faculty*

This course introduces students to the concepts of visual documentation, social documentary style, photojournalism and ethics in photography as well as an historical perspective on the works of visual social documentarians. Students are required to conduct field work collecting digital still images to create visual narratives on a range of issues. Students enrolled in this course will need access to a digital camera to complete assignments. Three hours per week. *Four semester hours. (A.)*

**ART-210. Studio Practice** *Faculty*

In this course studio art majors and minors develop a body of work, engage in critical discourse, and develop a foundation in professional practices. Assignments include an artist statement, research paper, presentation and journal. Students' weekly progress in the studio will also be assessed. Prerequisite: Two introductory studio art courses or permission of instructor. *Four semester hours. Art materials fee. (A.)*

**ART-230. Lives of Images** *Dr. Shoaf*

This course traces a history of concepts and practices of bringing material images 'to life'. We explore how the meaning and purpose of specific figural artworks have changed over time in ways their makers never imagined. Historical contexts considered range from medieval churches to high-tech conservation laboratories. For a final project, students write a biography of a work of art. Three hours per week plus museum trips. *Four semester hours. (A, H.)*

**ART-240. Medieval Art** *Dr. Shoaf*

This course examines artistic developments and achievements of the Middle Ages (4th to the 14th century C.E.) in Europe and the Mediterranean. We discuss the relationship between making and meaning across a range of mediums: monumental painting, manuscript illumination, metalwork, mosaic, stained glass, sculpture, and architecture. Issues explored include medieval ways of experiencing the divine, nature, monstrosity, love, death, and the self. Three hours per week plus museum trips. *Four semester hours. (A, H.)*

**ART-250. Special Topics in Art History** *Faculty*

A focused exploration of special subject areas and/or periods in Western, Asian and African art. Students will utilize regional museums and archives for individual research projects. Museum trips required. This course could also be held off campus. Open to all students although a course in art history is strongly recommended. Three hours per week. *Four semester hours. (A, G, H)*

**ART-260. Special Topics in Art History — Study Abroad** *Faculty*

A focused exploration of special subject areas and/or periods in art conducted in a foreign location. Individual research projects and museum and historic site excursions required. Open to all students, although a previous course in art history is strongly recommended. Three hours per week. *Four semester hours. (A, H.)*

**ART-270. History of Photography** *Dr. Barkun*

An introduction to photographers and their images from 1829 to the present with attention to photographic images created from diverse cultural perspectives. Emphasis is on the development of photography as a fine art. Readings will be selected from artists and critics in the field. Open to all students. Three hours per week plus museum trips. *Four semester hours. (A, H.)*

### **ART-290. American Art Faculty**

An examination of American painting, sculpture and architecture in the United States from its earliest settlement to World War II. Emphasis is placed on the relationship between artistic production/content and the prevailing social and political conditions. Issues to be explored include: art as the expression of personal and national identity; public censorship; the artist's role and status in society; and art as a cultural commodity. The Berman Museum and the museums of Philadelphia will be used extensively. Three hours per week. *Four semester hours.* (A, H.)

### **ART-291W. Critical Perspectives on Art. Faculty**

This course explores the tools available for understanding art through a variety of art historical investigations of a single artist, monument, genre, theme, or work. Students probe "behind the scenes" of art history, and try out various methods for interpreting and writing about art. This course is required for all Art majors (both studio and art history concentrations). Three hours per week. *Four semester hours.* (A)

*Note: Students who have previously taken ART 200W may not take ART-291W.*

### **ART-308. Advanced Special Topics in Studio Art Faculty**

Students will examine advanced and experimental processes not covered in the regular curriculum. Topics may focus on various two- and three-dimensional media, mixed-media or cross-disciplinary practices such as painting/drawing, photography, installation, performance, alternative distribution systems, new media or collaboration. Students may be required to exhibit, perform, publish, or distribute their work to an audience outside of the classroom. Prerequisites: one course in Studio Art at the 100 or 200 level or permission of instructor. Four hours per week plus extensive individual work in the studio. *Four semester hours.* Art materials fee. (A.)

### **ART-310. Advanced Studio Practice Profs. Freno, Kaufman**

In this course studio art majors and minors develop a body of work, engage in critical discourse, and develop a foundation in professional practices. These activities prepare majors for the Studio Capstone (Art-455) and will benefit minors as well. Assignments include an artist statement, research paper, presentation and journal. Students' weekly progress in the studio will also be assessed. Prerequisite: Three introductory studio art courses or permission of instructor. *Four semester hours.* Art materials fee. (A.)

### **ART/MCS-325. Tactics, Media, and Art Faculty**

This course traces the origins of new media art, practice and theory, from the post-World War II era through to the present. Students will be introduced to a wide range of artistic and cultural movements aimed at socio-political transformation while paying special attention to contemporary genres such as performance art, installation art, and tactical media art. Three hours per week. *Four semester hours.*

### **ART-350. Advanced Special Topics in Art History Faculty**

A focused exploration of special subject areas and/or periods in art. Students will utilize regional museums and archives for individual research projects. This course could also be held off campus. Prerequisite: ART-150 or 160 or permission of instructor. Three hours per week plus museum trips. *Four semester hours.* (A, H.)

### **ART-370. Saints and Sinners Dr. Shoaf**

Saints and sinners, virtues and vices, and heaven and hell were major themes in the visual arts of medieval and Renaissance Europe. This course explores how art in those periods defined proper and improper living. Along the way, we encounter thieving monks, holy prostitutes, and blasphemous businessmen. We also read accounts of artists as heroes, villains, and something in-between. Prerequisite: ART-150 or 160, or permission of instructor. Three hours per week plus museum trips. *Four semester hours.* (A, H.)

### **ART-371. Modern Art Dr. Barkun**

The term “modernism” generally refers to aesthetic issues and practices that developed in response to 19th- and early 20th-century social forces of “modernity,” such as technology, industrialization, urbanization, politics, economics, and culture. Within the domain of the visual arts, avant-garde artists waged ideological and aesthetic debates against institutions of academic art. Through a critical exploration of visual and literary texts, this course considers the roles played by critics, curators, theorists, historians, politicians, and the popular press in shaping and defining “modern art.”

Prerequisite: ART-160 or permission of the instructor. Three hours per week plus museum trips. *Four semester hours. (A, H.)*

*Note: Students who have previously taken ART 280 may not take ART-371.*

### **ART-372. Contemporary Art Dr. Barkun**

This course examines artistic movements from the late 1950s to the present, with special emphasis on contemporary visual culture. Course content focuses on international, political, economic, and cultural conditions that occasioned artistic movements, as well as representative artists working in various idioms and critical responses to them. Topical readings, lectures, visual interpretation, student presentations, and discussion inform the exploration of media, technology, scale, audience, the museum and gallery system, public art, the art market, the “culture wars,” and censorship, to name a few.

Prerequisite: ART-160, 290W, 371 or a 100-level studio art course, or permission of the instructor.

Three hours per week plus museum trips. *Four semester hours. (A, G, H.)*

### **ART/GWMS-373. Feminism and Gender in Art and Art History Dr. Barkun**

This course investigates the influence of political, activist, and scholarly developments in feminist and gender theory on artistic practice and the discipline of art history. Course material explores how feminist consciousness and theories of gender have led artists, critics, and theorists to innovative representational strategies and to challenge, revise, and reinterpret art historical narrative. In the process, the course focuses on how such interventions alter the stories that artists and scholars tell.

Prerequisite: ART-160, 290W, 371, or 372; or permission of the instructor. Four semester hours. (A, D.)

### **ART-381. Art Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact art faculty for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: approval of an internship adviser and three courses in art. 120 hours.

Graded S/U. *Three semester hours. (I.)*

### **ART-382. Art Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact art faculty for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: approval of an internship adviser and three courses in art. 160 hours.

Graded S/U. *Four semester hours. (I.)*

### **ART-390. Research in Art History. Faculty**

Readings and independent research under the supervision of a faculty adviser. A substantial written paper on a specific topic in art history is required. Prerequisites: Eight credits of coursework in Art History beyond the 100 level, demonstrated competence in the specific area of study, a written project proposal, and permission of a department faculty member who will serve as project adviser. *Four semester hours. (A,I.)*

**ART-391. Research in Art History Faculty**

Content, prerequisites, and requirements are the same as for ART-390. *Four semester hours. (A,I)*

**ART-401. Special Projects in Studio Art I Profs. Freno, Kaufman, Aipperspach**

Independent work on a creative project approved and supervised by a faculty adviser. An oral presentation is required. Prerequisite: A portfolio of creative works or permission of instructor. *Four semester hours. Art materials fee. (A, I)*

**ART-402. Advanced Special Projects in Studio Art II Profs. Freno, Aipperspach, Kaufman**

Advanced independent work on a creative project approved and supervised by a faculty adviser. Prerequisites: ART-401; and a portfolio of creative works or permission of instructor. *Four semester hours. Art materials fee. (A, I)*

**ART-450W. Seminar in the History of Art Dr. Barkun, Dr. Shoaf**

In this course, students will further develop research criteria and techniques, using museum and library resources, in topics in a specific era of art history. An oral presentation is required. Prerequisite: ART-150 or ART-160, ART-200W, and permission of instructor. Three hours per week plus museum trips. *Four semester hours. (A.)*

**ART-455. Capstone in Studio Art. Profs. Freno, Kaufman**

Preparation of a studio art major's professional portfolio, senior exhibit and oral presentation. Students will demonstrate a familiarity with larger visual, historical and theoretical contexts of all three course components as well as a thoughtful implementation of artistic media and methodologies. Each student will develop an independent project in a medium of choice under the guidance of the advising instructor. Prerequisites: ART-101, 200W, 150 or 160, and 2 electives of studio art at the 200 level or above. Three hours per week plus extensive individual work in the studio. *Four semester hours. Art materials fee. (A,I)*

**ART-491. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students, with the permission of the instructor. *Four semester hours. (I.) Art materials fee for studio art project.*

**ART-492. Research/Independent Work Faculty**

A continuation of ART-491. An oral presentation is required. Prerequisite: ART-491. *Four semester hours. (I.)*

*Art materials fee for studio art project.*

## Biochemistry and Molecular Biology

Biochemistry and Molecular Biology (BCMB) is an interdisciplinary major that includes courses in biology, chemistry, mathematics, and physics. Students pursuing this major will explore the chemical interactions that underlie life's diversity. Courses in the major will cover the theoretical basis of knowledge in biochemistry and molecular biology and the experimental strategies used by scientists in these fields. Laboratories will foster creative experimental work by students and familiarize them with current techniques and equipment used by biochemists and molecular biologists. It is the goal of this program to prepare majors for graduate study in biochemistry and molecular biology, post-baccalaureate study in the health sciences, and careers in the pharmaceutical and biotechnology industries.

## Requirements for Majors

A major in Biochemistry and Molecular Biology (BCMB) consists of the following components:

### Courses Required of All Majors:

- BCMB-202, 307, 351, 452W
- BIO-101Q, 102Q, 201W
- CHEM-105/105LQ 106/106L, 205/205L, 206/206L; (CHEM-151/151LQ can be taken instead of CHEM-105/105LQ and 206/206L)
- MATH-112, PHYS-111Q/111L or PHYS-121Q/121L

### Advanced Biology or Chemistry Course (one of the following):

- BCMB-350, BIO-328, BIO-345, BIO-346, CHEM-315, CHEM-322, CHEM-310, CHEM-408W, or CHEM-447W

### Advanced Chemistry Laboratory (one of the following):

- CHEM-309L, CHEM-315L, or CHEM-322L

### Advanced Molecular Biology Course (one of the following):

- BCMB-426W, BCMB-429W, BCMB-433W, BIO-425W, BIO-449W, or BIO-459W

### Advanced Molecular Biology Laboratory (one of the following):

- BCMB-493, BIO-328 (in conjunction with BIO-328), BIO-426L (in conjunction with BCMB/BIO-426W), BCMB-429L (in conjunction with BCMB/BIO-429W), or BCMB-433L (in conjunction with BCMB-433W)

Biochemistry and Molecular Biology majors fulfill the capstone, writing, and oral presentation requirements in the major by completing BCMB-452W and one of the Advanced Molecular Biology Courses.

### Departmental Honors in Biochemistry and Molecular Biology

Students successfully completing BCMB-491/492 may be awarded honors but no additional credits will be given. Description of the honors program, including qualifications, is detailed in this catalogue.

## Courses

### **BCMB-202. Foundations in Biochemistry and Molecular Biology** *Faculty*

Discussion of milestones and current topics in biochemistry and molecular biology. Students will be introduced to key BCMB skills and resources. Co- or Prerequisites: BIO-201W, CHEM-205/205L and

CHEM-206/206L (or CHEM-151/151L), a declared BCMB major, and sophomore status. One hour per week. *One semester hour.*

**BCMB-291. Introduction to Research Faculty**

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Upon completion of the work, a formal presentation must be given. This course may be taken more than once. At the time of registration, written consent of the instructor is required. Three hours of laboratory per week. Graded S/U. *One semester hour.*

**BCMB-307. Physical Chemistry for the Life Sciences Dr. Popescu, Dr. Ellison, Dr. Koeppe**

A study of thermodynamics, transport properties and kinetics as applied to biological systems. Prerequisites: CHEM-206; MATH-112; PHYS-111Q. Three hours per week. *Three semester hours. (LS if taken with CHEM-309a.)*

*Note: Students may not receive credit for both BCMB-307 and CHEM-309.*

**BCMB-350. Selected Topics in Biochemistry and Molecular Biology Faculty**

A course offered periodically in an area of special interest to students by a faculty member or a visiting lecturer. Prerequisite: permission of the instructor. Three hours per week, plus either intensive writing or three hours of laboratory, depending on the topic. *Four semester hours. (LS, if lab associated with course.)*

**BCMB-351. Biochemistry I Dr. Roberts, Dr. Koeppe**

The study of properties, structure, synthesis and function of proteins, carbohydrates, lipids, and nucleic acids. Enzyme catalysis, metabolism of biomolecules, and the biochemical basis of selected physiological processes are also included. Prerequisites: BIO-201W and CHEM-205, 205L, 206, and 206L, or permission of instructor. Three hours of lecture; three hours of laboratory. *Four semester hours. (LS.)*

**BCMB-381. Internship Faculty**

An off-campus academic/work experience with a primary focus on a laboratory research project. Before beginning the internship, the student must submit a proposal to be approved by the faculty internship advisor. Upon completion of the work, written and oral presentations must be made to the program faculty. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: BIO-201W and CHEM-206L. Graded S/U. *Three semester hours. (I.)*

**BCMB-382. Internship Faculty**

An off-campus academic/work experience with a primary focus on a laboratory research project. Before beginning the internship, the student must submit a proposal to be approved by the faculty internship advisor. Upon completion of the work, written and oral presentations must be made to the program faculty. Open to rising juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: BIO-201W and CHEM-206L. Graded S/U. *Four semester hours. (I.)*

**BCMB-391. Research/Focused Inquiry Faculty**

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Upon completion of the work, a formal presentation must be given. This course may be taken more than once.

At the time of registration, written consent of the instructor is required. Six hours of laboratory per week. Graded S/U. *Two semester hours.*

**BCMB/BIO-426W. Molecular Biology** *Dr. Lobo*

A survey of gene structure, transcription, translation, regulation, and replication, as well as the theory underlying laboratory techniques used in their study. Laboratory experiments will include DNA and protein isolation, enzymatic manipulations, electrophoresis, and nucleic acid hybridization in an attempt to clone and analyze a bacterial gene. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory. *Four semester hours. (LS.)*

**BCMB/BIO-429W. Structural Biology** *Dr. Roberts*

An introduction to the principles of protein and DNA structure, X-ray crystallography, structure visualization and interpretation, and bioinformatics. The use of these concepts to understand biological function at the level of individual molecular interactions and at the level of complex processes will be demonstrated through specific biological examples. Laboratory work will emphasize structure-determining techniques and use of scientific databases and protein visualization software. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS)*

**BCMB/BIO/NEUR-433W. Molecular Neurobiology** *Dr. Kohn*

A study of the cellular and molecular basis of neuronal function. The course includes molecular properties of neurons, release of neurotransmitters, receptors in synaptic transmission, effects of drugs, synaptic plasticity, and neurological disorders. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BCMB-452W. Biochemistry II** *Dr. Koeppe, Dr. Roberts*

The study of diverse, complex interactions among biomolecules introduced in BCMB-351, considering both natural (*in vivo*) and artificial (*in vitro*) contexts. Cellular mechanisms underlying the regulation of biomolecular interactions and their relevance to selected areas of discovery are also included. This course (together with BCMB-426W, 429W or 433W) fulfills the capstone, oral and writing requirements of the major. Prerequisite: BCMB-351. Three hours of lecture; three hours of laboratory. *Four semester hours. (LS.)*

**BCMB-491. Independent Research** *Faculty*

Independent laboratory and library investigation in biochemistry and/or molecular biology, with oral progress reports and a research paper presented to the faculty research mentor. This course may be taken more than once. At the time of registration, written consent of the research advisor is required. 12-14 hours of laboratory per week. *Four semester hours. (I.)*

**BCMB-492W. Independent Research** *Faculty*

A continuation of BCMB-491 with an oral presentation to the BCMB faculty and a thesis or paper describing research work. Emphasis is placed on oral and written presentation, as well as advanced laboratory techniques. Prerequisites: BCMB-491, BCMB-452W (or concurrently). 12 -14 hours of laboratory per week. *Four semester hours. (I.)*

**BCMB-493. Molecular Biology Research** *Faculty*

A course taken by a student who wishes to fulfill the molecular biology laboratory major requirement in a research setting. Work is done within a BCMB-391, BCMB-491, BCMB-492W or Summer Fellows research project. Beyond fulfilling the requirements of the research course, the student must demonstrate an understanding and facility with multiple techniques commonly used in the molecular biology laboratory. A student enrolls in this course the semester after successfully completing the requirements. Graded S/U. Prerequisite: Permission of research advisor and BCMB coordinators. *Zero semester hours.*



*\*Note: Students must complete the associated research component (BCMB-391, BCMB-491, BCMB492W) prior to their last semester.*

## **Biology**

The underlying philosophy of the departmental curriculum is to provide a balanced and current biological education within the broader context of the liberal arts. The curriculum has been designed to keep pace with new developments in the field and to afford students as broad a base as possible for understanding the principles governing life processes. Coursework provides a firm foundation of knowledge in the various sub-disciplines, fosters the scientific attitude, and familiarizes students with current research methods. A capstone course, coupled with oral and written experiences within the department, helps to develop and reinforce the ability to think clearly, critically and independently. In the junior and senior years, students have the opportunity to pursue an independent project, which may include research with a faculty mentor.

Successful completion of the curriculum prepares students for graduate work, for employment in a biologically oriented profession, or for admission to professional schools in the several fields of medicine and related health services. The department also participates in a program leading to teacher certification in secondary schools as described below.

### **Requirements for Majors**

To fulfill the requirements of the major, all students must complete 36 semester hours of biology as outlined in the departmental core and the ancillary requirements listed below. Biology majors can fulfill the requirement for an oral presentation and the capstone requirement in the major by taking BIO-415W (or ENV-415W), 424W, 425W, 426W (or BCMB-426W), 429W (or BCMB-429W), 431W, (or NEUR-431W), 433W (or BCMB-433W or NEUR-433W), 435W, 442W, 444W, 449W, 459W, 492W (or BCMB-492), BCMB-452W.

#### **I. Required Courses:**

BIO-101Q, 102Q, 201W and one of the following capstone courses: BIO-415W (or ENV-415W), 424W, 425W, 426W (or BCMB-426W), 429W (or BCMB-429W), 431W (or NEUR-431W), 433W (or BCMB-433W or NEUR-433W), 435W (or NEUR-435W), 442W, 444W, 449W, 459W, 492W, BCMB-452W. At least 24 of the 36 biology credits for the major must be designated LS. One research course from : BIO 481, 485, 491, 492W may be used as part of this requirement.

#### **II. Distribution Requirements:**

A. Molecular/Cellular Biology. At least two courses course must be completed from the following: BIO-224, 306, 328, 335, 345, 346, 349, 425W, 426W (or BCMB-426W), 429W (or BCMB-429W), 431W (or NEUR-431W), 433W (or BCMB-433W or NEUR-433W), 435 (or NEUR-435W), 444W, 449W, 459W, BCMB-351, BCMB-452W.

- B. Organismal/Population Biology: At least two courses must be completed from the following: BIO-250, 305, 310, 320, 325, 330, 336 (or ENV-336), 334, 355 (or ENV-355), 365 (or ENV-365), 371, 415W (or ENV-415W), 424W, 442W.

Note: Students must take both BIO/HEP-205 and 206 for either course to be counted for the biology minor.

### **III. Electives:**

Chosen in accordance with the major area of interest and bringing the total to a minimum of 36 credit hours in biology (excluding BIO-205 and BIO-206).

Note: A maximum of 10 credit hours of research (BIO-391, 392, 481, 485, 491, 492W), including no more than 3 credit hours from among BIO-391 and 392, may be applied to the major. A maximum of 12 credit hours of research may be applied to graduation.

### **IV. Required of all majors:**

- A. Chemistry: CHEM-105/105L and a choice of 106/106L or 206/206L.
- B. Mathematics/Computer Science: Any two of the following: MATH-111, 112; MATH/STAT-141Q, 242, 243; CS-173.

### **V. Recommended of all majors:**

- A. One year of physics
- B. A second year of organic chemistry

### **Requirements for Minors**

A minor concentration in biology consists of BIO-101Q, 102Q, 201W, and at least 12 additional elective credits in biology including at least one course from each of the two distribution categories (Molecular/Cellular and Organismal/Population) and exclusive of internships or research.

### **Special Career Interests**

I. Students seeking admission to graduate programs in biologically related fields should note the following:

- A. A second year of chemistry is strongly recommended.
- B. A fifth course in chemistry is recommended.
- C. MATH/STAT-141Q, 242 or 243 and CS-173 are recommended.
- D. Additional coursework in mathematics/computer science is recommended.

II. Prospective secondary school teachers whose interest is biology and who wish to be certified in biological science should note the following:

- A. PHYS-111Q is required; a year of physics is recommended.
- B. GEOL-105Q is required.
- C. Two mathematics courses are required from among MATH-111, 112, MATH/STAT-241Q, 242, 243, and CS-173.
- D. CHEM-105/105L and a choice of 106/106L or 206/206L are required.
- E. It is highly recommended that prospective teachers serve at least one semester as departmental assistants.
- F. Dual certification in general science is highly recommended.
- G. The curriculum beyond the first year must be arranged in consultation with the chairman of the department of education or with the departmental teacher education adviser. Students and their advisers should consult the Ursinus College Education Department.

III. Students seeking admission to schools of medicine, dentistry, veterinary medicine, optometry and podiatry should note the following:

- A. Two years of chemistry and one year of general physics for science majors are required by all of the above schools.
- B. Many schools also require one full year of English and some specify one or two semesters of calculus.
- C. Students and their advisers should consult the premedical handbook or one of the premedical advisers for requirements of specific schools.

IV. Students seeking admission to other health science programs, such as physical therapy, should consult the departmental allied health adviser.

V. Students who seek employment in a biologically oriented profession should note the following:

- A. MATH/STAT-141Q, 242, and CS-173 are strongly recommended.
- B. BE-140 and 210 are recommended.
- C. Additional coursework in Media and Communication Studies is recommended.
- D. Additional courses that emphasize writing are recommended.

## **Courses**

**BIO-101Q. Issues in Ecology and Evolution** *Dr. E. Dawley, Dr. R. Dawley, Dr. Small, Dr. Straub*

Approaches the fundamental principles of ecology and evolution using the examination of specific case studies and the current scientific literature. Principles will include population growth, organismal adaptations and ecosystem level interactions, all in the light of natural selection theory. Lecture readings and laboratory exercises will employ the scientific method and emphasize quantitative analysis of data. Three hours of lecture; an average of one and one-half hours of laboratory per week. *Four semester hours. (LS)*

*Note: Students who have received credit for BIO-111WQ may not enroll in BIO-101Q.*

**BIO-102Q. Cell Biology** *Dr. Bailey, Dr. Cameron, Dr. Favero, Dr. Lobo, Dr. Round and Dr. Roberts*

Approaches the fundamental principles of cell biology using the examination of specific case studies and the current scientific literature. Principles will include molecular structure and function of cells, generation of biochemical energy, cell cycle regulation and cancer, and neuronal communication. Lecture readings and laboratory exercises will employ the scientific method and emphasize quantitative analysis of data. Three hours of lecture; an average of one and one-half hours of laboratory per week. *Four semester hours. (LS)*

**BIO-201W. Genetics** *Dr. Goddard, Dr. Lyczak, and Dr. Cameron.*

Exploration of principles of genetics using examination of specific case studies and the scientific literature. Topics include advanced Mendelian genetics, molecular genetics, population genetics. Prerequisites: BIO-101Q and BIO-102Q, or permission of the instructor. Three hours of lecture per week and three hours of laboratory per week. *Four semester hours. (LS)*

**BIO-205/HEP-205. Human Anatomy & Physiology I.** *Faculty*

A study of the structure and function of the tissues and organs that compose the integumentary, skeletal, muscular, nervous, and special senses systems. A case study approach will be utilized to explore the homeostatic contributions made by each of these systems under rest, exercise, and disease conditions. Prerequisites: BIO-102Q; or permission of the instructor. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

*Note: Students who have taken BIO/HEP-205 and/or BIO/HEP-206 may not receive credit for completing BIO-305.*

*Note: BIO/HEP 205 does not count toward the biology major.*

*Note: Students can count BIO/HEP-205 as satisfying the organismal/population requirement and BIO/HEP-206 as satisfying the integrative requirement for the biology minor. Both courses must be taken for either course to count for the biology minor.*

**BIO- 206/HEP-206. Human Anatomy & Physiology II.** *Faculty*

A study of the structure and function of the tissues and organs that compose the endocrine, pulmonary, cardiovascular, digestive, urinary, and reproductive systems. A case study approach will be utilized to explore the homeostatic contributions made by each of these systems under rest, exercise, and disease conditions. This is an approved elective course for the completion of the Biology minor but not the Biology major. Prerequisites: BIO/HEP-205 or permission of the instructor. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

*Note: Students who have taken BIO/HEP-205 and/or BIO/HEP-206 may not receive credit for completing BIO-306.*

*Note: BIO/HEP 206 does not count toward the biology major.*

*Note: Students can count BIO/HEP-205 as satisfying the organismal/population requirement and BIO/HEP-206 as satisfying the integrative requirement for the biology minor. Both courses must be taken for either course to count toward the biology minor.*

**BIO-224. Within the Cell: Further Explorations in Cell Biology and Genetics** *Faculty*

This case-study and laboratory-based course builds on students' knowledge from previous biology courses. Principles may include explorations of genetic chimera formation, the effect of RNA splicing on protein function, Four hours of lecture and/or laboratory per week. Sophomores will be allowed to enroll in this course first and remaining seats can be filled by juniors and seniors. Prerequisites: BIO-201W; or permission of the instructor. *Four semester hours. (LS.)*

**BIO/ENV-250. Environmental Biology** *Faculty*

A study of the biological basis of environmental issues. Includes ecosystems, communities, populations, water, energy, geologic resources, biodiversity, weather/climate, pollution, agriculture/hunger, soil resources/pests, solid/toxic hazardous waste, toxicology, land use. Prerequisite: BIO-101Q or

permission of the instructor. Three hours of lecture; three hours of lab per week. *Four semester hours. (LS.)*

### **BIO-305. Human Anatomy and Functional Morphology Faculty**

A study of the structure of human tissues, organs and organ systems and their contributions to the integrated functioning of the human body. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

*Note: Students who have taken BIO/ESS-205 or BIO/ESS-206 may not receive credit for BIO-305.*

### **BIO-306. Human Physiology Dr. Bailey**

A study of the physiological processes that support the integrated functioning of the human body. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

*Note: Students who have taken BIO/ESS-205 or BIO/ESS-206 may not receive credit for BIO-306.*

### **BIO/ENV-310. Biological Oceanography Dr. Goddard**

A study of the biological bases of ocean science. Topics discussed include: ocean basins, seawater physics and chemistry, currents, waves, tides, upwelling zones, tidal rhythms in organisms, ocean habitats/biota, marine virology, marine microbiology, plankton, trophic relationships, hydrothermal vent communities, coral reefs. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. (Course may be conducted in part at a marine field station). *Four semester hours. (LS.)*

*Note: students receiving credit for BIO/ENV-310 may not receive credit for BIO/ENV-270.*

### **BIO/ENV-320. Biology of the Neotropics Dr. E. Dawley, Dr. R. Dawley**

A field study of Costa Rican tropical habitats — including lowland rain forests, montane rain forests, seasonally dry forests, and wetlands — conducted at research sites throughout the country. Topics include diversity and natural history of key plants and animals, ecological interactions and evolutionary processes, and conservation. Prerequisite: Permission of the instructor and BIO-101Q. Field investigations accompanied by readings, lectures, and a directed research project. Course will meet 15 hours on campus and three weeks in Costa Rica between the Fall and Spring semesters. *Four semester hours. (LS.)*

### **BIO/ENV-325. Insect Biology Dr. Straub**

This course will introduce students to the insects—the most diverse group of organisms on the planet. We will examine the physiology, development, behavior, ecology, and evolution of insects to better understand why they are so successful, and special emphasis will be placed on understanding the importance of insects to human welfare. Students will learn the taxonomy of local insects by completing an insect collection. The laboratory component of this course will include insect rearing, experiments, and field trips to collect insects from terrestrial and aquatic habitats. Prerequisite: BIO-101 and BIO-102; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

### **BIO-328. Protein Biogenesis Dr. Cameron**

Proteins are essential macromolecules that participate in virtually every aspect of cellular function, and their biogenesis requires some of the most ancient and highly conserved biological processes. Through discussions and analysis of primary research articles, this course will provide an in-depth exploration of the processes involved in protein biogenesis, including translation and its regulation, protein folding and quality control systems, as well as the physiological consequences of protein misfolding. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

### **BIO/ENV-330. Marine Biology Faculty**

A field-oriented study of the important marine habitats including pelagic and benthic zones, and intertidal communities. Topics include marine biodiversity-plants, protists, invertebrates, vertebrates; marine ecology; primary production in the sea; estuaries; plankton; nekton; marine mammals; ocean pollution. Prerequisite: Permission of the instructor and BIO-101Q. Lecture and field investigations. (Course conducted in part at a marine field station.) *Four semester hours. (LS.)*

**BIO-334. Plant Biology Dr. Small**

A survey of the morphology and evolution of the monophyletic green plant clade, including the principles, theory and methodology underlying modern taxonomic systems. Available field time centers upon the morphology and taxonomy of the local vascular flora. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO-335. Plant Physiology Faculty**

A study of life processes of green plants and the environmental factors that regulate them. Experiments will illustrate physiological concepts. Prerequisite: BIO-201W and CHEM-105 and 105L; or permission of instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO/ENV-336. Freshwater Biology Dr. Goddard**

Students will study the inhabitants, human impact, and chemical and physical properties of streams, lakes, rivers, wetlands, and groundwater. The laboratory will include field and laboratory investigations, and culminate in individual investigations by students. Prerequisites: BIO-101 and BIO-102; or permission of the instructor. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO-345. Microbiology Dr. Lobo**

The structure, physiology, genetics, diversity, and ecology of micro-organisms. Topics in medical microbiology will be discussed to illustrate basic principles of pathology, virology, immunology, and epidemiology. The laboratory will cover techniques of bacterial propagation, purification, identification, and genetic experimentation. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO- 346. Developmental Biology Dr. Lyczak**

An investigation of the cellular and molecular mechanisms that control animal development. The role of developmental regulators and cell-cell communication in the embryo will be discovered in the context of fertilization, axis formation, gastrulation and organogenesis in a variety of model organisms. Laboratory work will focus on hypothesis driven inquiry and will include analysis of both vertebrate and invertebrate development. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS)*

**BIO-349. Experimental Physiology Dr. Bailey**

An investigation of the basic principles of vertebrates. Included will be the study of cell physiology, organ function, and systems physiology, including the nervous, cardiovascular, respiratory, gastrointestinal and renal systems. The laboratory will emphasize cooperative problem-solving, experimental design, and independent investigation. Prerequisites: BIO-201W and CHEM-106,106L; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

*Note: Students having received credit for BIO-306 may not credit for BIO-349.*

**BIO-350. Selected Topics in Biology Faculty**

A course offered periodically in an area of special interest to students by a faculty member or a visiting lecturer. Prerequisite: permission of the instructor. Three hours per week, plus either intensive writing or three hours of laboratory, depending on the topic. *Four semester hours. (LS, if lab associated with course.)*

**BIO-355/ENV 355. Conservation Biology Dr. Straub**

Students in Conservation Biology will learn about the causes and the consequences of species extinctions and best management practices for conserving biodiversity. Concepts from genetics, ecology, and evolution will be applied to conservation, and the role of scientific research in conservation practice will be emphasized. Case studies in conservation will come from a variety of species and ecosystems, and special emphasis will be placed on conservation in human-dominated landscapes, such as the suburban landscape within which Ursinus College is situated. Prerequisite: BIO-101 or permission of the instructor. Three hours of lecture per week. *Four semester hours.*

**BIO-365/ENV 365. Ornithology Dr. E. Dawley**

A study of bird biology (anatomy, physiology, behavior, ecology, phylogeny, and evolution) and the conservation issues that surround these most visible of terrestrial vertebrates. Because it will include field studies and natural history of Northeastern birds, a longer block of time is scheduled for one of the meeting times. Readings will come primarily from primary and secondary literature, with an emphasis on basic scientific research and its application to conservation. Prerequisite: BIO-101. Four hours per week plus field trips. *Four semester hours. (LS).*

**BIO-371. Evolution in the Galápagos. Dr. R. Dawley**

This course teaches the principles of modern evolutionary theory as illuminated by past and current research in the Galápagos Islands. The course begins with an overview of the history of evolutionary theory, from the work of Charles Darwin to the present. It then considers current theories of natural selection, sexual selection, and the reconstruction of evolutionary history. Readings are drawn from the primary literature and books by Darwin and others. Students taking this course may have the opportunity of visiting the Galápagos Islands after completing it. Prerequisite: BIO-101 or permission of the instructor. Three hours of lecture, plus two hours to be arranged, per week. *Four semester hours.*

**BIO-382. Internship Faculty**

An off-campus academic/work experience under the supervision of a faculty adviser and an on-site supervisor. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: Nine credits in biology and approval of a faculty internship adviser. Graded S/U. *Four semester hours.*

**BIO-391. Directed Research Faculty**

Laboratory and/or field experiences under the direction of a faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. This course can be taken more than once. Prerequisite: permission of a participating faculty member. Three hours of laboratory per week. Graded S/U. *One semester hour.*

**BIO-392. Directed Research Faculty**

Content as in BIO-391. This course can be taken more than once. Prerequisite: permission of a participating faculty member. Six hours of laboratory per week. Graded S/U. *Two semester hours.*

**BIO/ENV-415W. Ecology Dr. Small**

Studies of the interrelationships between organisms and their environments that determine their distribution and abundance in natural systems. Aspects of energy flow, biotic and abiotic limits, population growth and community organization are considered in the context of the ecosystem. Laboratories include local field work and emphasize techniques for collecting and analyzing data. Prerequisites: BIO-101Q and 102Q and 201W, or permission of the instructor. This course does not fulfill the ENV capstone requirement. Three hours of lecture, three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO-424W. Evolution Dr. R. Dawley**

A study of the Darwinian theory of adaptation and natural selection, focusing on areas of current interest and controversy, such as its application to animal and human behavior and to the study of medicine and disease. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture per week. *Four semester hours.*

**BIO-425W. Molecular Genetics** *Dr. Lyczak*

An investigation of the molecular mechanisms underlying complex genetic phenomena. The course will cover topics which may include: epigenetic inheritance, gene regulation, gene therapy, RNA interference, molecular control of the cell cycle, multifactoral genetic disorders, and molecular evolution through reading and careful analysis of current primary research articles. A semester-long project will require each student to examine the symptoms, inheritance pattern, and molecular pathology of a genetic disorder. Prerequisites: BIO-201W; or permission of the instructor. Three hours per week. *Four semester hours.*

**BIO/BCMB-426W. Molecular Biology** *Dr. Lobo*

A survey of gene structure, transcription, translation, regulation, and replication, as well as the theory underlying laboratory techniques used in their study. Laboratory experiments will include DNA and protein isolation, enzymatic manipulations, electrophoresis, and nucleic acid hybridization in an attempt to clone and analyze a bacterial gene. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO/BCMB-429W. Structural Biology** *Dr. Roberts*

An introduction to the principles of protein and DNA structure, X-ray crystallography, structure visualization and interpretation, and bioinformatics. The use of these concepts to understand biological function at the level of individual molecular interactions and at the level of complex processes will be demonstrated through specific biological examples. Laboratory work will stress structure-determining techniques and use of scientific databases and protein visualization software. Prerequisite: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO/NEUR-431W. Cellular Neurobiology** *Dr. Round*

An advanced examination of current research in the field of cellular neuroscience. Highlighted topics include the cell biology of neurogenesis, neuron morphology, electrical and chemical communication, intracellular signaling, and the importance of neuron-glia interactions. Class discussions will be grounded in primary literature, and the laboratory component will feature a semester-long original research project. This is a writing intensive course in which students will draft and revise a mock research proposal on a topic of their choice. Prerequisite: BIO-201W or permission of the instructor. Three hours of discussion; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO/BCMB/NEUR-433W. Molecular Neurobiology** *Dr. Kohn*

A study of the cellular and molecular basis of neuronal function. The course includes molecular properties of neurons, release of neurotransmitters, receptors in synaptic transmission, effects of drugs, synaptic plasticity, and neurological disorders. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO/NEUR-435W. Developmental Neurobiology** *Dr. Favero*

An investigation of the cellular and molecular mechanisms underlying nervous system development. This course will discuss nervous system organization, neural cell fate, axon and synapse formation, neurological conditions, and research techniques in the context of a variety of animal models. Laboratory work will emphasize cooperative problem-solving and hypothesis-driven experimental design to analyze nervous system development and behavior. Prerequisites: BIO-201W; or permission of the instructor. Three hours of discussion; three hours of laboratory per week. *Four semester hours. (LS.)*

**BIO-442W. Mammalogy** *Dr. E. Dawley*



A study of vertebrate biology using the mammalian class as the case study. The course includes evolutionary history, phylogeny, diversity, structure and function, behavior and ecological aspects of mammals. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory and field investigations per week. *Four semester hours. (LS.)*

**BIO-444W. Advanced Integrative Physiology** *Dr. Bailey*

A study of the mechanisms that regulate the interaction of the various organ systems. Students will build upon their understanding of physiology to explore the question of how gene products integrate at the cellular, systems and whole-organism level. The course will investigate the molecular basis for and pathophysiology of different diseases through reading and careful analysis of current primary research articles. Prerequisite: BIO-201W; or permission of the instructor; BIO-306 or 349 is recommended. Three hours of lecture per week. *Four semester hours.*

**BIO-449W. Immunology** *Dr. Lobo*

A study of the cellular and humoral aspects of immunity in humans and other mammals. The course will cover interactions between mammalian hosts and bacterial, fungal, and viral antigens: tumor and transplantation immunology, vaccines and their development and the evolution of the immune system. Prerequisites: BIO-201W; or permission of the instructor. BIO-345 is recommended. Three hours per week. *Four semester hours.*

**BIO-459W. Virology** *Dr. Goddard*

After an introduction to general virology, each virus family and its unique approaches to host cell entry, viral replication, and transmission will be discussed. Topics covered will include the social, historical and economic impact of human diseases such as yellow fever and Ebola hemorrhagic fever, and important diseases of crops and agricultural animals. Prerequisites: BIO-201W; or permission of the instructor. Four hours per week. *Four semester hours.*

**BIO-481. Independent Research** *Faculty*

Laboratory or field investigation of some biological phenomenon. This original work includes library-assisted preparation of a final written thesis and the oral presentation of its results before a faculty/student colloquium. This course can be taken more than once. Pre- or co-requisites: junior or senior standing, written consent of a faculty member who will serve as research adviser. Graded S/U. *Four semester hours.*

**BIO-485. Off-Campus Research** *Faculty*

An approved, off-campus field or laboratory research experience supervised by a faculty internship adviser and an on-site supervisor. Approved projects result in the library-assisted preparation of a final written report. This course can be taken more than once. Prerequisites: Junior or senior standing and written consent of a faculty adviser. Eleven to 14 hours per week, with a minimum of 160 hours. Graded S/U. *Four semester hours.*

**BIO-491. Honors Research** *Faculty*

Content as in BIO-481, but open only to candidates for departmental honors. Prerequisite: junior or senior standing, written consent of a faculty member who will serve as research adviser. *Four semester hours.*

**BIO-492W. Honors Research** *Faculty*

Content as in BIO-481, but offered in the spring term and open only to candidates for departmental honors. This continuation of BIO-491 fulfills the capstone, oral and writing requirements within the major. Prerequisites: junior or senior standing, written consent of a faculty member who will serve as research adviser. *Four semester hours.*

# **Business and Economics**

The Department of Business and Economics offers a variety of programs to prepare students for careers in the public and private sectors, graduate or professional school: an Applied Economics major and minors in Economics, Finance & Accounting and Management Studies. A major in Applied Economics provides students with a strong foundation in economic theory and analytical tools and emphasizes development of skills that are immediately useful in employment. Students concentrate in either Economics or Finance & Accounting; a concentration in Economics develops in-depth skills in application of economic theory to real-world problems, and the concentration in Finance & Accounting prepares students for entry-level positions in banking, financial services, non-profit organizations and management. Graduates in Applied Economics are prepared to work independently and effectively in a dynamic global environment where resources are scarce, information is over-abundant or uncertain and decisions are often morally complex. Students gain experience and skills in teamwork and are challenged to recognize the moral elements of situations, the impacts of their decisions and actions on others, and to choose courses of action that are ethically defensible. Minors offered by the Department of Business and Economics appeal to students majoring in any discipline.

## **Requirements for Majors**

All students in the Department of Business and Economics major in Applied Economics and must complete a minimum of 44 semester hours in the department as outlined below. In addition, majors must take MATH/STAT-141Q.

### **Required Courses**

ECON-101, 102, 200W, 201, 202, 300Q and a Capstone.

### **Elective Requirements**

All Applied Economics majors must concentrate in either Economics or Finance & Accounting as outlined below. The following courses do not count as elective credit for the major in Applied Economics: ECON-110, 120; BE-381, 382, 391, 392, 394, 491 and 492W; ECON-401W, 402W; FIN-403W.

### **Economics Concentration**

Four courses from the following list: ECON-213, 263, 311, 312, 313, 314, 330, 361, 362; FIN-374.

### **Finance & Accounting Concentration**

ACCT-140; FIN-270 and two courses from the following list: ACCT-240, 241, 242; ECON-362; FIN-370, 372, 374.

## **Capstone**

All students who major in Applied Economics can fulfill the capstone, writing and oral presentation requirements in the major by taking one of the 400-level seminar courses offered. Students pursuing the Economics concentration must take either ECON-401W or 402W. Students pursuing the Finance & Accounting concentration must take FIN-403W. Qualified students may substitute BE-491 and 492W for the capstone requirement.

## **Requirements for Minor in Economics**

A minor in economics consists of 20 credits: ECON-101, 102; either ECON-201 or 202; and two electives in Economics at the 200-level or higher. Note: Applied Economics majors may not minor in Economics. An Applied Economics major who minors in Finance & Accounting must fulfill the concentration requirements in Economics.

## **Requirements for Minor in Finance & Accounting**

A minor in Finance & Accounting consists of 20 credits: ECON-102; ACCT-140; FIN-270 and two courses chosen from the following list: ACCT-240, 241, 242; ECON-362; FIN-370, 372, 374. Note: Majors in Applied Economics may minor in Finance & Accounting; however ECON-102 is the only course that may be counted towards both the Applied Economics major AND the Finance & Accounting minor. Elective courses in Finance & Accounting taken to fulfill the minor requirements may not be used to fulfill major requirements in Applied Economics.

## **Management Studies Minor**

Cirka, Associate Professors Harris, VanGilder

A minor in Management Studies requires that students take 24 semester hours in courses across several disciplines. All Management Studies minors are required to take ACCT-140 and MGT-200. In addition students are required to select one course focused on ethics from PHIL-140, 240, 246, 247 or PHIL/ENV-248 and three elective courses chosen from the following list and representing three different departments: Business and Economics (ACCT-240 or 241; or MKT-250; or MGT-300); Environmental Studies (ENV-338); Health and Exercise Physiology (HEP-226, 446 or 462); Media and Communications Studies (MCS-307, 315, 331 or 350); Psychology (PSYC-250 or 350); Politics (POL-399 Business Law only); Sociology (SOC-248, 262, 275, or 295).

Note: Majors in Applied Economics are permitted to minor in Management Studies. See the appropriate departmental listings for course descriptions.

## **Secondary School Teaching Certification**

This program satisfies the Pennsylvania State requirements for secondary certification in social studies. Substantial further coursework outside of economics and education is

required in order to prepare the student for subjects taught in the secondary curriculum. Students who wish teaching certification should consult their departmental adviser and the chair of the department of education as early as possible, preferably at the end of the freshman year. Students and their advisers should consult the education department.

## **Courses**

### **Accounting**

#### **ACCT-140 Financial Accounting and Reporting** *Prof. Harris*

An introduction to financial accounting concepts, standards and reports. Emphasis on relationships between the income statement, balance sheet and statement of cash flows and relevance of accounting information to decision making. Excel applications of accounting problems. Three hours of lecture; two hours of computer laboratory per week. *Four semester hours.*

*Students with credit for BE-140 may not enroll in ACCT-140.*

#### **ACCT-240 Topics in Advanced Financial Reporting** *Prof. Harris*

An in-depth study of selected topics related to financial reporting and disclosure, including their impact on decisions by managers, investors and creditors. Prerequisite: A grade of C- or higher in ACCT-140. Three hours per week. *Four semester hours.*

*Note: Students with credit for BE-240 may not enroll in ACCT-240.*

#### **ACCT-241 Management Accounting** *Prof. Harris*

The study of accounting information used by managers for planning and controlling business activities and decision-making. Emphasis is on cost concepts and behavior, costing systems for products and services, budgeting, breakeven and variance analysis. Prerequisite: A grade of C- or higher in ACCT-140. Three hours per week. *Four semester hours.*

*Students with credit for BE-241 may not enroll in ACCT-241.*

#### **ACCT-242 Federal Income Tax Policy** *Prof. Harris*

An introduction to the principles and policies of the federal income tax code, with focus on issues affecting corporations, partnerships and individuals. Prerequisite: A grade of C- or higher in ACCT-140. Three hours per week. *Four semester hours.*

*Note: Students with credit for BE-242 may not enroll in ACCT-242.*

### **Business and Economics**

#### **BE 001-004 Community Service Practicum** *Faculty*

This practicum allows students to volunteer and collaborate with a local non-profit organization. Placement is based on availability, student interest and qualifications. Special classroom training may be needed. Students report to a supervisor and faculty advisor, keep a journal of their activities, and write a research paper. Prerequisite: Sophomore standing and permission of the chair. A minimum of 40 hours. Grade: S/U. *One semester hour.*

*Students may take up to four credits of Community Service Practicum. Completion of the Community Service Practicum does not satisfy the ILE requirement for the college.*

#### **BE-005-008. Readings in Business and Economics** *Faculty*

Individual study and directed reading of a particular topic or book within the discipline. Students will work closely with a member of the BE faculty in selecting, reading, and discussing the topic, and in

determining a proper written assignment. Prerequisites: Permission of the instructor. Grade: S/U. *One semester hour.*

*Students may take up to four credits of Readings in Business and Economics*

### **BE-381. Internship Faculty**

An off-campus academic/work experience under the supervision of a faculty internship adviser and an on-site supervisor. Students are required to document their experiences in a written journal. A written research paper/project is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: Four courses in the major and prior written approval of a faculty internship adviser. Graded S/U. *Three semester hours. (I.)*

### **BE-382. Internship Faculty**

An off-campus academic/work experience under the supervision of a faculty internship adviser and an on-site supervisor. Students are required to document their experiences in a written journal. A written research paper/project is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: Four courses in the major and prior written approval of a faculty internship adviser. Graded S/U. *Four semester hours. (I.)*

### **BE-391. Research/Independent Study Faculty**

Independent investigation of an area of business or economics not covered in regular courses. Prerequisite: Completion of Applied Economics major core and written consent of a department faculty member. Graded S/U. *One semester hour.*

*Note: This course may be taken more than once.*

### **BE-392. Research/Independent Study Faculty**

Independent investigation of an area of business or economics not covered in regular courses. Prerequisite: Completion of Applied Economics major core and written consent of a department faculty member. Graded S/U. *Two semester hours.*

*Note: This course may be taken more than once.*

### **BE-394. Research/Independent Study Faculty**

Independent investigation of an area of business or economics not covered in regular courses. Prerequisite: Completion of Applied Economics major core and written consent of a department faculty member. An oral presentation to the department is required. Graded S/U. *Four semester hours. (I.)*

*Note: This course may be taken more than once. This course always fulfills the ILE requirement for the college.*

### **BE-491. Research/Independent Study Faculty**

Preparation of an independent research paper. Open only to candidates for departmental honors or to fourth-year majors with the permission of the department chair. *Four semester hours. (I.)*

### **BE-492W. Research/Independent Study Faculty**

A continuation of BE-491. Prerequisite: BE-491. *Four semester hours. (I.)*

*Note: The completion of BE-491 and 492W satisfies the capstone requirement (for the major in Applied Economics (ECON-401W, ECON-402W or FIN-403W)).*

## **Economics**

### **ECON-101. Principles of Microeconomics** *Faculty*

An introduction to the economic behavior of consumers and firms through the framework of supply and demand. The course presents an overview of different market structures and economic decision making. Four hours per week. *Four semester hours. (SS.)*

*Note: Students who have received credit for BE 211-Managerial Economics may not enroll in Econ-101*

### **ECON-102. Principles of Macroeconomics** *Faculty*

The course covers the foundations of the macro-economy. Concepts of the price system, measurements of economic performance, macro models, monetary and fiscal policies, and the time value of money will be introduced. Four hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-210 may not enroll in ECON-102.*

### **ECON-110. Race and Gender in the American Economy** *Dr. VanGilder*

The study of the issues of race and gender in the U.S. economy. We will evaluate the economic status of racial minorities and women. Issues include occupational segregation, wage differentials, educational attainment, affirmative action and labor market discrimination. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students with credit for BE-110 may not enroll in ECON-110.*

### **ECON-120. Contemporary Global Economic Issues** *Faculty*

This course examines a variety of contemporary economic issues in developing countries. Economic theory provides the basis of the analysis. Specific issues may vary from semester to semester, and will include how these countries have dealt with or reacted to some or all of the following: the environment, the labor market, health care, government regulation, monetary and fiscal policy, international economics, and social policy. Students will participate in debates and critically evaluate current events. Three hours per week. *Four semester hours. (SS, G.)*

*Note: Students who have received credit for ECON-101 or 102 may not enroll in ECON-120 nor may ECON-120 be taken concurrently with ECON-101 or 102. Students with credit for BE-120 may not enroll in ECON-120.*

### **ECON-200W. Research Methods in Business and Economics** *Faculty*

This course is an introduction to research within Business and Economics. Topics include writing conventions within the discipline, presentation development, synthesizing data, and culmination of analysis across different genres. Students will develop deeper knowledge of Excel through data manipulation and analysis. Prerequisites: A grade of C– or higher in ECON-101 and ECON-102 and sophomore standing. Three hours per week. *Four semester hours. (SS)*

### **ECON-201. Intermediate Microeconomics** *Dr. O'Neill, Dr. VanGilder*

The study of the economic behavior and optimal resource usage for consumers and firms. Topics also include market analysis, pricing decisions and strategic behavior. Prerequisite: A grade of C– or higher in ECON-101. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-211 may not enroll in ECON-201.*

### **ECON-202. Intermediate Macroeconomics** *Dr. Economopoulos, Dr. Deacle, Dr. Gaus, Dr. O'Neill*

The study of inflation, unemployment and economic growth within the context of the world economy. An examination of how exchange rates, taxes and central bank policies affect businesses and the performance of the U.S. economy. Prerequisite: A grade of C– or higher in ECON-102. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-212 may not enroll in ECON-202.*

**ECON-213. Topics in Economics and Public Policy** *Dr. Deacle, Dr. Economopoulos, Dr. Gaus, Dr. O'Neill, Dr. VanGilder*

Contemporary issues are discussed using a cross-disciplinary approach. Microeconomic and macroeconomic analyses are undertaken within a historical context. Prerequisites: ECON-101 or 102, or permission of instructor. Three hours per week. *Four semester hours. (SS.)*

**ECON-263. Development Economics** *Dr. Economopoulos*

An introduction to the study of economic factors facing developing countries. The nature and the contribution of economic, cultural and political institutions will be examined. Approaches to development are reviewed. Case studies of successful and unsuccessful developing countries will be used. Prerequisites: ECON-102 or permission of instructor. Three hours per week. *Four semester hours. (SS, G.)*

**ECON-300Q. Econometrics** *Dr. Deacle, Dr. Economopoulos, Dr. Gaus, Dr. O'Neill, Dr. VanGilder*

Econometric methods used in analyzing business and economic data, including hypothesis testing, trend analysis, and forecasting of behavioral decisions by consumers and firms. Topics include the specification, estimation and verification of multiple regression and time series models. Laboratory experience includes statistical software usage. A research paper presenting original data analysis is required. Prerequisites: ECON-201, 202 and 200W; a grade of C– or better in MATH/STAT-141Q;. Three hours of lecture; two hours of laboratory per week. *Four semester hours. (SS.)*

**ECON-311. Health Economics** *Dr. O'Neill*

Discussion of various topics including the supply and demand of health care, health professionals' services, facilities and pharmaceuticals. Government policies concerning Medicare and Medicaid are analyzed. International comparisons of health care delivery systems are discussed. Prerequisite: ECON-201 or permission of instructor. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-311 or 411W may not enroll in ECON-311.*

**ECON-312. Labor Economics** *Dr. VanGilder*

A theoretical and empirical study of the functioning of labor markets, with emphasis on employment and compensation determination as affected by worker and firm characteristics, public policy, and worker organizations. Prerequisite: ECON-201. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-312 or 412W may not enroll in ECON-312.*

**ECON-314. The Economics Sports** *Dr. O'Neill*

The study of introductory economics and business using topics in sports and sports business. Professional, amateur, college and recreational sports will be analyzed. Prerequisites: ECON-201. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE/ESS273 may not enroll in ECON-314.*

**ECON-330. Strategic Analysis** *Dr Cirka*

A case-oriented course in strategic management taught from the perspective of the firm's top management team as they seek to achieve competitive advantage in an increasingly knowledge-intensive business world. Prerequisite: ECON-201 or 202. Three hours per week. *Four semester hours (SS)*

*Note: Students with credit for BE-330 or 430W may not enroll in ECON-330.*

**ECON-361. International Trade Theory and Policy** *Dr. Gaus, Dr. O'Neill*

An exploration of the factors that contribute to international trade and globalization. Topics include gains from trade, firm motivation, and government policies. Ongoing discussion analyzing current trade problems, prescriptions and legislation. Prerequisite: ECON-201. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-361 or 461W may not enroll in ECON-361*

**ECON-362. International Finance Theory and Policy** *Dr. Deacle, Dr. Gaus, Dr. O'Neill*

An examination of foreign exchange rate markets as they relate to multinational corporations. The key factors that influence exchange rates and international capital flows will be studied. The course will also consider policies that governments use to influence the foreign exchange market. Prerequisite: ECON-202. Three hours per week. *Four semester hours. (SS.)*

*Note: Students with credit for BE-362 or 462W may not enroll in ECON-362.*

**ECON-401W Seminar in Microeconomics.** *Faculty*

Contemporary issues are discussed using a cross-disciplinary approach. Microeconomics analyses are undertaken within a historical context. Course will incorporate the development and exploration of a student-selected, independent research topic, culminating in a paper and oral presentation. Four hours per week. Prerequisites: Completion of required courses in the major and two electives in the Economics concentration. *Four semester hours. (SS.)*

**ECON-402W Seminar in Macroeconomics.** *Faculty*

Contemporary issues are discussed using a cross-disciplinary approach. Macroeconomics analyses are undertaken within a historical context. Course will incorporate the development and exploration of a student-selected, independent research topic, culminating in a paper and oral presentation. Four hours per week. Prerequisites: Completion of required courses in the major and two electives in the Economics concentration. *Four semester hours. (SS.)*

## **Finance**

**FIN-270. Introduction to Finance** *Dr. Deacle, Dr. Economopoulos, Prof. Harris*

An introduction to the core subjects of finance. Topics include financial markets and institutions, the interpretation of financial statements, methods for estimating the value and risk of financial securities, and theories that explain interest rates. Prerequisites: A grade of C– or higher in ACCT-140 and ECON-102. Three hours per week. *Four semester hours.*

*Note: Students with credit for BE-270 may not enroll in FIN-270.*

**FIN-370. Corporate Finance** *Dr. Deacle, Dr. Economopoulos*

A study of the basic issues and principles involved in the financing of corporations: corporate structure, short- and long-term financing instruments, expansion, failure, and reorganization. This course will employ case studies, and a semester project will require students to use financial analysis and forecasting techniques. Prerequisite: FIN- 270. Three hours per week. *Four semester hours.*

*Note: Students with credit for BE-370 may not enroll in ECON-370.*

**FIN-372. Investments** *Dr. Economopoulos, Dr. Deacle*

A survey of securities and security markets. Through the study of texts and market data, students explore the characteristics of stocks, bonds, and derivatives, paying particular attention to the measurement of returns and risk. In the process, students develop their understanding of market efficiency, fundamental analysis, technical analysis, behavioral finance, and ethical issues related to investment management. Prerequisite: FIN-270. Three hours per week. *Four semester hours.*

*Note: Students with credit for BE-372 may not enroll in ECON-372.*

**FIN-374. Money and Financial Institutions** *Dr. Economopoulos, Dr. Deacle*

An in-depth understanding of the role of money and financial institutions in the economy. Money-related topics include monetary systems, money's relationship to prices and economic growth, and theories of central banking. The course explores the characteristics common to all financial institutions, their role as intermediaries between savers and investors, and the nature and influence of regulations on financial institutions. Prerequisite: ECON-202. Three hours per week. *Four semester hours.*



### **FIN-403W. Seminar in Finance & Accounting** *Dr. Economopoulos, Dr. Deacle*

Various finance topics covered include: credit agencies and scoring, alternative models of risk and return, derivatives, mergers and acquisitions, working capital management and forecasting, corporate governance, and business ethics. Quantitative methods are used in the assessment of financial decisions. A student-selected, independent research paper and oral presentation are required.

Prerequisites: Completion of required courses in the major, ACCT-140, FIN-270 and one elective in the Finance & Accounting concentration. *Four semester hours.*

## **Management Studies**

### **MGT-200. Management and Organizational Behavior** *Dr. Cirka*

The study of theories and practices in the fields of management and organizational behavior. Focus is on understanding how organizations function in a global business environment. Integrates the study of the behavioral sciences as a framework for understanding individual and collective behavior with study of the essential management function of planning, organizing, leading and controlling. Prerequisites: Sophomore standing. Four hours per week. *Four semester hours.*

*Note: Students with credit for BE-230 may not enroll in MGT-200.*

### **MGT-300. Topics in Management Studies** *Faculty*

Contemporary topics in management are discussed such as organizational leadership, human resource management and international business. Prerequisite: sophomore standing or permission of the instructor. Three hours per week. *Four semester hours.*

### **MKT-250. Marketing** *Dr. Cirka*

The study of market analysis, consumer behavior and the four components of the marketing mix—product, price, promotion and distribution. Marketing issues will be examined through case studies and projects utilizing marketing research and analytical techniques. Prerequisite: Sophomore standing. Three hours per week. *Four semester hours.*

*Note: Students with credit for BE-380 may not enroll in MKT-250.*

### **MKT-350. Marketing Research** *Faculty*

Focuses on fundamental issues in research design and analysis: problem formulation, data collection, sample selection, data analysis and interpretation. Topics include the economic aspects of pricing strategies, advertising, inter and intra market rivalries, entry and barriers to new markets, and regulations. A marketing research paper is required. Prerequisites: MKT-250. Three hours per week. *Four semester hours.*

## **Chemistry**

The chemistry department at Ursinus College has been approved by the American Chemical Society since 1959. The objectives of the department are (1) to offer specialized training in chemistry, beyond the basic course, that will enable a graduate to enter a career as a professional chemist; (2) to prepare the student for graduate study; (3) to provide a strong foundation for the student planning to enter medicine, dentistry, or an allied health field; (4) to prepare the student for teaching chemistry at the secondary level; (5) to provide courses which satisfy the departmental requirements for a comprehensive minor; and (6) to provide a course in general chemistry which satisfies the natural science requirements of the College.

Recognizing that students have different educational objectives, the chemistry department offers several programs leading to a major. Students wishing to combine a

chemistry major with a major/minor concentration in another academic department may enroll in any one of the following programs (tracks) in accordance with their career interests.

## **Requirements for Majors**

Regardless of track, all majors must complete the following courses: CHEM-105/105LQ (or 151/151LQ in place of 105/105LQ and 206/206L), 106/106L, 201W, 205/205L, 206/206L, 212, 309/309L, 310/310L, 315/315L, 322/322L, 400, 499 and one of the following advanced courses: 408W, 410W, 426W, 435W, 447W, 450W; MATH-112; and PHYS-121Q,122Q.

Chemistry majors can fulfill the requirement for an oral presentation in the major by taking CHEM-408W, 410W, 426W, 435W, 447W, 491W, or 492W and the capstone requirement by taking CHEM-408W, 410W, 426W, 435W, 447W, 450W, 491W, or 492W.

### **Track 1. Major Specialization in Chemistry**

Students planning to enter the chemical industry or planning further study in chemistry or chemically related areas (e.g. engineering, biochemistry, material science, and the like) may enroll in this program.

### **Track 2. American Chemical Society Certified Major — Chemistry Emphasis**

The American Chemical Society has adopted a set of standards for undergraduate training in chemistry. In addition to the courses required of all majors, students seeking certification must complete the following courses: CHEM-380 or 381 or 491W; and CHEM-347 or BCMB-351.

### **Track 3. Specialization in Chemistry for Medical School and Allied Fields**

This course of study is designed for students planning admission to graduate programs in biochemistry, toxicology, pharmacology, etc., and to professional schools in the healing arts (such as medicine and dentistry) or further study in the health-related fields. In addition to the courses required of all majors, this program consists of the following courses: CHEM-347 or BCMB-351; BIO-101Q and 102Q.

### **Track 4. Specialization in Chemistry for Science Teaching**

This program satisfies the requirements for secondary school certification in chemistry as established by the Commonwealth of Pennsylvania. In addition to the courses required of all majors, students seeking certification should complete ENV-100 or CHEM 101Q. Prospective teachers should serve as laboratory assistants or participate in safety training. Prospective student teachers must have a 2.50 average in chemistry and receive a departmental recommendation which considers, in addition to academic

performance, the student's interpersonal and communication skills. Students and their advisers should consult the Ursinus College Education Department.

## Requirements for Minors

A minor concentration in chemistry consists of Chemistry 105/105LQ (or 151/151LQ in place of 105/105LQ and 206/206L), 106/106L, 205/205L, 206/206L, 309/309L or 315/315L or 322/322L, and three additional credits in chemistry at the 300-level or higher excluding internships, research, and seminar courses.

## Departmental Honors in Chemistry

Students successfully completing CHEM-491W and CHEM-492W may be awarded honors in chemistry, but no additional credit will be granted. Description of the honors program, including qualifications, is detailed in this catalogue.

## Courses

\*For any lecture course that has an accompanying laboratory, a student may choose to repeat the lecture and lab independently.

### **CHEM-100Q. Topics in Chemistry Faculty**

A study of the essential nature of chemistry, emphasizing basic chemical principles and applications. Topics may include atomic structure, bonding, the production and utilization of energy, and oxidation-reduction. Societal and historical perspectives are introduced by way of assignments from the popular literature. A knowledge of algebra is assumed. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

*Note: A student who has received credit for CHEM-105/151 may not enroll in CHEM-100Q. CHEM-100Q may not be used as elective credits for chemistry majors or minors.*

### **CHEM-101Q. Introduction to Environmental Chemistry Faculty**

This course, intended for non-science majors, will examine selected topics in environmental chemistry through an understanding of basic chemical principles. Topics may include global warming, ozone depletion, pollution, and waste management\*. Three hours of lecture. *Three semester hours. (LS, if taken with CHEM-101LQ.)*

### **CHEM-101LQ. Laboratory in Introductory Environmental Chemistry Faculty**

Laboratory work related to CHEM-101Q. In addition to mastering basic chemistry laboratory skills, students will analyze air, water, and soil samples using a variety of techniques\*. Prerequisite: CHEM-101Q (or concurrently). Three hours of laboratory per week. *One semester hour.*

*Note: CHEM-101Q and CHEM-101L may not be used as elective credits for chemistry majors or minors.*

### **CHEM-102Q. Introduction to Forensic Chemistry Faculty**

This course, intended for non-science majors, will examine selected topics in forensic science. Through an understanding of basic chemical principles, this course will investigate the role of science in solving crimes. Topics may include fingerprint analysis, fiber identification, blood typing and analysis, drug identification, and DNA profiling. Case studies will be used to explore the scientific foundation for the examination of physical, chemical, and biological evidence\*. Three hours of lecture. *Three semester hours. (LS, if taken with CHEM-102LQ.)*

**CHEM-102LQ. Laboratory in Forensic Chemistry Faculty**

Laboratory work related to CHEM-102Q. This laboratory course will involve the analysis of trace evidence. Techniques utilized may include chromatography, fingerprinting, blood typing, fiber identification, glass analysis, mass spectrometry, and infrared spectroscopy. Students will work in investigative teams\*. Prerequisite: CHEM-102Q (or concurrently). Three hours of laboratory per week. *One semester hour.*

*Note: CHEM-102Q and CHEM-102L may not be used as elective credits for chemistry majors or minors.*

**CHEM-105. General Chemistry I Dr. Ellison, Dr. Popescu, Dr. Reig, Dr. Williamsen**

A study of the principles of chemistry. Topics include structure, bonding, stoichiometry, states of matter, inorganic reactions, thermochemistry, and solutions. The mathematical solution of chemical problems will be emphasized. This course must be taken concurrently with CHEM-105LQ. Prerequisite: Completion of Chemistry Department Placement Exam and Survey. Three hours of lecture per week plus one hour of recitation per week at the discretion of the instructor. *Three semester hours. (LS.)*

**CHEM-105LQ. Laboratory in General Chemistry I Dr. Pfennig, Faculty**

Laboratory work related to CHEM-105. Experimental work may include verification of the stoichiometric relationship between reactants and products, the preparation and characterization of compounds, titrations involving neutralization and redox reactions, measurement of enthalpies of reaction, and colorimetric analysis. The mathematical solution of chemical problems will be emphasized. This course must be taken concurrently with CHEM-105.\* Three hours per week. *One semester hour.*

**CHEM-106. Organic Chemistry I Dr. Hess, Dr. Koeppe, Dr. Tortorelli**

An introduction to the study of the physical and chemical properties of both aliphatic and aromatic hydrocarbons within the context of modern structural theory. Areas emphasized are bonding, acidity and basicity in organic systems, stereochemistry, and reaction mechanisms. This course must be taken concurrently with CHEM-106L.\* Prerequisite: CHEM-105 or 151. Three hours per week. *Three semester hours. (LS.)*

**CHEM-106L. Laboratory in Organic Chemistry I Dr. Hess, Dr. Koeppe, Dr. Tortorelli, Faculty**

Laboratory work related to CHEM-106. Experimental work may include measurement of physical properties, study of reaction kinetics, and synthesis. Techniques employed include chromatography, distillation, extraction, infrared and UV/vis spectroscopy, and recrystallization. Primary and secondary literature sources are introduced. This course must be taken concurrently with CHEM-106.\* Prerequisite: CHEM-105LQ or 151LQ. Three hours per week. *One semester hour.*

**CHEM-151. Advanced General Chemistry Dr. Pfennig**

A course in the foundations of chemistry and analysis of chemical systems designed for students with a strong background in chemistry. Topics in atomic structure, bonding, thermodynamics, equilibria and kinetics will be discussed in detail. The course will emphasize the integration of these topics with other areas of chemistry, having an outlook toward upper-level chemistry courses. This course must be taken concurrently with CHEM-151LQ. Prerequisite: Completion of Chemistry Department Placement Exam and Survey. Placement in this course is based on the results of the exam and survey. Three hours of lecture per week plus one hour of recitation per week at the discretion of the instructor. *Three semester hours. (LS.)*

*Note: Students who have received credit for CHEM-105 and/or CHEM-206 may not enroll in CHEM-151.*

**CHEM-151LQ. Laboratory in Advanced General Chemistry** *Dr. Pfennig*

Laboratory work related to CHEM-151. Experimental work may include topics in stoichiometry, chemical structure and bonding, thermodynamics, equilibrium, and kinetics. This course must be taken concurrently with CHEM-151\*. Three hours of laboratory per week. *One semester hour.* \*

**CHEM-201W. Effective Communication for Chemists** *Faculty*

Practice in various forms of technical writing commonly used by chemists. Topics will include writing the scientific paper, display of experimental data, and effective presentation skills. Course work will involve bibliographic instruction and the use of primary sources. Open only to chemistry majors. Pre- or co-requisites: CHEM-205. Three hours per week. *Three semester hours.*

**CHEM-205. Organic Chemistry II** *Dr. Hess, Dr. Koeppe, Dr. Tortorelli*

A continuation of CHEM-106. Particular emphasis is placed on spectrometric methods, and on the reactivity and synthesis of a variety of organic functional groups. This course must be taken concurrently with CHEM-205L.\* Prerequisite: CHEM-106. Three hours per week. *Three semester hours. (LS.)*

**CHEM-205L. Laboratory in Organic Chemistry II** *Dr. Hess, Dr. Koeppe, Dr. Tortorelli, Faculty*

Laboratory work related to CHEM-205; a continuation of 106L. This course must be taken concurrently with CHEM-205.\* Prerequisite: CHEM-106L. Three hours per week. *One semester hour.*

**CHEM-206. General Chemistry II** *Dr. Ellison, Dr. Popescu, Dr. Reig, Dr. Williamsen*

A study of properties of solutions, kinetics, equilibria, and acid-base chemistry, thermodynamics, electrochemistry, and nuclear chemistry. This course must be taken concurrently with CHEM-206L.\* Prerequisite: CHEM-105. Three hours per week. *Three semester hours. (LS.)*

**CHEM-206L. Laboratory in General Chemistry II** *Dr. Pfennig, Faculty*

Laboratory work related to CHEM-206. Special emphasis will be placed on sample manipulation, control of solution characteristics, quantitative analysis, and the development of skills in wet and instrumental analysis methods. This course must be taken concurrently with CHEM-206.\* Prerequisite: CHEM-105LQ. Three hours per week. *One semester hour.*

**CHEM-212. Structure and Spectroscopy** *Faculty*

A study of the fundamental aspects of the various forms of spectroscopy through the structural examination of a variety of chemical compounds. The course will emphasize major spectroscopic techniques, such as NMR, IR, MS, and UV-vis. In depth analysis of the spectra and their relation to structure determination will be emphasized. Prerequisites: CHEM-205 and either 151 or 206 (or concurrently). Three hours of lecture per week. *Three semester hours.*

**CHEM-291. Introduction to Research** *Faculty*

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Upon completion of the work, a formal presentation must be given to the department. This course may be taken more than once. Prerequisites: CHEM-105LQ or 151LQ and permission of the research adviser. Three hours of laboratory per week. *One semester hour.*

**CHEM-309. Physical Chemistry I** *Dr. Ellison, Dr. Popescu*

An in-depth study of chemical thermodynamics and kinetics, including enthalpy, entropy, and Gibbs energy changes; physical and chemical equilibria; rates of chemical reactions; and reaction mechanisms\*. Prerequisites: CHEM-151 or 206; MATH-112; PHYS-122Q. Strongly recommended: MATH-211. Three hours per week. *Three semester hours. (LS, if taken with CHEM-309L.)*

*Note: Students may not receive credit for both CHEM-309 and BCMB-307.*

**CHEM-309L. Laboratory in Physical Chemistry I** *Dr. Ellison, Dr. Popescu*

Laboratory work related to BCMB-307 and CHEM-309, emphasizing data analysis, computer and writing skills. Lab report writing will require use of the primary and secondary literature sources\*. Prerequisites: CHEM-151LQ or 206L; BCMB-307 (or concurrently) or CHEM-309 (or concurrently). Three hours per week. *One semester hour.*

**CHEM-310. Physical Chemistry II** *Dr. Ellison, Dr. Popescu*

A study of the principles of quantum mechanics applied to simple models (particle in the box, harmonic oscillator) and to atoms and molecules (quantum chemistry). The course will include statistical thermodynamics. Emphasizes the mathematical foundation and spectroscopic investigation of atomic and molecular properties\*. Prerequisite: CHEM-151 or 206; MATH-112; PHYS-122Q. Strongly recommended: MATH-211. Three hours per week. *Three semester hours. (LS, if taken with CHEM-310L.)*

**CHEM-310L. Laboratory in Physical Chemistry II** *Dr. Ellison, Dr. Popescu*

Laboratory work related to CHEM-310, emphasizing spectroscopic methods of investigating atomic and molecular structure and properties. Data analysis and lab report writing will require the use of the chemical literature\*. Prerequisites: CHEM-151LQ or 206L; 310 (or concurrently). Three hours per week. *One semester hour.*

**CHEM-315. Instrumental Analysis** *Dr. Williamsen*

A study of instrument-based spectroscopic, separation, and electrochemical analyses. A framework that can be used to understand new and old techniques, the theory behind a variety of specific techniques, and the current practices used in chemical analysis will be discussed. In addition to the discussion of specific techniques, basic concepts in electronics and statistics will be presented\*. Prerequisite: either CHEM-151 or 206. Three hours per week. *Three semester hours. (LS, if taken with CHEM-315L.)*

**CHEM-315L. Laboratory in Advanced Instrumental Analysis** *Dr. Williamsen*

Laboratory work related to CHEM-315. Students will gain experience with a variety of instrumental analysis techniques by investigating how specific instrumental settings affect output. Emphasis will be placed on statistical analysis of experimental data\*. Prerequisites: CHEM-315 (or concurrently). Three hours per week. *One semester hour.*

**CHEM-322. Inorganic Chemistry** *Dr. Pfennig, Dr. Reig*

A principles-based approach to modern inorganic chemistry, including the structure, bonding, and reactivity of main group, transition metal, and organometallic compounds. Topics may include atomic theory, symmetry, chemical applications of group theory, molecular orbital theory, ligand field theory, the electronic spectroscopy of coordination compounds, and solid-state chemistry. Prerequisite: CHEM-151 or 206. Three hours per week. *Three semester hours. (LS.)*

**CHEM-322L. Laboratory in Inorganic Chemistry** *Dr. Pfennig, Dr. Reig*

Laboratory work related to CHEM-322. Techniques used to synthesize and characterize a variety of inorganic compounds will be introduced. This course must be taken concurrently with CHEM-322\*. Three hours per week. *One semester hour.*

**CHEM-347. Fundamentals of Biochemistry** *Dr. Koeppe*

A study of the chemistry of molecules and reactions important in biological systems. Topics may include amino acids, proteins, enzymes, carbohydrates, lipids, metabolism, bioenergetics, DNA, RNA, pharmaceuticals, and the mechanisms of biological reactions. Prerequisites: CHEM-205 and CHEM-206. Three hours per week. *Three semester hours.*

*Note: Students who have received credit for BCMB-351 may not enroll in CHEM-347.*

### **CHEM-350. Selected Topics in Chemistry Faculty**

A course focused on a topic of contemporary interest to the chemical community, such as advanced organic chemistry, nuclear magnetic resonance, medicinal chemistry, materials science, ethical issues in science, or synthesis. Prerequisites: CHEM-205 and 206, and permission of the instructor. Three hours per week. *Three semester hours.*

### **CHEM-380. Off-Campus Research Faculty**

An approved, off-campus laboratory research experience supervised by an on-site adviser and faculty liaison involving a minimum of 10 hours per week for one semester or four weeks of full-time work. Before beginning the project, the student must submit a proposal to be approved by both the chemistry faculty and the on-site adviser. Upon completion of the work, written and oral reports must be presented to the department. Prerequisites: CHEM-205L and either 151LQ or 206L. Graded S/U. *Three semester hours. (I.)*

### **CHEM-381. Internship Faculty**

A laboratory project in cooperation with industry at an industrial site involving a minimum of 10 hours per week for one semester or four weeks of full-time work. Before beginning the internship, the student must submit a proposal to be approved by both the chemistry faculty and the on-site supervisor. Upon completion of the work, written and oral reports must be presented to the department. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Upon completion of the work, written and oral reports must be presented to the department. Prerequisites: CHEM-205L and either 151LQ or 206L. Graded S/U. *Three semester hours. (I.)*

### **CHEM-382. Internship Faculty**

A laboratory project in cooperation with industry at an industrial site involving a minimum of 10 hours per week for one semester or four weeks of full-time work. Before beginning the internship, the student must submit a proposal to be approved by both the chemistry faculty and the on-site supervisor. Upon completion of the work, written and oral reports must be presented to the department. Open to rising juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisites: CHEM-205L and either 151LQ or 206L. Graded S/U. *Four semester hours. (I.)*

### **CHEM-391. Research/Focused Inquiry Faculty**

Laboratory and library work, under the direction of a faculty member, designed to introduce the student to fundamental research procedures and data interpretation in the context of a research project. Upon completion of the work, a formal presentation must be given to the department. This course may be taken more than once. Prerequisites: CHEM-205L or 291, and permission of the research adviser. Six hours of laboratory per week. *Two semester hours.*

### **CHEM-400. Chemistry Seminar Faculty**

A forum for seminar presentations by students, faculty members, and visiting scientists. Offered both semesters. Prerequisites: CHEM-205 and either 151 or 206. May be taken four times for credit. One hour per week. Graded S/U. *One semester hour.*

### **CHEM-408W. Advanced Organic Chemistry Dr. Hess, Dr. Koeppe, Dr. Tortorelli**

A study of structure, reactivity, reaction mechanisms, and synthetic methodology in organic systems. Written and oral exercises are required, as well as a major paper. Offered spring of odd-numbered years. Prerequisites: CHEM-205, and either 151 or 206. Three hours per week. *Three semester hours.*

**CHEM-410W. Advanced Physical Chemistry** *Dr. Ellison, Dr. Popescu*

A course that explores topics in physical chemistry in depth. Topics may include advanced methods in spectroscopy, reaction kinetics, molecular reaction dynamics, quantum mechanical calculations, and nanoscience. Written and oral exercises are required, as well as a major paper. Prerequisites: CHEM-309 and 310. Three hours per week. *Three semester hours.*

**CHEM-426W. Advanced Analytical Chemistry** *Dr. Williamsen*

A study of an application in analytical chemistry or a specific analytical technique. Written and oral exercises are required, as well as a major paper. Offered spring of even-numbered years. Prerequisite: CHEM-315. Three hours per week. *Three semester hours.*

**CHEM-435W. Advanced Inorganic Chemistry** *Dr. Pfennig, Dr. Reig*

A study of bonding theories, point groups, structure, stereochemistry, and reactivity of inorganic and organometallic materials with an emphasis on transition-metal compounds. Other topics include superconductivity, catalysis, and bioinorganic chemistry. Written and oral exercises are required, as well as a major paper. Offered fall of odd-numbered years. Prerequisites: CHEM-322. Three hours per week. *Three semester hours.*

**CHEM-447W. Advanced Biochemistry** *Dr. Koeppe*

A detailed exploration of the structures, properties, and reactions of biological molecules, cycles, and systems. Written and oral exercises are required, as well as a major paper. Offered fall of even-numbered years. Prerequisites: CHEM-347, or BCMB-351 and 452W. Three hours per week. *Three semester hours.*

**CHEM-450W. Advanced Topics in Chemistry** *Dr. Koeppe*

An advanced course covering selected topics in modern chemistry. Possible topics include biophysical chemistry, bioinorganic chemistry, the chemistry of life, organometallic chemistry, and nanoscience. Prerequisites: CHEM-205, CHEM-206 (or CHEM-151), and permission of the instructor. Three hours per week. *Three semester hours.*

**CHEM-491W. Advanced Topics in Chemistry** *Faculty*

Independent laboratory and library investigation in chemistry. A final research paper and oral presentation will be presented to the department faculty. At the time of registration, written consent of the research adviser and the department is required. This course may be taken more than once. Prerequisites: CHEM-201W; Co-requisite: CHEM-400. Twelve hours per week. *Four semester hours. (I.)*

**CHEM-492W. Research/Independent Work** *Faculty*

A continuation of CHEM-491W, with a final seminar and thesis describing the research work. At the time of registration, written consent of the research advisor and the department is required. This course may be taken more than once. Prerequisites: CHEM-491W. Co-requisite: CHEM-400. Twelve hours per week. *Four semester hours. (I.)*

**CHEM-499. Chemistry Assessment** *Faculty*

A course required of all Chemistry majors designed to assess their learning in the chemistry program. Taken in the student's last semester. Graded S/U. *Zero semester hours.*



# Classics

Classical Studies offers students an introduction to the worlds of Ancient Greece and Rome. Courses in Latin and Greek not only develop a student's reading knowledge in these languages but examine the cultural contexts of the literature, art, and archaeology we study. By encountering the ancients on their own terms, we can better understand their worlds and their influence on ours. Classical Studies is the traditional basis of a liberal arts education and a minor in Classical Studies enhances a student's ability and skills in interpretation and writing. A student may choose to minor in Classical Studies or Latin.

## Requirements for the Latin Minor

A minor in Classical Studies consists of five courses for a total of 20 credits.

- LAT-101 and 102 do not count towards the minor.
- Four of the Latin courses must be above the 100-level; one must be at the 300-level or above.
- The fifth course may be selected from Latin, Greek or Classical Studies.

## Requirements for the Classical Studies Minor

A minor in Classical Studies consists of five courses for a total of 20 credits.

- Minimum of two semesters of Latin or two semesters of Greek. These courses may be at the 100-level or above.
- CLAS-100 Introduction to the Classical World;
- Two additional courses; one must be at the 300-level or above. These courses may be classical language courses, Special Topics in Classical Studies, or Independent Research.

See list of classical studies-related courses below. One of these courses may be applied to the minor in Latin or Classical Studies.

- ANTH-205 Archeology
- ART-150 History of Art I: Ancient Through Medieval
- HIST-261 The Pre-Modern World
- HIST-265 Heirs of Rome: The Mediterranean World, 284-840 C.E.
- MUS-205 History of Music to 1750
- PHIL/POL-237 Political Philosophy,
- PHIL/POL-337 Classical Political Philosophy
- PHIL-351 Topics in Ancient and Medieval Philosophy
- RELS-242 The Hebrew Bible
- RELS-245 Introduction to the New Testament
- Other Special Topics courses may be applied to the minor with permission of the Classical Studies program coordinator.

Students minoring in both Latin and Classical Studies may apply only one course to count towards both minors.

Students studying Classics abroad may apply at most two of those courses towards the Classical Studies or Latin minors with permission of the Classical Studies program coordinator. Upon request, the Classical Studies program coordinator may approve other courses, such as Special Topics in other departments that have a classical studies focus, to count towards the minor.

## Courses

### **CLAS-100. Introduction to the Classical World** *Faculty*

This course will provide students with an introduction to the Greeks and Romans, covering major historical events as well as social, literary, and artistic trends. This is the foundation course for a minor in Classical Studies. Three hours per week. *Four semester hours. (H.)*

### **CLAS-250. Special Topics in Classics** *Faculty*

Special topics will vary but all will focus on ancient history, society, or literature. All primary sources will be read in translation. Three hours per week. *Four semester hours. (H.)*

### **CLAS-290. Independent Study in Classics** *Faculty*

Individual study of topics in ancient literature or civilization. Students will meet weekly with the instructor to review assigned readings and writing assignments. Prerequisite: CLAS-100 or permission of the instructor. *Four semester hours. (I.)*

### **CLAS-350. Advanced Special Topics in Classics** *Faculty*

Courses on wider topics in ancient history, society, or literature. All primary sources will be read in translation. Prerequisite: CLAS-100. Three hours per week. *Four semester hours. (H.)*

### **CLAS-390. Advanced Independent Study in Classics** *Faculty*

Individual study of topics in ancient literature or civilization at an advanced level. Students will meet weekly with the instructor to review assigned readings and writing assignments. Prerequisites: CLAS-100 and 290. *Four semester hours. (I.)*

### **CLAS/LAT-452W. Advanced Seminar in Classics or Latin** *Faculty*

Seminars of changing content, for study of authors and genres, combined with study and practice in writing. Prerequisites: CLAS-100 and three additional Classical Studies courses, of which two must be at the 300-level or above. Three hours per week. *Four semester hours. (H.)*

### **CLAS/LAT-491W. Pre-Honors Research in Classical Studies or Latin** *Faculty*

This course is open to candidates for honors and to other students with the permission of the Classical Studies program coordinator. Students will meet weekly with the instructor to review assigned readings, research and writing assignments. Prerequisite: permission of the instructor. *Four semester hours. (I.)*

### **CLAS/LAT-492W. Honors in Classics or Latin** *Faculty*

A continuation of CLAS/LAT-491W. Students will meet weekly with the instructor to review assigned readings, research and writing assignments. Prerequisite: CLAS/LAT-491W. *Four semester hours. (I.)*

## Greek

### **GRK-150. Introduction to Greek for Classical Studies** *Faculty*

Students will develop skills in reading Homeric or Biblical Greek, building on their previous knowledge of Latin. Prerequisite: LAT-102 or permission of instructor. Four hours per week. *Four semester hours. (H.)*

### **GRK-151. Special Topics in Greek Faculty**

Students will develop their reading skills while focusing on a single author or topic. Prerequisite: GRK-150 or permission of instructor. Four hours per week. *Four semester hours. (H.)*

## **Latin**

### **LAT-101. Elementary Latin Faculty**

Students will be introduced to the basics of Latin and will develop skills in the foundational syntax and vocabulary of Latin. Four hours per week. *Four semester hours. (L.)*

### **LAT-102. Elementary Latin II Faculty**

Students will broaden their knowledge of vocabulary, syntax and grammar and read excerpts from a variety of Latin authors. Four hours per week. *Four semester hours. (H, L.)*

### **LAT-201. Intermediate Latin I Faculty**

Students will further develop their skills in Latin grammar while reading increasingly complex material. Prerequisite: LAT-101102; or permission of the instructor. Four hours per week. *Four semester hours. (H, L.)*

### **LAT-202. Intermediate Latin II Faculty**

A continuation of LAT-201. Prerequisite: LAT-201 or permission of the instructor. Four hours per week. *Four semester hours. (H, L.)* The sequences LAT-101-102 or 201-202 are recommended for fulfilling the foreign language requirement.

The sequences LAT-101–102 or 201–202 can fulfill the College foreign language requirement.

### **LAT-250. Special Topics in Latin Language and Grammar Faculty**

This course focuses on building skills in Latin grammar and structure. Students will read material from Latin texts simplified and adapted to emphasize grammar. Prerequisite: LAT-201202; or permission of the instructor. Three hours per week. *Four semester hours. (H, L.)*

### **LAT-350. Advanced Special Topics in Latin Reading and Translation Faculty**

Content variable; may concentrate on author, period, or genre. Possible topics: Latin Poetry, Historical Writers, Roman Revolution, Vergil's Aeneid. Students will read primary sources in Latin. Prerequisite: LAT-250 or permission of the instructor. Three hours per week. *Four semester hours. (H, L.)*

### **LAT-450. Independent Work -Topics in Latin Faculty**

Independent readings or research in Latin. Weekly meetings with Instructor supervising the independent work. Prerequisite: LAT-350 or permission of the instructor. Three hours per week. *Four semester hours. (I.)*

## **Common Intellectual Experience**

The goals of the two Common Intellectual Experience Seminars (CIE-100 and CIE-200) are 1) to develop a student's ability to think critically through a pedagogy which stresses the intellectual process; 2) to foster the essential skills of critical reading, effective speaking and clear writing; 3) to develop these skills within the intellectually

challenging context of three broad questions relevant to the human condition; 4) to enable the student to make connections across the traditional disciplines; and 5) to promote a shared intellectual endeavor for all entering students.

All students are required to enroll in CIE-100 and CIE-200 during the fall and spring, respectively, of their first year. (In unusual circumstances, students, with permission of the Office of the Dean, may take CIE in the second year.)

While Common Intellectual Experience Seminars have an enrollment limited to 16 students to provide an atmosphere conducive to discovery and inquiry, the small sections meet together, from time to time, for common events. Faculty members from all disciplines lead students to reflect about significant issues that introduce them to the intellectual climate of the College. Reading assignments consist of seven or eight books or equivalents. Frequent writing and oral assignments are required throughout the course.

## Courses

### **CIE-100. Common Intellectual Experience I Faculty**

The first of a two-semester course introducing inquiry into the central questions of a liberal education: what does it mean to be human? How should we live our lives? What is the universe and how do we fit into it? The course will explore these questions through the study of foundational texts in a variety of disciplines. The first semester begins with ancient times and concludes with the advent of modern science. Four hours per week. *Four semester hours. (CIE)*

### **CIE-200. Common Intellectual Experience II Faculty**

This course brings the inquiry of CIE-100 (CIE I) into the modern era. Specifically, the semester begins with the Enlightenment and concludes with a consideration of contemporary situations. The main questions of CIE-100 will continue to be explored through the study of foundational and contemporary texts from many disciplines. Four hours per week. *Four semester hours. (CIE)*

### **CIE-300. Common Intellectual Experience III Faculty**

This course allows deeper exploration into issues and texts encountered in CIE-100 and CIE-200. While the topics may vary each semester, this seminar will be a discussion-oriented, interdisciplinary course that permits engagement with themes in a more sustained and focused manner. Prerequisite: Junior or senior standing. Three hours per week. *Four semester hours. (Possible D or G, depending on the topic.)*

*Note: This course may be taken more than once.*

## Creative Writing

The creative writing minor offers students from all majors the opportunity to specialize in writing across a broad range of genres, including fiction, poetry, creative non-fiction, playwriting, and screenwriting. Minors get hands-on experience in journalism and/or magazine production by working for the college paper, *The Grizzly*, or the literary review, *The Lantern*. They become acquainted with the literary world through attending readings, and they are encouraged to submit work for publication or presentation to appropriate venues.

A minor concentration in Creative Writing consists of at least five English courses, including ENGL-402 and at least three of the following creative writing courses: ENGL-106, 205, 206, 209 (one or more sections), and 302. MCS-207 may also be counted

toward the minor. One literature course may count toward the creative writing minor. Participation in student publications is also required.

See English for a description of the Creative Writing courses.

## **East Asian Studies**

Acquaintance with cultures other than our own is an integral part of both a liberal education and preparation for a career in a variety of fields, including business, law, government, or teaching. The major and minor in East Asian Studies are interdisciplinary programs drawing on offerings in several departments, but emphasizing history, culture, politics, literature and language. The programs are designed to provide an introduction to the cultures of China and Japan; in reflection of Ursinus' relationship with our sister school, Tohoku Gakuin University (TGU), located in Sendai, Japan, offerings emphasize the latter.

In addition to the courses offered on the Ursinus campus, students either majoring or minoring in East Asian Studies are encouraged to take advantage of off-campus study-abroad opportunities, including the Ursinus Summer Study in Japan (EAS-301) and the Semester in Japan (EAS-399), both offered in conjunction with TGU. Students seeking intensive language experience should consult with the language faculty about appropriate overseas or summer-intensive programs.

### **Requirements for Majors**

- 1) A minimum of 12 hours of appropriate language study beyond the introductory 101/102 level (NOTE: EAS majors are encouraged to complete all or some of this requirement either through study abroad or summer-intensive programs, including the college-sponsored Semester Study in Japan program [EAS-399]; regarding major credit, see Note below). Students may satisfy this requirement through equivalent off-campus study — including study abroad — of Chinese, Korean, or other appropriate East Asian language, subject to college approval.
- 2) 12 credits from HIST-241, 243; Politics 346, 347; EAS-299, 314; or ENGL/EAS-224;
- 3) A capstone experience either in an approved seminar in History, Politics, Modern Languages, or other department as appropriate, EAS-400W, or EAS-491W/492W;
- 4) An appropriate methodology course (i.e. ECON-202, ENGL-290W, HIST-200W, POL-252 or 300Q, ANSO-200, or other approved course). East Asian Studies majors generally fulfill their requirement for an oral presentation in the major through the required oral component of their methodology and capstone courses;
- 5) 12 additional credits from the following courses (Note: at least eight credits must be at the 300-level): ANTH-232, 351, 371, 372 (Note: except for 232, Anthropology courses must have the permission of the East Asian Studies coordinator), EAS-299, 301, 314, 398, 399, ENG/EAS-224, HIST-241, 243, 341, 342, 344, 345, 361, POL-346, 347, 353, 358, and RELS-111, or approved topics courses in Anthropology and Sociology, Business and Economics, East Asian Studies, English, History, Politics, or Philosophy and Religious Studies.

*Note: For the purposes of the EAS major, students who complete EAS-398-399 will receive 3 credits toward the appropriate level of Japanese language, to be determined by the Ursinus faculty, and full credit toward #5 above.*

## **Requirements for Minors**

A minor concentration in East Asian Studies consists of 20 credits from courses dealing with East Asia. Twelve credits must come from HIST-241, 243; POL-346, 347; or ENGL/EAS-224. The remaining credits must come from the following: EAS-299, 301, 314, 398, 399; JPN-111, 112, 211, 212, 311, 312, 328; HIST-241, 243, 341, 342, 344, 361; POL-346, 347, 353 or RELS-111.

## **Teacher Certification**

Ursinus is one of only a small number of institutions in Pennsylvania to offer certification for secondary-school teaching in Japanese language. For requirements, candidates should consult the Ursinus College Education Department as well as their Japanese language instructor. Certification requires passing a language competency examination.

## **Courses**

### **EAS/ENGL-224. Japanese Literature in Translation** *Dr. Mizenko*

Critical reading of representative Japanese literary texts in English translation. This survey begins with ancient texts and concludes with mid-20th century fiction. The focus is on tracing the development of the lyrical and expressive tradition in poetry, and its influence on such genres as drama, essays, diaries and fictional narratives. Three hours per week. *Four semester hours. (H, G.)*

### **EAS-299. Topics in East Asian Studies** *Faculty*

An interdisciplinary topics course focusing on aspects of East Asian culture, the specific topic to be chosen by the instructor. To be taught in English by guest faculty. Four hours per week. *Four semester hours. (G.)*

### **EAS-301. Summer Study in Japan** *Faculty*

A five-week course offered in collaboration with Tohoku Gakuin University in Sendai, Japan. This interdisciplinary course comprises three weeks of classroom instruction in Sendai on selected topics of Japanese culture and society, plus an introduction to conversational Japanese language, followed by a two-week tour of Japan. Instruction is in English and is provided by the faculty of Tohoku Gakuin University as well as members of the Ursinus faculty. Offered annually mid-May through June. Not open to incoming freshmen. *Four semester hours. (G.)*

### **EAS-314. Contemporary Japanese Culture.** *Dr. Mizenko*

An introduction to contemporary Japanese culture in its socio-historical context from the post-WWII era to the present. Course materials will include fiction, nonfiction, manga, film, anime, and the visual arts. Among the topics typically addressed are Hiroshima and its aftermath, the social impact of economic reconstruction, gender and ethnicity, postmodern identity and society, the environment, technology and cyborgs, education and business, and the continuing search for definitions of what it means to be Japanese. Taught in English; no knowledge of the Japanese language is necessary. Four hours per week. Several required film screenings. *Four semester hours. (H, G.)*

**EAS-351. Readings in East Asian Studies Faculty**

Individual or small-group study of one or more selected topics in East Asian Studies. May include preparation of a bibliography for a proposal for subsequent research. Requires consent of a member of the program who will serve as adviser. This course is graded S/U and may be taken more than once for credit. One hour per week plus at least three hours of preparation. *One semester hour.*

**EAS-352. Readings in East Asian Studies Faculty**

Individual or small-group study of one or more selected topics in East Asian Studies. May include preparation of a bibliography for a proposal for subsequent research. Requires consent of a member of the program who will serve as adviser. This course is graded S/U and may be taken more than once for credit. Two hours per week plus at least six hours of preparation. *Two semester hours.*

**EAS-381. Internship**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor done either domestically or abroad. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. *Three semester hour. (I.)*

**EAS-382. Internship**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor done either domestically or abroad. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. *Four semester hour. (I.)*

**EAS-398. Study in Japan Pre-Departure Program Faculty**

A introduction to basic themes of Japanese history, culture, society. This is a required course for all Ursinus students participating in either EAS-399, Semester in Japan, or EAS-301, Summer Study in Japan. Enrollment by permission of the instructor. The course meets 75 minutes/week for six weeks after spring break. *One semester hour.*

**EAS-399. Semester in Japan Faculty**

Ursinus College has a long-standing tradition of exchange programs with Tohoku Gakuin University, our sister university in Sendai, Japan. The fall semester exchange program provides Ursinus students with the opportunity to spend the fall semester at Tohoku Gakuin. In addition to intensive Japanese language training, classes are offered in a variety of topics. Except for the language classes, courses are taught in English. The program is open to all majors, Admission is competitive. Prerequisite: EAS-398 and two semesters of Japanese language. *Fifteen semester hours. (H.)*

*Note: Grades (Pass/Fail) earned in the Semester in Japan program will not count in the student's cumulative GPA at Ursinus.*

**EAS-400W. Research in East Asian Studies Faculty**

A capstone course for East Asian Studies majors only, involving a supervised independent research project and an oral presentation to EAS faculty. Prior approval of the East Asian Studies coordinator and supervising faculty required. *Four semester hours. (I.)*

**EAS-491W. Research/Independent Work Faculty**

This course is open to candidates for honors in East Asian Studies and to other students with the permission of the East Asian Studies coordinator. *Four semester hours. (I.)*

**EAS-492W. Research/Independent Work Faculty**

A continuation of EAS-491W. Prerequisite: 491W. *Four semester hours. (I.)*

## Education

The study of education is interdisciplinary and can spark profound insights about one's own educational experience and the role of education in society. It can also lead to a variety of careers: not only teaching in a range of settings (public or private schools, schools in foreign countries, programs like Teach for America, museums and other institutions), but also careers in fields such as education policy, social justice, education law, higher education, and counseling.

The Education department offers 1) preparation for Pennsylvania state certification (transferable to more than forty other states) in a range of subjects, mostly for grades 7-12 but in some cases for grades K-12 (see below); or 2) a minor in either secondary or elementary education. The department does not offer a major—students pursue certification or a minor in addition to a major in a different department—nor does it offer certification in elementary education.

For all students, including those who might be interested in taking a course or two, the department brings a rigorous, liberal arts approach to the study of education, including a focus on the social, political, cultural, historical, and philosophical contexts in which teaching and learning take place. Education students apply academic learning to educational problems and practices, in schools as well as society. Those who pursue teaching certification will learn to develop curriculum plans, teaching strategies, and assessments that engage all of their students and make a lasting impact on their lives. They will be expected to shape classrooms characterized by a culture of learning, respect for differences, and the pursuit of individual and collective growth—and to demonstrate a commitment to ethical standards and professionalism, including their own continuing growth.

## Teaching Certification

Ursinus College is approved by the Pennsylvania Department of Education (PDE) to offer initial Teacher Certification in the following subject areas and grade levels:

- Chemistry (7-12)
- Physics (7-12)
- Biology (7-12)
- General Science (7-12) (offered only in conjunction with Biology, Chemistry or Physics certification)
- Mathematics (7-12)
- English (7-12)
- Social Studies (7-12)
- Latin (K-12)
- German (K-12)
- French (K-12)
- Japanese (K-12)
- Spanish (K-12)



- Health and Physical Education (K-12)
- Environmental Studies (K-12)

*NOTE: The department does not offer certification in elementary education (though as noted above, some subject area certifications span grades K-12).*

To pursue one of these subject area certifications, students must major in that subject and complete nine Education courses totaling 38 credits: EDUC-210, EDUC-265, EDUC-320, EDUC-350, EDUC-360, EDUC-375, EDUC-443, EDUC-405 (student teaching, 12 credits), and EDUC-406. See recommended course sequences below. (NOTE: Students seeking certification in Health and Physical Education are required to complete HEP-355 and 356 instead of EDUC-350 and 443.)

## **Field Experiences**

Most Education courses require field experience hours in local public schools. Students must arrange transportation for all field experiences and student teaching. To be eligible to visit schools and complete these required hours, students must obtain the necessary security clearances: 1) Act 34, Pennsylvania State Criminal History Record; 2) Act 114, FBI Fingerprints (Federal Criminal History Record); 3) Act 151, Pennsylvania Child Abuse Background Check; and 4) Tuberculosis test.

## **Admission to the Program**

Students must fulfill the following requirements before being admitted into the teaching certification program:

- Completion of 48 hours of college-level study;
- Completion of CIE-100 and CIE-200;
- Completion of one course in mathematics and one four-credit Q course; or two four-credit courses in mathematics;
- Completion of EDUC-210 (usually in the 2nd or 3rd semester);
- Passing scores on the Pre-Service Academic Performance Assessment (PAPA: Reading, Writing, Mathematics) or qualifying SAT or ACT scores. This should be done by the end of sophomore year (inquire in the Education department);
- Cumulative GPA of 3.00

## **Student Teaching**

Students must fulfill the following requirements in order to be eligible for student teaching:

- Cumulative GPA of 3.00
- GPA of 3.00 in Education courses (210, 265, 320, 350, 360, 375, and 443. Health and Physical Education candidates: HEP-355 and 356 instead of EDUC-350 and 443)
- Specified GPA in the candidate's major department/certification area

- Completion of EDUC-350 and EDUC-443 (or equivalent HPE methods courses) with satisfactory evaluations from Ursinus Education faculty and field placement teachers (for EDUC-443), in terms of performance and professionalism.
- Satisfactory completion of Student Teacher Biography and Placement Application
- Recommendation by the candidate's major department and approval by Education department faculty

## Certification

Students must meet the following criteria to apply and be recommended for certification:

- Cumulative GPA of 3.00
- Grade of B or higher in student teaching
- Satisfactory PDE 430 Evaluation
- Passing score on Praxis II (Content Area) exams (NOTE: Post-baccalaureate students must take and pass Praxis II before being placed for student teaching.)
- Demonstration of good moral character

Reciprocal agreements extend certification eligibility to more than forty other states, though some states require additional standardized tests. Candidates who wish to teach outside Pennsylvania should contact state education departments for further information. Eligibility for permanent certification in any state depends upon successful full-time teaching and professional development requirements which vary among individual states.

## Teacher Certification Course Sequence

The following are the recommended course sequences for teacher certification. Students and major advisors should consult the Education Department, especially in cases that do not conform to these sequences. All Education coursework must be completed prior to student teaching. Advising sheets for each certification subject area are available through the Education Department.

*Note: Field experience hours in local public schools are required in EDUC-265, 320, 350, 375, and 443. Students must arrange transportation for all field experiences and student teaching.*

*The courses listed below are four credits unless noted otherwise.*

### Student Teaching in Spring Semester

<b>Year 1</b>	EDUC-210 Foundations of Education
<b>Year 2</b>	EDUC-265 Educational Psychology (5 hours field experience) EDUC-320 Diversity of Learners (10 hours field experience)
<b>Year 3</b>	EDUC-350 Curriculum and Instruction (15 hours field experience) EDUC-360 Teaching English Language Learners (2 credits) EDUC-375 The Inclusive Classroom (15 hours field experience)

**Year 4**      **Fall Semester** EDUC-443 Methods Practicum (2 credits) (25 hours field experience)  
**Spring Semester** EDUC-405 Student Teaching (12 credits)  
**Spring Semester** EDUC-406 Professional Applications (2 credits)  
*(See 9th semester and athletics/employment note below.)*

### **Student Teaching in Fall Semester**

**Year 1**      EDUC-210 Foundations of Education

**Year 2**      EDUC-265 Educational Psychology (5 hours field experience)  
EDUC-320 Diversity of Learners (10 hours field experience)

**Year 3**      **Fall Semester** EDUC-350 Curriculum and Instruction (15 hours field experience)  
**Fall Semester** EDUC-375 The Inclusive Classroom (15 hours field experience)  
**Spring Semester** EDUC-360 Teaching English Language Learners (2 credits)  
**Spring Semester** EDUC-443 Methods Practicum (2 credits) (25 hours field experience)

**Year 4**      **Fall Semester** EDUC-405 Student Teaching (12 credits)  
**Fall Semester** EDUC-406 Professional Applications (2 credits)

*Note: EDUC-405 and 406 are taken concurrently and should not be scheduled during a student's participation in athletics or employment. No other courses, day or evening, may be scheduled. While most students complete student teaching during their senior year, some students elect to student teach in a 9th semester; see the Education Department for details.*

*Health and Physical Education (HPE) certification students do not take EDUC-350 and EDUC-443; instead, they should take ESS-356 (fall semester only; 28 hours field experience) and ESS-355 (spring semester only; 12 hours field experience). Both courses require clearances and are **offered every other year**.*

## **Requirements for Minors**

### **Minor in Education**

The minor in education is intended for students with a range of interests in Education, including those who seek to pursue careers in schools (counseling, administration, private school, Teach for America, special education, higher education) and those who have a broader interest in human growth and flourishing. While the minor is an option for students who are not pursuing teaching certification, students in the certification program automatically earn a minor in completing their pre-teaching coursework.

Course requirements: EDUC-210, 265 and three of the following: EDUC-320, 350, 375, 446, 491, 492; PSYC-232, 340, 342; PSYC/NEUR-332; and HEP-223, 224, 366, 464. Only one of the five courses may be taken outside the Education Department. Students may receive departmental permission to substitute a different fifth course, not on the above list, if they provide compelling evidence for its relevance to the minor. EDUC-446 may be taken more than once (with a new topic). Students interested in careers in teaching are encouraged to choose from among EDUC-320, 350, 375 and HEP-223, 224, 366, 464. Education minors who undertake study abroad in Education may work with the department to determine adequate substitutions for required courses.

## **Courses**

### **EDUC-210. Foundations of Education** *Dr. Spencer, Dr. Mackler.*

This course introduces students to the philosophical, sociological, political, and historical foundations of the contemporary public school system in the United States, with a special emphasis on the secondary school. The central aim of the course is to develop students' ability to think about complex questions related to the purposes and practices of schooling in a democratic society. The course will be seminar-style, with students expected to engage collaboratively in philosophical discussions about essential questions in education. Three hours per week. *Four semester hours. (SS.)*

### **EDUC-265. Educational Psychology** *Dr. Spencer*

An examination of psychological principles and how they can illuminate processes of learning and teaching, especially among adolescents. The course will explore cognitive, social, emotional, and moral development in multiple social contexts. It will also emphasize theories of learning and motivation and apply these to the development of positive and productive classroom learning environments. Field experience required. Three hours per week. *Four semester hours. (SS.)*

### **EDUC-320. Diversity of Learners** *Faculty*

An examination of multiple forms of diversity among schoolchildren and legal and procedural aspects of educating diverse students in regular classrooms. The course will focus on foundational knowledge about students with various types of disabilities as well as those who are English Language Learners (ELLs); historical and legal factors that have shaped the education of ELLs and students with disabilities; and processes of collaboration and cooperative teaching that have become integral to the practice of inclusive education. Field experience required. Prerequisite: EDUC-210 and 265; or permission of instructor. Three hours per week. *Four semester hours. (SS, D.)*

### **EDUC-350. Curriculum and Instruction** *Dr. Spencer, Dr. Mackler*

Approaches to planning, assessment, and instruction for secondary school classrooms. The course aims to provide knowledge and skills necessary for a successful student teaching experience and, beyond that, a conceptual framework for long-term professional growth and excellence. Students will construct unit and lesson plans grounded in philosophical foundations, in core ideas and standards within their academic disciplines, and in knowledge of student diversity and development. Topics will include Understanding by Design, inquiry learning and other teaching strategies, multiple forms and functions of assessment, and the evaluation and use of varied instructional materials. Prerequisites: EDUC-210 and 265. Field experience required. Three hours per week. *Four semester hours.*

### **EDUC-351. Research** *Faculty*

Readings and fieldwork designed to introduce students to research methods in education. Students select topics and write a proposal which must be approved by an education adviser. Regular meetings and progress reports and a final paper are required. Prerequisites: EDUC-210 and 265. *One semester hour.*

**EDUC-352. Research Faculty**

Same as EDUC-351 but offered in spring. *One semester hour.*

**EDUC-360. Teaching English Language Learners Faculty**

Approaches and methods for teaching English Language Learners (ELL) in content area classrooms. Topics will include the process of language acquisition, sociocultural characteristics of ELL students, appropriate instructional strategies to make content comprehensible for ELL students, and appropriate assessments for ELL students. Prerequisites: EDUC-210, 265, 320. Two hours per week. *Two semester hours.*

**EDUC-375. The Inclusive Classroom Faculty**

Methods of teaching to meet the needs of diverse learners. The course will emphasize planning, instructional, and assessment strategies that enable regular classroom teachers to meet individual needs while fulfilling common curricular goals. Topics will include the establishment of positive and inclusive learning environments, literacy development and instruction, assistive technology, and principles and practices of differentiated instruction. Prerequisites: EDUC-210, 265, 320. Field experience required. Three hours per week. Four semester hours. (SS, D.)

**EDUC-381. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Students must document their experience according to the requirements delineated in the College catalogue section on Internships. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: Students must have completed 12 semester hours of education coursework and have permission of the supervising faculty member to be eligible for an internship. Graded S/U. 120 hours. *Three semester hours.*

**EDUC-382. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisites: Students must have completed 12 semester hours of education coursework and have permission of the supervising faculty member to be eligible for an internship. Graded S/U. 160 hours. *Four semester hours.*

**EDUC-405. Student Teaching Faculty**

A laboratory course consisting of observation and student teaching. Supervision is provided by faculty in the department of education and normally by other members of the College community in cooperation with teachers from local schools. Conferences and critiques occur between College faculty and student teachers. The course is open only to fourth-year students who meet published academic criteria. In order to receive the College's recommendation for teacher certification, the student teacher must earn a grade of at least B in this course. Prerequisites: EDUC-210, 265, 320, 350, 360, 375 and 443. Taken with EDUC-406, as part of the Professional Semester. *Twelve semester hours.*

**EDUC-406. Professional Applications Faculty**

This course is taken concurrently with student teaching, and gives students an opportunity to engage in guided practice during their student teaching experience. Lesson planning, classroom management and student assessment will all be addressed. Two hours per week. *Two semester hours.*

**EDUC-443. Methods Practicum** *Spencer, Faculty*

A field-based exploration of teaching and learning in the various subject areas offered in the College's teacher education program. Students will be placed in field experiences according to their broad field of specialization (mathematics, science, world languages, English, or social studies), with teachers who will immerse them in the observation, analysis and application of instructional approaches in that subject area. Students must budget time to visit schools roughly once per week, for a total of 30 hours over the course of the semester. On-campus evening sessions will be devoted to subject-specific group work, discussion of field experiences, and the distribution and discussion of important resources in the various subject areas. Prerequisites: EDUC-210, 265, 320, and 350. Field experience required (25 hours). Taken the semester prior to student teaching. Two hours per week. *Two semester hours.*

**EDUC-446. Issues and Trends in Contemporary Education** *Dr. Spencer, Dr. Mackler*

This course will introduce students to advanced research in Education by engaging them in an interdisciplinary examination of a broad theme or question about the field of Education. Topics will vary with the instructor and will reflect the broader educational goals of valuing exceptionalities, differences of cultures and lifestyles as a foundation of a pluralistic democracy. Prerequisite: EDUC-210 or permission of instructor. Three hours per week. *Four semester hours. (SS.)*

**EDUC-491. Research/Independent Work** *Faculty*

Independent investigation of an aspect of teaching, using both the library to examine relevant literature and the school setting as a laboratory for applying theory. Oral progress reports and a major paper are required. Written consent of the research adviser and departmental faculty must be presented at the time of registration. *Four semester hours. (I.)*

**EDUC-492. Research/Independent Work** *Faculty*

Same as EDUC-491, but offered in the spring semester. *Four semester hours. (I.)*

**EDUC-493. Student Teaching** *Faculty*

A laboratory course consisting of observation and student teaching. Supervision is provided by faculty in the department of education and normally by other members of the College community in cooperation with teachers from local schools. Conferences and critiques occur between College faculty and student teachers. The course is open only to 9th semester/post baccalaureate students who meet published academic criteria. In order to receive the College's recommendation for teacher certification, the student teacher must earn a grade of at least B in this course. Prerequisites: EDUC-210, 265, 320, 350, 360, 375 and 443. Taken with EDUC-406, as part of the Professional Semester. *Four semester hours.*

## English

Students choose to major in English because they love to read and write, and are curious about how language constructs the world in which they live. The program for English majors builds on these passions by developing the skills of attentive reading, thoughtful analysis, and graceful writing.

The analytical tools developed in the English major illuminate both literary texts and the societies in which they are produced. Our majors study principal authors of the American, British, and Anglophone traditions, just as they learn to interpret women's writing, the poetics of the blues, and literary technologies from Gutenberg to digital.

By encouraging students to apply their interpretive and writing skills in multiple contexts, the English major prepares students to enter a wider variety of careers, to succeed in graduate or professional study, and to become engaged global citizens.

## Requirements for Majors

Students majoring in English must complete ten courses, at least eight of which must be selected from the department's literature courses (including ENGL-214). Required English courses include: ENGL-290W and one other course between 220 and 260; at least four 300-level colloquia, including one focusing on literature before 1800 and one focusing on literature after 1800 (ENGL-301 may count as a colloquium); and a 400-level seminar or honors. Elective courses may include any of the following: additional English courses; MCS-207 and MCS-208; FS-101, FS-250, FS-251, FS-252, FS-253, and FS-305; CLAS-224, CLAS-230, and CLAS-326; EAS- 224; and LAS 215. Only two electives outside of the department may count towards the major. Only one ENGL 100-level course may count towards the major. English majors can fulfill both the capstone requirement and the requirement for an oral presentation in the major by taking any of the following courses: ENG-441W, 442W, 443W, 444W, or 492W. Students seeking teaching certification in English must fulfill all departmental requirements for an English major. Their courses should include literary genres, themes, histories, and major writers. In addition, students working toward certification must select the following courses: ENGL-214; and either MCS-205, or any FS course. Students are strongly recommended to take either ENGL-220 or a 300-level colloquium on Shakespeare and either IDS-101 or CLAS 326. It is also strongly recommended that the candidate participate in student journalism or theater activities. Students and their advisers should consult the Ursinus College Education Department.

## Requirements for Minors

A minor concentration in English consists of at least five courses in English at the 200 level or above. No more than one creative writing course may be included in the English minor. ENGL-290W is strongly recommended.

A minor concentration in Creative Writing consists of at least five English courses, including ENGL-402 and at least three of the following creative writing courses: ENGL-106, 205, 206, 209 (one or more sections), and 302. MCS-207 may also be counted toward the minor. One literature course may count toward the creative writing minor. Participation in student publications is also required.

## Courses

### **ENGL-104W. Introductory Topics in English** *Faculty*

A writing-intensive course focusing on a particular topic related to literature, film or other forms of cultural studies. This course emphasizes the writing process and is designed for all students interested in developing their critical reading ability and improving their writing, as well as for students interested in an English major. Limited to first- and second-year students. Three hours per week. Four semester hours. (H; G or D, if so designated, contingent upon topic)

### **ENGL-106 Introduction to Creative Writing** *Faculty*

A mixed-genre introduction to writing fiction, poetry, and at least one other genre (such as memoir or playwriting), in a workshop environment. Three hours per week. *Four semester hours. (A.)*

**ENGL-205. Fiction Writing** *Dr. Volkmer*

A beginning course in the writing of fiction, with special attention to the short story. The student will study technical aspects of the craft and masterpieces of the genre. The student will write short stories, receive critical responses, and make extensive revisions. Three hours per week. *Four semester hours. (A.)*

**ENGL-206. Poetry Writing** *Dr. Keita*

A beginning course in the writing of poetry. The student will study selected works, learn traditional forms of the lyric, and write original verse in those forms. The student will make extensive revisions, based on responses from peers and the professor. Three hours per week. *Four semester hours. (A.)*

**ENGL-209. Special Topics in Creative Writing** *Faculty*

A workshop course in an area of creative writing not normally covered in ENGL-205 and 206. Topics will vary. Three hours per week. *Four semester hours. (A.)*

**ENGL-214. The Structure of the English Language** *Dr. Lionarons*

The morphology, syntax, and grammar of Standard American English and selected dialectal variants, along with an overview of earlier forms of the language. Required for students seeking certification to teach English. Three hours per week. *Four semester hours.*

**English 220-250, Faculty**

These literature courses focus on improving students' skills in close reading of texts and writing of critical essays, with instruction in the conventions of genre, period, and region as appropriate. Students will complete a research project as part of the course.

**ENGL-220. Shakespeare** *Dr. Kozusko*

The reading of Shakespeare's principal plays, and the study of their background. Three hours per week. *Four semester hours. (H.)*

**ENGL-222. African American Literary Traditions** *Dr. Schroeder, Dr. Keita*

An overview of the literature written by black American writers from its beginnings to the twenty-first century. Three hours per week. *Four semester hours. (H, D.)*

**ENGL-228. Women's Literature** *Faculty*

A cross-period study of women's writing attending to issues of canon formation and feminist literary theory. Three hours per week. *Four semester hours. (H, D.)*

**ENGL-230 Literary Histories**

A mixed-genre approach to a specific historical period or literary movement, including early modern/Renaissance, Modernism, Romanticism, ante-bellum America, the Atlantic World, and post-war America. Three hours per week. *Four semester hours. (H, D.)*

**ENGL-240. Literary Genres**

Focusing on the development of a single literary form throughout a specific time period or more generally through literary history, genre courses emphasize the relationships between formal innovation and changing thematic concerns. Sample topics include medieval romance, lyric poetry, epic poetry, satire, drama, rise of the novel, memoir, neo-historical novel, and short fiction. Three hours per week. *Four semester hours. (H.)*

**ENGL-250. New Directions in Literature**

These courses shift the focus from conventional genres and periods to new directions in the expanding field of literary study. Students may encounter contemporary genres, such as the graphic novel or the



neo-slave narrative; explore literary texts through a recent theoretical lens such as disability studies or ecocriticism; or inhabit new spaces of textual production such as the digital humanities or transnational/urban literature. Three hours per week. *Four semester hours. (H.)*

### **ENGL/ENV-262. The Environment in Literature.** *Dr. Jaroff*

Students in this course will read and reflect on a variety of texts focused on environmental issues, such as sustainability, the land ethic, ecological crises, climate change and other eco-critical concerns. From nature writers, to philosophers, and poetry to prose, students will engage with the literature as well as participate in a civic engagement project as part of their course-related work. Three hours per week. *Four semester hours. (H.)*

### **ENGL-290W. Methods in Literary Studies** *Faculty*

Designed as a gateway to the English major; appropriate for minors as well. Includes an introduction to critical vocabulary; study of the genres of poetry, prose, and drama; critical reading practices; a general introduction to literary theory; conventions of the literary research paper; and frequent practice of careful critical writing. Prerequisite: CIE-100, or permission of instructor. Four hours per week. *Four semester hours.*

## **Advanced Colloquia in English**

Courses numbered between 310 and 335 build on the English major's knowledge and skills, while providing students with opportunities for substantive research, oral presentations, and other scholarly activities.

To ensure that students are prepared for advanced work, each colloquium will have as prerequisites both ENGL-290W and one course between ENGL-220 and 250; or permission of the instructor.

To provide students with as many choices as possible, the English Department will rotate the courses listed below and post specific course offerings at least three semesters in advance on its [website](#). (Listed topics are subject to change.)

- 310—Topics in the Novel
- 315—Topics in Poetry
- 320—Topics in Drama
- 325—Crossing Borders/Periods/Genres
- 330—Literature in Translation
- 335—Post-Colonial Literature

### **ENGL-301. Literary Theory** *Dr. Goldsmith, Dr. Jaroff*

A study of theoretical approaches to literary texts, such as feminism, postcolonialism, and cultural studies. Recommended especially for students considering teaching or graduate studies in English; required for English honors candidates. Prerequisites: ENGL- 290W and one course between ENGL-220 and 250, or permission of instructor. Three hours per week. *Four semester hours.*

### **ENGL-302. Advanced Special Topics in Creative Writing** *Faculty*

A workshop course designed for advanced creative writing students who have already completed one or more sections of 205, 206, or 209. Students will have the opportunity to develop skills already learned at the 200 level. Topics and specific prerequisites will vary. Three hours per week. *Four semester hours. (A.)*

### **ENGL-381. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an onsite supervisor. Discuss details with the chair of the department. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: approval of an internship adviser. *Three semester hours. (I.)*

### **ENGL-382. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an onsite supervisor. Discuss details with the chair of the department. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: The approval of an internship adviser. *Four semester hours. (I.)*

### **ENGL-391. Independent Study in English Faculty**

Independent work, either scholarly or creative, under the supervision of a faculty adviser. A substantial final written project is required. Prerequisites: at least three English classes at the 200 level or above, a written project proposal; and permission of a department faculty member who will serve as adviser. *Four semester hours. (I.)*

### **ENGL-402. Advanced Creative Writing Dr. Volkmer, Dr. Keita**

A workshop course in creative writing offering the student the opportunity to receive significant critical responses on extended works of poetry or prose fiction. Prerequisite: at least two of the following: ENGL-205, 206, 209 (one or more sections), MCS-207; or permission of the instructor. Three hours per week. *Four semester hours. (A.)*

### **ENGL-441W through 444W. Seminar in Advanced Studies in Literature Faculty**

A study of a genre, a major figure, or a special topic. Prerequisites: ENGL-290W; or 301; senior or second-semester junior standing. This course will satisfy the College requirement for a capstone experience and an oral presentation in the major. Three hours per week. *Four semester hours. (H.)*

### **ENGL-491. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the department chair. Pre-requisite: ENGL-301. *Four semester hours. (I.)*

### **ENGL-492W. Research/Independent Work Faculty**

A continuation of course ENGL-491. Prerequisite: ENGL-491. When this course is used to fulfill the capstone experience in the major, the student will be required to give a substantial oral presentation of the research project, either to the departmental honor society or to another group approved by the project adviser. *Four semester hours. (I.)*

## **Environmental Studies**

Human relationships with the natural world range across disciplines, from the cultural, philosophical, ethical, and aesthetic to the scientific, economic and political. Environmental Studies (ENV) is an interdisciplinary major, in which students learn critical thinking, analytical, and problem-solving skills. ENV students learn to synthesize diverse disciplines and approaches, drawing on and learning to integrate theoretical and empirical approaches from the natural sciences, social sciences, and arts

and humanities to understand and develop strategies for solving environmental problems. Explorations of environmental theory and research methods, independent research, internships, and course-based service-learning are all integral to the ENV major.

ENV students are active on and off campus, working with members of the faculty, staff, and administration and with members of the local community on research and sustainability projects involving recycling, energy efficiency, water resource management, purchasing and contracting policies, planning and land management, reforestation and forest mapping activities, food systems and agriculture, and other issues. ENV students have held internships in many local, regional, and national organizations involved in all facets of environmental science and policy, with organizations such as the Pennsylvania Department of Environmental Protection, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. National Marine Sanctuary Program, Perkiomen Watershed Conservancy, Philadelphia Zoo, Elmwood Park Zoo, Academy of Natural Sciences, environmental engineering and consulting groups, outdoor education centers, organic farms, and many other organizations. ENV majors' professional experiences are tied closely to the ENV academic program; the integrated nature of ENV's approach to learning and practice helps to prepare ENV majors to be successful leaders and decision makers in the environmental arena.

In addition to the focus on service and practice in the ENV curriculum, Ursinus College features a Sustainability Office, the staff of which work to connect students, faculty, and staff on the college's sustainability initiatives.

The ENV major offers both a breadth of environmental education and the opportunity for students to focus on an area of expertise relevant to promoting critical thinking and an environmentally sustainable society. Students majoring in environmental studies at Ursinus prepare for successful graduate study and careers in environmental sciences, conservation, policy, planning, education, engineering, agriculture, journalism, law, and many other areas.

## **Requirements for Majors**

All students majoring in Environmental Studies must take a minimum of 12 courses, including ENV-100, BIO-101Q, an internship, an elective, and one course from each of the following categories: introductory natural science, advanced natural science, introductory social science or humanities, introductory synthesis, intermediate synthesis with community engagement and applied problem-solving, intermediate synthesis with interdisciplinary data analysis and problem-solving, advanced critical thinking, and capstone. At least two of three natural science courses must have a LS designation (BIO-101 and one from either the introductory or advanced natural science categories below). All ENV majors are also encouraged to complete a minor (or major) in an additional field of study. Environmental Studies majors fulfill the college requirements for writing, oral presentations, and capstone experience by completing one of the Environmental Studies capstone courses: ENV-450W, 452W, or 454W. The ENV capstone courses also convey the applied nature of ENV by engaging students in an applied group project. These projects typically entail a partnership with either an off-

campus organization or another (i.e., non-ENV) branch of the College. The ENV curricular requirements are as follows:

**ENV core courses (must complete all of the following):**

- ENV-100, Introduction to Environmental Studies
- BIO-101Q, Issues in Ecology and Evolution
- One introductory natural science course (ENV/CHEM-101Q/101L, ENV-105Q, ENV-112, ENV 268)
- One advanced natural science course (ENV-215/BIO-220, ENV/BIO-250, ENV/BIO-310, ENV/BIO-320, ENV/BIO-325, ENV/BIO-330, ENV/BIO-336, ENV/BIO-355, ENV/BIO-365, ENV/BIO-415W, ENV-370, ENV-372)
- One introductory social science or humanities course (ENV-110, ENV-111, ENV-216, ENV/SOC-220, ENV/PHIL-248, ENV/ENGL-262, ENV/PSYC-210, ENV/SOC-285, ENV/SOC-288, ENV/SOC-290, ENV/POL-326, ENV/ANTH-352)
- Three synthesis courses (one from each of the following synthesis categories):
  - one introductory synthesis course (ENV-242, ENV-272)
  - one intermediate synthesis course with community engagement and applied problem-solving (ENV-332, ENV-338, ENV-340)
  - one intermediate synthesis course on interdisciplinary data analysis and problem-solving (ENV-360, ENV-366)
- One social science course in advanced critical thinking: ENV-428W or ENV-430W
- One advanced synthesis capstone course in synthesis, integration, and community engagement: ENV-450W, ENV-452W or ENV-454W
- Completion of an internship: ENV-381 or ENV-382
- One ENV elective - For their elective, ENV majors must complete one of the following: an additional course from either one of the social science or natural science categories above, an additional synthesis course from any category above, or MATH/STAT 141Q. Only one three or four-credit internship will count toward the major requirements. Substitutions may be made with the approval of the ENV chair.

In consultation with the ENV Chair, students may petition to have ENV-350 (Topics in Environmental Studies), ENV-481W or 482W (independent research), or ENV-491W and ENV-492W (honors research) satisfy requirements in one of the natural science, social science, or synthesis categories. For independent or honors research to fulfill the major requirements students must have completed 12 semester hours of environmental studies courses, including ENV-100, and receive permission of the ENV Chair.

ENV majors will receive a B.A. or B.S. degree. Students who minor or double major in a natural science discipline will have the option to elect a B.S. degree (for example, ENV majors who minor in Politics will receive a B.A., etc.; however, ENV majors who minor in Biology may elect to receive a B.S.).

**Requirements for Minors**

All students minoring in Environmental Studies must complete a minimum of six courses that count towards the environmental studies major:

- ENV-100
- One introductory synthesis course
- One course in introductory or advanced natural science
- One course in introductory social science and humanities or advanced critical thinking
- One intermediate synthesis course
- One additional course from one of the following categories: intermediate synthesis, advanced critical thinking course, or advanced synthesis. ENV/GEOL-102Q does not fulfill this requirement.

If they have not already done so, students minoring in ENV are also encouraged to take an advanced synthesis capstone course (ENV- 450W, 452W or 454W). ENV-350 (Topics in Environmental Studies) courses, independent research, or internships may satisfy the requirements of the minor. Students must receive permission of the ENV Chair for independent research or an internship to fulfill requirements of the minor.

## Teaching Certification in Environmental Education

Students interested in teaching may obtain a Pennsylvania teaching certification in Environmental Education (K-12). Requirements for certification include the successful completion of a major in Environmental Studies, a minimum GPA of 2.7 in Environmental Studies coursework, and other requirements as specified by the Ursinus College Education Department and the State of Pennsylvania. These additional requirements include further coursework, a minimum GPA of 3.0 in Education courses, an overall GPA of 3.0, any necessary PAPA (Reading, Writing, and Mathematics) and Praxis II exams\*, and student teaching. Please work in close coordination with your academic advisor within Environmental Studies and consult the Ursinus College Education Department to coordinate your schedule to fulfill these requirements.

*(\* Due to very recent nationwide changes in the availability of the Praxis II exam in Environmental Education, please talk to the Ursinus College Education Department and the Department of Environmental Studies as early as possible.)*

## Courses

### **ENV-100. Introduction to Environmental Studies** *Faculty*

An introductory interdisciplinary course with readings and research on topics across all fields of environmental studies. This course examines environmental issues through many lenses, including ecology, economics, ethics, policy analysis, and the arts. Issues explored include (but are not limited to) population, energy, biodiversity and ecosystem conservation, food and agriculture, global warming, ozone depletion, air pollution, water resources management, and solid waste. Student projects include investigations of local environmental issues and applied conservation activities within the Ursinus and surrounding communities. Four hours per week. *Four semester hours.*

### **ENV-110. Special Topics in Environmental Studies: Social Science** *Dr. Hurley, Dr. Wallace, Faculty*

An introductory course with readings and research on environmental issues from the perspective of the social sciences. This course examines social dimensions of a selected environmental issue, drawing on disciplines including (but not limited to) economics, geography, policy analysis, and/or sociology. Issues that might be explored include (but are not limited to) biodiversity, cities, energy, food and

agriculture, and climate change. Three hours per week, plus possible field trips or field work. *Four semester hours. (SS.)*

**ENV-111. Special Topics in Environmental Studies: Humanities Faculty**

An introductory course with readings and research on environmental issues from the perspective of the humanities. This course examines dimensions of a selected environmental issue, drawing on disciplines including (but not limited to) English, history, modern languages, and philosophy. Three hours per week. *Four semester hours. (H)*

**ENV-112. Special Topics in Environmental Studies: Natural Science Dr. Joseph, Faculty**

An introductory course with readings and research on environmental issues from the perspective of the natural sciences. This course examines selected environmental issues, drawing on disciplines including (but not limited to) biology, chemistry, geology, oceanography, or other natural sciences. Issues that might be explored include (but are not limited to) energy, climate change, oceans, and/or waste. Three hours per week, possibly plus either field trips or three hours of laboratory, depending on the topic. *Four semester hours. (LS, if lab or appropriate fieldwork associated with course.)*

**ENV/CHEM-101Q. Introduction to Environmental Chemistry Faculty**

This course, intended for non-science majors, will examine selected topics in environmental chemistry through an understanding of basic chemical principles. Topics may include global warming, ozone depletion, pollution, and waste management. Three hours of lecture. *Three semester hours. (LS if taken with ENV/CHEM-101LQ.)*

**ENV/CHEM-101LQ. Laboratory in Introductory Environmental Chemistry Faculty**

Laboratory work related to CHEM-101Q. In addition to mastering basic chemistry laboratory skills, students will analyze air, water, and soil samples using a variety of techniques. Prerequisite: ENV/CHEM-101Q (or concurrently). Three hours of laboratory per week. *One semester hour.*

**ENV/GEOL-102Q. Geology: The Earth Around Us Dr. Joseph, Faculty**

This course examines the current state of knowledge about the Earth and investigates the forces and processes that shape it. Topics include the formation of the Earth and solar system, the materials that comprise the Earth, the forces that currently act on, around, and within the planet, and the relationship of these forces to the processes and features we observe and/or experience at the Earth's surface. To address complex and dynamic geologic processes, this course utilizes knowledge and methods from several disciplines in addition to geology, including biology, math, physics, and chemistry. This course does not count towards the ENV major or minor. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

**ENV/GEOL-105Q. Environmental Geology Dr. Joseph, Faculty**

An introduction to environmental geosciences. Includes a study of the earth's environmental systems: lithosphere, hydrosphere, atmosphere, mineral resources, weathering, soils, rivers and flooding, ground water, climate, oceans and coastline erosion, energy sources, human populations, and environmental change. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

**ENV/PSYC-210. Environmental Psychology Faculty**

This course is an overview of approaches to understanding the psychological relationship between human beings and the natural world and to a lesser extent our built environment. Humans, based on our nature and behavior, have created problems in the natural environment. In this course we will examine environmentally problematic human behavior from the perspective of all major psychological disciplines (behavioral, developmental, cognitive, social, Gestalt, and more). We will explore how we might use psychological modifications, based on these psychological approaches, to change thinking and behavior and become better stewards of the environment. A working knowledge of psychological principles and their application to solving global environmental issues will be developed. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC/ENV-282 Environmental Psychology cannot register for PSYC/ENV-210 Environmental Psychology.*

**ENV-215/BIO-220. Biology of Maya Mexico** *Dr. E. Dawley, Dr. R. Dawley*

A study of the environments, fauna, and flora of tropical Mexico and their relation to the Maya people who inhabit that region. We will examine coral reefs, coastal waters, and lowland and highland forests, focusing on animals and plants of particular importance to the ecosystem they inhabit and to the Maya people, past and present. Prerequisite: None. Field investigations accompanied by readings, lectures, and an independent project resulting in a review or research paper. *Four semester hours.* This course is part of the UC in Maya Mexico Program.)

**ENV-216. Introduction to Food and Society** *Dr. Wallace*

This course provides an overview of the relationships between people and food by looking at a host of issues and cases that illustrate how we think (or don't think carefully enough) about the food system, including what and how we eat, grow, process, engineer, market, buy (or sell), and feel about our food. Topics will change from year to year, but will include some or all of the following:

- the geography of food and culture;
- the relationship between the globalized/industrial and localized/sustainable food systems;
- psychology, food choice, and the marketing of food;
- the politics of consumer choice;
- food choice and public health;
- food and social change; and
- the geopolitics of food

Three hours per week. *Four semester hours. (SS.)*

**ENV/SOC-220. Environmental Justice** *Dr. J. Clark*

This course will examine how the burdens of local and global environmental problems are distributed across race, class, and gender. Through the examination of local, national, and international case studies, we will gain an understanding of how the risks associated with exposure to toxic pollutants and other environmental hazards coincide with pre-existing patterns of inequality, both globally and in the United States. Close attention will be paid to the political-historical processes through which the distribution of environmental hazard has been produced, and how affected communities have resisted these processes. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, D.)*

**ENV-242. Globalization and the Environment** *Dr. Hurley*

An examination of the cultural, political, and economic linkages that characterize globalization and the consequences these linkages (e.g. through consumption practices) have for specific places, diverse peoples and cultures, and the environments where they live. Students will examine specific cases from Africa, South America, East and Southeast Asia, and Australia. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. *Four semester hours. (G.)*

**ENV/PHIL-248. Environmental Ethics** *Dr. Sorensen*

The central issue in environmental ethics concerns what things in nature have moral standing and how conflicts of interest among them are to be resolved. After an introduction to ethical theory, topics to be covered include anthropocentrism, the moral status of non-human sentient beings, preservation of endangered species and the wilderness, holism versus individualism, and the land ethic. Three hours per week. *Four semester hours. (H.)*

**ENV/BIO-250. Environmental Biology** *Faculty*

A study of the biological basis of environmental issues. Includes ecosystems, communities, populations, water, energy, geologic resources, biodiversity, weather/climate, pollution, agriculture/hunger, soil

resources/pests, solid/toxic hazardous waste, toxicology, land use. Prerequisite: BIO-101Q or permission of the instructor. Three hours of lecture. Three hours of lab per week. *Four semester hours.* (LS.)

**ENV/ENGL-262. The Environment in Literature** *Dr. Jaroff*

Students in this course will study literature inspired by a variety of environments. Readings will range from classic essays “Nature” by Emerson and “Walking” by Thoreau to Terry Tempest Williams’ 1991 environmental/autobiographical study, “Refuge: An Unnatural History of Family and Place.” Ecocriticism, the study of the relationship between literature and the physical environment will provide the theoretical framework for the course. Writing for the class will be half-analytical (critical responses to texts), and half-original, creative student writings about their own environments. Prerequisite: CIE-100. Three hours per week. *Four semester hours.* (H.)

**ENV-268. Wetlands** *Faculty*

An exploration of the ecological, hydrological, and botanical features common to all wetlands, including the great variety of wetlands that exist due to differences in climate and geomorphology, and the many ways in which humans are connected to and modify wetlands. Weekend field trips to area wetlands will broaden our view of regional types and increase awareness and appreciation of the vital role wetlands play. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three hours of lecture per week plus three or four, one-day, weekend field trips. *Four semester hours.*

**ENV-272. Marine Mammal Conservation and Management** *Dr. Wallace*

This course addresses historical and current issues concerning the conservation and management of marine mammals, their habitats, and related marine resources. It integrates the biological sciences, policy, law, economics, and humanities (in the form of ethics and values) in presenting and engaging the students in discussions about the history of human-marine mammal interactions, changes in human values and attitudes about the marine environment, the role of human-marine mammal interactions in societal changes, and the policy arena that has developed around marine mammals in the past century. Prerequisite: ENV-100. Three hours per week. *Four semester hours.*

**ENV/SOC-285. Environmental Sociology** *Dr. J. Clark*

This course will introduce the field of environmental sociology – the study of interactions between humans, groups and the environment. Students will become familiar with a variety of theoretical frameworks for analyzing environmental problems and apply them to a range of environmental issues scaled from the local to the global. Participants will emerge with a critical ability to analyze popular accounts of environmental problems and proposed solutions with a sociological eye. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours.* (SS.)

**ENV/SOC-288. Animals and Society** *Dr. J. Clark*

In recent years there has been an explosion of research in the humanities and social sciences on what has come to be called the animal question. This course introduces students to the interdisciplinary field of animal studies, with a particular focus on the sociological literature. Students will emerge from the course with a nuanced sociological understanding of some of the most controversial issues raised by our relationship with other animals. Among the issues we will explore are genetic engineering, factory farming, animal experimentation, and the war on “animal rights terrorism.” Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours.* (SS.)

**ENV/SOC-290. Science, Technology, and Society** *Dr. J. Clark*

Society shapes science and technology, which, in turn, help make society what it is. This course introduces students to the interdisciplinary field of Science and Technology Studies (STS). Students will emerge from the course with a sociological understanding of science and technology. Though the course will focus mainly on biotechnology, it will give students a theoretical toolkit that will help them understand other areas of science and technology as well. Prerequisite: any 100-level course in



Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS.)*

**ENV-299. Readings in Environmental Studies Faculty**

Individual study and directed reading of a particular topic or book within the discipline. Students will work closely with a member of the ENV faculty in selecting, reading, and discussing the topic, and in determining a proper written assignment. Prerequisites: ENV-100 and permission of the instructor. *One semester hour.*

**ENV/BIO-310. Biological Oceanography Dr. Goddard**

A study of the biological bases of ocean science. Topics discussed include: ocean basins, seawater physics and chemistry, currents, waves, tides, upwelling zones, tidal rhythms in organisms, ocean habitats/biota, marine virology, marine microbiology, plankton, trophic relationships, hydrothermal vent communities, coral reefs. Prerequisite: BIO-101Q or permission of the instructor. Three hours of lecture; three hours of laboratory per week. (Course may be conducted in part at a marine field station). *Four semester hours. (LS.)*

*Note: Students receiving credit for ENV/BIO 310 may not receive credit for ENV/BIO 270.*

**ENV/BIO-320. Biology of the Neotropics Dr.E.Dawley, Dr.R.Dawley**

A field study of Costa Rican tropical habitats including rain forests, montane forests, seasonally dry forests, and wetlands conducted at research sites throughout the county. Topics include diversity and natural history of key plants and animals, ecological interactions and evolutionary processes, and conservation. May include side trips to cloud forests or coral reefs. Prerequisite: Permission of instructor and BIO-101Q. Field investigations accompanied by readings, lectures, and a directed research project. Course will meet 15 hours on campus and three weeks in Costa Rica between the Fall and Spring semesters. *Four semester hours. (LS.)*

**ENV/BIO-325. Insect Biology Dr. Straub**

This course will introduce students to the insects—the most diverse group of organisms on the planet. We will examine the physiology, development, behavior, ecology, and evolution of insects to better understand why they are so successful, and special emphasis will be placed on understanding the importance of insects to human welfare. Students will learn the taxonomy of local insects by completing an insect collection. The laboratory component of this course will include insect rearing, experiments, and field trips to collect insects from terrestrial and aquatic habitats. Prerequisite: BIO-101 and BIO-102; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

**ENV/POL-326. Environmental Law Dr. Kane**

The study of various state, national, and international legal patterns that have arisen to address environmental concerns. The environmental field will be used to examine the nature and effectiveness of civil, criminal, and administrative action to address a complicated and important social issue. Topics will include federal administrative law; international trade and environmental regulation; control of toxic substances and hazardous wastes; the impact of scientific uncertainty on regulation; federal regulatory programs; civil liability under federal regulations; citizen suits; and the preservation of natural areas. Prerequisites: POL-218 for Politics and International Relations majors or permission of the instructor. Three hours per week. *Four semester hours. (SS.)*

**ENV/BIO-330. Marine Biology Faculty**

A field-oriented study of the important marine habitats, including pelagic and benthic zones, and intertidal communities. Topics include marine biodiversity-plants, protists, invertebrates, vertebrates; marine ecology; primary production in the sea; estuaries; plankton; nekton; marine mammals. Prerequisite: Permission of the instructor and BIO-101Q. Lecture and field investigations. (Course conducted in part at a marine field station.) *Four semester hours. (LS.)*

**ENV-332. Urbanization and the Environment** *Dr. Hurley*

An introduction to the diversity of environmental transformations that accompany the process of urbanization and their implications for urban sustainability through exploration of the historical, political, social, economic, and ecological dimensions of the human-environment interactions. Field trips to local neighborhoods, nearby towns, and sites in Metropolitan Philadelphia are required.

Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. *Four semester hours.*

**ENV/BIO-336. Freshwater Biology** *Dr. Goddard*

Students in Freshwater Biology will study the chemical and physical properties of streams, lakes, rivers, wetlands, and groundwater. The communities of micro-organisms, algae, macrophytes, invertebrates, fish and other vertebrates that inhabit these environments will be studied. Unique environments such as mountain, desert, and island freshwater ecosystems will be included. The impact of humans on freshwater communities throughout the world will be considered. The laboratory will include field and laboratory investigations and culminate in individual investigations by students. Prerequisites: BIO-101 and BIO-102 or permission of the instructor. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

**ENV-338. Forests and People** *Dr. Hurley*

An introduction to the diversity of human interactions and management issues associated with forests and their implications for sustainability. Thematic emphases include changing ideas about forests and management, including timber extraction, forestry conflicts, ecosystem services, and carbon sequestration; community forestry; non-timber forest products; and urban forestry. Readings will introduce students to human-environment dynamics in tropical, temperate, and boreal forest ecosystems. A one-day weekend field trip is required. Prerequisite: ENV 100 or permission of the instructor. Three lecture hours per week. *Four semester hours.*

**ENV-340W. Community and Sustainable Food Systems** *Dr. Wallace*

This course explores the theory that underlies food systems and agriculture from the local to global scales. Emphasizing critical thinking about the relationship of theory and practice, this course examines trends in 20th and 21st century agricultural development and the changing relationship over that time between people, food choices, and eating habits. Drawing on food and agriculture readings and research in many disciplines, this synthesis course is designed to illuminate the importance of interdisciplinary analysis in understanding the complexity of problem solving in the realm of food and agriculture. Written and oral communication of critical thinking is emphasized. Prerequisite: ENV-100 or permission of the instructor. Three lecture hours and three field and/or laboratory hours per week. *Four semester hours.*

**ENV-350. Special Topics in Environmental Studies** *Faculty*

A study of a contemporary issue or specific subject area relating to the environment. Topics are often cross-disciplinary and vary according to the special interests of students and faculty. Potential topics include (but are not limited to): energy and the environment, environmental history, landscape ecology, natural hazards and vulnerability, and selected aspects of natural resource management. Prerequisite: as noted in special topics description. Independent written work required. Lab and field work required in some cases. Three hours of class per week, and in some cases three hours of laboratory, depending on the topic. *Four semester hours. (LS, if lab associated with science-related course.)*

**ENV/ANTH-352. Peoples and Their Environments** *Dr. Oboler*

Human cultural patterns and social institutions are adaptations to particular physical and social environments, and also have impacts on those environments. This course is concerned with the relationship between environments and subsistence systems on the one hand, and social/political institutions and belief systems on the other, using case studies from a variety of traditional societies. We will also consider the relationship between the global ecosystem and problems of Third World development, patterns of peasant production, causes and consequences of rapid population growth, and

the fate of indigenous peoples. Prerequisites: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. *Four semester hours. (SS, G.)*

**ENV 355/BIO-355. Conservation Biology Dr. Straub**

Students in Conservation Biology will learn about the causes and the consequences of species extinctions and best management practices for conserving biodiversity. Concepts from genetics, ecology, and evolution will be applied to conservation, and the role of scientific research in conservation practice will be emphasized. Case studies in conservation will come from a variety of species and ecosystems, and special emphasis will be placed on conservation in human-dominated landscapes, such as the suburban landscape within which Ursinus College is situated. Prerequisite: BIO-101 or permission of the instructor. Three hours of lecture per week. *Four semester hours.*

**ENV-360. Conserving Biological Diversity Dr. Wallace**

A study of the conservation of biological diversity in the United States and abroad. Interdisciplinary analytical methods are used to investigate the loss and conservation of wildlife and habitats, with an emphasis on the development of conservation policy in the United States and comparative international case studies of endangered species protection. Specific topics include current trends in global biodiversity loss; the role of human values in biodiversity conservation; international biodiversity conservation strategies, initiatives at zoos and aquariums; and the protection of forests, rangelands, oceans, and coastal zones, birds, fish, marine mammals, and endangered species in the United States. Prerequisite: ENV-100. Three hours per week. *Four semester hours.*

**ENV 365/BIO-365. Ornithology Dr. E. Dawley**

A study of bird biology (anatomy, physiology, behavior, ecology, phylogeny, and evolution) and the conservation issues that surround these most visible of terrestrial vertebrates. Because it will include field studies and natural history of Northeastern birds, a longer block of time is scheduled for one of the meeting times. Readings will come primarily from primary and secondary literature, with an emphasis on basic scientific research and its application to conservation. Prerequisite: BIO-101. *Four semester hours.*

**ENV-366. Ecological Change in Historical Perspective Dr. Hurley**

An introduction to longer-term perspectives on human-environment interactions, drawing on approaches found within environmental history, historical ecology, and historical geography. Particular emphasis is placed on case studies from North America and on regional ecosystems in the Eastern United States. Saturday or Sunday field trips to regional sites are required. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. *Four semester hours.*

**ENV-370. Global Climate Change Dr. Joseph**

This course focuses on the science of climate, investigating what climate is and what factors determine and influence the climate of an area. Both the natural and anthropogenic (human) forces that may cause climate change are presented from a geological and historical perspective in addition to covering current climatic trends and predictions for future climate. Prerequisite: ENV-100 and BIO-101, or permission of the instructor. Offered every other year. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

**ENV-372. Environmental Issues in Oceanography Dr. Joseph**

An introduction to the basic scientific concepts of oceanography, focusing on the aspects of oceanography that affect and are affected by humans. Topics include plate tectonics, properties of seawater (chemical and physical), coastal processes (coastal erosion, tsunamis, hurricanes), the effects of/on the ocean in climate change, el Niño/la Niña, the ocean as a resource (fisheries, mining), and pollution of the ocean (ocean dumping, mercury, and oil spills). Saturday or Sunday fieldtrips may be required. Prerequisite: ENV-100 and BIO-101, or permission of the instructor. Offered every other year. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

### **ENV-381. Internship Faculty**

An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor. Students must have completed 12 semester hours of environmental studies courses including ENV-100 and have permission of the supervising faculty member to be eligible for an internship. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. *Three semester hours. (I.)*

### **ENV-382. Internship Faculty**

An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor. Students must have completed 12 semester hours of environmental studies courses including ENV-100 and have permission of the supervising faculty member to be eligible for an internship. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. *Four semester hours. (I.)*

### **ENV-391. Directed Research Faculty**

Laboratory and/or field experiences under the direction of a faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. This course can be taken more than once. Prerequisite: permission of a participating faculty member. Three hours of laboratory, field, or other data collection and/or analysis work per week. Graded S/U *One semester hour.*

### **ENV-392. Directed Research Faculty**

Laboratory and/or field experiences under the direction of a faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. This course can be taken more than once. Prerequisite: permission of a participating faculty member. Six hours of laboratory, field, or other data collection and/or analysis work per week. Graded S/U *Two semester hours.*

### **ENV/BIO-415W. Ecology Dr. Small**

Studies of the interrelationships between organisms and their environments that determine their distribution and abundance in natural systems. Aspects of energy flow, biotic and abiotic limits, population growth and community organization are considered in the context of the ecosystem. Laboratories include local field work and emphasize techniques for collecting and analyzing data. Prerequisites: BIO-101Q and 102Q and 201W, or permission of the instructor. This course does *not* fulfill the ENV capstone requirement. Three hours of lecture, three hours of laboratory per week. *Four semester hours. (LS.)*

### **ENV-428W. Political Ecology Dr. Hurley**

An introduction to an interdisciplinary field of inquiry concerned with the ecological and social drivers of environmental change and their politicization. Students will explore cases representing a diversity of ecosystems at local, regional, and national scales from a diversity of locations across the globe, including in Africa, North America, South America, and Southeast Asia. Prerequisite: ENV 100, a course from Area B, and junior standing, or permission of the instructor. Offered every other year. Three lecture hours per week. *Four semester hours. Note: Students who have already received credit for ENV-368 Political Ecology may not also receive credit for ENV-428. However, ENV-368 may be used to satisfy the requirement of an advanced critical thinking course. (SS.)*

**ENV-430W. Advanced Critical Thinking in Environmental Studies** *Dr. Wallace*

An intensive seminar in critical theory and methods of interdisciplinary environmental problem solving designed to improve professional development and practice in the many fields of conservation. This course will help students develop an understanding of and technical proficiency in using qualitative analytical methods. Theory and cases will address environmental concerns at the local, regional, national, and international levels. Prerequisite: ENV-100, an introductory synthesis course, junior standing, or permission of the instructor. This course does not fulfill the ENV capstone requirement. Three hours per week. *Four semester hours. (SS.)*

**ENV 450W. Talkin' Trash: Waste in America** *Dr. Joseph*

If nothing ever really “goes away,” as Barry Commoner discussed in 1971, then what happens to our waste once we dispose of it? This course will investigate aspects of the methods, pathways, and impacts of disposal and (re-)processing of waste as well as some of the social facets in the decision-making surrounding waste disposal, particularly in considering solid waste. Laboratories include site visits, fieldwork, and hands-on application of course material. This course fulfills the ENV capstone requirement and contains significant writing, oral, and experiential elements, including a group project. Prerequisites: ENV 100, at least one intermediate synthesis course or an advanced science course, and junior or senior standing, or permission of the instructor. Three lecture hours and three field and/or laboratory hours per week. *Four semester hours.*

**ENV-452W. The Land Ethic and Applied Conservation** *Dr. Wallace*

This course examines the process of developing and applying theory in conservation, and uses the life and work of Aldo Leopold as a lens through which to explore the challenges of developing and applying theory in the face of scientific and social complexity and uncertainty. Twenty-first century conservation has its roots in more than 100 years of theory and practice. Leopold's seminal work in the mid-20th century integrated earlier social and scientific theory into a framework that became the foundation of the modern environmental movement and the field of environmental studies. In this class, we will explore the innovations Leopold brought to environmental theory and their comparative successes and failures in informing conservation and sustainability in the 21st century. Laboratories emphasize the hands-on application of theory and methods in the field. This course fulfills the ENV capstone requirement and contains significant writing, oral, and experiential elements, including a group project. Prerequisites: ENV 100, at least one intermediate synthesis course or an advanced science course, and junior or senior standing, or permission of the instructor. Three lecture hours and three field and/or laboratory hours per week. *Four semester hours.*

**ENV-454W. Sustainability in Urbanizing Watersheds** *Dr. Hurley*

This course explores the theory and practice of sustainability interventions in urbanizing watersheds. Emphasizing the role that environmental education and outreach activities play in improving watershed health, this course examines diverse forms of environmental management undertaken to improve ecosystem services and watershed health of local watersheds. Drawing on land-use change, watershed health, and environmental education literatures, this capstone course is designed to illuminate the importance of interdisciplinary analysis for understanding how to improve watershed health. Written and oral communication of critical thinking is emphasized. Laboratories include local field work, experience with analytical techniques, and field trips in the Colledgeville region. This course fulfills the ENV capstone requirement and contains significant writing, oral, and experiential elements, including a group project. Prerequisites: ENV 100, at least one intermediate synthesis course or an advanced science, and junior or senior standing, or permission of the instructor. Three lecture hours and three field and/or laboratory hours per week. *Four semester hours.*

**ENV-481W. Research/Independent Work** *Faculty*

An independent project conducted using research methods in environmental studies, and including original work in the field, laboratory, or other scholarly forum. Students must have completed 12 semester hours of environmental studies courses including ENV-100 or have permission of their adviser to be eligible for independent research. *Four semester hours. (I.)*

**ENV-482W. Research/Independent Work Faculty**

See course description for ENV-481W. *Four semester hours. (I.)*

**ENV-491W. Research/Independent Work Faculty**

Students who are eligible for departmental honors can complete independent research work in this course. Work should be comprised of an independent project conducted using research methods in environmental studies, and including original work in the field, laboratory, or other scholarly forum. Students must have completed 12 semester hours of environmental studies courses including ENV-100 or have permission of their adviser to be eligible for independent research. *Four semester hours. (I)*

**ENV-492W. Research/Independent Work Faculty**

See course description for ENV-491W. *Four semester hours. (I)*

## Film Studies

The Film Studies minor is designed to help students achieve a critical and historical understanding of cinema, an art form of growing importance in a media-dependent world. The minor includes study of how film form produces meaning, an examination of the relationship between cinema and culture, and an introduction to the historical development of cinema. The program encourages students to engage in analysis and critique of a range of films, both classic and contemporary, from Hollywood, other national cinemas, and independent filmmakers.

### Requirements for Minors

A minor in film studies consists of five courses: FS-101, 235, 250, and two additional courses in Film Studies one of which may be replaced with MCS-225.

### Courses

**FS-101. Introduction to Film Studies Faculty**

The usual first course in a film studies minor, introducing students to analysis of film through style and form. Includes basic elements of the development of film conventions as well as an introduction to connections between style and ideology. Intended primarily for freshmen and sophomores. Three hours lecture and a two-hour screening per week. *Four semester hours. (H.)*

**FS-235 Topics in Film History Faculty**

A study of an area in the history of film production, distribution, and exhibition. Representative topics include Silent Film, Classical Hollywood Cinema, European Film Movements, Documentary Film, or New Hollywood Cinema. This course may be taken more than once for credit. Three hours lecture and a two-hour screening per week. *Four semester hours. (H.)*

**FS-250. Topics in National Cinema Faculty**

An overview of a national or regional cinema other than the United States. Three hours lecture and a two-hour screening per week. *Four semester hours. (H.)*

**FS-251 Topics in Film Genre Faculty**

A study of the production and consumption of films within a familiar form such as the musical, Western, or detective film. Three hours lecture and a two-hour screening per week. *Four semester hours. (H.)*

**FS-252 Topics in Film and Identity Faculty**

Representations in American cinema of groups as categorized by gender, race, or ethnicity. Three hours lecture and a two-hour screening per week. *Four semester hours. (D., H.)*

**FS-253 Special Topics in Film Studies Faculty**

Focus on a specific topic within film studies not covered in other courses in the curriculum. Three hours lecture and a two-hour screening per week. *Four semester hours.*

**FS-305 Film Theory and Criticism Faculty**

Theoretical approaches to the analysis of film. Prerequisite: FS-101 Usually offered every other year. Three hours lecture and a two-hour screening per week. *Four semester hours. (H.)*

**FS-381. Internship**

An off-campus experience under the supervision of a faculty advisor and an on-site supervisor. Includes periodic meetings with the faculty advisor and completion of an approved research project. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: declared minor in film studies, three courses completed in the program, and approval of a faculty internship advisor. Graded S/U. *Three semester hours. (I)*

**FS-382. Internship**

An off-campus experience under the supervision of a faculty advisor and an on-site supervisor. Includes periodic meetings with the faculty advisor and completion of an approved research project. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: declared minor in film studies, three courses completed in the program, and approval of a faculty internship advisor. Graded S/U. *Four semester hours. (I)*

**FS-390 Research in Film Studies**

Readings and independent research under the supervision of a faculty advisor. A final product on a specific topic in film studies is required. Prerequisite: three courses in film studies, demonstrated competence in the specific area of study, a written project proposal, and permission of a program faculty member who will serve as project advisor. *Four semester hours. (I)*

## Gender and Women's Studies

Gender and Women's Studies is an interdisciplinary minor which places the study of women and gender at the center of the curriculum. It is designed to include a cross-cultural perspective in an examination of the experiences and contributions of women, as well as to explore the challenges and limitations due to gender.

### Requirements for Minors

A minor concentration in Gender and Women's Studies consists of 16 credits. All students must take GWMS-200, Gender and Women's Studies. The remaining credits must come from the following courses and at least two different departments: GWMS/ANTH-225, GWMS/SOC-227, GWMS/SOC-263, GWMS/ENGL-228,

GWMS/ESS-301, GWMS/HIST-301, GWMS/HIST-302, GWMS/HIST-328, GWMS/HIST-366, GWMS-381, or GWMS-382. Students may apply only one course from their major toward this minor. (Credit for only one internship, either GWMS-381 or GWMS-382, counts toward the minor.) Seminars, special topics courses, and up to four credits of independent study projects above the 100 level which deal with Gender and Women's Studies may be substituted for the courses listed above with the approval of the course instructor and the coordinator of Gender and Women's Studies.

## Courses

### **GWMS-200. Gender and Women's Studies** *Faculty*

An interdisciplinary course to promote an awareness and understanding of women's and men's potential and options in our society. Readings in feminist theory, films, novels, and discussion of the history of the women's movement, race, sex and gender, and the roles of men in society. Emphasis on women and religion. Open to freshmen. Three hours per week. Four semester hours. (D)

### **GWMS/ANTH-225. Gender and Kinship Cross-Culturally** *Dr. Gallagher, Dr. Oboler*

The structure of sex and gender roles has important implications for marriage, the family, and kinship in all societies. This course examines sex and gender roles, sexuality, mate selection, marriage customs, divorce, childbearing, parenting, spousal and other kin relations, across the spectrum of world cultures. Prerequisite: any 100-level course in anthropology and sociology or written permission of the instructor. (SS.)

### **GWMS/SOC-227. Marriage and the Family** *Dr. Oboler, Dr. Gallagher*

This course examines transitions, continuity, and variations in marriages and families in the 20th century United States, with some historical, cross-cultural, and cross-national comparisons. The implications of shifts in public policy for "traditional" and non-traditional families are considered, as well as possible and probable future change in family patterns. Prerequisite: ANTH-100 or SOC-100 or written permission of the instructor. Three hours per week. *Four semester hours.* (SS, D.)

### **GWMS/ENGL-228. Women's Literature** *Dr Dole, Dr. Lionarons, Dr. Schroeder*

A cross-period study of literature by British and American women, paying attention to issues of canon formation and feminist literary theory. Prerequisite: CIE-100. Three hours per week. *Four semester hours.* (H.)

### **GWMS/SOC-263. Gender in Contemporary Society** *Faculty*

After initial examination of the causes of sex differences, focus is placed on the modern American sex/gender role system: socialization and education; economic, political, religious, and family roles; sexual inequality; and gender-based public policy issues. Some cross-cultural and cross-national comparisons are made. Prerequisite: ANTH-100 or SOC-100 or written permission of the instructor. Three hours per week. *Four semester hours.* (SS.)

### **GWMS/SOC-264. Gender, Race and Work** *Faculty*

This course examines the intersection of race and class relations as they affect the work trajectories and experiences of women in the United States. According to various social indicators, women and their children remain disproportionately poor, and many women are undereducated and unemployed. These facts have led some social scientists to posit that poor women and children in the U.S. are becoming a seemingly permanent urban underclass. This course explores the way in which the intersection of systems of social organization (race, class, work and gender) operates as a "containment field" so that certain workers do not have legitimate access to power. Prerequisite: any 100-level course in Anthropology or Sociology, or permission of instructor. Three hours per week. *Four semester hours.* (SS.)



**GWMS/HIST-301. Knights and Chivalry: Violence, Gender and Religion** *Dr. Throop*

What did it mean to be a medieval knight, and what constituted “chivalrous” behavior for both men and women? How did a military culture glorifying the most brutal violence come to mean good manners, pious thoughts, and sexual romance? In this course we will explore the medieval culture of chivalry, especially the importance of violence, gender identity and relations, and religious belief, culminating in an investigation of the trial of Joan of Arc. Through film analysis, students will also consider why the tensions inherent in chivalry continue to be represented in modern culture. Students will develop advanced skills in critical reading and analysis, discussion, presentation, collaboration, and writing, and will complete an independent research project. Three hours per week. *Four credit hours. (H.)*

**GWMS/HIST-302. Gender and Sexuality in Medieval Europe** *Dr. Throop*

What did it mean to be a man or a woman in the Middle Ages, and what did it mean to ‘have sex’? How were ideas about gender expressed sexually, and how did ideas about various sexual activities impact gender relations? Beginning with theoretical readings by Michel Foucault and Judith Butler among others, the course will investigate how medieval Europeans conceptualized sex, gender, and sexual activity. We will explore the kinds of gender relations—and sexual relations—that were encouraged, allowed, or prohibited, including marriage, same-sex relations, rape, cross-dressing, contraception, castration, and prostitution. Students will complete an independent research project. Three hours per week. *Four credit hours. (H.)*

**GWMS/HIST-328. Women in American History** *Dr. Hemphill*

An examination of the changing experience of American women from colonial times to the present. The focus of this course will be the interaction of that experience with ideal roles for women in the realms of family, religion, politics, economics, and social life. Attention will also be paid to the interaction of gender with the variables of class, race, ethnicity, and region. Three hours per week. *Four semester hours. (H.)*

**GWMS/HIST-361. Beyond Private and Public: Women’s Activist Histories** *Dr. Onaci*

Focusing on the personal lives of women in various locales around the world, this course helps students gain a sense of the personal and political struggles of a diverse range of people. The women studied participated in social movements, state politics, and cultural work. They made women’s rights a central topic in the broader march toward the liberation of their people. Central questions include: What problems did women in various societies throughout the world face? How did they contribute to the solutions for these problems? How did gender shape their experiences? Also, how useful is (auto)biography in the study of the past? What can individual lives teach us about our present and guide us as we create our future? Three hours per week. *Four semester hours. (H, G.)*

*Note: This course may not be taken by students who have taken it under a different course number*

**GWMS/HIST-366. History of the Family** *Dr. Hemphill*

A survey of the changing structure and function of the family in Europe and America from 1500 to the present. Special attention will be paid to the relationship between changes in the family and changes in the wider society; the family as the locus for changing gender and age relations; and the variations in family forms dictated by class, race, ethnicity, religion, and region. Three hours per week of lectures and discussion. *Four semester hours.*

**GWMS-370. Research-Independent Study** *Faculty*

Directed readings and research on a topic in Gender and Women’s Studies. A student wishing to register for this course must present to a member of the faculty a proposal outlining research to be completed, and submit the instructor’s written agreement to supervise the project to the chair of the GWMS Advisory council. Prerequisites: GWMS-200 and status as a GWMS minor. *Four semester hours. (I.)*

**GWMS/ART-373. Feminism and Gender in Art and Art History** *Dr. Barkun*

This course investigates the influence of political, activist, and scholarly developments in feminist and gender theory on artistic practice and the discipline of art history. Course material explores how feminist consciousness and theories of gender have led artists, critics, and theorists to innovative representational strategies and to challenge, revise, and reinterpret art historical narrative. In the process, the course focuses on how such interventions alter the stories that artists and scholars tell. Prerequisite: ART-160, 290W, 371, or 372; or permission of the instructor. Four semester hours. (A, D.)

### **GWMS-375. Readings in Gender and Women's Studies Faculty**

In this directed readings course a student can further develop an interest begun in another course or explore an interest within the field of Gender and Women's Studies not otherwise covered in the curriculum. A student may do independent readings with any member of the GWMS faculty, but must submit in advance the instructor's written agreement to supervise the project to the GWMS Advisory Council. Prerequisite: GWMS-200. *Two semester hours.*

### **GWMS-381. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the Gender and Women's Studies Advisory Committee Chair for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: GWMS-200 and approval of a faculty internship adviser. *Three semester hours.*

### **GWMS-382. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the Gender and Women's Studies Advisory Committee Chair for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: GWMS-200 and approval of a faculty internship adviser. *Four semester hours. (I.)*

### **GWMS-491W. Honors Research/Independent Work Faculty**

This course is open to candidates for honors. Work should be comprised of an independent project that employs research methods in GWMS. Prerequisite: Status as a GWMS major and permission of the GWMS Advisory Council. Four semester hours. (I.)

### **GWMS-492W. Research/Independent Work Faculty**

Continuation of GWMS-491. Four semester hours. (I.)

## **Geography**

### **GEOG-102. Geography Faculty**

Study of the major regions of the world. The purpose is to analyze each from the standpoint of climate, natural resources, and economic problems, and to give the student a fairly detailed knowledge of the physical geography of the regions. Three hours per week. *Three semester hours.*

## **Geology**

The science of geology presents to the student the physical nature and history of the earth and their relationship to the cultural, economic and political concerns of man.

### **GEOL/ENV-102Q. Geology: The Earth Around Us** *Dr. Joseph, Faculty*

This course examines the current state of knowledge about the Earth and investigates the forces and processes that shape it. Topics include the formation of the Earth and solar system, the materials that comprise the Earth, the forces that currently act on, around, and within the planet, and the relationship of these forces to the processes and features we observe and/or experience at the Earth's surface. To address complex and dynamic geologic processes, this course utilizes knowledge and methods from several disciplines in addition to geology, including biology, math, physics, and chemistry. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

### **GEOL/ENV-105Q. Environmental Geology** *Dr. Joseph, Faculty*

An introduction to environmental geosciences. Includes a study of the earth's environmental systems: lithosphere, hydrosphere, atmosphere, mineral resources, weathering, soils, rivers and flooding, ground water, climate, oceans and coastline erosion, energy sources, human populations, and environmental change. Three hours of lecture and three hours of laboratory per week. *Four semester hours. (LS.)*

## **Health and Exercise Physiology**

The Department of Health and Exercise Physiology offers a comprehensive curriculum focused on the study of the human body (e.g., pre-physical therapy, pre-nursing, pre-physician assistant, pre-occupational therapy pre-athletic training, corporate fitness, and graduate school preparation in exercise physiology and health sciences) and Pennsylvania teacher certification (K-12) in Health and Physical Education.

HEP majors gain valuable clinical experiences working in a variety of exercise related settings (e.g., athletic training room, fitness center, and intramural sports program.)

The educational goals of the department are to introduce students to current concepts in the fields of Health and Exercise Physiology Sciences, to expose them to a variety of work-related experiences, and to involve them in various aspects of research. These experiences will foster a sense of responsibility and develop critical, independent thinking consistent with the objectives of a liberal arts education.

### **Requirements for Majors**

Students majoring in the HEP Department must take the following courses:

#### **I. Required Courses**

All HEP majors must complete the following HEP courses: HEP-100, 202, 205, 206 (prerequisites: BIO-102Q or permission of the instructor), 334, 351, 352, and MATH/STAT-141Q.

#### **II. Capstone Courses**

All HEP majors must complete a capstone experience which includes an oral presentation by taking HEP 446 or HEP 447 or 491W, or the combination of HEP 465W and EDUC 405.

#### **III. Elective Course Requirements**

## A. Health Science (HS) Concentration

All HS students must complete HEP-261W and four of the following courses, one of which must be at the 400 level.

- HEP-232W, 278, 300, 333, 340, 360, 446, 447, 452, 464, or 491W
- It is highly recommended HS majors select three of the following HEP courses: any 209, any 210, 240, 247, 270, any Dance course, or any Aquatics course

It is highly recommended that students research their individual prerequisite needs for graduate school no later than the end of their sophomore year and meet with their adviser to discuss them. Students seeking admission to graduate allied health programs need to elect to take two or more upper level BIO courses (300/400 level); CHEM-105/105L, 106/106L or 206/206L; MATH-111 and/or MATH/STAT 141Q; PHYS-111Q, 112; and various courses from the Humanities and Social Science Divisions.

## B. Teaching Concentration (TC)

All TC students must complete the following courses:

- HEP courses: HEP-220, 232W, 333, 355, 356, 446, and 464
- HEP courses: HEP-235
- HEP/DANC-200, HEP-209 or 224, 223, and 245

*Note: Students wishing to obtain PA teacher certification for grades K-12 must take: EDUC-210, 265, 320, 360, 375, 405, and 406. In addition, students must successfully complete the appropriate PAPA (Reading, Writing and Math) as well as two Praxis II examinations.*

Students must earn a cumulative 3.0 GPA (Pennsylvania Department of Education Standard) and a 2.8 GPA within the HEP Department to receive the departmental recommendation to be eligible to student teach. Students and their advisers should consult the Education Department Program Guide on the Ursinus College website for further information.

## Requirements for Minors

A minor concentration in **coaching** consists of HEP-100, 220, 278, 365, 366W; select two of the following courses: 223, 224, 225, 226 or 234; HEP-270 is strongly recommended (23 credits).

A minor concentration in **wellness education** consists of HEP-100, 220, 340; select three of the following courses: 300, 333, 334, 446, 447, 464; HEP 209 and 270 are strongly recommended (23 credits).

A minor concentration in **human performance assessment** consists of HEP-100, 334, 351, 352, 452 (20 credits).

## Courses

### Activities Courses

Students may elect activity courses listed at the 000 level. Students wishing to elect activity courses may not register for more than one activity course in any given semester and no more than 3 hours of activity courses may count toward the 128 semester hours required for graduation. The intent of activities courses will be to develop basic skills, improve fitness, foster the concepts of wellness, provide enjoyment, and develop recreational and social competencies through participation in lifetime sports and leisure activities. Analysis and movement courses are designed for HEP majors and will focus on movement analysis and teaching progression. Non-HEP majors may elect to take these courses with the permission of the HEP Department.

### **HEP-007. Basic Swimming Faculty**

Course is designed to meet the needs of the non-swimmer and the beginning swimmer. Emphasis will be on skill development and the ARC Basic Water Safety program. Graded S/U. *One semester hour.* (Offered occasionally.)

### **HEP-008. Intermediate Swimming Faculty**

Course is designed to meet the need of the intermediate level swimmer. Emphasis will be on skill development and the A.R.C. Emergency Water Safety program. Graded S/U. *One semester hour.* (Offered occasionally.)

### **HEP 050. Special Activities Staff**

This course will focus on an activity not included in the current curriculum. Two hours per week. Graded S/U. *One semester hour.* (Offered occasionally.)

## **Theory Courses**

### **HEP-100. Concepts of Wellness and Fitness Dr. Engstrom, Prof. Vande Berg**

An exploration of the various dimensions of wellness. Emphasis will be on the concepts of total fitness and wellness. wellness/fitness self-testing, self-evaluation, and self-care skills will be examined. (Offered spring and fall semesters.) Three hours per week. *Four semester hours.*

*Note: This course should be completed by HEP majors in either the freshman or sophomore year.*

### **HEP/DANC-200. Fundamental Dance Technique Faculty**

An introduction to dance and movement techniques. The class will focus on the basic principles of dance movement, including alignment, coordination, musicality, and locomotion through space. Students will develop increased body awareness, flexibility, strength, and ease within a broad movement vocabulary. This class is designed for students with no previous experience in dance technique. Students may take this course twice for credit. Four hours per week. *Two semester hours.* (A; may be used to partially fill requirement.)

### **HEP-202. Concepts in Public Health Dr. Fairheller**

This course will introduce the major concepts of public health, will provide students with an understanding of the competencies needed to enhance the health of the community, and introduce the theoretical foundation of community and population based health promotion. The value of evidence-based programs and policies in public health settings, the organization and financing of health services in the United States, along with the current strategies for advancing public health will be explored. Prerequisites: HEP-100 or permission of department chair. (Offered spring and fall semesters.) Three hours per week. *Four semester hours.*

### **HEP-205/BIO-205. Human Anatomy & Physiology I. Dr. Wailgum**

A study of the structure and function of the tissues and organs that compose the integumentary, skeletal, muscular, nervous, and special senses systems. A case study approach will be utilized to

explore the homeostatic contributions made by each of these systems under rest, exercise, and disease conditions. This is an approved elective course for the completion of the Biology minor but not the Biology major. Prerequisites: BIO-102; or permission of the department chair. Three hours of lecture and three hours of laboratory per week. Four semester hours. (LS.)

*Note: Students who have taken HEP/BIO-205 and/or HEP/BIO-206 may not receive credit for completing BIO-305.*

### **HEP-206/BIO- 206. Human Anatomy & Physiology II. Dr. Wailgum**

A study of the structure and function of the tissues and organs that compose the endocrine, pulmonary, cardiovascular, digestive, urinary, and reproductive systems. A case study approach will be utilized to explore the homeostatic contributions made by each of these systems under rest, exercise, and disease conditions. This is an approved elective course for the completion of the Biology minor but not the Biology major. Prerequisites: HEP-205 or permission of the department chair. Three hours of lecture and three hours of laboratory per week. Four semester hours. (LS.)

*Note: Students who have taken HEP/BIO-205 and/or HEP/BIO-206 may not receive credit for completing BIO-306.*

### **HEP-209. Special Topics in Complementary Medicine and Holistic Health Faculty**

An examination of a different holistic health or alternative medicine form will be studied each time this course is offered. Emphasis will be given to the relationship(s) between the identified health/wellness topic and traditional Western medical and wellness procedures. Topics may include Yoga, Tai Chi, Accupressure, Accupuncture, Therapeutic Massage. (Offered spring and fall semesters.) Three hours per week. *Two semester hours.*

### **HEP-210. Special Topics in Exercise Science Faculty**

This course will be periodically offered in an area of special interest to students by a staff member or adjunct professor. (Offered occasionally in fall or spring semesters.) Three hours per week. *Two semester hours.*

### **HEP-220. Critical Components of Conditioning Faculty**

This course is designed to introduce students to the concepts of conditioning as it relates to muscular strength and endurance as well as various forms of cardiovascular training. The course will emphasize the identification and analysis of the critical elements of weight training exercises, teaching progressions involved in conditioning, and safety and organizational implications of conditioning. Prerequisites: HEP-100 and permission of instructor. (Offered spring and fall semesters.) Three hours per week. *Three semester hours.*

### **HEP-223. Teaching Games for Understanding: Team Sports Dr. Engstrom**

This course will provide an introduction to teaching team sports. Skill analysis, teaching progressions, coaching strategies, organizational and safety considerations will be emphasized during this course. Lesson plan design and video analysis of performance skills will be utilized to enhance each student's teaching skills. (Offered spring semesters.) Three hours per week. *Two semester hours.*

### **HEP-224. Theory and Analysis of Teaching Individual/Dual Sports Dr. Wright**

This course will provide an introduction to teaching individual/dual sports. Skill analysis, teaching progressions, coaching strategies, organizational and safety considerations will be emphasized. Lesson plan design and video analysis of performance skills will be utilized to enhance each student's teaching skills. Prerequisites: HEP-100 and permission of instructor. (Offered fall semesters.) Three hours per week. *Two semester hours.*

### **HEP-225. Basic Movement Techniques in Individual and Team Sports Faculty**

This course analyzes the basic concepts of movement and decision-making that are crucial to athletic success in all the most popular sports. Basic principles such as spatial awareness, timing, visual skills, angles of movement, and reading cues will be thoroughly discussed and practiced. The students will

learn the importance of consistently including these concepts when coaching youngsters in drills, small games and full scrimmages and games. The class will equally consist of practical participation, discussions and video analysis. (Offered spring semesters.) Three hours per week. *Two semester hours.*

### **HEP-226. Effective Coaching Strategies** *Faculty*

This course is designed to broaden the knowledge of future athletic coaches of all levels. Topics covered include budget analysis, recruitment of student athletes, philosophies of athletic programs, video analysis, and various styles and systems of team sport. Other broad-based topics will also be covered. The class will consist of group work, practical participation, and discussion. Prerequisite: HEP-225 or by permission of the instructor. (Offered fall semesters.) Three hours per week. *Two semester hours.*

### **HEP-232W. Current Trends in Health** *Dr. Engstrom, Dr. Fearheller*

This course will focus on the promotion of health education as it relates to the individual and the community at large. Special emphasis will be placed upon family and community health, consumer health, human sexuality and environmental health issues. This course will function as one of the writing intensive courses for students in the HEP Department. Prerequisite: permission of the department chair. Three hours per week. *Four semester hours. (D.)*

### **HEP-234. Water Safety Instructor** *Faculty*

Course leads to the American Red Cross certification as a Water Safety Instructor (WSI.) (Offered occasionally.) Three hours per week. *Two semester hours.*

### **HEP-235. Lifeguarding** *Faculty*

This course leads to certification in American Red Cross standard first aid, CPR for Professional Rescuers, Lifeguard and Lifeguarding Instructor. (Offered occasionally.) Three hours per week. *Two semester hours.*

### **HEP-240. Stress Management** *Prof. Paisley*

Problem-solving principles that underlie stress management will be introduced, coping strategies for managing stress will be explored, and a personal stress management plans for a variety of populations will be developed. (Offered fall semesters.) Two hours per week. *Two semester hours.*

### **HEP-245. Leadership in Adventure Activities** *Dr. Engstrom*

Students will learn basic concepts of the leadership role in high-risk and adventure activities. A historical perspective, philosophical background, educational strategies and safety considerations will be discussed. Particular attention is given to the integration of environmental concerns, problem solving activities, group initiatives, and adventure activities in high-risk and adventure programming. (Offered spring semesters.) Three hours a week. *Two semester hours.*

### **HEP-247. Body Recall** *Dr. Borsdorf*

The course focus will be on the needs of special populations, especially the needs of elders and the very sedentary. How to develop safe and effective physical fitness programs for the more fragile populations will be explored. Activities will utilize a variety of recreation and physical therapy incentives such as chairs, ropes, balls, music, and wands to enhance muscular strength, flexibility, balance and coordination. Students preparing to work with geriatric populations and other special populations are encouraged to enroll in this course. (Offered occasionally.) Three hours per week. *Two semester hours.*

### **HEP-261W. Research Methods in Health and Human Performance** *Dr. Fearheller*

This course will provide an introduction to research methodologies in health and human performance. Research design, problem selection, literature review; and acquisition, analysis, and presentation of data will be explored in both written and oral presentation formats. Prerequisite: HEP-100;STAT-141Q or permission of the chair. Three hours of lecture. *Four semester hours.*

**HEP-270. Ergogenic Aids Dr. Wailgum**

The effect of nutritional supplements, performance enhancing drugs, and common over-the-counter/prescription drugs on human performance will be the focus of this course. Students will examine the relationship between an ergogenic aid's benefits versus its adverse health side effects. Students will also explore the ethical implications pertaining to the use of ergogenic aids in sports. Prerequisite: HEP-100. (Offered occasionally.) Two hours per week. *Two semester hours.*

**HEP-278. Current Trends in Sports Medicine Faculty**

A survey of the various types of injuries/illnesses associated with participation in competitive athletics will be identified by age groups and gender. Current NATA sports medicine treatment standards will be introduced to expand awareness of proper care of athletic-related injuries. Prerequisite: HEP-100 or permission of the department chair. Three hours per week. *Four semester hours.*

**HEP-300. Death, Dying, and Grief: Learning to Cope with Life Experiences Dr. Borsdorf**

This course will provide students the opportunity to openly examine a variety of grief and loss situations and to learn strategies to better cope with such events. Cross-cultural studies emphasizing non-Western cultures will be utilized to study the various types of decisions healthcare professionals and laypersons choose relative to coping with death, dying, other types of losses, and bereavement. (Offered spring semesters.) Three hours per week. *Four semester hours. (G.)*

**HEP-333. Drugs & Alcohol-Use and Abuse in Modern Society Prof. Paisley**

The significance of drug and alcohol use, misuse, and abuse in society is analyzed. Drugs and drug use today are addressed from several perspectives—historical, psychological, physiological, pharmacological, sociological, and legal. Prevention, intervention, treatment, and rehabilitation of drug and alcohol abuse is also discussed. Prerequisite: HEP-100.(Offered fall semesters.) Four hours per week. *Four semester hours.*

**HEP-334. Nutrition Prof. Chlad**

The relationship between nutrition, exercise, and weight control will be examined from various perspectives: scientific principles, consumer protection, and holistic health concepts. The course will explore the principles of nutrition and the process of metabolism. Prerequisite: HEP-100 or the permission of the department chair. (Offered both semesters.) Three hours per week. *Four semester hours.*

**HEP-340. Exercise Psychology Dr. Borsdorf**

An in-depth examination of methods used when helping people change from sedentary to active living. Topics will include the psychological antecedents and consequences of physical activity relationships, intervention programs for individuals and groups in a variety of settings, gender and age differences in motivation and exercise behaviors, communication skills, goal setting, and addictive and unhealthy behaviors. Prerequisite: HEP-100 or permission of the department chair. (Offered fall semesters.) Three hours week. *Four semester hours.*

**HEP 351. Structural Kinesiology Dr. Wailgum**

This course will examine how the neuromuscular and skeletal systems create volitional movement patterns. The execution of various sports skills will be utilized to identify joint motions, patterns of motor unit recruitment, and types of tension generation. Prerequisite: BIO-205 or permission of the department chair. Three hours of lecture and two hours of laboratory per week. *Four semester hours. (LS.)*

**HEP-352Q. Exercise Physiology Dr. Wailgum**

The study of the physiological alterations and adjustments which occur in response to physical performance to defend homeostasis under a variety of environmental, training status, and nutritional



conditions. Prerequisite: BIO-206 or permission of the department chair. (Offered spring semesters.) Three hours lecture and two hours laboratory per week. *Four semester hours. (LS).*

**HEP-355. Methods of Teaching Secondary Health and Physical Education** *Dr. Engstrom*

This course will examine various philosophies of teaching health and physical education. Students will be introduced to various curriculum models in the discipline. Principles, methods, and strategies of teaching health and physical education at the secondary level will be established. Students will explore assessment strategies, unit and lesson planning, and classroom management intervention. (Offered spring semesters.) Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

**HEP-356. Methods of Teaching Elementary Health and Physical Education** *Dr. Engstrom*

This course will investigate the history and development of teaching health and physical education. Principles, methods and strategies of teaching health and physical education at the elementary level will be established. This course includes analysis of the fundamental motor skills, examining elementary health issues and establishing developmentally appropriate instructional strategies for elementary games and gymnastics. Students will explore the spectrum of teaching styles, unit and lesson planning, and process-product analysis of learning experiences. (Offered fall semesters.) Three hours of lecture and two hours of laboratory per week. *Four semester hours.*

**HEP-360. Selected Topics in HEP** *Faculty*

A course offered periodically in an area of special interest to a student by a faculty member or a visiting lecturer. Prerequisite: permission of the department. Three hours per week, plus either intensive writing or three hours of laboratory, depending on the topic. *Four semester hours. (LS, if lab associated with course.)*

**HEP-365. Philosophy and Principles of Coaching** *Faculty*

This course is designed to develop a wholesome and positive philosophy for coaching young players. Students will learn how to teach techniques, tactics and strategies to various age groups. Organizing practices, setting individual and personal goals, evaluating players and basic administrative responsibilities will be covered. Prerequisite: HEP-100. (Offered fall semesters.) Three hours per week. *Four semester hours.*

**HEP-366W. Sport Psychology** *Prof. Vande Berg*

An examination of the critical elements of human excellence and the development of plans for obtaining maximum performance and goals. Topics will include self-perceptions, moral reasoning levels, enhancing dedication, goal setting, stress management, personality, motivation, social relations and group dynamics. Prerequisite: HEP-100. (Offered spring semesters.) Three hours per week. *Four semester hours.*

**HEP-381. Practicum** *Faculty*

A practicum experience in a hospital, business, coaching position, clinic and/or geriatric care center under the supervision of a practicum adviser and an on-site supervisor. An in-service project is required. Open to juniors and seniors. The term during which the practicum work is performed will be noted by one of the following letters, to be added immediately after the practicum course number: A (fall), B (winter), C (spring), or D (summer). Practica undertaken abroad will be so indicated by the letter I. The student must complete a minimum of 120 hours of work on-site. Graded S/U. *Three semester hours. (I.)*

**HEP-382. Practicum** *Faculty*

A practicum experience in a hospital, business, coaching position, clinic and/or geriatric care center under the supervision of a practicum adviser and an on-site supervisor. An in-service project is required. Open to juniors and seniors. The term during which the practicum work is performed will be

noted by one of the following letters, to be added immediately after the practicum course number: A (fall), B (winter), C (spring), or D (summer). Practica undertaken abroad will be so indicated by the letter I. The student must complete a minimum of 160 hours of work on-site. Graded S/U. *Four semester hours. (I.)*

### **HEP-391. Independent Study Faculty**

Introduction to fundamental research procedures and data manipulation in Exercise and Sports Science under the direction of a faculty member. This course can be taken more than once. Prerequisite HEP-100 and permission of the faculty supervisor. (Offered spring and fall semesters.) Graded S/U. *One semester hour.*

### **HEP-392. Directed Research Faculty**

Laboratory and/or field experiences under the direction of a faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. This course can be taken more than once. Prerequisites: permission of a participating faculty member. Six hours of laboratory per week. Graded S/U. *Two semester hour.*

### **HEP-446. Principles and Foundations of Health Fitness Management Dr. Borsdorf**

Standards, and guidelines relevant to health and fitness programs will be examined. Emphasis will be placed on identifying the policies and practices that enhance the safety and effectiveness of facilities and programs in allied health, fitness facilities and schools. Topics will include American College of Sports Medicine facilities guidelines, American Disabilities Act implications, marketing strategies, risk management assessments and procedures, facility design and development, and operating policies and procedures. This is a capstone course which requires a written paper and an oral presentation. Prerequisites: HEP-100 or the permission of the department chair. (Offered fall semesters.) Three hours per week. *Four semester hours.*

### **HEP-447. Wellness and Fitness Throughout Adulthood Dr. Borsdorf**

An analysis of wellness/fitness service techniques used to confront the problems and needs of various adult populations. The course will focus on the adult life cycle and its relationship to physical fitness and other wellness dimensions. Special emphasis will be placed upon identifying alterable psychological, sociological, and physiological aging processes and developing strategies for improving overall wellness during the different stages of adulthood. An oral presentation and a written report will be part of the course requirements. (Offered spring semesters.) Three hours per week. *Four semester hours. (D.)*

### **HEP-452. Principles and Practices of Exercise Assessment Dr. Fearheller**

This course will explore the role of exercise in wellness programming and necessary exercise testing in both healthy and disease models. Techniques of functional capacity measurements and health assessments will be explored and practiced. Students will develop a strong rationale for the role of exercise, exercise testing, and physical activity in the lives of healthy and diseased people. Three hours of lecture and three hours of laboratory per week. Prerequisites: BIO/HEP-206 and HEP-352; or permission of department chair. (Offered spring semester) *Four semester hours.*

### **HEP-464. Adapted Physical Education Faculty**

An analysis of conditions affecting the development of children with special needs. Methods for selecting and classifying such individuals will be explored, and strategies for adapting activities to meet the needs of differently-challenged individuals will be addressed and experienced. HEP major or permission of department chair. (Offered even year spring semesters.) Three hours per week. *Four semester hours. (D.)*

### **HEP-465W. Health and Physical Education Teaching Seminar Dr. Engstrom**

Readings, discussions, and individual research focused on pedagogy, measurement and evaluation, or some other facet of teaching health or physical education. At the conclusion of the seminar, students will present a research paper at an open meeting of the department. Prerequisite: This course can only

be taken in conjunction with Education 405 and requires permission of the department chair. One hour per week. *One semester hour.* (I.)

*Note: HEP-465W is an elective course taken concurrently with EDUC-405. Students in the teaching track not selecting HEP-465W could complete the capstone requirement by scheduling HEP-446, 447, or 491W.*

### **HEP-482. Internship Faculty**

A work-related experience within a Wellness/Allied Health setting, at a staff-approved site. A research paper, one oral presentation, and a minimum of one in-service presentation are required. Each student is expected to be on-site a minimum of 160 hours per semester. Prerequisite: Open to senior HEP majors with permission of his/her adviser. (Offered spring and fall semesters.) Graded S/U. *Four semester hours.* (I.)

### **HEP-491W. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with a special interest in the field of exercise and sport science. Prerequisite; HEP-100 and the permission of the departmental chair and project adviser. (Offered spring and fall semesters.) *Four semester hours.* (I.)

### **HEP-492W. Research/Independent Work Faculty**

A continuation of HEP-491. Prerequisite: HEP-491. (Offered spring and fall semesters.) *Four semester hours.* (I.)

## **History**

History is essential to active and empathetic global citizenship. Rather than simply memorizing facts, Ursinus History students learn to think critically about the relationship between the past and the present. Through a diverse curriculum, they discover how different elements of human existence—economics, politics, religion, social dynamics, physical environment, and more—affect individuals and their societies. Our goals are to provide a strong foundation in research methods; to foster analytical and communication skills; and to cultivate the global and multicultural perspectives that are necessary to understand the human condition and contemporary world affairs. Our students graduate ready to engage in a globalized world.

Through their coursework, as well as internships and other independent learning experiences in our history-rich region, our majors and minors prepare for a surprising variety of career fields. Graduates of our program go on to pursue careers in law, business, government, the Foreign Service, journalism, the health professions, and more. Those who wish to pursue a history-centered career find opportunities in high school and college teaching, as well as museums, historic sites, archives, and libraries. We proactively support our students in their pursuit of internships, independent learning experiences, and careers. Over the course of these careers, the majority of history alumni obtain graduate degrees.

### **Requirements for Majors**

History majors must take a minimum of ten courses in History, at least four of which must be at the 300 level and no more than two may be at the 100 level. The following requirements must be fulfilled: HIST-200W; two courses in United States history (HIST-113, 114, 220, 222, 223, 321, 322, 323, 327, 328, 329); two courses in European

history (HIST-201, 205, 206, 207, 301, 302, 304, 305, 306, 308); two courses in non-Western history (HIST-231, 241, 243, 253, 331, 341, 342, 344, 345, 353); two courses in comparative history (HIST-261, 262, 265, 361, 363, 364, 365, 366, 367, 368, 369); and one 400-level capstone course. History majors must fulfill their capstone, oral presentation, and writing requirements by completing one of the following courses: HIST-401W; HIST-421W; HIST-442W; HIST-462W.

(HIST-150, HIST-199, and History 300 are topics courses that may also be used to fulfill major area distribution requirements relevant to their topics.)

All History majors are strongly encouraged by the department to participate in an approved study abroad program or to take an approved History Internship. History courses taken abroad may be counted to fulfill department requirements.

## **Concentration Option**

Concentrations are not a requirement for history majors. The Concentration Option is for students who wish to pursue study in an area or topic in greater depth, including students who are considering graduate study in history or a related discipline. Concentrations will consist of three courses beyond the department's core requirements, for a total of five courses in the Concentration area.

Concentration Options include:

- **Concentration in African and African-American history:** (113, 114, 220, 222, 223, 231, 321, 322, 323, 329, 331, 361, 367)
- **Concentration in American history:** (113, 114, 220, 222, 223, 321, 322, 323, 327, 328, 329)
- **Concentration in East Asian history:** (241, 243, 341, 342, 344, 345, 361)
- **Concentration in European history:** (201, 205, 206, 207, 301, 302, 304, 305, 306, 308, 361, 368)
- **Concentration in World/Comparative history:** (207, 253, 261, 262, 265, 331, 361, 363, 364, 365, 366, 367, 368, 369)
- **Student-initiated Concentration:** Two courses in a specific area selected from the department's core requirements, plus three additional courses appropriate to the concentration. (Concentration and specific courses to be approved by the Chair of the History Department.)

Note: With departmental permission, a student may substitute one course from outside the History department in fulfillment of a Concentration. Also, HIST-300 (Special Topics), a History Internship, 400W (Research), 491-492W (Honors), and/or a 400-level seminar may be included in a Concentration, when appropriate.)

## **Special Career Interests**

### **Graduate Study in History**

Students seeking admission to graduate programs in history should consider undertaking independent research and specializing in an area or period in addition to

the requirements of the history major. Possible area specializations include: African-American history; American history; Comparative or World history; East Asian history; and European history.

### **Careers in the Law**

Students who plan to seek admission to law school should acquire a faculty Pre-legal adviser. There are no specific course requirements, but prospective law students should choose electives that sharpen their reading, writing, speaking, and reasoning skills. They should also consider independent research.

### **Careers in Teaching**

Students interested in teaching history or social studies at the secondary school level should inform their faculty advisers and consult the Ursinus College Education Department. Students seeking secondary school teaching certification in social studies must include HIST-262 in their curriculum. In addition, teaching candidates must take ECON-120 or 102; POL-218 and one additional Politics course; one Anthropology course; one Sociology course; and all prescribed Education courses, including EDUC-405 (Student Teaching).

### **Careers in Public History**

Students wishing to pursue a career in public history, including historical preservation and museum studies, should take ART-360 and pursue historic site or museum internships. They should also consider an area or period specialization in addition to the requirements of the history major.

### **Requirements for Minors**

Students seeking a minor in history must take a minimum of five courses in the department, at least two of which must be at the 300 or 400-level. A maximum of two Advanced Placement or transfer courses may be counted towards a minor in History.

### **Courses**

Note: All 100 and 200-level History courses (except HIST-200W) are open to first-year students. First-year students may also be admitted to 300-level courses, with the permission of the History Department. History 150, 113, 114, 200W, 207, 261 and 262 are offered annually, while other History courses are normally offered every other year.

#### **HIST-113. American History, 1500-1877 Faculty**

After 1500, Native American, European, and African peoples collided, struggled, and created new cultures on the territory that would become the United States of America. We will examine this saga from the era of European colonization, through the American Revolution, to the testing of the nation in the Civil War era. Our primary goals will be to explore the diversity of American experiences and to evaluate debates on key issues. Students will develop foundational skills in critical reading and analysis,

discussion, presentation, collaboration, and writing Three hours of classroom discussion per week. *Four semester hours. (H, D.)*

### **HIST-114. Modern American History, 1877-Present** *Dr. Onaci*

This survey examines modern United States “history from the bottom up.” It emphasizes how everyday people became history makers, and demonstrates some ways notions of race, gender, labor, and more create opportunities for oppression and progress. Primary and secondary source material will give insight into personal stories, as well as the broader political trends and ideologies that work together to create the processes that drive history. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H, D.)*

### **HIST-150. Historical Investigations** *Faculty*

Students will practice the historian’s craft by working with a professor investigating a specific historical problem. Topics will vary with the instructor. Depending on the topic, oral history, archaeological, literary, cinematic, and internet sources may be used, in addition to more traditional documentary sources. This course is an excellent introduction for students considering the History major, but is designed for any student with an interest in research and in developing foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Open to all first-year students, or sophomores by special permission of department chair. Three hours per week. *Four semester hours. (H and D or G, if so designated, contingent upon the topic.)*

### **HIST-199. Reacting to the Past** *Dr. Throop, Faculty*

This special topics course utilizes the Reacting to the Past pedagogy first developed at Barnard College (<http://reacting.barnard.edu/>). Students will take on historically accurate roles, informed by classic texts, in elaborate, immersive role-playing games set in the past and led by the students themselves. Students will thus acquire knowledge and skills in order to prevail in complex and unscripted situations. Topics will vary; students should consult the course description for the specific semester in question. Students will develop foundational skills in public speaking and leadership as well as critical reading and analysis, discussion, collaboration, and writing. Three hours per week. *Four semester hours. (H, D or G., if so designated, depending upon topic)*

### **HIST-200W. Historiography** *Faculty*

An introduction to the craft and discipline of History. The course combines readings by great historians on their method with a focused excavation of at least one historical topic of the instructor’s choosing through close reading of primary and secondary sources. Students will be required to do extensive writing and revision of papers. This course is open to History, American Studies, and East Asian Studies majors with second-year standing or higher; and to other students with the permission of the instructor. Three hours per week. *Four semester hours.*

### **HIST-201. The “Dark Ages”? Crisis and Creativity in Medieval Europe, 768-1500** **C.E.** *Dr. Throop*

Was life truly “nasty, brutish, and short” in medieval Europe? Or did chivalrous knights in shining armor, pious popes, and the bright beacon of Renaissance culture enlighten Europe? From Charlemagne and the Vikings to the Italian city-states, from gender roles and family life to the origins of liberal arts education and European science, we will explore the various influences that impacted medieval Europe and the variety of ways people at all levels of society responded to their times, as well as key debates among historians. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H.)*

### **HIST-205. Russia and The USSR** *Dr. King*

This course surveys the history of Russia from the 9th century through the post-Soviet period. Themes that will be addressed include the transformation of Muscovite Russia into a multi-ethnic Eurasian empire, the emergence of autocracy and serfdom, Russia’s problematic political, economic, and cultural

relations with Europe, the rise and fall of the Soviet Union, and post-Soviet adjustments. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Four hours per week. *Four semester hours. (H, G.)*

### **HIST-206. The Age of Revolution** *Dr. Doughty*

Readings and discussions on the “Dual Revolution”—political and economic—in the western world, c. 1770-1870 and its impact on Europe, the Americas, and the world. This survey course will study the interconnections between the political revolutions in North and South America; the French Revolution and Napoleonic Era the Industrial Revolution; political, economic, and social reform movements of the Nineteenth Century; and the growing influence of western power and influence in Asia and Africa. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Four hours per week. *Four semester hours. (H.)*

### **HIST-207. Peace and Conflict in the Global Era** *Dr. Doughty*

Readings and discussions on international relations and their domestic political, social and economic background in the 20th and 21st centuries, with particular emphasis on the emerging global economic and political system. This survey course will include a different special topic each year, such as: the origins and consequences of the two World Wars; national liberation and independence movements; the Cold War; genocide and ethnic cleansing; and international organizations and human rights. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Four hours per week. *Four semester hours. (H, G.)*

### **HIST-220. Philadelphia Story: The City as Text** *Faculty*

In this course we will use the city of Philadelphia as a laboratory for examining the American experience. We can do this because so much happened in Philadelphia. It is where the American political system was founded, where many European immigrants landed, where African-Americans experienced both slavery and freedom, and where residents had to grapple with the challenges of poverty, epidemics, the rise and fall of industry, and racial or ethnic conflict. In addition to documents and histories, we will read the city itself—its buildings, murals, market-stalls and neighborhoods—for clues to American diversity and the urban experience. Each student will do an independent research project and students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week, plus field trips. *Four semester hours. (H, D.)*

### **HIST-222. African American History I** *Dr. Onaci*

This introduction to African American history begins with the question: who are African Americans? We will explore the societies from which their ancestors came to the United States, as well as the cultures, spirituality, political systems, cosmologies and epistemologies that shaped their lives up to about 1820. Some questions include: How did the diverse groups of African people cope with capture, enslavement, and passage to the western hemisphere? What roles did they play in the establishing economy, culture, and politics of the young American nation? At what point did they become distinct from their forebears? Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H, D.)*

### **HIST-223. African American History II** *Dr. Onaci*

A survey of African people in the United States from the 1820 to the present, we will critically analyze the experiences of African Americans. The major questions driving this course are: Who are African Americans? Are they a distinct people? Who have been their allies and oppressors? What have African Americans contributed to United States and global history? Major themes will include: processes of racialization; enslavement and abolition; interracial alliances; daily resistance and political activism; gender; conflicting goals; varying meanings of freedom and equality; local, national, and international migration; and the genesis and trajectories of Black political thought. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H, D.)*

**HIST-231. Bibles, Guns, and Minerals in Africa: A Comparative History** *Dr. Onaci*

Learn about the history, political landscape, cultural norms, and movements of African people. Because the continent is so large and filled with so many different people, we will focus on one or two countries and develop a comparative framework for analysis. This course begins with the questions: What role does Africa play in a global society? How did it become what it is today? How have the people living on this vast continent viewed themselves and others? What is the relationship between various African nations and the West? What is daily life like for the “average” person in Africa? Where is Africa heading politically, culturally, and economically? Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H, G.)*

**HIST-241. The Story of Chinese Society and Culture, 800-1976** *Dr. Clark*

China has the longest unbroken history of any contemporary culture. This course looks at the last 1000+ years of that experience. Through historical narrative with a focus on social and cultural innovations, the course will address the unparalleled elegance of the Song, the disasters of the Mongols, the restoration of energy before the arrival of Europeans, and trials and revolutions of the 19th and 20th centuries. Readings will draw on a mixture of primary and secondary material, including contemporary monographs, novels, and other forms of literature. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Four hours per week. *Four semester hours. (H, G.)*

**HIST-243. Japanese Society and Culture since the Days of Genji** *Dr. Clark*

This course surveys the history of Japan since the establishment of the first imperial court in the 7th and 8th centuries through the tribulations of World War II and the subsequent American Occupation. Themes to be addressed include the definition of a uniquely Japanese culture, the rise of samurai and samurai government, Japan’s uniquely successful adaptation to the challenge of Europe and the United States, and the trauma of the war. Readings will draw on a mixture of primary and secondary material, including contemporary monographs, novels, and other forms of literature. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Four hours per week. *Four semester hours. (H, G.)*

**HIST-253. The Middle East** *Dr. King*

An introduction to Middle Eastern societies and civilizations from the founding of Islam to the problems of the contemporary Middle East. Themes that will be addressed include the beginnings and spread of Islam, ethnic and religious diversity in the region, the rise of modern nationalism, and the role of the Middle East in international relations. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Four hours per week. *Four semester hours. (H, G.)*

**HIST-261. The Pre-Modern World** *Dr. Doughty, Dr. King, Dr. Throop*

A comparative survey of the origins, development and achievements of the world’s major civilizations, to c. 1500 C.E., with emphasis on the study of their ideas and institutions; the cultural, economic and social interactions among their respective peoples; and the relationship between the environment and their development. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H, G.)*

**HIST-262. The Modern World** *Dr. Doughty, Dr. King*

A comparative survey of the development and transformation of the world’s major civilizations in the modern era (c. 1500 to the present), with emphasis on the process of social, economic and political change; on the “Rise of the West” to global dominance and its impact on other societies; and on the influence of geography, climate and environment on the history of the modern world. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H, G.)*



**HIST-265. Heirs of Rome: The Mediterranean World, 284-840 C.E. Dr. Throop**

Did the Roman Empire fall to bloodthirsty barbarians in 476 C.E., launching the “dark ages”? Or, did Mediterranean communities enter a period of transition and transformation instead? In this course we will investigate the end of the western Roman empire and will compare the three societies that emerged from the Roman world—Europe, Byzantium, and the Islamic Caliphates. From the rise of Christianity to the rise of Islam, from the effects of climate and natural disasters to the economic impact of political change, we will explore the changing ways in which people identified themselves and embraced or rejected the Roman past. Students will develop foundational skills in critical reading and analysis, discussion, presentation, collaboration, and writing. Three hours per week. *Four semester hours. (H.,G.)*

**HIST-299. History Tutorial Faculty**

Individual study and directed reading on a selected topic in the historical literature and preparation of a critical bibliography of the works read. Open only to students majoring in history. Prerequisites: HIST-200 and prior consent of a member of the history department who agrees to serve as tutor. One hour per week. *One semester hour. Offered as requested.*

**HIST-300. Special Topics in History Faculty**

An elective course dealing with special subject areas and periods. Three hours per week. (Not offered on a regular basis.) *Four semester hours. (H; D or G, if so designated, contingent upon the topic.)*

**HIST/GWMS-301. Knights and Chivalry: Violence, Gender and Religion Dr. Throop**

What did it mean to be a medieval knight, and what constituted “chivalrous” behavior for both men and women? How did a military culture glorifying the most brutal violence come to mean good manners, pious thoughts, and sexual romance? In this course we will explore the medieval culture of chivalry, especially the importance of violence, gender identity and relations, and religious belief, culminating in an investigation of the trial of Joan of Arc. Through film analysis, students will also consider why the tensions inherent in chivalry continue to be represented in modern culture. Students will develop advanced skills in critical reading and analysis, discussion, presentation, collaboration, and writing, and will complete an independent research project. Three hours per week. *Four credit hours. (H.)*

**HIST/GWMS-302. Gender and Sexuality in Medieval Europe Dr. Throop**

What did it mean to be a man or a woman in the Middle Ages, and what did it mean to ‘have sex’? How were ideas about gender expressed sexually, and how did ideas about various sexual activities impact gender relations? Beginning with theoretical readings by Michel Foucault and Judith Butler among others, the course will investigate how medieval Europeans conceptualized sex, gender, and sexual activity. We will explore the kinds of gender relations—and sexual relations—that were encouraged, allowed, or prohibited, including marriage, same-sex relations, rape, cross-dressing, contraception, castration, and prostitution. Students will complete an independent research project. Three hours per week. *Four credit hours. (H.)*

**HIST-304. European Religious Wars, 1054-1648 Dr. King**

This course examines religious conflict and state-building in Europe during the 15th-17th centuries. What were the causes of religious conflict during this period? What role did religious conflict play in the emergence of early modern European states and of the European state system? Students will complete an independent research project. Three hours per week. *Four semester hours. (H.)*

**HIST-305. The Devil in Europe: Witchcraft and Society, c. 1450-1750 Dr. Doughty**

A study of the origins and dynamics of the witch-hunt in Europe, as a vehicle for examining early modern society and culture. Topics to be studied will include the origins of village and learned witchcraft beliefs; the effects of religious and economic change; the role of gender in accusations and trials; Devil-worship and the witches’ sabbat; and the reasons for the decline of the persecutions. Significant time will be devoted to the historiography of the topic. Three hours per week. *Four semester hours. (H.)*

### **HIST-306. Ideas and Ideologies** *Dr. King*

An exploration of selected movements in the history of modern European political and social thought. Specific content may vary but will include such topics as liberalism, nationalism, racism, and socialism. Extensive readings in original sources, written analyses, and discussion. Three hours per week. *Four semester hours. (H.)*

### **HIST-308. Nazi Germany and the Holocaust** *Dr. Doughty*

A study of the rise of Adolf Hitler and the National Socialist Party, the structure and dynamics of the "Hitler State," German society under the Nazis, and the origins and implementation of the racial and foreign policies of the Third Reich. Significant time will be devoted to the historiographical questions concerning the social and political background of Nazism, the role of Adolf Hitler in the Nazi state, the status of women in Nazi Germany, anti-Semitism in European society, and the planning and implementation of the Holocaust. Three hours per week. *Four semester hours. (H.)*

### **HIST-321. Colonial America** *Faculty*

What happened when Europeans intruded themselves into the lives and lands of the native peoples of North America, and then began the forced importation of several million West African persons? In this course we will follow the interaction of these peoples in the contexts of the settlement and evolution of the British colonies and the wider Atlantic world. All along, we will consider American diversity by asking how experience varied according to one's region, religion, class, gender, race or ethnicity. Classes will consist of discussion of primary documents and historians' interpretations. Each student will do an independent research project. Three hours per week of discussion. *Four semester hours. (H, D.)*

*Note: This course will be offered every third year, in rotation with HIST-322 and 323.*

### **HIST-322. Revolutionary America** *Faculty*

What was the American Revolution and how revolutionary was it? We will consider this question as we examine the American War for Independence from Great Britain and the political, social and economic revolutions that accompanied it. Using both primary documents and recent scholarship, we will examine the transformation of American society from 1750 to 1820. Three hours per week We will consider American diversity by asking how this experience varied according to one's region, class, gender, race or ethnicity. Each student will do an independent research project. *Four semester hours. (H, D.)*

*Note: This course will be offered every third year, in rotation with HIST-321 and 323.*

### **HIST-323. Civil War America** *Faculty*

In this course on America's bloody "testing time" we will begin with an exploration of conditions in American society after c. 1820 that gave rise to the American Civil War (especially slavery and the cultural, economic, and political divergence between the North and South.) We will then consider the war experience from military, political and home front perspectives, concluding with the aftermath of war in the Reconstruction era. All along, we will consider American diversity by asking how experience varied according to one's region, class, gender, race, or ethnicity. Classes will consist of discussion of primary documents and historians' interpretations. Each student will do an independent research project. Three hours per week. *Four semester hours. (H, D.)*

*Note: This course will be offered every third year, in rotation with HIST-321 and 322.*

### **HIST-327. Topics in Modern United States History** *Dr. Onaci*

This course provides an opportunity to focus on specific aspects of American History. Some topics include: violence in American culture, political struggles for equality, citizenship and nationalism, gender and sexuality, immigration, political radicalism, ideology, imperialism, racism, and war. Three hours per week. *Four semester hours. (H, D.)*

### **HIST/GWMS-328. Women in American History** *Faculty*

An examination of the changing experience of American women from colonial times to the present. The focus of this course will be the interaction of that experience with ideal roles for women in the realms of

family, religion, politics, economics, and social life. Attention will also be paid to the interaction of gender with the variables of class, race, ethnicity, and region. Three hours per week. *Four semester hours. (H, D.)*

**HIST-329. Topics in African American History** *Dr. Onaci*

This course explores African American history in detail. Some topics include: intellectual history, citizenship and nationalism, the Civil Rights and Black Power Movement, slavery and abolition, internationalism, African American culture, gender and sexuality, ethnicity, popular media, racism, the Black family, and policing African American communities. Three hours per week. *Four semester hours. (H, D.)*

**HIST-331. Topics in African History** *Dr. Onaci*

A detailed analysis of the diversity of the African continent since 1400. Topics to be covered may include, among others, the empires of West Africa, African slavery and the transatlantic slave trade, the Dutch and British Cape Colony, European colonization, and the independence movements of the twentieth century. Three hours per week. *Four semester hours. (H, G.)*

**HIST-341. An Historical Introduction to East Asian Thought** *Dr. Clark*

An introduction to the great texts of the East Asian philosophical tradition. Readings will focus on the original texts of Confucianism, Daoism, Legalism, and the other traditions, as well as later commentaries, and will be supplemented with appropriate contemporary monographs. Three hours per week. *Four semester hours. (H, G.)*

**HIST-342. An Historical Introduction to East Asian Religion** *Dr. Clark*

An introduction to the religious traditions of China and Japan, including China's pre-imperial religious heritage, Buddhism, Daoism, and Shinto. Readings will emphasize primary source texts and will be supplemented with appropriate contemporary monographs. Three hours per week. *Four semester hours. (H, G.)*

**HIST-344. The Vietnam Wars** *Dr. Clark*

An examination of post-colonial conflict in Vietnam from the mid-19th century through 1975. We will approach the narrative from the perspective of the Vietnamese in an attempt to understand the domestic stresses, resulting from both internal and external change, which produced the post-World War II upheavals, as well as the motivations of the Western powers that intervened. Three hours per week. *Four semester hours. (H, G.)*

**HIST-345. Women in East Asian Culture** *Dr. Clark*

An historical overview of the position of women in East Asian culture from the early modern era to the recent past. Attention will be devoted to topics such as marriage, motherhood, family structure, economic opportunity, women's writing, women and religion, etc. In addition to contemporary monographs, readings may include novels, plays, poetry, as well as movies. Three hours per week. *Four semester hours. (H, G.)*

**HIST-353. The Arab-Israeli Conflict** *Dr. King*

This course will examine the origins and historical development of one of the most bitter and long-lasting disputes of the last century. Using a combination of primary sources and scholarship, we will investigate the impact that this conflict has had on Middle Eastern politics, on international relations, and on the problem of human rights. Three hours per week. *Four semester hours. (H, G.)*

**HIST-361. Beyond Private and Public: Women's Activist Histories** *Dr. Onaci*

Focusing on the personal lives of women in various locales around the world, this course helps students gain a sense of the personal and political struggles of a diverse range of people. The women studied participated in social movements, state politics, and cultural work. They made women's rights a central topic in the broader march toward the liberation of their people. Central questions include: What

problems did women in various societies throughout the world face? How did they contribute to the solutions for these problems? How did gender shape their experiences? Also, how useful is (auto)biography in the study of the past? What can individual lives teach us about our present and guide us as we create our future? Three hours per week. *Four semester hours. (H, G.)*

*Note: This course may not be taken by students who have taken it under a different course number*

### **HIST-363. Conflict, Tolerance, and Identity: Jews, Christians, and Muslims in the Middle Ages** *Dr. Throop*

How did Jews, Christians, and Muslims view each other and interact in the era of the crusades? Why were some communities more tolerant, while others experienced violence? How have narratives of medieval interfaith relations been used to support modern political agendas? In this course we will compare the treatment of religious minorities by Christian and Muslim rulers and explore the way economics, social dynamics, and political trends intersected with religious beliefs in the context of the medieval Mediterranean. We will also consider how religious identity was decided, communicated, and lived out in everyday life. Students will complete an independent research project. Three hours per week. *Four credit hours. (H, G.)*

### **HIST-364. The Crusades** *Dr. Throop*

What were the medieval events we refer to as “the crusades”? Who went, why did they go, and what resulted from their actions? How did different individuals and groups at the time view the crusades, and why do the crusades still attract the world’s attention? In this course we will explore the history of the crusading movement through a variety of different perspectives—Christian (Catholic and Byzantine), Jewish, Islamic and “heretical” viewpoints will be considered. Students will also consider how crusading narratives are utilized in modern political discourse and, through film analysis, popular culture. Students will complete an independent research project. Three hours per week. *Four credit hours. (H, G.)*

### **HIST-365. Empires and Nations** *Dr. King*

A comparative history of the emergence of nationalism among the subject peoples of multinational empires in the nineteenth and twentieth centuries: Western Europe’s overseas empires, the Russian/Soviet empire, the Austrian Empire, and the Ottoman Empire. The course will focus on theories of imperialism and of nationalism, and on the perspective of the societies struggling for national independence. Three hours per week. *Four semester hours. (H, G.)*

### **HIST/GWMS-366. History of the Family** *Faculty*

A survey of the changing structure and function of the family in Europe and America from 1500 to the present. Special attention will be paid to the relationship between changes in the family and changes in the wider society; the family as the locus for changing gender and age relations; and the variations in family forms dictated by class, race, ethnicity, religion, and region. Three hours per week of lectures and discussion. *Four semester hours. (H, D.)*

### **HIST-367. Cultures of Resistance** *Dr. Onaci*

This course focuses on the past, present, and future of various local cultures in an age of a hegemonic global pop culture, advanced digital communication, and seemingly ever-increasing democratization of innovative technologies. Major themes include: colonization, anti-colonial struggle, post-colonial realities, music production, appropriation, creolization, literature, fashion, technological revolution, the development of social media, nationalism, citizenship, borders, transnationalism, DJing and “digging,” dance, theatre, film, performance, race, gender, class, and sexuality. Three hours per week. *Four semester hours. (H, G.)*

### **HIST-368. Warfare and Society** *Dr. Doughty*

A comparative study of military organization and warfare, in its social and cultural context, from c. 500 BCE to the present. The interrelationships between warfare, technology, government and society will be studied, using case studies from ancient Greece to the Gulf War and modern terrorism. Europe, North

America, East Asia, South Africa and the Middle East are areas which will be studied in detail. Three hours per week. *Four semester hours. (H, G.)*

### **HIST-369. Travelers in Ancient Eurasia** *Dr. Clark*

From time immemorial individuals have set out on personal journeys that have taken them across the vast expanse of Eurasia. These journeys have been for diplomacy, trade, or religious exploration. This course will examine a range of these journeys, such as those of the Chinese pilgrim Xuanzang, the Venetian merchant Marco Polo, the Muslim jurist Ibn Battuta, and the possibly fictional Italian mariner Jacob of Ancona. The course will combine personal memoirs with secondary accounts of the times and places they encountered. Three hours per week. *Four semester hours. (H,G)*

### **HIST-381. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: 12 credits in history and approval of a faculty internship adviser. *Three semester hours. (I)*

### **HIST-382. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: 12 credits in history and approval of a faculty internship adviser. *Four semester hours. (I)*

### **HIST/ANTH-385. Historical Archaeology Field School** *Staff*

A six-week summer archaeology course offered in conjunction with The Speaker's House foundation at the Frederick Muhlenberg house site in Trappe, Pennsylvania. The field school course in Historical Archaeology will combine instruction in archaeological methods and theory with hands-on excavation training and experience at an important historical site. Through assigned readings and classroom discussions, on-site training and experience, and weekly laboratory study, field school students will learn historical archaeology techniques and develop the ability to identify and interpret discovered artifacts and place archaeological information within a cultural/historical framework. *Six semester hours.*

### **HIST-400W. Research** *Faculty*

Independent research, under the guidance of an adviser, directed toward the production and oral presentation of a historical project or paper. Prerequisite: HIST-200W or equivalent. Prerequisite or co-requisite: a History capstone seminar (HIST-401W, HIST-421W, HIST-442W, or HIST-462W) and permission of the department. (Offered as needed) *Four semester hours. (I)*

*Note: HIST-400W does not fulfill the capstone requirement.*

### **HIST-401W. Seminar in European History** *Faculty*

Readings and individual research on topics of European history, leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: HIST-200W or equivalent. Three hours per week. *Four semester hours. (H.)*

### **HIST-421W. Seminar in American History** *Faculty*

Readings and individual research on topics of American history, leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: HIST-200W or equivalent. Three hours per week. *Four semester hours. (H.)*

### **HIST-442W. Seminar in East Asian, Middle Eastern, or African History Faculty**

Readings and individual research on topics of non-Western history, leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: HIST-200W or equivalent. Three hours per week. *Four semester hours. (H.)*

### **HIST-462W. Seminar in Comparative History Faculty**

Readings and individual research on topics in comparative history leading to preparation, oral presentation and discussion of research papers. Open to third- and fourth-year students. Prerequisite: HIST-200W or equivalent. Three hours per week. *Four semester hours. (H.)*

### **HIST-491W. Research/Independent Work Faculty**

This course is open to candidates for departmental honors with the permission of the department. Prerequisite: HIST-200W. Prerequisite or co-requisite: a History capstone seminar (HIST-401W, HIST-421W, HIST-442W, or HIST-462W). *Four semester hours.*

*Note: HIST-491W does not fulfill the capstone requirement. (I.)*

### **HIST-492W. Research/Independent Work Faculty**

A continuation of HIST-491W. Open only to candidates for honors. Prerequisites: HIST-491W and permission of the department. *Four semester hours. (I.)*

## **Interdivisional Studies**

### **IDS-001- 008 Bonner Leaders Dr. Christian Rice**

This course is designed for Bonner Leaders as an academic complement to their community service work, focusing on the Bonner Common Commitments—civic engagement, community building, diversity, international perspective, and social justice—and providing the students with opportunities for intentional reflection on their service experience. Prerequisites: Permission of the instructor. Graded S/U. One hour per week. *One semester hour.*

### **IDS-089. Science and Mathematics in Society Faculty**

This course is designed as an interdisciplinary academic component for “Fellowships in the Ursinus Transition to an Undergraduate Research Experience” (FUTURE) students participating in the “Center for Science and the Common Good” (CSCG) summer research program. Topics will include exploration of the intersection of science and mathematics on society. The class will reflect on ethical issues related to research in science and mathematics and on how science and society influence each other. Students will explore how scientists and mathematicians in different disciplines approach research questions and how scientific papers are written. The course meets during the summer and a final paper is due during the fall semester. Prerequisites: Permission of the instructor. Graded S/U. *One semester hour.*

### **IDS-095. Topics in Global Film Faculty**

This course is offered in conjunction with the International Film Festival, which takes place in the Fall Semester. The festival presents six films, one for each of the six languages offered at Ursinus: Arabic, Chinese, French, German, Japanese and Spanish. The films are subtitled in English. The festival is usually organized around a theme, such as childhood and adolescence, gender and sexuality, war and conflict, or social justice, but may also present a genre, such as musicals or documentaries. Students are required to attend screenings of all six films, plus one additional film about the theme or topic of the festival, and participate in discussion after each screening. Students are also required to post on a discussion board. This course may be taken more than once for credit. Three hours per week (screening and discussion). Graded S/U. *One semester hour.*

**IDS-099. Topics in Diversity Faculty**

The exploration of readings, other texts, traditional or not, and activities related to diversity. Sample topics are issues concerning race, ethnic identity, sexual orientation, gender, or religion. This course is graded S/U. One hour per week. *One semester hour.*

**IDS-101. World Literature I: The Literary Tradition Faculty**

Critical reading of selected representative works from Western and non-Western literatures from early civilization through the European Renaissance. The epic and drama will be emphasized. (See also Ursinus in Sevilla program.) Three hours per week. *Four semester hours.* (H.)

**IDS-102. World Literature II: Topics in Comparative Literature Faculty**

Critical reading of selected works, with emphasis on 19th- and 20th-century non-Western literatures, in a comparative and pluralistic context. Three hours per week. *Four semester hours.* (H, G.)

**IDS-110. Topics in Interdivisional Studies Faculty**

This course will focus on a topic that is interdisciplinary in nature and is not covered in a similar fashion in other courses in the curriculum. Topics will vary, and students may repeat course when topics differ. Four hours per week. *Four semester hours.*

**IDS-120. Introduction to American Culture for International Students Faculty**

This course is to be taken during the first year at Ursinus by foreign students, including exchange students, in order to introduce them to the history, society and culture of the United States and the Philadelphia region. Assignments will provide practice in the structure and style of academic English, including oral and written communication. Limited to international students who are not native speakers of English. This course fulfills the core requirement in language for eligible students if approved by the chair of the Department of Modern Languages. Three hours per week plus one hour of additional work. *Four semester hours.*

**IDS-201, 202, 203. Independent Study Faculty**

Guided independent study involving more than one academic discipline for sophomores, juniors, seniors and second-semester freshmen. Projects will result in a major paper or creative project. The project proposal requires two faculty sponsors. *Four semester hours.* (I.)

**IDS-210. Study Abroad Pre-departure Orientation Dr. Hardin**

This course, required of all students approved by the College to participate in a semester or academic year-long study abroad program, is designed to help students prepare for the academic, intellectual, and personal challenges associated with study abroad. The course meets for 75 minutes per week during the last seven weeks of the semester. Students preparing to study in Japan take EAS-398 in lieu of this course. *One semester hour.*

**IDS/PSYC-214. Human Sexuality Faculty**

A multidisciplinary study of the development and expression of human sexuality through the ages, across cultures, and through the lifespan of the individual. Topics include how is "having sex" defined, sexual anatomy and physiology, sexual behaviors and response cycles, sexual research, development of gender identity, sexual orientations, relationships, atypical sexual practices, sexual dysfunctions, sexually transmitted infections, contraceptive methods, conception and birth. A working knowledge of sexual intelligence will be developed. Prerequisite: PSYC-100. Three hours per week. *Four semester hours.* (SS,D.)

*Note: Students who have already taken IDS-350 Human Sexuality cannot register for PSYC/IDS-214 Human Sexuality.*

**IDS/MCS-256. Decoding Science Dr. Edwards, Dr. Principe, Dr. Winegar**

This course teaches students the art of critically reading primary research articles and translating them into news articles, policy papers and advocacy pieces for non-science audiences. Three hours per week. *Four semester hours.*

### **IDS-290. Writing, Pedagogy, and Society** *Dr. Argondezzi*

Students will explore theories about how to teach and tutor writing and speaking; how the writing process works; how writing centers can best support students and college communities; and how diverse educational, socio-economic, and linguistic backgrounds affect student learning and writing. Putting theory into practice through hands-on tutoring exercises and/or civic engagement, students will become prepared to work as Writing Fellows, either in the Center for Writing and Speaking or in partnership with faculty in writing-intensive courses. Prerequisite: permission of the instructor. Three hours per week. *Four semester hours. (SS.)*

### **IDS-301. Directed Readings** *Faculty*

This course can be taken either as an individualized tutorial or as a group readings course. Students and faculty collaborate in designing a reading list of interdisciplinary materials and writing projects appropriate to the number of semester hours for which the course is being taken (eight to ten pages of formal and informal writing per credit hour). Permission of instructor required. *Two to four semester hours.*

### **IDS-381. Internship** *Faculty*

Open to juniors and seniors of any major. This internship is of an interdisciplinary nature or otherwise falls outside the student's major department. Interns must engage a faculty advisor in a relevant department. Other qualifications are the same as for traditional internships. Term will be designated by one of the following letters, which will be added immediately after the internship course number, A (fall), B (winter), C (spring) or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must log a minimum of 120 hours of work. *Three semester hours.*

### **IDS-382. Internship** *Faculty*

Open to juniors and seniors of any major. This internship is of an interdisciplinary nature or otherwise falls outside the student's major department. Interns must engage a faculty advisor in a relevant department. Other qualifications are the same as for traditional internships. Term will be designated by one of the following letters, which will be added immediately after the internship course number, A (fall), B (winter), C (spring) or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must log a minimum of 160 hours of work. *Four semester hours.*

### **IDS-491. Research/Independent Work** *Faculty*

Individual investigation of an interdisciplinary topic. Open to candidates for interdepartmental honors and to other students. Permission of two department chairs required. *Four semester hours.*

### **IDS-492W. Research/Independent Work** *Faculty*

Continuation of IDS-491. *Four semester hours.*

## **Washington Internship Institute**

The Washington Internship Institute (WII) program has three components all of which must be taken concurrently and combine for a total of 14 credits (for the 15-week semester program) or 9 credits (for the 10-week summer program). The academic course forms the theoretical framework for the entire experience and is selected from one of several thematic tracks (IDS-361, 362, 363, 364, or 365). The academic course of the student's choosing is accompanied by an internship seminar (IDS-360) common to all program participants and is rounded out by an intensive internship placement in a relevant organization (IDS-386).



All WII participants take the following:

**IDS-360. Washington D.C Internship Seminar Faculty**

This course will explore how principles of active global citizenship can both advance your professional and career goals while also enabling you to serve as a leader in a rapidly globalizing community. This seminar is designed for small group interaction, reflection, and peer critiquing in order to enhance communication skills and the professional skills needed to transition from undergraduate course work into career-intensive tasks. At the end of the term, students will document their learning in accordance with the Essential Learning Outcomes described in the American Association of Colleges and Universities Liberal Learning and America's Promise (LEAP) Initiative by preparing posters to present at the Active Learning and Global Citizenship Forum. Co-requisites: IDS-386 and one of the following: IDS-361, 362, 363, 364, or 365. The term will be noted by one of the following letters, to be added immediately after the course number: A (fall), C (spring), or D (summer). Graded S/U. Three hours per week. *Two credit hours for semester seminar; one credit hour for summer seminar.*

All WII participants select one of the following courses which determines the thematic focus and placement options of the internship:

**IDS-361. Environmental and Sustainability Policy Studies Faculty**

This class will examine how the United States' environmental and energy policies are made; who and what influences policy; and the scope and breadth of some of those policies. While the class will focus on U.S. policy positions on matters such as climate change, energy, and endangered species, the international aspects of these issues cannot be ignored and will also be addressed. Co-requisites: IDS-360 and 386. The term will be noted by one of the following letters, to be added immediately after the course number: A (fall), C (spring), or D (summer). Graded S/U. Three hours per week. *Four credit hours for semester course, two credit hours for summer course.*

**IDS-362. Global Health Policy Studies Faculty**

This course offers students the opportunity to look at the issues surrounding global health and the institutions and global structures that actively shape them. Students in this track enjoy close proximity to the National Institutes of Health and the Johns Hopkins University Hospital and will combine their academic study with an internship in the field of global health studies. Co-requisites: IDS-360 and 386. The term will be noted by one of the following letters, to be added immediately after the course number: A (fall), C (spring), or D (summer). Graded S/U. Three hours per week. *Four credit hours for semester course, two credit hours for summer course.*

**IDS-363. Global Women's Leadership Development Faculty**

In this course students will explore assumptions about gender worldwide alongside race, ethnicity, culture, sexuality, class, generation and other aspects of identity and community. Readings draw from texts in anthropology, history, sociology and cultural studies and serve to help students analyze policy papers, advocacy efforts, news media and other sources in order to identify obstacles to women's equitable global leadership, as well as avenues for encouraging women to be policy leaders. Co-requisites: IDS-360 and 386. The term will be noted by one of the following letters, to be added immediately after the course number: A (fall), C (spring), or D (summer). Graded S/U. Three hours per week. *Four credit hours for semester course, two credit hours for summer course.*

**IDS-364. Inside Washington: Politics and Policy Faculty**

This course has three primary goals: (1) to teach students the analytical, statistical, and political skills important for policy analysis; (2) to introduce them to a series of specific policy areas, and (3) to improve policy writing skills in various formats. The work in this course will be similar to that produced in a think tank, but the skills are applicable to a wide range of contexts. Co-requisites: IDS-360 and IDS-386. The term will be noted by one of the following letters, to be added immediately after the course number: A (fall), C (spring), or D (summer). Graded S/U. Three hours per week. *Four credit hours for semester course, two credit hours for summer course.*

### **IDS-365. International and Foreign Policy Studies Faculty**

This course employs theories and concepts, the study of institutional architecture, and an examination of contemporary and historical issues in order to address questions about the role of the United States, its policies and practices and relations with allies and rivals. A running simulation of the National Security Council will challenge students to synthesize theory and institutions as they make decisions about how to respond to ongoing crises. Co-requisites: IDS-360 and 386. The term will be noted by one of the following letters, to be added immediately after the course number: A (fall), C (spring), or D (summer). Graded S/U. Three hours per week. *Four credit hours for semester course, two credit hours for summer course.*

All WII participants pursue a full-time internship. Individual placements are determined by the thematic track selected by the student and are made in consultation with WII staff.

### **IDS-386. Washington, D.C. Intensive Internship Faculty**

The Washington Internship Institute's academic internship program is carefully designed to provide participants with practical, hands-on experience and academically rigorous courses emphasizing **public service, leadership, and professional development**. Interns spend four full days per week at an internship site in an area of special interest in a government office, nonprofit organizations, or for-profit company. Open to rising juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), C (spring), or D (summer). The intern completes 32 hours of work per week. Prerequisites: Students must apply to and be approved to participate in this program by the College committee that oversees it. Contact Career Services to learn how to apply. Co-requisites: IDS-360 and one of the following: IDS-361, 362, 363, 364, or 365. Graded S/U. *Eight credit hours for semester internship, six credit hours for summer internship. (I.)*

## **International Studies Certificate**

International Studies is an interdisciplinary program that provides an opportunity to explore cultures and issues beyond the United States. To appreciate, understand, and interact in a global community students need to explore other nations and cultures from various perspectives. Students understand other nations through courses that cover the historical developments of a nation, the political organizations that rule a country or countries, the economic systems that distribute resources, and the social organizations that support the cultural norms. It is equally essential for students to develop a willingness to understand how people from a different culture think and behave in order to communicate effectively with them. In order to be effective global citizens, we must be able to recognize that there are issues that go beyond our borders and require us to apply our understanding of culture and peoples.

The International Studies Certificate (ISC) is designed to complement a student's major. The interdisciplinary nature of the certificate requires students to take a diverse set of courses in order to meet the goal of understanding nations, peoples, and issues. Students are also asked to have an independent learning experience that is international in scope.

Students are required to take 28 credit hours, with no more than 8 credit hours taken from a single department or in the student's major. At least two courses must be "G" courses. There are three components of the Certificate:

### **A. Internationally Focused Courses.**

A student may take a minimum of 24 credits of internationally focused courses, with no more than 8 credit hours taken from a single department in the student's major. These courses focus on countries, peoples, organizations, systems, or societies outside of the United States and must be selected from ANTH-100, ANTH-225, ANTH-232, ANTH-242, ANTH/ENV-252, SOC-237, MGT-300, ECON-361, ECON-362, ECON-263, EAS-224, EAS-314, HIST-205, HIST-206, HIST-207, HIST-231, HIST-241, HIST-243, HIST-253, HIST-262, HIST-341, HIST-342, HIST-344, HIST-345, HIST-362, HIST-365, IDS-102, JPN 300 and 400 level courses, MCS-350, all Modern Language courses above 112, POL-242, POL-252, POL-343, POL-344, POL-345, POL-346, POL-347, POL-348, POL-349, POL-350A/B, POL-353, POL-355.

### **B. Global Issues Courses.**

A student must take 4 credits of courses that address global issues or have global ramifications, selected from ENV-100, POL-357, POL-399 (Human Rights), SOC-263, HIST-353, HIST-367, HIST-368, HIST/GWMS-361, PHIL/ENV 248, RELS-111, RELS-336.

### **C. Independent Learning Experience (ILE)**

Students must either study abroad or complete an internship in a program approved by the International Education Committee. The internship may be conducted abroad or with a domestic company or organization that has a significant international orientation. Students are required to document their experience in a written journal and produce a research paper on an international topic.

Special topics courses and courses relevant to International Studies taken abroad may be included to meet the Certificate requirements with the approval of the program coordinator.

## **Latin American Studies**

Latin American Studies is an interdisciplinary minor that allows students to focus their studies on the literature, culture, arts, history, politics, and language of Latin America and the Caribbean, which includes Spanish-speaking, Francophone, and Lusophone countries of the Americas and Latino/a communities within the United States. The study of Latin America and the Caribbean not only offers insights into this region's many cultures but also deepens knowledge of U.S., European, and African history, culture, politics and international relations. In addition to taking courses offered at Ursinus, students are strongly encouraged to participate in a study abroad program in Latin America.

### **Requirements for Minors**

A minor concentration in Latin American Studies consists of 20 credits. Required of all minors are LAS-200 and 332. Twelve additional credits may come from the following courses: LAS-215; SPAN- 203, 317, 252; POL-343, 344, 345, 348; THEA-351. In

addition, credit will be accepted from the following courses if the topic is on Latino/a and/or Latin American topics: SPAN-340, FS-250, POL-299. Other relevant topics courses in other departments and in study abroad programs will also count towards the minor with the approval of the coordinator. The minimum language requirement for minors is SPAN-201, 202 or the equivalent. These courses do not count towards the course requirements for the minor.

## Courses

### **LAS-200. Introduction to Latin American Studies** *Dr. Ko, Dr. Shuru*

An examination of the major social, political, and cultural issues that surrounded the formation of what we understand today as "Latin America." The course follows a chronological framework from the arrival of the Europeans to the present, and attempts to understand the major developments of Latin American history by analyzing the ideological, social, and political debates and events that occurred on both sides of the Atlantic. Some of the major issues covered are the first encounters between Europeans and the native population, the violent colonization and transformation of Latin America, contemporary race relations, indigenous movements, and Latin America's complicated relationship with the United States. The language of instruction is English. Three hours per week. *Four semester hours. (G.)*

### **LAS-215. U.S. Latino/Latina Literature.** *Dr. Shuru*

An introduction to the works of U.S. Latino and Latina authors writing in English in the United States. Emphasis will be on political, social and economic conditions surrounding the literary experiences within the Chicano, Puerto Rican, and Cuban-American communities in the United States. Concepts such as assimilation, transculturation, racism, gender, ethnicity, language and identity will be examined. The language of instruction is English. Prerequisite: CIE-100. Three hours per week. *Four semester hours. (D.)*

### **LAS-332. Topics in Latin American Studies** *Dr. Cameron, Dr. Shuru, Dr. Ko*

An interdisciplinary approach to the study of Latin America. Topics may include such issues as class, gender, and race relations as reflected in the history, politics, society, and literature and culture of Latin American nations. If this is a film topic, a two-hour screening may be required. The language of instruction is English. Prerequisite: LAS-200 or permission of the instructor. Three hours per week. *Four semester hours. (G.)*

## Mathematics and Computer Science

The Ursinus Mathematics and Computer Science Department offers majors in both mathematics and computer science. It also offers minors in computer science, mathematics, statistics, biostatistics and scientific computing. The mathematical sciences make significant contributions to society, engineering, medicine, physics, economics, and politics, and to other fields in the sciences and social sciences. The programs in the Mathematics and Computer Science Department provide students with the tools for analyzing and organizing data, as well as the theoretical underpinnings for modeling important and interesting concepts. These programs provide strong backgrounds in logical reasoning, excellent analytical skills, and the ability to learn new techniques and technologies. All of these attributes are sought after in current and emerging fields and careers.

The general aims of the department of mathematics and computer science are (1) to give the students a grasp of the ideas and methods of mathematics and computer science; (2) to develop an understanding and appreciation of mathematics as an abstract deductive

system; (3) to give the students an appreciation of the historical importance of mathematics in the progress of civilization, both past and present; and (4) to provide the students with sufficient skills to enable them to apply their knowledge to related fields of study.

For students majoring in mathematics or computer science, the department aims to provide stimulation and preparation for (1) continued study at the graduate level; or (2) effective teaching in the secondary schools; or (3) employment in industrial research, statistics, computing, or actuarial positions. For other majors, it seeks to provide the mathematical competence required by the increasing quantitative emphasis in many of these disciplines.

## Computer Science

### Requirements for Majors

A student majoring in computer science is required to take CS-173, 174, 274, 275, 371; one of CS-373 or 374; CS-350; at least three other computer science courses at the 300- or 400-level, one of which must be a 400-level capstone course; MATH-236W; and one other course in mathematics or statistics numbered 112 or above, excluding STAT-140 and MATH/PHIL-260. Internships (CS-381, 382) and one-credit and two-credit research/independent work courses (CS-391-392) do not fulfill any requirements for the major. Computer Science majors can fulfill the requirement for an oral presentation in the major by taking CS-350 and the capstone requirement by taking one of the following: CS-475, 476, 477, 478, or 492W.

While CS-394 always fulfills the ILE requirement for the college, CS-394 may satisfy an elective requirement for the major only with prior permission of the department chair.

Regardless of track, students must ensure that the major requirements are completed. The following tracks are intended to provide guidance for special career interests, not to substitute for the major requirements.

**Track 1. Specialization in Software Engineering** Students interested in software engineering should take CS-377, 474, either 476 or 477, and should complete at least one internship (CS-381 or 382).

**Track 2. Specialization in Theoretical Computer Science** Students interested in theoretical computer science should take CS-373, 374; MATH-235, 341, 361 and MATH-451/452 (Combinatorics). This track will be particularly useful for students who are interested in pursuing graduate study in computer science.

**Track 3. Specialization in Game Design** Students interested in working in the game industry should take CS-377, 476, 477; MATH-235, and should consider a minor in media studies or studio art.

**Track 4. Specialization in Machine Learning** Students interested in machine learning should take CS-377, 477; MATH/STAT-141Q, 242; MATH-235, 341, and independent study or independent research project in data mining is also recommended.

**Track 5. Specialization in Systems** Students interested in systems should take CS-376, 377, and 475.

## **Recommendations for Majors**

Students are encouraged to elect either a minor in another discipline or additional courses in mathematics, statistics and computer science. The latter is especially recommended for students planning to do graduate work in the computer science or related discipline. Additional recommended mathematics courses are MATH-112, 211, 235, 310, 341 and 413, and MATH/STAT-141Q. Recommended ancillary courses are PHYS-111, 112, 209 and ECON-120.

## **Requirements for Minors**

A minor concentration in computer science consists of CS-173, 174; and three additional courses chosen from MATH-236W, CS-274, 275, 371, 373, 374, 375, 376, 377, 471, 472, 474, 475, 476, 477.

## **Mathematics**

### **Requirements for Majors**

A student majoring in mathematics is required to take CS-173 and 40 credits in mathematics.

1. The following courses are required: CS-173 and Math-112, 211, 235, 236W, 311, 335, and 350.
2. In addition, one of the capstone courses is required: MATH-413, 421, 434, 442, or 492W.
3. The remaining 12 credits must be selected from 300-400-level mathematics courses, excluding internships (MATH-381, 382) and one credit and two credit research/independent work courses (MATH-391, 392).

Mathematics majors can fulfill the requirement for an oral presentation in the major by taking MATH-350.

While MATH-394 always fulfills the ILE requirement for the college, MATH-394 may satisfy an elective requirement for the major only with prior permission of the department chair. A student who is not prepared to take MATH-112 will need to take MATH-111.

Regardless of track, students must ensure that the major requirements are completed. The following tracks are intended to provide guidance for special career interests, not to substitute for the major requirements.

**Track 1. Specialization in Pure Mathematics** Students interested in Pure Mathematics should take MATH-312, 336, 411 and 421. This track will be particularly useful for students who are interested in pursuing graduate study in in pure mathematics or other theoretical fields.

**Track 2. Specialization in Applied Mathematics** Students interested in Applied Mathematics should take MATH-312, 413, 434 and 442. This track will be particularly useful for students who are interested in pursuing graduate study in all areas of applied mathematics and for students planning to seek jobs in industry or government. Additional courses in the sciences or social sciences are recommended.

**Track 3. Specialization in Mathematics For Secondary Teaching Certificate** Students preparing for secondary teaching must major in mathematics, and take MATH-322, 341, and 442 to satisfy the mathematics part of the certification requirements. In addition, the topic of the student's MATH-350 oral presentation must be on some aspect of the history of mathematics. As many of the following as possible are strongly recommended: MATH-310, 434, and MATH/STAT-141Q, 242. If the student can take MATH/STAT-141Q and 242, they should be taken before MATH-341 and 442. Details may be obtained from the Mathematics and Computer Science Department or Education. Those students preparing for secondary teaching should consult the Ursinus College Education Department.

**Track 4. Specialization in Actuarial Science** Students with an interest in actuarial science are strongly encouraged to take MATH-211, 235, 342, 442; MATH-246 or STAT-240, 242; CS-173, 174. Due to the interdisciplinary nature of actuarial science, interested students are also encouraged to speak with departmental faculty early in their Ursinus career about the possibility of a student-initiated major in actuarial science and/or additional courses that may be relevant to actuarial science.

## **Recommendations for Majors**

Students are encouraged to elect either a minor in another discipline or additional courses in mathematics, statistics and computer science. The latter is especially recommended for students planning to do graduate work in the mathematical sciences or related disciplines. ECON-120 and PHYS-111, 112, are recommended. Students planning to do postgraduate work in mathematics should take MATH-312 and 421. Students planning to seek jobs in industry should take MATH-310, 341, 413, and 442

## **Pre-Engineering**

Students interested in pursuing pre-engineering should contact the departmental chair at the earliest opportunity to plan a program of study.

## **Requirements for Minors in Mathematics**

A minor concentration in mathematics consists of MATH-112, 211, 235; and two additional courses in mathematics chosen from MATH-236W, 310, 311, 312, 322, 335, 341, 413, 421, 434, 442, 451, 452.

## **STATISTICS**

### **Requirements for Minors in Statistics**

A minor concentration in statistics consists of MATH/STAT-141Q, STAT-240 (or MATH-246), 242 or 243W; and two additional courses selected from among MATH-341, 442; STAT-342, 382, 441, 451; or 4 credit hours of independent study/research consisting of any combination of STAT-391, 392, and 394.

### **Requirements for Minors in Biostatistics**

A minor concentration in biostatistics consists of one course in an area of application selected from among: BIO-101Q, 102Q; NEURO-120Q; PSYC-100; HEP-100, or ENV-100; MATH/STAT-141Q, STAT-240 (or MATH-246) , 243W; and one course selected from among STAT-342, 384 or 441.

## **SCIENTIFIC COMPUTING**

Modeling, computational, quantitative and numerical methods are increasingly important and widely employed in STEM fields for simulation, experimentation, analysis, and design. The interdisciplinary scientific computing minor provides students in the sciences and the mathematical sciences with opportunities to be knowledgeable across a broad range of disciplines, capable of communicating well with researchers in other disciplines, and cognizant of emerging roles of computational techniques.

### **Requirements for Minors in Scientific Computing**

A minor concentration in scientific computing consists of six courses (24 credits). No more than three courses with the same prefix may count towards the minor, no more than three courses may count toward any other single major or minor, and no more than three courses can be taken at or lower than the 200-level.

- **Core Courses (8 credits):** CS-174 and MATH-310.
- **Elective Courses (16 credits):** Four electives chosen from the following list: BCMB-307, BCMB/BIO-429W; BIO/ENV-250, 415; CHEM-212, 309, 310, 410W; CS-371, 373, 476; ENV-370, 372; HEP-352Q; MATH-235, 413; MATH-246 or STAT-240, 243, 342; NEUR-120Q, NEUR/PSYC-335, NEUR/BIO-431, 435; PHYS-122, 299, 316, 405, 408W.



An ILE with a component related to the minor topics is strongly recommended.

## Courses

# Computer Science

### **CS-010. Computational Problem Solving** *Faculty*

This workshop course offers a structured environment for helping students become better and more efficient computational problem-solvers. Focus is on the rapid development of software for solving hard problems. May be repeated for credit. Prerequisite: CS-173 or equivalent experience. Graded S/U. Three hours per week. *One semester hour.*

### **CS-170 Q. In Silico, Designing Simulations via Computer Science** *Dr. Dhawan*

An introduction to computer science as a tool for analyzing and working with scientific data, and simulating experiments. The course introduces Python and studies its application in various scientific domains including Bioinformatics, Environmental Studies, Chemistry, Physics and Imaging by looking at a variety of problems drawn from these domains. The lab will involve the implementation of algorithms and analysis on data sets drawn from these areas. No prior programming experience is assumed. Offered every Fall. Three hours of lecture and two hours of laboratory per week. *Four semester hours. (LS.)*

*Note: CS-170Q may not be used as elective credits for computer science majors or minors.*

### **CS-173. Introduction to Computer Science** *Faculty*

Introduction to the field of computer science. Topics include: methods for computational problem solving, algorithm development techniques, processes for development of new technologies, and programming projects of increasing complexity in a high-level language with emphasis on good programming style. The course also includes exposure to advanced topics in computer science such as graphics, human-computer interaction, and software engineering. Recommended for students in mathematics; business and economics; and the natural sciences. No prior computer programming experience is assumed. Offered every semester. Three hours of lecture and one hour of laboratory per week. *Four semester hours.*

### **CS-174. Object-Oriented Design** *Faculty*

A continuation of CS-173. More detailed exploration of classes and instances, and an introduction to collection classes such as vectors, lists, maps and sets. Larger programs and/or team projects.

Prerequisite: CS-173. Offered every semester. Three hours of lecture and one hour of lab per week. *Four semester hours.*

*Note: Students who have taken CS-174 Data Structures can not take CS-174 Object-Oriented Design.*

### **CS-274. Computer Architecture and Organization** *Faculty*

Hierarchical structure of computer architecture, number systems, arithmetic operations, codes, switching algebra, logic gates, assembly language programming. Prerequisite: CS-174. Offered in the spring semester. Three hours of lecture and one hour of laboratory per week. *Four semester hours.*

### **CS-275. Software Engineering** *Dr. Kontostathis*

Topics integral to the design, implementation and testing of a medium-scale software system combined with the practical experience of implementing such a project as a member of a programming team. Use of the Unified Modeling Language (UML) for software design. Prerequisite: CS-174. Offered in the fall semester. Three hours per week. *Four semester hours.*

### **CS-350. Oral Presentation** *Faculty*

A computer science oral presentation. This course will satisfy the College requirement for an oral presentation in the major. Prerequisite: written consent of a department faculty member. Graded S/U. *Zero semester hours.*

*Note: This course is usually taken in conjunction with internships (CS-381, 383) and research/independent work (CS-391-394, 491, 492).*

### **CS-371. Data Structures and Algorithms** *Dr. Dhawan*

Introduction to algorithm analysis and data structures. Complexity of algorithms, analyzing basic data structure operations, searching and sorting algorithms, tables, hashing, recursion, tree and graph algorithms. Prerequisites: MATH-111 or equivalent, MATH-236W, and CS-275, or permission of the instructor. Offered in the spring semester. Three hours per week. *Four semester hours.*

### **CS-373. Theory of Computation** *Dr. Dhawan*

Principles of formal languages, automata, computability and computational complexity. Emphasis on writing proofs of theorems. Prerequisites: MATH-236W, CS-275. Offered in the fall of even years. Three hours per week. *Four semester hours.*

### **CS-374. Principles of Programming Languages** *Faculty*

Syntax, processors, representations and styles of programming languages. Study and comparison of several modern programming languages. Prerequisite: CS-275. Offered in the spring of odd years. Three hours per week. *Four semester hours.*

### **CS-376. Operating Systems** *Faculty*

Fundamental concepts of operating systems. Sequential processes, concurrent processes, resource management, scheduling, synchronization, file systems, and computer security. Projects include writing of a program to simulate major components of an operating system. Pre- or co-requisite: CS-274. Offered in the spring of even years. Three hours per week. *Four semester hours.*

### **CS-377. Database Design** *Dr. Kontostathis*

The concepts involved in designing and using a database management system. Logical and physical database design. Entity-Relational Modeling. Various types of database structures, manipulations of a database structure through applications, query techniques, and programming in a database language. Prerequisite: CS-275. Offered in the fall of odd years. Three hours per week. *Four semester hours.*

### **CS-381. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: three courses in computer science and approval of a faculty internship adviser. *Three semester hours. (I.)*

### **CS-382. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: three courses in computer science and approval of a faculty internship adviser. *Four semester hours. (I.)*

*Note: Students may receive credit for two internships that meet the conditions described in this catalogue.*

**CS-391. Research/Independent Work Faculty**

Independent investigation of an area of computer science not covered in regular courses. Prerequisite: Written consent of a department faculty member. Graded S/U. *One semester hour.*

*Note: This course may be taken more than once.*

**CS-392. Research/Independent Work Faculty**

Independent investigation of an area of computer science not covered in regular courses. Prerequisite: Written consent of a department faculty member. Graded S/U. *Two semester hours.*

*Note: This course may be taken more than once.*

**CS-394. Independent Study Faculty**

Independent investigation of an area of computer science not covered in regular courses. Prerequisite: Written consent of a department faculty member. An oral presentation to the department is required. *Four semester hours. (I.)*

*Note: This course may be taken more than once. This course always fulfills the ILE requirement for the college, but may satisfy an elective requirement for the major only with prior permission of the department chair*

**CS-471. Seminar in Computer Science I Faculty**

A detailed study of an advanced topic in computer science, such as computational geometry, compilers, data mining, robotics or distributed technology. Prerequisites: CS-174 and written permission of the instructor. Usually offered in the fall semester of even years. May be repeated for credit. Three hours per week. *Four semester hours.*

**CS-472. Seminar in Computer Science II Faculty**

The course will cover topics similar to those listed in CS-471. Prerequisites: CS-174 and written permission of the instructor. Offered in the spring semester as needed. May be repeated for credit. Three hours per week. *Four semester hours.*

**CS- 474. Human-Computer Interaction Dr. Dhawan**

The study of human-computer interaction enables system architects to design useful, efficient, and enjoyable computer interfaces. This course teaches the theory, design procedure, and programming practices behind effective human interaction with computers. This course satisfies the College requirement for a capstone experience in the major. Prerequisite: CS-275. Offered in the spring semester of even years. Three hours per week. *Four semester hours.*

**CS- 475. Computer Networks Dr. Dhawan**

Architecture and protocols of computer networks. Protocol layers; network topology; data-communication principles, including circuit switching, packet switching and error control techniques; sliding window protocols, protocol analysis and verification; routing and flow control; local and wide area networks; network interconnection; client-server interaction; emerging networking trends and technologies; topics in security and privacy. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite or co-requisite: CS-274. Offered in the spring of odd years. Three hours per week. *Four semester hours.*

**CS- 476. Computer Graphics Faculty**

Software and hardware for interactive computer graphics. Implementation of device drivers, 3-D transformations, clipping, perspective, and input routines. Data structures, hidden surface removal, color shading techniques, and some additional topics will be covered. This course will satisfy the College

requirement for a capstone experience in the major. Prerequisites: CS-275 and MATH-235. Offered fall of even years. Three hours per week. *Four semester hours.*

### **CS- 477. Artificial Intelligence** *Dr. Kontostathis*

This course explores principles and methods for knowledge representation, reasoning, learning, problem solving, planning, heuristic search, and natural language processing. These principles are applied to problems which require building intelligent systems in a variety of domains. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: CS-275. Offered in fall of odd years. Three hours per week. *Four semester hours.*

### **CS-491. Research/Independent Work** *Faculty*

Independent research in computer science. This course is appropriate for students pursuing departmental honors and distinguished honors projects, and is open to other students interested in research in computer science. An oral presentation to the department is required. Prerequisites: Written consent of a member of the faculty to serve as an advisor. *Four semester hours. (I.)*

*Note: This course may be taken more than once.*

### **CS-492W. Research/Independent Work** *Faculty*

Independent research in computer science. This course serves as the culminating course for departmental honors and distinguished honors projects. This course will satisfy the college requirement for a capstone experience in the major. Prerequisites: CS-491, meets college and departmental requirements for honors, and written consent of a member of the faculty to serve as an advisor. *Four semester hours. (I.)*

## **Mathematics**

### **MATH-010. Problem-Solving** *Faculty*

A structured seminar, focusing on problem-solving. Students are encouraged to work collaboratively and individually on challenging mathematical problems that are presented without the context of techniques from a specific course. Problem-solving skills are enhanced, through using higher level thinking and applying techniques to different problem types. Problems in the fall semester include those from past Putnam exam while in the spring semester problems are drawn largely from professional journals. May be repeated for credit. Graded S/U. Three hours per week. *One semester hour.*

### **MATH-100. Mathematics for the Liberal Arts** *Faculty*

A cultural and historical approach to mathematics. Appreciation of the beauty and creative aspects of mathematics and its role in nature and the arts. Essay tests and papers as well as problems using deductive reasoning. Offered in the spring semester. Three hours per week. *Four semester hours. (M.)*

### **MATH-110. Precalculus** *Faculty*

A review of algebraic, exponential and logarithmic functions, Cartesian plane, circular, trigonometric and inverse trigonometric functions. Use of a computer algebra system. This course prepares students for MATH-111. Prerequisite: Placement based on the high school record and a placement test. Offered in the fall semester. Four hours per week. *Four semester hours. (M.)*

*Note: A student who has received credit for MATH-105 or 111 may not enroll in MATH-110.*

### **MATH-111. Calculus I** *Faculty*

Limits; derivatives; applications of derivatives; trigonometric, inverse trigonometric, logarithmic, and exponential functions; applications of these functions; indeterminate forms; the Fundamental Theorem of Calculus. Use of a computer algebra system. Prerequisite: Placement based on the high school record and a placement test, or a grade of C- or better in MATH-110. Offered both semesters. Four hours per week. *Four semester hours. (M.)*

*Note: A student who has received credit for MATH-111 may not enroll in MATH-110*

**MATH-112. Calculus II** *Dr. Grossbauer*

A continuation of MATH-111. Techniques of integration, applications of integration, improper integrals, polar coordinates, parametric equations, infinite sequences and series. Use of a computer algebra system. Prerequisite: Placement based on the high school record and a placement test, or a grade of C- or better in MATH-111. Offered both semesters. Four hours per week. *Four semester hours. (M.)*

**MATH-211. Multivariable Calculus** *Faculty*

Functions of several variables, including three-dimensional geometry and vectors, space curves and motion in space, partial differentiation, multiple integration, line and surface integrals, and the theorems of Green, Gauss, and Stokes. Use of a computer algebra system. Prerequisite: A grade of C- or better in MATH-112, or permission of the department. Offered both semesters. Four hours per week. *Four semester hours. (M.)*

**MATH-235. Linear Algebra** *Faculty*

Systems of linear equations, matrix algebra, vector spaces, linear transformations, eigenvectors and eigenvalues, inner products and orthogonality, applications. The computer as a computational tool. Prerequisite: MATH-111 or equivalent, or permission of the instructor. Offered in the fall semester. Four hours per week. *Four semester hours. (M.)*

**MATH-236W. Discrete Mathematics** *Dr. Scoville*

A course designed to bridge the gap between computation-oriented introductory courses and proof-oriented advanced courses. The language of contemporary mathematics, including the proper way to write mathematics, and the nature of mathematical reasoning. Extensive writing projects. Topics studied may include axiomatic systems, logic, set theory, functions, mathematical induction, graph theory and trees, permutations and combinations. Prerequisite: MATH-111, or permission of the instructor. Offered in the spring semester. Three hours per week. *Four semester hours. (M.)*

**MATH/PHIL-260. Logic** *Dr. Florka, Dr. Goetz*

An introduction to the concepts and techniques used in symbolic reasoning, primarily through the study of first-order logic, the translation of sentences of ordinary English into a formal language, and the construction of derivations. Topics include: formalization, proofs, mathematical induction, propositional and predicate logic, quantifiers, and sets. (Formerly PHIL-202.) Three hours per week. *Four semester hours. (M.)*

*Note: Students who have received credit for MATH-236W or the former PHIL-202 may not enroll in MATH/PHIL 260.*

**MATH-310. Differential Equations and Mathematical Models** *Faculty*

Mathematical methods for developing models in the physical, biological, and social sciences. Emphasis on models involving differential equations. Solutions, visualizations, and interpretations of first order, second order, and systems of linear and non-linear differential equations. Numerical, graphical and analytic methods, with extensive qualitative analysis approaches. Laplace transforms. Independent projects. Additional topics chosen from forcing and resonance, discrete dynamical systems, and power series solutions. Use of a computer algebra system. Prerequisite: MATH-112. Offered in the spring semester. Three hours per week. *Four semester hours. (M.)*

**MATH-311. Analysis I** *Faculty*

An introduction to the real number system and set operations; theoretical treatment of supremum, infimum, countability, sequences, limits, continuity, and differentiability. Additional topics may include series, structure of point sets and abstract metric spaces. Emphasis on writing mathematical proofs. Prerequisite: MATH-211 and 236W. Offered in the fall semester. Three hours per week. *Four semester hours. (M.)*

**MATH-312. Analysis II Faculty**

A continuation of MATH-311. The Riemann and Riemann-Stieltjes integral; infinite series, sequences and series of functions; introduction to metric spaces. Additional topics may include Lebesgue measure and integration, orthogonal functions and Fourier series. Prerequisite: MATH-311. Offered as needed. Three hours per week. *Four semester hours. (M.)*

**MATH-322. Modern Geometry Dr. Scoville**

Topics in Euclidean and non-Euclidean geometry, including some of the following: geometry from an axiomatic viewpoint, synthetic Euclidean geometry, transformation geometry and symmetry, affine and projective geometry, inversive geometry, spherical geometry, and hyperbolic geometry. Prerequisites: MATH-235 and 236W, or permission of the instructor. Offered in the spring of odd years. Three hours per week. *Four semester hours. (M.)*

**MATH-335. Abstract Algebra Dr. Sadowski**

An introduction to algebraic structures, with emphasis on groups: Subgroups, quotient groups, homomorphisms, isomorphism theorems, Cayley's theorem, permutation groups. Prerequisites: MATH-235 and 236W. Offered in the spring semester. Three hours per week. *Four semester hours. (M.)*

**MATH-336. Abstract Algebra II Faculty**

Alternating groups, simple groups, isomorphism theorems, series of groups, prime and maximal ideals, extension fields, automorphisms of fields, splitting fields, separable extensions, Galois theory, cyclotomic fields, insolvability of the quintic. Prerequisite: MATH-335. Offered in the fall of odd years. Three hours per week. *Four semester hours. (M.)*

**MATH-341. Probability Dr. Chi**

An introduction to probability theory, discrete and continuous probability distributions, moments and moment-generating functions of random variables, and transformations of random variables. Prerequisite: MATH-211. Offered in the fall semester. Four hours per week. *Four semester hours. (M.)*

**MATH-350. Oral Presentation Faculty**

A mathematics oral presentation. This course will satisfy the College requirement for an oral presentation in the major. Prerequisite: written consent of a department faculty member. Graded S/U. *Zero semester hours.*

*Note: This course is usually taken in conjunction with internships (MATH-381, 383, 384, 441) and research/independent work (MATH-391-394, 441, 491, 492W).*

**MATH-361. Graph Theory Dr. Scoville**

Elements of graph theory, including the study of Eulerian graphs, planar graphs, trees, connectivity, colorings, algorithms, domination, and the applications of graphs to computer science. Prerequisite: MATH-236W. Offered in the fall semester of even years. Three hours per week. *Four semester hours.*

**MATH-381. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: three courses in mathematics and approval of faculty internship adviser. *Three semester hours. (I.)*

**MATH-382. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: three courses in mathematics and approval of faculty internship adviser. *Four semester hours. (I.)*

*Note: Students may receive credit for two internships that meet the conditions described in this catalogue.*

**MATH-391. Research/Independent Work Faculty**

Independent investigation of an area of mathematics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Graded S/U. *One semester hour.*

*Note: This course may be taken more than once.*

**MATH-392. Research/Independent Work Faculty**

Independent investigation of an area of mathematics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Graded S/U. *Two semester hours.*

*Note: This course may be taken more than once.*

**MATH-394. Independent Study Faculty**

Independent investigation of an area of mathematics not covered in regular courses. An oral presentation to the department is required. Prerequisite: Written consent of a department faculty member. *Four semester hours. (I.)*

*Note: This course may be taken more than once. This course always fulfills the ILE requirement for the college, but may satisfy an elective requirement for the major only with prior permission of the department chair.*

**MATH-411. Complex Analysis Faculty**

Complex numbers; polar representation; stereographic projection; the exponential and logarithm functions; analytic functions; the Cauchy-Riemann Equations; fractional linear transformations; Cauchy's integral formula; the theorems of Cauchy, Liouville, Morera, and Goursat; power series expansions; the Residue Theorem. Rouché's Theorem, the Schwartz Reflection Principle, and the Riemann Mapping Theorem." Prerequisite: MATH-236W and MATH-211. Offered in the spring semester of even years. Three hours per week. *Four semester hours. (M.)*

**MATH-413. Numerical Analysis Faculty**

Selected topics from numerical analysis, which may include systems of linear equations, linear and nonlinear differential equations, numerical integration and differentiation, eigenvalue problems, error analysis, interpolation and approximation. The computer will be used. This course will satisfy the college requirement for a capstone experience in the major. Prerequisite: MATH-211. Offered in the fall semester of even years. Three hours per week. *Four semester hours. (M.)*

**MATH-421. Topology Dr. Scoville**

Elementary point set topology; metric spaces; topological spaces, quotient spaces, compactness, connectedness, and applications of topology to digital graphics, sensor networks, and robotics. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: MATH-236W. Offered in the spring semester of even years. Three hours per week. *Four semester hours. (M.)*

### **MATH-434. Number Theory** *Sadowski*

Divisibility; factorization; distribution of primes; modular arithmetic; Diophantine equations; theorems of Fermat, Euler and Wilson; primitive roots; public-key cryptography, quadratic reciprocity. Additional topics may include: applications to cryptography; digital signatures; algebraic and transcendental numbers; continued fractions; elliptic curves. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: MATH-236W. Offered in the fall semester of odd years. Three hours per week. *Four semester hours. (M.)*

### **MATH-442. Mathematical Statistics** *Dr. Chi*

The mathematical background of modern statistics, including the development of sampling distributions, the theory and application of estimation, tests of hypotheses. This course will satisfy the College requirement for a capstone experience in the major. Prerequisite: MATH-341. Offered in the spring semester. Three hours per week. *Four semester hours. (M.)*

### **MATH-451. Topics in Advanced Mathematics I** *Faculty*

A course designed to acquaint the student with modern trends in advanced topics in mathematics and its applications. The course will be adapted to the students' preferences and needs. Prerequisite: Permission of the instructor. Three hours per week. *Four semester hours. (M.)*

### **MATH-452. Topics in Advanced Mathematics II** *Faculty*

A course designed to acquaint the student with modern trends in advanced topics in mathematics and its applications. The course will be adapted to the student's preferences and needs. Prerequisite: Permission of the instructor. Three hours per week. *Four semester hours. (M.)*

### **MATH-491. Research/Independent Work** *Faculty*

Independent research in mathematics. This course is appropriate for students pursuing departmental honors and distinguished honors projects, and is open to other students interested in research in mathematics. An oral presentation to the department is required. Prerequisites: Written consent of a member of the faculty to serve as an advisor. *Four semester hours. (I.)*

*Note: This course may be taken more than once.*

### **MATH-492W. Research/Independent Work** *Faculty*

Independent research in mathematics. This course serves as the culminating course for departmental honors and distinguished honors projects. This course will satisfy the college requirement for a capstone experience in the major. Prerequisites: MATH-491, meets college and departmental requirements for honors, and written consent of a member of the faculty to serve as an advisor. *Four semester hours. (I.)*

## **STATISTICS**

### **STAT-140Q. Statistical Reasoning** *Faculty*

A study of the role of statistics in a wide variety of academic fields and in everyday life. This course is intended for students who want an appreciation of statistics, but do not imagine that they will ever need to carry out statistical analyses themselves. Emphasis is placed on the ability to interpret and critically evaluate statistical claims. Offered both semesters. Three hours per week. *Four semester hours (M.)*

*Note: This course cannot be counted toward a major or a minor in mathematics, a minor in statistics, or a minor in biostatistics. It is not a prerequisite for any other course. It cannot be taken for credit after or concurrently with any other statistics course, including AP Statistics.*

### **STAT-141Q. Statistics I** *Faculty*

A study of the fundamental concepts of statistical analysis. This course prepares students to carry out basic descriptive and inferential statistical analyses with the aid of computer software. Topics include an introduction to the nature of statistical reasoning, graphical and descriptive statistics, and design of



experiments, sampling methods, probability, probability distributions, sampling distributions, and statistical inference based on confidence intervals and hypothesis tests. Examples will be drawn from a wide variety of disciplines. Offered both semesters. Four hours per week. *Four semester hours. (M.)*

*Note: This course cannot be counted toward a major or a minor in mathematics, a minor in statistics, or a minor in biostatistics. It is not a prerequisite for any other course. It cannot be taken for credit after or concurrently with any other statistics course, including AP Statistics.*

### **STAT-242 Statistics II Faculty**

A continued study of basic statistical techniques. Topics include: regression analysis, chi-square tests, nonparametric statistics, and the use of statistical software for data analysis. Prerequisite: MATH/STAT-141Q or MATH/STAT-442; STAT-240 or MATH-246. Offered in the spring semester. Four hours per week.

### **STAT-243W Biostatistics Dr. Chi**

A study of inferential statistical techniques appropriate to the biological sciences. This course employs a case-study approach in which students use statistical software to examine real world data. Students will be required to produce statistical reports summarizing their statistical methods and results.

Prerequisites: MATH/STAT-141Q or MATH/STAT-442; STAT-240 or MATH-246. Offered in the fall semester. Four hours per week. *Four semester hours. (M.)*

*Note: Students may not receive credit for both MATH/STAT-242 and MATH/STAT-243W.*

### **STAT-240. Computational Statistics (SAS) Faculty**

Statistical analysis using statistical software. Design, collection, organization, and storage of data sets. Statistical programming, debugging, analysis of output and interpretation of results. Prerequisite: MATH/STAT-141Q. Offered in the spring semester. Four hours per week. *Four semester hours.*

*Note: STAT-240 does not fulfill the College Core Mathematics requirement.*

### **STAT-342. Applied Regression Models Faculty**

A study of regression models. This course will begin by considering the matrix approach to simple linear regression and progress to more general modeling approaches including multiple regression models and analysis of variance (ANOVA). Models, inferences, diagnostics, and remedial measures for dealing with invalid assumptions will be examined. Prerequisites: MATH/STAT-242 or 243W; MATH-235 or permission of instructor. Offered in the spring semester. Three hours per week. *Four semester hours. (M.)*

### **STAT-382. Internship Faculty**

An off-campus academic/work experience related to statistics conducted under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: MATH/STAT-242 or 243(W), and approval of a faculty internship adviser. *Four semester hours. (I.)*

### **STAT-384. Internship in Biostatistics Faculty**

An off-campus academic/work experience related to statistics conducted under the supervision of an internship adviser and an on-site supervisor. An oral presentation to the department is required. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: MATH/STAT-242 or 243(W), and approval of a faculty internship adviser. *Four semester hours. (I.)*

**STAT-392. Research/Independent Work***Faculty*

Independent investigation of an area of statistics not covered in regular courses. Prerequisite: Written consent of a department faculty member. Graded S/U. *Two semester hours.*

*Note: This course may be taken more than once.*

**STAT-394. Independent Study***Faculty*

Independent investigation of an area of statistics not covered in regular courses. An oral presentation to the department is required. Prerequisite: Written consent of a department faculty member. *Four semester hours. (I.)*

*Note: This course may be taken more than once. This course always fulfills the ILE requirement for the college, but may satisfy an elective requirement for the major only with prior permission of the department chair.*

**STAT-441W. Applied Research Seminar in Biostatistics***Faculty*

A study of current problems in biostatistics. The course will introduce students to fundamental research procedures and data analysis. Students will work independently on a research problem of their choosing. Each student will be required to present on their progress throughout the semester and produce a culminating statistical report on their project. Students should expect to spend at least 12 hours per week working on their research project. Prerequisites: MATH/STAT-242 or MATH/STAT-243W and written permission of a department faculty member required. *Four semester hours. (M.)*

**STAT-451. Topics in Advanced Statistics***Faculty*

A course designed to acquaint students with advanced topics in statistics and its applications. The course will be adapted to students' preference and needs. Prerequisite: Permission of the instructor. Three hours per week. *Four semester hours. (M.)*

## Media and Communication Studies

Based in the liberal arts, our program focuses on the creation, criticism, and impact of communication in our global society. This program emphasizes the role of media as it intersects with technological and social change and the centrality of communication to identity, social order, and democratic processes.

Drawing upon social scientific and humanistic traditions, students in Media & Communication Studies explore the breadth of the field—from oral and written language, to television, film and digital media. Students may opt to concentrate in one or more of the following areas: (1) journalism, (2) digital media studies, (3) communication and culture, and/or (4) screen studies. The major provides students with experience in media-making, qualitative and quantitative research methods, as well as critical thinking, speaking and writing competencies, which together are vital to professional success and to full membership in our participatory democracy. Students in this major are prepared for graduate study or employment in journalism, film and television industries, public service organizations, public relations and advertising, as well as corporate communications and human resources.

Majors are encouraged to study abroad and to complete an internship as part of their department and college requirements. Only one internship may count toward the MCS major. The College's proximity to Philadelphia, the nation's fourth largest media market, offers our students a range of internship opportunities in print, broadcast, cable, film, advertising, public relations and digital media.

Majors are expected to participate actively in and to assume leadership roles with campus organizations associated with the field of communication. These include The Grizzly, the campus newspaper both print and online; WVOU, the campus online radio station; Forensics Society, the campus speech and debate team; and UCTV, the campus cable station.

## **Requirements for Majors**

A major in Media and Communication Studies consists of 40 semester hours of credit, including: MCS-201, MCS-205, and MCS-292W; one course selected from MCS-207 – MCS-290; two courses selected from MCS-300 - MCS-375; one capstone senior seminar selected from MCS-460W, 462W, or 464W, or completion of an Honors project in 492W; and at least three additional MCS elective courses. Any two Film Studies (FS) courses may count toward the MCS major. Students who wish to focus on screen studies may request permission from the Chair to count additional FS classes toward the major.

Majors are strongly encouraged to complete an internship (MCS-381 or 382); however, only one internship may count toward the MCS major. Up to four credits from MCS-001-016 may count towards the major. Students are encouraged to take STAT-140Q or 141Q or to fulfill the college mathematics and “Q” requirement. Media and Communication Studies majors can fulfill the college oral presentation and capstone requirements by taking one of the following: MCS-460W, 462W, 464W, or 492W.

## **Requirements for Minors**

A minor in media and communication studies consists of 20 credit hours including MCS-205, two MCS courses between 300-375 and two electives, one of which may be a Film Studies course.

## **Four MCS Areas of Concentration Within the Major**

These four areas of concentration are a guide for students who want to pursue a specific area within the communication field in greater depth based on interest and/or future plans. Students are not required to select concentrations and may fulfill the requirements for the major taking the core requirements and courses from any of the four areas.

### **1. Journalism**

Courses in this concentration provide students with a foundation in both the theoretical and practical aspects of journalism. Specifically, students develop skills that cross media platforms, and are encouraged to be conscientious and responsible media producers and citizens. Students interested in journalism are strongly recommended to include MCS 207 and a journalism-related internship in their course of study.

MCS 207, MCS 208, MCS 209, MCS 210, MCS 212, MCS 254, MCS 315, MCS 330, MCS 360, MCS 363, MCS 366

## 2. Digital Media Studies

Courses in this concentration critically explore the interaction among emerging media technologies' content, production, diffusion, and consumption across cultures. Whether analyzing social media friend networks, race/class/gender digital divides on the Internet, the impact of television's move to streaming video, or producing and disseminating news and fiction online, students are challenged to ethically and thoughtfully produce content on these platforms while critically analyzing their social, economic, and political impact on audiences.

MCS 208, MCS 220, MCS 225, MCS 318, MCS 321, MCS 355, MCS 348, MCS 366

## 3. Communication and Culture

Courses in this concentration explore how communication produces, affirms and transforms culture and expresses the core values of our society. Students examine a broad range of human activities and practices, from how families communicate to advertising and political debates in order to understand how communication can be used to exercise power, to develop and affirm identities, and foster connections with others. Research approaches such as ethnography, discourse and textual analysis, and phenomenology provide a means to understand multiple perspectives on communication.

MCS 209, MCS 307, MCS 340, MCS 348, MCS 330, MCS 331, MCS 350, MCS 358

## 4. Screen Studies

Courses in this concentration are designed to help students achieve a critical and historical understanding of film, television and other visual media, as well as gain experience in media production. Students will examine how visual, audio and narrative elements produce meaning, and the relationship between visual studies and culture.

MCS 225, MCS/GWMS 319, MCS 321, MCS 326, MCS 360, MCS 363, FS 101, FS 235, FS 250, FS 251, FS 252, FS 253, FS 305

## Courses

### **MCS-001-008. Journalism Practicum** *Faculty*

A learning experience in which students assume primary responsibility for editorial positions related to the publication of the print and online versions of The Grizzly. Prerequisites: MCS-207 or permission of the instructor. Graded S/U. *One semester hour.*

### **MCS-009-016. Media Practicum** *Dr. Miller, Dr. Nadler*

A learning experience in which students assume primary responsibility for an applied media project. Student project proposals must be approved by the instructor. Prerequisites: any of the following - MCS-209, 210, 212, 220 or 225 or permission of the instructor. Graded S/U. *One semester hour.*

### **MCS-100. Topics in Media and Communication Studies** *Faculty*

This course is an introductory seminar exploring theories, principles, and/or practices in the field of media and communication studies. Topics will vary. Enrollment is limited to freshmen and sophomores or permission of instructor. Three hours per week. *Four semester hours. (May be designated SS or H, D, G or A, depending on topic)*

**MCS-201. Public Speaking: Speech and Criticism in a Democratic Society Faculty**

Students construct, deliver, and critique speeches about significant public issues of the day. The course includes an introduction to rhetorical theory and criticism, as well as an introduction to the fundamentals of speech preparation and presentation. Four hours per week. *Four semester hours.*

**MCS-205. Media and Society Dr. Edwards, Dr. Miller, Dr. Nadler, Dr. Woodstock**

This course explores the role and influence of media in shaping social norms, political decision making, and individual beliefs and practices. In addition to a consideration of historical developments, the course engages contemporary issues such as corporate conglomeration, globalization, media convergence, digital culture, audiences as producers and receivers, and consumer culture. Three hours per week. *Four hours per week (SS).*

**MCS-207. Print Journalism Faculty**

This course introduces students to the principles of print journalism, including: information gathering, writing, editing and presentation of news under deadline. Students also explore issues related to libel, visual literacy, and changing audience demographics through the critical analysis, interpretation, and evaluation of various media outlets. Three hours per week. *Four semester hours.*

**MCS-208. Online Journalism Faculty**

This course introduces students to the conventions of newswriting and publishing in new media platforms. Prerequisite: MCS-207 or permission of instructor. Three hours per week. *Four semester hours. (SS)*

**MCS/ART-209. Documentary Photography Dr. Miller**

This course introduces students to the concepts of visual documentation, social documentary style, photojournalism and ethics in photography as well as an historical perspective on the works of visual social documentarians. Students are required to conduct field work collecting digital still images to create visual narratives on a range of issues. Students enrolled in this course will need access to a digital camera to complete assignments. Three hours per week. *Four semester hours. (A)*

**MCS-210. Television Studio Production Dr. Miller, Faculty**

An overview of the principles and techniques of studio television production. Emphasis is placed on translation of ideas into a visual format, program conceptualization, preproduction planning, script writing, critical analysis of the visual image, group work and peer review of programs. Program content will focus on non-fiction formats including broadcast journalism, public affairs and public service programming. Three hours of lecture and two hours of lab per week. *Four semester hours.*

**MCS-212. Single Camera Production Dr. Miller, Faculty**

An overview of the principles and techniques of single camera, electronic field production. Emphasis is placed on non-fiction program conceptualization, pre-production planning, single-camera script development and post-production techniques including linear and non-linear editing, and audio mixing. Prerequisites: MCS-210 or permission if instructor. Three hours of lecture and two hours of lab per week. *Four semester hours.*

**MCS-220. Introduction to New Media Dr. Nadler**

This course explores relationships between social change and emerging media while offering students a chance to create their own digital media projects. Students will learn how to construct and analyze digital media and interactive web-based content. Projects may include the production of podcasts, websites, idea maps, blogs, and other new media forms. Four hours per week. *Four semester hours.*

**MCS-225. Digital Filmmaking** *Dr. Nadler*

Introduces students to all stages of digital video production. Students will learn how to conceptualize, write, and develop a script, design a storyboard and visual treatment, and shoot and edit a digital short film. There will also be weekly readings, viewings, and discussions focused on the history and language of film. Three hours of lecture and two hours of lab per week. *Four semester hours.*

**MCS-254. Writing for the Media** *Faculty*

This course introduces students to specialized forms of media writing, including: literary journalism, press releases, editorial and opinion writing, broadcast scripts and advertising copy basics. Students will adapt their writing for a variety of media formats and will recognize the differences in writing styles required by each medium. Students who took MCS 290 Special Topics- Journalism Genres may not take MCS-254. Three hours per week. *Four semester hours.*

**MCS/IDS-256. Decoding Science** *Dr. Edwards, Dr. Winegar, Faculty*

This course teaches students the art of critically reading primary research articles and translating them into news articles, policy papers and advocacy pieces for non-science audiences. Three hours per week. *Four semester hours.*

**MCS-275. Topics in Media Production** *Faculty*

This course will focus on specific media production areas not covered in other applied courses in the MCS department. Three hours per week *Four semester hours. (May be designated A. depending on topic)*

**MCS-292W. Communication Theory and Research** *Dr. Goodman, Dr. Woodstock*

An exploration of the concepts and models of communication common to a wide range of communication contexts. Students are introduced to theories, research methods, and writing conventions common to media, rhetoric and interpersonal communication. Three hours per week. *Four semester hours.*

**MCS-298. Readings in Media and Communication Studies** *Faculty*

Individual student-initiated study within the field on a selected topic culminating in the preparation of a critical bibliography of the works read, or other final product as determined by the faculty member supervising the readings. Prerequisites: MCS-292W, major or minor in media and communication studies, a written project proposal, and permission of a department faculty member to serve as adviser. This course is limited to second and third year majors or minors who want to explore an area of research with the expectation of continuing that research in an upper division independent study. *One semester hour.*

**MCS-307. Conflict and Communication** *Dr. Goodman*

Taking a communication perspective, this course examines the nature of conflict in American society and offers alternatives to unilateral power based strategies of conflict resolution. Students are introduced to theories about the nature and kinds of conflict, as well as differing models for managing conflicts. They learn to map and analyze real life conflict situations in interpersonal, inter-group, and organization contexts and work with skills and models for conflict resolution. Three hours per week *Four semester hours. (SS.)*

**MCS-315. Media Ethics** *Faculty*

This course addresses ethical issues across media platforms in news, entertainment, public relations and advertising. Students think through ethical challenges such as the use of anonymous sources in journalism, editing images in advertising and crisis management. Students will conduct case study analyses of ethical dilemmas in the media. Three hours per week. *Four semester hours. (H)*

**MCS-318. Facebook Nation Dr. Edwards**

This class focuses on the dynamics between Facebook and culture (U.S. and global), asking 3 questions: 1) How are new communication technologies revolutionary? 2) How are they continuities of traditional media in terms of content, audiences, advertising, and corporate ownership? 3) Do cultural changes determine advancements in communication technologies or do changes in communication technologies determine cultural changes? Students will critically examine the relationship between techno-cultural theory and Facebook use, demonstrating mastery of these concepts in research, writing, class discussions, and presentations. Three hours per week. *Four semester hours. (SS)*

**MCS/GWMS-319. Sex, Race and Comedy Dr. Edwards**

Students will learn to critically analyze the subversive power of comedy in exploring issues of race, gender, sexual orientation and class in American media. Three hours per week. *Four semester hours. (SS, D)*

**MCS-321. Into the Matrix Dr. Edwards**

This course explores the cultural myths about race, gender and technology found in science fiction television and film and what they say about our past and our future. Three hours per week. *Four semester hours. (H)*

**MCS-326. Critical Analyses in Popular Culture Dr. Edwards, Dr Woodstock**

An intensive examination of media texts from a variety of critical perspectives, including (but not limited to): auteur, genre, feminist and cultural criticism. Topics will vary. Four hours per week. *Four semester hours. (H)*

**MCS-327. Remix Culture Dr. Edwards, Dr Woodstock**

From musical mash-ups to video parodies, disputes about authorship, remixes, and copyright have become increasingly prominent in our digital media landscape. This course takes a humanistic approach to explore questions about originality and derivation in art and cultural production and the place of copyright and intellectual property in laying the groundwork for creative culture. We will examine ideas about and legal approaches to authorship and intellectual property from historical and philosophical perspectives; we will also look closely at contemporary controversies regarding piracy, file-sharing, culture jamming, sample-based art, and equally controversial efforts on the part of policymakers and corporations to limit or curtail these practices. We will not only discuss remix and the digital tools that are enabling a profusion of new expressive forms, but students will use some of these very tools to create media projects that analyze and comment upon contemporary debates. Three hours per week. *Four semester hours. (H)*

**MCS-330. Freedom of Expression Dr. Woodstock**

This course examines the theoretical and historical underpinnings of how we think about freedom of expression and its importance to societies organized around the idea of democracy. The course will contrast two intellectual approaches to the role of expression in Western society: the classical liberal and the romantic. We will explore the historical development of these ideas, analyze how they were applied in landmark cases, as well as challenge ourselves to apply these systems of logic to contemporary speech controversies. We will conclude by considering how new media technologies are shaped and challenged by the ideals and practices of free expression. Three hours per week. *Four semester hours. (H)*

**MCS/BE-331. Critical Analysis of Organizational Communication Dr. Goodman**

This course focuses on the study of talk in and about organizations, including an examination of communication theories of management, organizational codependency, organizational culture, power, and emotional labor. Students will be expected to conduct field research on an organization using a variety of methods. Three hours per week. *Four semester hours. (SS.)*

**MCS-340. Gender, Ethnicity and Communication** *Dr. Goodman*

This course explores theories and research on gender, ethnicity and communication, with a particular focus on African American culture. Students will use two research methods to study the relationship between gender, ethnicity and communication: a discourse analysis and an autoethnography. The reading, writing, and discussions in the course will encourage students to cultivate more reflective communicative practice. Three hours per week. *Four semester hours. (D, SS)*

**MCS-348. Global Media** *Dr. Miller*

An examination of media within the global community. National media systems are analyzed within the context of the cultural, political and economic environments in which they developed and now operate. Technological advances in communication systems will be explored as the forces behind the recent growth of a global media system. Students will examine the role of transnational media ownership, globalization of culture especially in non-western nations and the vital role of new media technology in the rise of international terrorist organizations. Three hours per week. *Four semester hours. (SS, G)*

**MCS-350. Intercultural Communication** *Dr. Goodman*

An examination of face-to-face communication between people of different cultural backgrounds. Case studies are analyzed to identify differences in expectations, practices, and interpretations. Topics include cross-cultural comparisons of conversational style, power relations, language, and perception in educational, organizational, and social settings. This course may be a particular interest to students preparing to study abroad as well as those planning to work in international business, education, and politics. Three hours per week. *Four semester hours. (D, G)*

**MCS-355. Technology and Culture** *Dr. Edwards, Dr. Woodstock*

This class focuses on the dynamics between new communication technologies and culture and asks 3 questions: How are new communication technologies revolutionary? How are they continuities of traditional media in terms of content, audiences, advertising, and corporate ownership? Do cultural changes determine advancements in communication technologies or do changes in communication technologies determine cultural changes? Three hours per week. *Four semester hours. (SS.)*

**MCS-358. Persuasion: Critical studies in Advertising and Propaganda** *Dr. Nadler*

Every day, each of us is the targets of countless media messages meant to persuade us and change our behavior. This course explores the workings of media persuasion with a special focus on advertising, political campaigning, and propaganda. We will examine the modern historical development of these forms and explore critical theories attempting to understand their social significance, while building skills for analyzing and decoding advertising and propaganda messages in various guises. Three hours per week. *Four semester hours. (H)*

**MCS-360. News Analysis** *Dr. Woodstock, Dr. Edwards, Dr. Miller*

A critical exploration of news culture. Students work with quantitative and qualitative methodologies to explore issues related (but not limited) to race, gender, class, and nationality in the production and consumption of American news. Three hours per week. *Four semester hours. (SS)*

**MCS-363. Audience Analysis** *Dr. Edwards*

A qualitative and quantitative examination of the "audience" construct in historical and new media contexts. Three hours per week *Four semester hours. (SS)*

**MCS-366. Digital Democracy** *Dr. Woodstock*

This class explores uses of new communication technology in political and social organizing, with particular attention to subgroups within the US population and how issues of race, class, and gender interact with the opportunities and constraints of our digital democracy. The class emphasizes the theoretical and historical role of democracy in US society, and more specifically, of the role of media in fostering and/or inhibiting democratic participation. Three hours per week. *Four semester hours. (SS)*



**MCS-375. Special Topics in Media and Communication Studies Faculty**

This course will focus on a specific topic at an advanced theoretical or critical level within media and communication studies not covered in the other courses in the curriculum. Prerequisite: MCS-205 and four additional credit hours in MCS, or permission of the instructor. Three hours per week. *Four semester hours.*

**MCS-381. Internship Faculty**

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research project. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: major or minor in MCS, three courses completed in the department, and approval of a faculty internship adviser. *Three semester hours. (I.)*

**MCS-382. Internship Faculty**

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research project. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: major or minor in MCS, three courses completed in the department, and approval of a faculty internship adviser. *Four semester hours. (I.)*

**MCS-391. Research in Media and Communication Studies Faculty**

Independent research under the supervision of a faculty adviser. A final product and an oral presentation to the department on a specific topic in media and communication studies is required. Prerequisites: eight credits of course work (MCS-300-375) in media and communication studies, demonstrated competence in the specific area of a study, a written project proposal, and permission of a department faculty member who will serve as project adviser. Offered in the fall semester. *Four semester hours (I.)*

**MCS-392. Research in Media and Communication Studies Faculty**

Content, prerequisites, and requirements are the same as MCS-391. Offered in spring semester. *Four semester hours. (I.)*

**MCS-411. Projects in Media and Communication Studies Faculty**

Advanced individual work in media production. Prerequisites: eight credits of course work in media and communication studies between MCS 207-290, demonstrated competence in the specific area of production, a written project proposal, and permission of a department faculty member who will serve as project adviser. *Four semester hours. (I.)*

**MCS-412. Projects in Media and Communication Studies Faculty**

Content, prerequisites, and requirements are the same as MCS-411. *Four semester hours (I.)*

**MCS-460W. Seminar in Communication Criticism Dr. Woodstock**

Students study the theories and practices of media criticism, applying them to historical or contemporary texts, such as popular music, films, news reportage, and fictional television. Students engage in research and writing and make an oral presentation of their findings. Prerequisites: MCS-201, MCS-205, MCS-292W, and one 300 level course between 300 and 375. Senior standing or permission of instructor. Three hours per week. *Four semester hours.*

### **MCS-462W. Seminar in Communication and Culture** *Dr. Goodman*

Students work with ethnographic methods as a means to explore the communicative patterns and processes of groups, organizations, and institutions. Students will conduct fieldwork, analyze data, and write a research paper as well as make an oral presentation of their findings. Prerequisites: MCS 201, MCS-205, MCS-292W, and one 300 level course between 300 and 375. Senior standing or permission of instructor. Three hours per week. *Four semester hours.*

### **MCS-464W. Seminar in Media Analysis** *Dr. Edwards, Dr. Miller*

Using quantitative and qualitative research methods, students analyze messages embedded in the entertainment, persuasive and information media. Focus is on the content and effects of television, film, recordings, and the internet. Students complete a research paper and make an oral presentation of their findings. Prerequisites: MCS-201, MCS-205, MCS-292W, and one 300 level course between 300 and 375. Senior standing or permission of instructor. Three hours per week. *Four semester hours.*

### **MCS-491. Research/Independent Work** *Faculty*

This course is open to candidates for departmental honors with the permission of the instructor and the departmental chair. Prerequisites: MCS-201, MCS-205, MCS 292W, and one 300 level course between 300 and 375. *Four semester hours. (I.)*

### **MCS-492W. Research/Independent Work** *Faculty*

A continuation of MCS-491. Prerequisite: MCS-491. *Four semester hours. (I.)*

## **Modern Languages**

## **Modern Languages**

The Modern Languages Department develops in students the linguistic, literary and cultural competence necessary to communicate in another language with other peoples, understand their cultures, and appreciate the knowledge that foreign languages and cultures offer to the national and world communities.

The Modern Languages Department strives, in its elementary and intermediate courses, to develop students' linguistic competence and understanding of a foreign culture and to introduce them to its different cultural products. More advanced courses seek to perfect the use of the oral and written language and to study the literature, art and history of foreign societies and cultures in order to develop faculties of analysis, critical thinking, and aesthetic judgment.

The Department offers majors in French, German and Spanish. Majors should enrich their studies with courses in other literatures and relevant languages, European history and thought, and the fine arts and music. Majors interested in international affairs, business or diplomacy should choose appropriate courses from the departments of economics and business administration, history and politics. Students planning to pursue graduate study are especially advised to take courses in a second foreign language, world literature, and history, as appropriate. Similarly, students with international interests who are majors in other departments should formulate a minor in French, German, Japanese or Spanish to suit their goals. The varied activities of the language clubs add to the department's offerings.

In addition to the languages listed above, the Department regularly offers a full curriculum in Chinese and elementary and intermediate courses in Arabic which can be

taken to fulfill the language requirement, even though majors or minors are not offered in those languages. Students who wish to satisfy the language requirement in a modern language will be placed in the appropriate language class based on background and the results of the Foreign Language Placement Test.

## **French**

### **Requirements for Majors**

French majors are required to take at least 36 credit hours in French language, literature, and civilization above the 100 level. FREN-251, 252 or 254 and at least one 400-level W course are required, as well as a study abroad experience as approved by the department. French majors can fulfill the requirement for an oral presentation in the major and the capstone requirement by taking FREN-440W, 441W or 492W.

### **Secondary School Certification:**

Students planning to obtain certification for secondary-school teaching in French must take a minimum of 24 credit hours in French at the 200, 300 and 400 levels. The following courses are required: FREN-251; 252 or 254; 314; 328, and at least two 300- or 400-level courses. In addition to the course requirements, students are required to pass a qualifying examination before they will be admitted to candidacy for certification and a competency examination before being certified.

These tests will examine students' linguistic competence, orally and in writing, testing phonetics, conversation, grammar and composition. The exit exam will also check their knowledge of French literature and culture, including the arts, history and geography. Students and their advisers should consult the Ursinus College Education Department. Language majors and students preparing for certification are required to supplement their work at Ursinus by spending a summer, a semester or an entire year in a foreign country with a program approved by the department. Exceptions to this policy may be made by petition to the department chair.

### **Requirements for Minors**

Consists of FREN-251 and 16 additional credits of French at the 200, 300 or 400 level.

## **German**

### **Requirements for Majors**

German majors are required to take a minimum of 36 credit hours in German beyond the 100 level. GER-251, 252 and at least one 400-level W course are required, as well as a study abroad experience as approved by the department. German majors can fulfill the requirement for an oral presentation in the major and the capstone requirement by taking GER-440W or 492W.

## **Secondary School Certification**

Students planning to obtain certification for secondary-school teaching in German must take a minimum of 24 credit hours in German at the 200, 300 and 400 levels. The following courses are required: GER-251 and 252; 313 or 314; 328 and at least two 300- or 400-level courses. In addition to the course requirements, students are required to pass a qualifying examination before they will be admitted to candidacy for certification and a competency examination before being certified.

These tests will examine students' linguistic competence, orally and in writing, testing phonetics, conversation, grammar and composition. The exit exam will also check their knowledge of German literature and culture, including the arts, history and geography. Students and their advisers should consult the Ursinus College Education Department. Language majors and students preparing for certification are required to supplement their work at Ursinus by spending a summer, a semester or an entire year in an academic program in a German-speaking country approved by the department.

## **Requirements for Minors**

### **German Minor**

Consists of GER-251, GER-252 and 12 additional credits of German at the 200, 300 or 400 level.

### **German Studies Minor**

A minor concentration in German Studies consists of six courses, two of which must be taken in the History department and two in the German Section of Modern Languages, including GER 252. Two additional courses, one in German, one in History or an independent study project addressing a topic either in History or German, may be taken through any Ursinus approved study- abroad program. Students may choose from among the following courses at Ursinus: HIST-207, 304, 305, 306, 308, 401W; GER-201, 202, 251, 252, 314, 315.

## **Japanese**

The Japanese language courses are designed to develop linguistic skills and an understanding of Japanese culture. The study of Japanese is recommended for students interested in majoring in East Asian Studies or International Relations. Students may also pursue a student-initiated major that includes the study of Japanese. In all courses, students work with computers, authentic video and audio materials, as well as language assistants who are native speakers. Ursinus is one of two institutions in Pennsylvania to offer a teacher certification program in Japanese.

## **Requirements for Minors**

A minor in Japanese consists of 20 semester hours, including JPN-211, 212, eight additional credits at the 300-level, and one of the following: EAS 224, EAS-301, 314, 299, HIST-243 or another non-language course on Japan.

## **Secondary School Certification**

Students planning to obtain certification for secondary-school teaching in Japanese are required to take the following courses: JPN-211, 212, 301, 328; ENGL-224; HIST-243 or POL-346; and EAS-299, 314, or 401. In addition to the course requirements, students are required to pass a qualifying examination before they will be admitted to candidacy for certification and a competency examination before being certified.

These tests will examine students' linguistic competence, orally and in writing, testing phonetics, conversation, grammar and composition. The exit exam will also check their knowledge of Japanese literature and culture, including the arts, history and geography. Students and their advisers should consult the Ursinus College Education Department. Language majors and students preparing for certification are required to supplement their work at Ursinus by spending a summer, a semester or an entire year in a foreign country with a program approved by the department. Exceptions to this policy may be made by petition to the department chair.

## **Spanish**

### **Requirements for Majors**

Spanish majors are required to take a minimum of 36 credit hours in Spanish at the 200, 300 and 400 levels. SPAN-251, 252, and at least one 400-level W course are required, as well as a study abroad experience as approved by the department. Spanish majors can fulfill the requirement for an oral presentation in the major and the capstone requirement by taking SPAN-401W, 402W, 403W or 492W.

### **Secondary School Certification**

Students planning to obtain certification for secondary-school teaching in Spanish must take a minimum of 24 credit hours in Spanish at the 200, 300 and 400 levels. The following courses are required: SPAN-251, 252, 317, 328 and at least two 300- or 400-level courses. In addition to the course requirements, students are required to pass a qualifying examination before they will be admitted to candidacy for certification and a competency examination before being certified.

These tests will examine students' linguistic competence, orally and in writing, testing phonetics, conversation, grammar and composition. The exit exam will also check their knowledge of Spanish literature and culture, including the arts, history and geography. Students and their advisers should consult the Ursinus College Education Department. Language majors and students preparing for certification are required to supplement their work at Ursinus by spending a summer, a semester or an entire year in a foreign

country with a program approved by the department. Exceptions to this policy may be made by petition to the department chair.

## Requirements for Minors

A minor in Spanish consists of SPAN-251 or 252, and 16 additional credits of Spanish at the 200, 300 or 400 level.

## Courses

### English for International Students

IDS-120 is meant to be taken by international students, including exchange students, during the first year at Ursinus, in order to introduce them to the academic culture of Ursinus College and to the society and culture of the United States and the Philadelphia region. For eligible non-native speakers of English, this course may fulfill the core requirement for language study, if approved by the chair of the Department of Modern Languages.

#### **IDS-120. Introduction to American Culture for International Students** *Faculty*

This course is to be taken during the first year at Ursinus by foreign students, including exchange students, in order to introduce them to the history, society and culture of the United States and the Philadelphia region. Assignments will provide practice in the structure and style of academic English, including oral and written communication. Limited to international students who are not native speakers of English. This course fulfills the core requirement in language for eligible students if approved by the chair of the Department of Modern Languages. Three hours per week plus one hour of additional work. Four semester hours.

#### **ML-100, 101, 102, 111, and 112. Modern Languages** *Faculty*

Individualized study of languages, such as Hebrew, Russian, Danish, and others. Prerequisite: Permission of the instructor. *Four semester hours.* (These courses do not satisfy the College language requirement for graduation.)

## Arabic

#### **ARA-101. Elementary Arabic I** *Faculty*

An introduction to the Arabic language. This course will allow the student to master the Arabic alphabet and to learn elementary speaking, writing, and reading in Arabic. Four hours of instruction plus one hour of supervised work with the textbook's DVD material. *Four semester hours. (L.)*

#### **ARA-102. Elementary Arabic II** *Faculty*

Continuation of ARA-101. Emphasis on communication and cultural uses of the language. Four hours of instruction plus one hour of supervised work with the textbook's DVD material. *Four semester hours. (L.)*

#### **ARA-111. Advanced Elementary Arabic I** *Faculty*

In this second-year-level course, students will continue to develop their four language skills (speaking, listening, reading and writing), vocabulary, and grammar. This course is designed to enable students to communicate in Arabic in everyday situations and to present and interpret information using their

inventory of Arabic vocabulary. Prerequisite: ARA-102 or placement by instructor. Four hours per week. *Four semester hours. (L.)*

### **ARA-112. Advanced Elementary Arabic II Faculty**

In this course, students will further improve their four language skills (speaking, listening, reading and writing) with an emphasis on comprehension and speaking. Students will also continue to develop their knowledge and application of vocabulary and grammar. Prerequisite: ARA-111 or placement by instructor. Four hours per week. *Four semester hours. (L.)*

### **ARA-220. Topics in Intermediate Arabic Faculty**

In this course, students will further advance their Arabic language skills in listening, speaking, writing as well as reading. In addition, students will improve their ability to communicate at an intermediate level by interpreting and presenting information in different tenses and contexts. Prerequisite: ARA-112 or equivalent, or permission of instructor. This course may be taken more than once for credit. Four hours per week. *Four semester hours. (H,L.)*

### **ARA-320. Topics in Advanced Arabic Faculty**

This course introduces new vocabulary, develops students' listening and oral skills, and expands their knowledge and understanding of the culture and history of the Arabic-speaking world. Prerequisite: two 200-level courses or permission of instructor. This course may be taken more than once for credit. Four hours per week. *Four semester hours. (H,L.)*

### **ARA-335. Independent Study in Arabic Faculty**

Independent study of topics in Arabic linguistics, literature, society or culture. Offered upon request. Prerequisite: one 300-level course and permission of instructor. *Two to four semester hours. (I., if 4 credits.)*

## **Chinese**

The Chinese language courses are designed to develop linguistic skills and an understanding of Chinese culture. The study of Chinese is recommended for students interested in majoring in East Asian Studies, International Relations, Business and Economics, and other disciplines. Students may also pursue a student-initiated major that includes the study of Chinese. In all courses, students work with computers, and authentic video, audio and written materials, as well as language assistants who are native speakers.

### **CHN-101. Elementary Chinese I Faculty**

An introduction to the Chinese language. The course is designed to introduce the student to the basic rules of spoken and written Chinese while providing basic communicative skills. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

### **CHN-102. Elementary Chinese II Faculty**

Continuation of CHN-101. The focus is placed on situation-sensitive language use and the systematic introduction of basic grammar and sentence patterns, along with continued study of characters. Prerequisite: CHN-101 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

### **CHN-111. Advanced Elementary Chinese I Faculty**

Continued introduction of the fundamental structures of spoken and written Chinese. Development of interpersonal communication skills beyond the functional level. Prerequisite: CHN-102 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

### **CHN-112. Advanced Elementary Chinese II Faculty**

Continuation of CHN-111. Development of more sophisticated structures and patterns, moving towards conversational fluency. Continued study of reading and writing. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

### **CHN-211. Intermediate Chinese I Faculty**

Review of basic structures combined with further enhancement of oral and written communication skills. Continued expansion of knowledge of characters, plus development of ability to handle complicated situations. Prerequisite: CHN-112 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (H, L.)*

### **CHN-212. Intermediate Chinese II Faculty**

Continuation of CHN-211. Completion of study of fundamentals of Chinese language. Development of ability to read and discuss authentic texts, and to handle a wide range of conversational situations. Prerequisite: CHN-211 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (H, L.)*

### **CHN-311. Advanced Chinese I Faculty**

Study of complex linguistic structures in the context of the development of an analytical understanding of the Chinese language. Reading and viewing of advanced-level authentic materials in written and video texts, with an emphasis on a nuanced understanding and an ability to discuss and write about the texts in depth. Three hours per week plus one hour of practice with the language assistant. Prerequisite: CHN-212 or equivalent. *Four semester hours. (H, L.)*

### **CHN-312. Advanced Chinese II Faculty**

Continuation of CHN-311. Upon completion of this course, students should have developed the resources to handle most conversational situations or modern texts. Three class hours per week plus one hour of practice with the language assistant. *Four semester hours. (H, L.)*

### **CHN-328. Advanced Chinese Grammar Faculty**

In-depth study of Chinese phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite: CHN-312 or permission of the instructor. Four hours per week. *Four semester hours. (L.)*

### **CHN 335. Independent Study in Chinese Faculty**

Individual study of topics in Chinese linguistics, literature, society or culture. Prerequisite: CHN-312 and permission of the instructor. *Two to four semester hours. (I., if 4 credits.)*

### **CHN-381. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: four courses in Chinese and approval of a faculty internship adviser. *Three semester hours. (I.)*

### **CHN-382. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: four courses in Chinese and approval of a faculty internship adviser. *Four semester hours. (I.)*



**CHN-491. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours. (I.)*

**CHN-492W. Research/Independent Work Faculty**

A continuation of CHN-491. This is a writing intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: CHN-491 and permission of the department chair. MCS-201 is strongly recommended. *Four semester hours. (I.)*

**French****FREN-101. Elementary French I Faculty**

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

**FREN-102. Elementary French II Faculty**

Continuation of FREN-101. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

**FREN-111. Intermediate French I Faculty**

Conversation and vocabulary development; grammar review, written work and discussions are based on cultural, social and literary selections. Prerequisite: FREN-102 or equivalent. Four hours per week. *Four semester hours. (L.)*

**FREN-112. Intermediate French II Faculty**

Continued emphasis on comprehension and speaking. Reading in literary and cultural texts and longer writing assignments. Prerequisite: FREN-111 or equivalent. Four hours per week. *Four semester hours. (L.)*

**FREN-201. Conversation and Composition Faculty**

Intensive review of grammar to perfect oral and written communication. Topics of discussion will focus on contemporary French and francophone societies using newspaper articles, films and literary texts. Writing will be both formal and informal. Prerequisite: FREN-112 or equivalent. Four hours per week. *Four semester hours. (H, L.)*

**FREN-202. Film and Literature Faculty**

A study of French culture as reflected through its literature and film. A special emphasis will be put on the adaptation of literary works into films. Prerequisite: FREN-201 or permission of instructor. Four hours per week. *Four semester hours. (H, L.)*

**FREN-251. Introduction to French Literature Faculty**

A selection of major French writers from the Middle Ages to the present. Special attention will be given to the socio-cultural context from which their narratives emerged. Students will also be introduced to literary analysis and to formal writing. Prerequisite: FREN-201 or permission of the instructor. Four hours per week. *Four semester hours. (H, L.)*

**FREN-252. Le Monde francophone Faculty**

A study of major writers from Francophone countries from the 19th and 20th centuries. This course will examine how colonization and its aftermath have shaped the issues of language, identity, class and gender in French-speaking literature of Canada, Africa, the Caribbean and Asia. Prerequisite: FREN-

201 or permission of instructor. Four hours per week. Four semester hours. This course will be offered in the Spring term of odd-numbered years and will alternate with FREN-254. (H, L, G.)

**FREN-254. Contes et nouvelles Faculty**

A study of various short texts, “contes,” “nouvelles” and “récits” from French-speaking authors from the 18th century to the present. Emphasis will be placed on the development of the genre as influenced by historical, social and gender issues. Authors selected include Voltaire, Maupassant, Mérimé, Colette, Mandiargues, Roy, Camus, Beauvoir, Hébert, Birago Diop, Sembene and others. Prerequisite: FREN-201 or permission of the instructor. Four hours per week. *Four semester hours. (H, L)*

*Note: This course will be offered in the spring term of even-numbered years and will alternate with FREN-252. All 300-level courses are offered in rotation.*

**FREN-314. France Today Faculty**

A study of the forces of change and tradition in contemporary French society through an examination of the political, social and cultural developments of the past 30 years. Prerequisite: Two courses at the 200 level or permission of the instructor. Four hours per week. *Four semester hours.*

**FREN-318. Commercial and Economic French Faculty**

Study of the economy, business organization and commercial practices of France and French-speaking countries with special attention to France’s role in the European Union. Prerequisite: FREN-201, 202 or permission of the instructor. Offered as needed. Four hours per week. *Four semester hours. (H, L)*

**FREN-328. Advanced Grammar and Translation Faculty**

French phonetics, morphology and syntax, with emphasis on problems related to the teaching of the language. Frequent translations focus on structural differences between French and English. Prerequisite: Two semesters at the 200-level. Offered as needed. Four hours per week. *Four semester hours. (H, L)*

**FREN-335. Independent Study in French Faculty**

Individual study of topics in French literature and civilization. May also be used in preparation for research or internship abroad. Prerequisites: Two 200-level courses and permission of instructor. *Two to four semester hours. (I, if 4 credits.)*

**FREN-340. 20th-Century Novel Faculty**

The development of the French novel of the 20th century organized around the themes of identity, community and sexualities. Authors studied include Gide, Colette, Sartre, Camus, Beauvoir, Duras and others. Prerequisites: FREN-251; FREN-252 or 254, or permission of the instructor. Three hours per week. *Four semester hours. (H, L)*

**FREN-341. Junior Seminar in French Faculty**

This course is designed for juniors who wish to take the French senior seminar taught in the same semester. Assignments for students of FREN-341 will correspond to the workload of a 300-level course. FREN-341 is offered concurrently with FREN-440W or FREN-441W. Prerequisites: junior status, or permission of instructor. Does not fulfill the capstone requirement. Three hours per week. *Four semester hours. (H, L)*

**FREN-345. Topics in French Faculty**

The course focuses on a specific topic or theme not otherwise treated in the curriculum. Topics will vary from year to year. Recent topics have included « Regard sur/des Autres dans la société française » and « Passion et amour dans la littérature classique et moderne ». Independent written work is required. Three hours per week. *Four semester hours. (H, L)*

**FREN-350. 19th-Century Novel Faculty**

The evolution of the French novel with emphasis on Stendhal, Balzac, Flaubert and Zola. Prerequisites: FREN-251; FREN-252 or 254, or permission of the instructor. Three hours per week. *Four semester hours. (H, L)*

**FREN-360. 18th-Century Literature Faculty**

Human nature, liberty, reason and their limits as seen in Enlightenment writing before the Revolution of 1789. Readings from Voltaire, Diderot, Rousseau, Laclos and others. Prerequisites: FREN-251; FREN-252 or 254, or permission of the instructor. Three hours per week. *Four semester hours. (H, L)*

**FREN-370. 17th-Century Classicism Faculty**

Classical French literature with emphasis on the theater of Corneille, Molière and Racine. Prerequisites: FREN-251; FREN-252 or 254, or permission of the instructor. Three hours per week. *Four semester hours. (H, L)*

**FREN-381. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: three courses in French and approval of a faculty internship adviser. *Three semester hours. (I)*

**FREN-382. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: three courses in French and approval of a faculty internship adviser. *Four semester hours. (I)*

**FREN-440W, 441W. Seminar in Francophone Literature and Culture Faculty**

These courses are offered on a rotating basis and subjects will be determined according to students' background and interest. The seminars will take a thematic approach and topics may include the following: « Rebelles, mécréants et criminels dans la littérature francophone », « Changement et tradition: France-Afrique », and « La Condition féminine à travers les âges ». These courses satisfy the College requirement of a capstone experience. Prerequisites: FREN-340, or 350, or 360, or 370 or permission of the instructor. MCS-102 is highly recommended. Three hours per week. *Four semester hours. (H, L.)*

**FREN-491. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours. (I)*

**FREN-492W. Research/Independent Work Faculty**

A continuation of FREN-491. This is a writing-intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: FREN-491 and permission of the department chair. MCS-102 is highly recommended. *Four semester hours. (I)*

## German

### **GER-101. Elementary German I Faculty**

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week. *Four semester hours. (L.)*

### **GER-102. Elementary German II Faculty**

Continuation of GER-101. Four hours per week. *Four semester hours. (L.)*

### **GER-111. Intermediate German I Dr. Clouser**

A review of basic grammar concepts and development of listening and communication skills. Texts of social and cultural interest provide the focus for class discussion and writing exercises. Prerequisite: GER-102 or equivalent. Four hours per week. *Four semester hours. (L.)*

### **GER-112. Intermediate German II Dr. Clouser**

A continuation of GER-111. A review of selected advanced grammar concepts and further development of listening and communication skills. Prerequisite: GER-111 or equivalent. Four hours per week. *Four semester hours. (L)*

### **GER-201. Conversation and Composition I Faculty**

Intensive review of grammar to perfect oral and written communication. Literary texts, newspaper articles, and German films will be discussed. Course includes formal and informal writing exercises and student presentations. Prerequisite: GER-112 or equivalent. Four hours per week. *Four semester hours. (H, L)*

### **GER-202. Conversation and Composition II Faculty**

Intensive review of grammar to perfect oral and written communication. Course includes formal and informal writing exercises and student presentations. Prerequisite: GER-201 or permission of instructor. Four hours per week. *Four semester hours. (H, L)*

### **GER-251. Introduction to German Literature Dr. Clouser**

A survey of the works of major German writers from the Middle Ages to the 18th century. Special emphasis will be given to the socio-cultural context in which their writing is embedded. Students will also be introduced to literary analysis and formal writing. Prerequisite: GER-202 or permission of instructor. Four hours per week. *Four semester hours. (H, L)*

### **GER-252. German Literature and Film Dr. Clouser**

The works of 18th, 19th, and 20th-century authors will be discussed in the context of the times in which they were written. Students will analyze these works and familiarize themselves with the politics, art, and film of Germany. Prerequisite: GER-251 or permission of instructor. Four hours per week. *Four semester hours. (H, L)*

### **GER-310. Summer Study in Tübingen Dr. Clouser**

Intensive language study for three to six weeks. Includes classroom study, homestay with a German family, and weekend cultural excursions. Prerequisite: GER-112 or permission of instructor. Open to all majors. *Four to eight semester hours, depending on length of study. (H, L)*

### **GER-313. German Studies in Literature Dr. Clouser**

Topics vary. Prerequisite: GER-251 and 252 or permission of instructor. Three hours per week. *Four semester hours. (H, L)*

### **GER-314. German Studies in Culture Dr. Clouser**

Topics vary. Topics include a study of German cinema, scientific German, and environmental German, among others. Texts will come from a variety of sources. Prerequisites: GER-251 and 252, or permission of instructor. Three hours per week. *Four semester hours. (H, L)*

**GER-315. Germany Today Dr. Clouser**

A study of contemporary German politics, economics and society. Prerequisites: GER-251 and 252 or permission of the instructor. Four hours per week. *Four semester hours. (SS.)*

**GER-318. Commercial and Economic German Dr. Clouser**

Study of contemporary economic issues and events in German-speaking countries. Prerequisites: GER-251 and 252; or permission of the instructor. Four hours per week. *Four semester hours. (H, L)*

**GER-319. Twentieth-century German Short Story Dr. Clouser**

Readings in the twentieth-century German short story. Students will read, discuss and analyze stories by major German writers. Prerequisites: GER-251, 252, or permission of the instructor. Three hours per week. *Four semester hours.*

**GER-320. German Novelle Dr. Clouser**

History and development of the German Novelle from Goethe to the 20th century. Prerequisites: GER-251, 252, or permission of instructor. Three hours per week. *Four semester hours. (H, L)*

**GER-328. Advanced German Grammar Faculty**

In-depth study of German phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisites: GER-201, 202 or permission of instructor. Four hours per week. *Four semester hours. (H, L)*

**GER-335. Independent Study in German Dr. Clouser**

Individual study of topics in German literature and civilization. Prerequisites: GER-251 and 252; or permission of instructor. *Two to four semester hours. (I, if 4 credits.)*

**GER-340. Das deutsche Märchen Dr. Clouser**

A study of the German Fairy Tale from the Brothers Grimm through the 20th century. Oral antecedents, the literary fairy tale, and satirical fairy tales will be treated. Prerequisite: GER-251 and 252. Three hours per week. *Four semester hours. (H, L)*

*Note: 300- and 400-level courses are offered in rotation.*

**GER-381. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: three courses in German and approval of a faculty internship adviser. *Three semester hours. (I.)*

**GER-382. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: three courses in German and approval of a faculty internship adviser. *Four semester hours. (I.)*

**GER-440W. Advanced Seminar** *Dr. Clouser*

Topics vary. This course satisfies the College requirement of a capstone experience. Prerequisites: GER-251, 252, and three 300 level courses; or permission of instructor. MCS-102 is strongly recommended. Three hours per week. *Four semester hours. (H, L)*

**GER-491. Research/Independent Work** *Faculty*

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours. (I.)*

**GER-492W. Research/Independent Work** *Faculty*

A continuation of GER-491. This is a writing-intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: GER-491 and permission of the department chair. MCS-102 is strongly recommended. *Four semester hours. (I.)*

## Japanese

**JPN-101. Elementary Japanese I** *Prof. Tanaka-Goda*

An introduction to the Japanese language. The course is designed to introduce the student to the basic rules of spoken and written Japanese while providing basic communicative skills. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

**JPN-102. Elementary Japanese II** *Prof. Tanaka-Goda*

Continuation of JPN-101. The focus is placed on situation-sensitive language use and the systematic introduction of basic grammar and sentence patterns. Basic kanji characters are introduced. Prerequisite: JPN-101 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

**JPN-111. Advanced Elementary Japanese I** *Dr. Mizenko*

Continued introduction of the fundamental structures of spoken and written Japanese. Development of interpersonal communication skills beyond the functional level. Prerequisite: JPN-102 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

**JPN-112. Advanced Elementary Japanese II** *Dr. Mizenko*

Continuation of JPN-111. Development of more sophisticated structures and patterns, moving towards conversational fluency. Continued study of reading and writing, with knowledge of 200-300 kanji characters by end of course. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (L.)*

**JPN-211. Intermediate Japanese I** *Prof. Tanaka-Goda*

Review of basic structures combined with further enhancement of oral and written communication skills. Continued expansion of knowledge of kanji characters, plus development of ability to handle complicated situations. Prerequisite: JPN-112 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (H, L.)*

**JPN-212. Intermediate Japanese II** *Prof. Tanaka-Goda*

Continuation of JPN-211. Completion of study of fundamentals of Japanese language. Development of ability to read and discuss authentic texts, and to handle a wide range of conversational situations. Prerequisite: JPN-211 or equivalent. Four hours per week plus one hour of practice with the language assistant. *Four semester hours. (H, L.)*

**JPN-311. Advanced Japanese I** *Prof. Tanaka-Goda*

Study of complex linguistic structures in the context of the development of an analytical understanding of the Japanese language. Reading and viewing of advanced-level authentic materials in written and video texts, with an emphasis on a nuanced understanding and an ability to discuss and write about the texts in depth. Three hours per week plus one hour of practice with the language assistant. Prerequisite: JPN-212 or equivalent. *Four semester hours. (H, L)*

**JPN-312. Advanced Japanese II** *Prof. Tanaka-Goda*

Continuation of JPN-311. Upon completion of this course, students should have developed the resources to handle virtually any conversational situation or modern text. Three class hours per week plus one hour of practice with the language assistant. *Four semester hours. (H, L)*

**JPN-328. Advanced Japanese Grammar** *Prof. Tanaka-Goda*

In-depth study of Japanese phonetics, morphology and syntax with special emphasis on the problems related to the teaching of the language. Prerequisite: JPN-312 or permission of the instructor. Four hours per week. *Four semester hours. (H, L)*

**JPN 335. Independent Study in Japanese** *Faculty*

Individual study of topics in Japanese literature, society or culture. Prerequisite: JPN-312 and permission of the instructor. *Two to four semester hours. (I, if 4 credits.)*

**JPN-381. Internship** *Faculty*

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: Four courses in Japanese and approval of a faculty internship adviser. *Three semester hours. (I)*

**JPN-382. Internship** *Faculty*

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: Four courses in Japanese and approval of a faculty internship adviser. *Four semester hours. (I)*

**JPN-491. Research/Independent Work** *Faculty*

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours. (I)*

**JPN-492W. Research/Independent Work** *Faculty*

A continuation of JPN-491. This is a writing intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: JPN-491 and permission of the department chair. MCS-102 is strongly recommended. *Four semester hours. (I)*

## Spanish

### **SPAN-101. Elementary Spanish I Faculty**

Development of the four skills of listening, speaking, reading and writing. Designed for beginners or students with little or no recent study of the language. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

### **SPAN-102. Elementary Spanish II Faculty**

Continuation of SPAN-101. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

### **SPAN-103. High Beginner Spanish Faculty**

This course is intended for students who are experienced learners of Spanish but lack the foundational knowledge for the intermediate level. The course develops the four skills of listening, speaking, reading and writing by emphasizing linguistic and cultural accuracy. This course is normally followed by SPAN-111. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

### **SPAN-111. Intermediate Spanish I Faculty**

A review of the basic grammatical structures of Spanish, with emphasis on the use of tenses and the subjunctive mode, vocabulary development through readings and use of authentic materials, and cultural and elementary literary readings. Prerequisite: SPAN-102 or SPAN-103. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

### **SPAN-112. Intermediate Spanish II Faculty**

Although Intermediate Spanish II is a continuation of Intermediate Spanish I, students may be placed in this course if they can demonstrate a good command of the basic structures of the Spanish grammar. The main focus of this course will be in the strengthening of vocabulary and the written command of the language through the use of authentic materials, literary readings, and writing of short compositions. Prerequisite: SPAN-111 or equivalent. Four hours per week plus one hour of work with interactive technologies. *Four semester hours. (L.)*

### **SPAN-201. Conversation and Composition Faculty**

Intensive review of the grammar to perfect oral and written communication. Materials used will be predominantly literary (short plays and short stories), but also journalistic. Writing will be both formal and informal. Four hours per week plus one hour of conversation with the language assistant. Prerequisite: SPAN-112 or equivalent. *Four semester hours. (H, L)*

### **SPAN-202. Topics in Hispanic Literature and Culture Faculty**

Topics, to be determined by interests of students and faculty, might include the short story, Spanish and/or Latin American film, class, gender, race relations as reflected in literature and/or film, and others. Prerequisite: SPAN-201 or permission of the instructor. Four hours per week plus one hour of conversation with the language assistant. *Four semester hours. (H, L.)\**

*Note: Course may be taken for credit twice.*

### **SPAN-207. Spanish Civilization and Culture Dr. DeArana, Dr. Useche**

A chronological introduction to Spanish history, culture and civilization from its beginnings to the present time. Recommended for students planning to study in Spain. May be taken in place of SPAN-202. Prerequisite: SPAN-201 or permission of the instructor. Four hours per week. *Four semester hours. (H, L)*

### **SPAN-251. Survey of Spanish Literature Dr. Cameron, Dr. De Arana**



Study of major literary works and genres of Spain from the Middle Ages through the 20th century with special attention given to the literature of the Golden Age, the Generation of 1898, and the post-Civil War period. Prerequisite: SPAN-202 or equivalent. Four hours per week. *Four semester hours. (H, L)*

**SPAN-252. Survey of Latin American Literature** *Dr. Shuru, Dr. Ko*

Study of major trends in Latin American literature from the Colonial period through the 20th century with emphasis on Latin America's progress toward artistic and literary independence from European models. Prerequisite: SPAN-202 or equivalent. Four hours per week. *Four semester hours. (H, L, G.)*

**Note: 300- and 400-level courses are offered in rotation.**

**SPAN-308. Culture and Medicine** *Dr. Cameron, Dr. Shuru*

This course is designed for students interested in medicine or allied health fields. Students will use Spanish by engaging in specialized vocabulary and a variety of cultural and technical texts. The content of the course will emphasize traditional medical and non-traditional healing practices. Prerequisite: SPAN-201 or the equivalent. Three hours per week. *Four semester hours.*

**SPAN-317. The Hispanic World** *Dr. Shuru*

The development of the Hispanic Culture as a conjunction of Eastern and Western experiences and its subsequent expansion and transformation in the Americas. The creation of the American republics, the political and socio-economic crisis of the 20th century and the challenges of the future. Prerequisite: Two of the following: SPAN-201, 202, 251, 252 or permission of the instructor. Four hours per week. *Four semester hours. (SS, G.)*

**SPAN-328. Advanced Spanish Grammar** *Dr. De Arana*

In-depth study of the main grammatical aspects of the Spanish language with an emphasis on the verb system and syntax. Prerequisite: SPAN-201 or equivalent. Four hours per week. *Four semester hours. (H, L)*

**SPAN-335. Independent Study in Spanish** *Faculty*

Individual study of topics in Spanish or Latin American literature or culture. Prerequisites: two 200-level courses and permission of the instructor. *Two to four semester hours. (I, if 4 credits.)*

**SPAN-340. Topics in Hispanic Studies** *Faculty*

The course explores topics in linguistics, literary, and cultural studies in the Hispanic world. Recent topics have included "Love, Sex and Marriage in Nineteenth-century Spanish Literature" and "Performance and Literature." Prerequisite: SPAN-251 or 252, or permission of the instructor. Three hours per week. *Four semester hours. (H, L)*

**SPAN-350. English-Spanish Translation** *Dr. De Arana*

Practical introduction to translation from Spanish to English of literary, medical, cultural and consumer-oriented texts. It will have an individual final project consisting of the translation of a complete text—such as a research article, a short story, a video clip, etc.—of interest for the student. Prerequisites: SPAN-328, or permission of the instructor. Three hours per week. *Four semester hours.*

**SPAN-352. Contemporary Hispanic Novel** *Dr. Cameron, Dr. De Arana, Dr. Shuru, Dr. Ko, Dr. Useche*

Close readings of texts from a variety of perspectives (including gender, race, class), representing major trends in contemporary fiction (Spain and Latin America). Prerequisite: SPAN-251, 252, or permission of the instructor. Four hours per week. *Four semester hours. (H, L)*

**SPAN-381. Internship** *Faculty*

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The

term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: three courses in Spanish and approval of a faculty internship adviser. *Three semester hours. (I.)*

### **SPAN-382. Internship Faculty**

An off-campus academic work/experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: three courses in Spanish and approval of a faculty internship adviser. *Four semester hours. (I.)*

### **SPAN-401W. Golden Age Literature Dr. Cameron, Dr. De Arana**

The picaresque and the Comedia of the 16th and 17th centuries. This course satisfies the College requirement of a capstone experience. Prerequisite: SPAN-251, 252, or permission of the instructor. *Four semester hours. (H, L.)*

### **SPAN-402W. Cervantes Dr. Cameron, Dr. De Arana**

Studies in the structure, sources and the impact of Cervantine prose, with emphasis on the Quijote. This course satisfies the College requirement of a capstone experience. Prerequisites: SPAN-251, 252 or permission of the instructor. MCS-102 is highly recommended. Four hours per week. *Four semester hours. (H, L)*

### **SPAN-440W. Senior Seminar in Hispanic Studies Dr. Cameron, Dr. De Arana, Dr. Shuru, Dr. Ko, Dr. Useche**

This course satisfies the College requirement for a capstone experience. It will explore topics in linguistic, literary, and cultural studies in the Hispanic world. Prerequisites: SPAN-251, 252 and senior status or permission of the instructor. MCS-102 is highly recommended. Three hours per week. *Four semester hours. (H, L)*

### **SPAN-491. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the department chair. This course does not satisfy the College requirement of a capstone experience. *Four semester hours. (I.)*

### **SPAN-492W. Research/Independent Work Faculty**

A continuation of SPAN-491. This is a writing-intensive course and at least one formal oral presentation is required. This course satisfies the College requirement of a capstone experience. Prerequisites: SPAN-491 and permission of the department chair. MCS-102 is highly recommended. *Four semester hours. (I.)*

## **Museum Studies**

Museums shape and at times challenge how we see objects and ourselves in relation to community, culture, and the world. They preserve, display, and interpret an astonishing array of materials of educational value. Museums come in many forms, and are cross-disciplinary. They involve different ways of knowing and doing. The Museum Studies minor enables students to investigate that vibrant world and its various professional paths. Minors and other students will understand how museums developed historically

and what thinking informs current exhibition practices. Minors will also gain first-hand experience in one or more areas of museum work, such as curating, education, registration, collections management, conservation, or technology. Optional discipline-specific tracks allow minors and all students to bring what they learn about museums into alignment with their primary academic interest.

## Requirements for Minors

A minor concentration in Museum Studies consists of five courses (combining for a total of 16 credits), one applied learning experience in a museum (three or four credits), plus an oral presentation, for a total of 19 or 20 credits. All students must take MS-100 Museum Studies (four credits), MS-200A (two credits) and B Curatorial Practice (two credits), and MS-350 Oral Presentation (zero credits). The applied learning experience (MS-381 or 382) must be an off-campus internship or curatorial experience and should focus on collections, conservation, education, interpretation, and/or research. The experience must be approved by the Museum Studies Coordinating Group. The remaining credits (elective) must come from two of the following: ACCT-140, ANTH-100, ANTH-205, any 100- or 200-level Art History course, ART-371, ART-372, EDUC-210, EDUC-265, EDUC-350, any 300-level History course, MCS-201, MCS-220, MCS-254, MCS-330, MCS-331, or MCS-363, or another course approved by the Museum Studies Coordinating Group. In the spring semester of their senior year, Museum Studies minors must also give an oral presentation at a Museum Studies session at the Celebration of Student Achievement, thus fulfilling MS-350.

As an option, students may choose to pursue a discipline-specific track in the Museum Studies minor. Each track consists of two courses from a list of relevant courses. Students who choose not to do a track can take elective credits in two separate track areas.

Elective course options for each track are:

- Anthropology: ANTH-100, 205
- Art History: ART-100, 150, 160, 230, 290, 371, 372
- Business and Economics: ACCT-140, MGT-200, MKT-250
- Education: EDUC-210, 265, 350
- Environmental Studies: ENV-242 or 272; ENV-332, 338, 340, 360, or 366
- History: Any two History courses in the same area of concentration (U.S., European, Non-Western, or Comparative), one of which must be at the 300- or 400-level.
- History track for non-History majors: HIST-200W and one 300-level History course
- Media and Communications Studies: MCS-201, 220, 254, 330, 331, 363

## Courses

### **MS-100. Museum Studies** *Art History Faculty*

An introduction to the social and political history of museums, as well as the structure, function and practices of museums in America and Europe. The Berman Museum will be our laboratory, and independent projects will focus on objects from the Museum's collections. Outside scholars and specialists will offer in-depth examination of selected topics. Visits are made to regional museums. The

course will run Spring semester every two years, beginning Spring 2016. Three hours per week. *Four semester hours. (A.)*

Note: MS-100 may count as an elective for the Art and Art History major or minor.

**MS-200A. Curatorial Practice** *Art History Faculty*

This course introduces students to activities, processes, challenges, skills, and thinking that initiate and develop the display and interpretation of objects in museums. Students will collaboratively create an exhibition to open in The Berman Art Museum the January following the fall semester course. Visits to area museums. Students must take MS-200A and B to receive credit for one required course in the Museum Studies minor. MS200A will run Fall semester every two years, beginning Fall 2016. Prerequisite: MS-100 or permission of instructor. Two hours per week. *Two semester hours.*

**MS-200B. Curatorial Practice** *Art History Faculty*

A continuation of MS-200A. This course involves the final preparations for the exhibition, its promotion, and its documentation. MS-200B will run Winter break every two years, beginning December 2016. Prerequisite: MS-200A or permission of instructor. Students must take MS-200A and B to receive credit for one required course in the Museum Studies minor. Two hours per week. *Two semester hours.*

**MS-350. Oral Presentation** *Faculty*

A museum studies oral presentation. This course will satisfy the Museum Studies minor requirement for an oral presentation. Prerequisite: written consent of a member of the Museum Studies Coordinating Group. Graded S/U. *Zero semester hours.*

Note: This course is usually taken in spring semester of the student's senior year, and the oral presentation usually takes place at the Celebration of Student Achievement, held in April of that semester.

**MS-381. Museum Studies Internship** *Faculty*

An academic/work experience at a museum under the supervision of an internship adviser on the Museum Studies Coordinating Group and an on-site supervisor. The Berman Museum of Art is not a possible site for MS-381. The intern must complete a minimum of 120 hours of work. Open to rising juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. Prerequisites: MS-100 and approval of the Museum Studies Coordinating Group. 120 hours. Graded S/U. *Three semester hours.*

**MS-382. Museum Studies Internship** *Faculty*

An academic/work experience at a museum under the supervision of an internship adviser on the Museum Studies Coordinating Group and an on-site supervisor. The Berman Museum of Art is not a possible site for MS-382. The intern must complete a minimum of 160 hours of work. Open to rising juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. Prerequisites: MS-100 and approval of the Museum Studies Coordinating Group. 160 hours. Graded S/U. *Four semester hours.*

# Music

The music department offerings are designed to provide an understanding of music through a study of styles and theory as well as performance opportunities. The curriculum is designed to integrate history and theory across historical periods and stylistic idioms while providing ensemble and applied music instruction as a basis for connecting practical and analytical aspects of the discipline. Students who complete a music major can pursue graduate study but also apply their knowledge of music to performing arts administration, music therapy and business applications.

## Requirements for Majors

A major in Music consists of 40 semester hours in music coursework. Music majors must take both academic (36 hours) and applied/ensemble (4 hours) music courses. Required courses for the major:

- 12 semester hours of Music Theory: MUS-100 (unless student passes theory placement test), MUS-221 and MUS-222. Students who test out of MUS-100 may take MUS-226 or MUS-328 for the third Music Theory course.
- 12 semester hours of Music History: MUS-205, MUS-206 and MUS-307W
- 8 semester hours of music electives.
- 4 semester hours of music ensemble and/or applied music. Chosen from the following: MUS-00X, MUS-01X, MUS-02X, MUS-03X, MUS-04X, MUS-05X. Students may only count one semester hour per semester towards this requirement, for a total of two years of ensemble participation. Music majors can fulfill both the capstone and oral presentation requirement by taking MUS- 401 or MUS-491.

## Requirements for Minor

A minor concentration in music consists of a minimum of five courses in music. Two courses must be selected from the Music History\* area (MUS-205, 206, 207, 208, and 307). An additional two courses must be selected from the Music Theory area (MUS-100, 221, 222, 226, and 328). One course MUST include MUS-100 or MUS-221).

## Courses

### **MUS 100 – Foundations of Music** *Faculty*

An introductory course in music theory which presents essential basic concepts in music through composition, analysis, and listening. The course consists of a study of musical elements, terminology, rhythm, and music notation, including the staff, clefs, notes, intervals, scales, modes, chords, keys and signatures. Additional emphasis on the acquisition of aural skills through ear-training exercises. Three hours per week. Four semester hours. (A.)

### **MUS-205. History of Music to 1750** *Dr. French*

A study of music from its early origins through the end of the Baroque period, including an examination of the music through cultural, political, and societal contexts. Intensive listening assignments and research projects are required for the course. Three hours per week. *Four semester hours. (A, H.)*

*Note: Students may not receive credit for MUS-205 and MUS-201 or 202.*

**MUS-206. History of Music, 1750 to Present** *Dr. French*

A study of music from the Classical Period to the present, including an examination of the music through cultural, political, and societal contexts. Intensive listening assignments and research projects are required for the course. Three hours per week. *Four semester hours. (A, H.)*

**MUS-207. History of Jazz** *Dr. Hubbs*

A survey of the development of jazz from its African origins through the present. Includes a detailed investigation of how various socio-political factors affected the development of this American music. The course will include intensive listening and research assignments, video presentations, and a final research paper. Three hours per week. *Four semester hours. (A, D, H.)*

**MUS-208. World Music** *Dr. Hubbs*

This course traces the development of world musics by examining significant works of music and the cultural and political milieu in which the works were composed. Students will develop an understanding of musical terminology and will develop skills needed to listen to and better understand music of varying cultures. Students will participate in a variety of activities, including singing, playing instruments and dancing. This course will include intensive listening assignments. Three hours per week. *Four semester hours. (A, G, H.)*

**MUS-221. Music Theory I** *Dr. Bratt*

The first semester of an integrated two-semester theory sequence that examines the harmonic, melodic, rhythmic, and formal organization of music while developing critical listening skills. The course consists of studying the application of music fundamentals, analysis of small forms, composition, and development of aural skills. Emphasis on diatonic harmony. Prerequisite: MUS-100 or permission of instructor. Three hours per week. *Four semester hours. (A.)*

**MUS-222. Music Theory II** *Dr. Bratt*

The second semester of an integrated two-semester theory sequence that examines the harmonic, melodic, rhythmic, and formal organization of music while developing critical listening skills. The course consists of the development and analysis of motivic structures, analysis of larger forms, composition, and development of aural skills. Introduction to chromatic harmony. Prerequisite: MUS-221 or permission of instructor. Three hours per week. *Four semester hours. (A.)*

**MUS-226. Music Technology** *Dr. Bratt*

An introductory course in computer-based music technology. Students will learn the concepts of sequencing, mixing, production, loop-based composition, sampler and synth programming, and basic music theory through composition and analysis projects. Emphasis on MIDI and software-based sound generators. Additional concepts may include music notation, music distribution, and digital audio theory. Three hours per week. *Four semester hours. (A.)*

**MUS-307W. Topics in Music History** *Dr. French*

A study of a specific period or genre of music, and an examination of the music through cultural, political, and societal contexts. Topics in the past have included the Second Viennese School, Race and Gender in American Music, Stravinsky, and others. The course will place emphasis on independent research as well as required listening. Prerequisite: MUS-205, 206, or 207; or permission of instructor. Three hours per week. *Four semester hours. (A, H.)*

**MUS-328. Topics in Music Theory** *Faculty*

A study of a specific style or school of composition such as counterpoint, serial music, chromatic harmony and others. The course will place emphasis on independent research as well as required listening. Prerequisite: Appropriate 200-level music theory course or by permission. Three hours per week. *Four semester hours. (A.)*

### **MUS-381 Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact music faculty for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: approval of an internship adviser and three courses in music. *Three semester hours*

### **MUS-382 Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact music faculty for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: approval of an internship adviser and three courses in music. *Four semester hours*

### **MUS-401. Special Projects in Music Faculty**

Advanced independent work on a creative, historical or theoretical project supervised and approved by a faculty adviser. *Four semester hours. (A, I.)*

### **MUS-491 Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the department chair. Prerequisites: Permission of the department. *Four semester hours.*

### **MUS-492 Research/Independent Work Faculty**

A continuation of MUS-491. Open only to candidates for honors. Prerequisites: MUS-491 and permission of the department. *Four semester hours.*

## **Ensembles and Lessons**

### **MUS-001-008. Ursinus College Choir Dr. French**

A large choral ensemble open to everyone in the College community. The College Choir performs three or four major works each year, including performances of Handel's Messiah in the fall semester. Graded S/U. Two to three hours per week. *One semester hour. (A, if four semester hours are completed.)*

### **MUS-011-018. Meistersingers Dr. French**

A small choral ensemble open by audition to all students. The repertoire represents diverse styles and cultures suitable to a smaller ensemble. Graded S/U. Three to four hours per week. *One semester hour. (A, if four semester hours are completed.)*

### **Mus 021-028. Ursinus College Wind Ensemble Dr. Hubbs**

A large instrumental ensemble open to everyone in the College community. Members perform works from standard band repertoire, transcriptions of important orchestral works, and new compositions. The Wind Ensemble presents two major concerts each year and may appear at campus functions. Graded S/U. Two to three hours per week. *One semester hour. (A, if four semester hours are completed.)*

### **MUS-031-038. Ursinus College Jazz Ensemble Dr. Hubbs**

A big band open by audition to all students. The ensemble performs arrangements and original compositions in a variety of jazz styles. The Jazz Ensemble presents two major concerts each year and

may appear at campus functions. Graded S/U. Music lessons fee. Two to three hours per week. *One semester hour. (A, if four semester hours are completed.)*

### **MUS-041-048 A. - Guitar**

### **MUS 041-048B. - Piano**

### **MUS-041-048C. - Voice**

### **MUS-041-048D. - Other**

### **Applied Lessons Faculty**

This course provides private music instruction for one hour each week, focusing on technique and performance practice. The course will give students the opportunity to continue their growth as musicians. One hour per week. *One semester hour. (A, if four semester hours are completed.)*

### **MUS-051-058. Ursinus College String Ensemble Faculty**

A chamber strings ensemble open to everyone in the College community. Members will present a campus performance each semester and may appear at campus functions. Graded S/U. Two to three hours per week. *One semester hour. (A, if four semester hours are completed.)*

## **Neuroscience**

Neuroscience is a rapidly expanding multidisciplinary field devoted to understanding the complex functioning of the nervous system. Neuroscience attempts to understand the neural substrates of both normal and abnormal patterns of behavior as well as mental events and mental states.

The Neuroscience major is designed for students interested in exploring how the nervous system contributes to thought, emotion, neuropathology, and behavior. This major integrates the multidisciplinary nature of the field by providing students with an interdisciplinary approach to the study of brain function, behavior, and the mind.

The courses in the neuroscience curriculum are selected from an array of disciplines. The following areas of study contribute to the interdisciplinary perspective of the major: biology, biochemistry and molecular biology, chemistry, computer science, health and exercise physiology, philosophy, psychology, and physics.

Neuroscience majors will graduate with a Bachelor of Science that will prepare them for a career in government, industry, biomedical and medical settings or some combination of these. Neuroscience majors often pursue graduate work (at the M.A. or Ph.D. level) in behavioral neuroscience, biology, biochemistry, cognitive science, clinical or experimental psychology, neuroanatomy, neurobiology, neuropharmacology, neurophysiology, occupational therapy, physical therapy, toxicology, or medicine (e.g. M.D., D.O., D.P.M., M.D./Ph.D., D.V.M., Pharm.D., D.D.S., O.D., etc.). Neuroscience majors fulfill the writing requirement by completing NEUR-200WQ, BIO-201W, and an advanced research course in Biology (i.e., NEUR/BIO-431W or NEUR/BCMB/BIO-433W or NEUR/BIO-435W). Neuroscience majors fulfill the oral presentation and capstone requirement by completing two advanced research courses (one in biology and one in psychology)



## Requirements for Majors

To fulfill the requirements of the major, all students must complete a minimum of 56 semester hours in the neuroscience curriculum as outlined below. Neuroscience majors fulfill the requirement for an oral presentation in the major and the capstone requirement by taking the two required Advanced Research Courses (at least one must be taken during the junior or senior year).

### I. Neuroscience Core: (2 courses)

- a. NEUR-100
- b. NEUR-200WQ

### II. Interdisciplinary Foundation: (7 courses)

- a. Biology Foundation: BIO-101Q, BIO-102Q and BIO 201W
- b. Psychology Foundation: NEUR/PSYC-330 and NEUR/PSYC-332
- c. Chemistry or Physics Foundation:
  - i. Chemistry: (CHEM-105 and CHEM-105LQ); and either (CHEM-106 and CHEM-106L) or (CHEM-206 and CHEM-206L)
  - ii. Physics: PHYS-111Q and PHYS-112

Note: Students interested in a more traditional background to Neuroscience are encouraged to choose the Chemistry Foundation. Students interested in more mathematical aspects of Neuroscience (e.g., modeling, biomechanics, etc.) are encouraged to choose the Physics Foundation.

### III. Advanced Research Courses: (2 courses)

- a. Biology: NEUR/BIO-431W or NEUR/BCMB/BIO-433W or NEUR/BIO-435W; and
- b. Psychology: NEUR/PSYC-430 or NEUR/PSYC-432

### IV. Breadth Courses (3 courses)

Neuroscience majors must take a minimum of 3 approved breadth courses. Only one 4-credit, on-campus research course may be used to satisfy the breadth requirement (i.e., NEUR-481, 482, 491W, 492W). Students may not use courses to fulfill both the Breadth requirement as well as either the Interdisciplinary Foundation or Advanced Research Course credit. Students are encouraged to take advantage of the interdisciplinary nature of the neuroscience major and choose breadth courses from multiple departments.

Neuroscience:

NEUR-350, NEUR-382, NEUR/PSYC-430, NEUR/BIO-431W, NEUR/PSYC-432, NEUR/BCMB/BIO-433W, NEUR/BIO-435W, NEUR/PSYC-464, NEUR/PSYC-466, NEUR-481W, NEUR-482W, NEUR-485, NEUR-486, NEUR-491W, NEUR-492W

**Biochemistry and Molecular Biology:**  
BCMB-351

**Biology:**  
BIO-232, BIO-305, BIO-306 or BIO-349, \*BIO-350

**Chemistry:**  
CHEM-106/106L, CHEM-205/205L, CHEM-206/206L, CHEM-347

**Dance:**  
DANC-340

**Health and Exercise Physiology:**  
HEP-351

**Mathematics and Computer Science:**  
CS-170Q, CS-173, MATH-235, MATH/PHIL-260, STAT-243W

**Philosophy:**  
PHIL-274, PHIL-278, \*PHIL-309, PHIL-364, PHIL-374

**Physics:**  
PHYS-111Q

**Psychology:**  
PSYC-220, PSYC-230, PSYC-232, \*PSYC-275, PSYC-320, PSYC-340, \*PSYC-475

**Notes:**  
\*BIO-350, PHIL-309, PSYC-275, PSYC-475 may be used as a major elective when the topic(s) covered are related to Neuroscience. Approval of the Neuroscience Coordinator required.

## **Requirements for Minors**

A minor concentration in neuroscience consists of 1) the neuroscience core: NEUR-100 and NEUR-200WQ, 2) a biology foundation course: BIO-102Q, 3) a psychology foundation course: NEUR/PSYC-330 or 332; and 4) two elective courses from the following list: BIO-101Q or 201W, \*\*NEUR/PSYC-330 or 332, NEUR-350, NEUR-382, NEUR/PSYC-430, NEUR/BIO-431W, NEUR/PSYC-432, NEUR/BCMB/BIO-433W, NEUR/BIO-435W, NEUR/PSYC-464, NEUR/PSYC-466, NEUR-481W, NEUR-482W, NEUR-485, NEUR-486, NEUR-491W, or NEUR-492W.

Only one course from the following list can be applied to the minor: NEUR-382, NEUR-481W, NEUR-482W, NEUR-485, NEUR-486, NEUR-491W, or NEUR-492W.

\*\* A student may take a second psychology foundation course (NEUR/PSYC-330 or NEUR/PSYC-332) as an elective course.

## Special Career Interests

I. Students seeking admission to more experimental psychology related graduate programs should note the following:

A. A second Advanced Research Methods course in psychology and STAT-243W are recommended.

B. Two additional upper level (300-400) psychology courses germane to their area of interest/specialization are recommended.

II. Students seeking admission to more biologically related graduate programs should note the following:

A. A second year of chemistry is strongly recommended.

B. STAT-141Q; 242 or 243, and CS-173 are recommended. Additional coursework in mathematics/computer science is recommended.

C. MATH/STAT-141Q; 242 or 243, and CS-173 are recommended.

III. Students seeking admission to schools of medicine, dentistry, veterinary medicine, optometry and podiatry should note the following:

A. Two years of chemistry and one year of general physics for science majors are required by most of the above schools.

B. Students and their advisers should consult one of the pre-health advisers for requirements of specific schools.

IV. Students seeking admission to other health science programs, such as physical therapy, occupational therapy, or physician's assistant, should consult the pre-health adviser.

V. Students who seek employment in a biologically oriented profession should note the following:

A. STAT-141Q; 242 or 243, and CS-173 are strongly recommended.

B. ACCT-140 and ECON-102 are recommended

C. Additional coursework in Media and Communication Studies is recommended.

D. Additional courses that emphasize writing are recommended.

## Courses

### **NEUR-100. Fundamentals of Neuroscience** *Dr. Favero, and Dr. Stevenson*

This course surveys the general principles of the organization, structure, and function of the nervous system. Topics include neuroanatomy, action potentials, synaptic transmission, neurochemistry, development of the nervous system, sensory transduction, sensory and motor systems, long-term potentiation, and neurological conditions. Prerequisite: First or second year standing. Four hours per week. *Four semester hours.*

### **NEUR-200WQ. Research Methods and Techniques in Neuroscience** *Dr. Bish*

This course is intended to cover the foundations of both research methods specific to neuroscience and the techniques of the field, in particular those techniques used by the current faculty of the program. By the end of the semester, students should be able to confidently critique research designs, evaluate statistical findings, and establish the appropriate designs and techniques for their future research.

Prerequisite: First or second year standing; or permission of the instructor. Three hours per week. *Four semester hours. (LS.)*

### **NEUR-301. Readings in Neuroscience** *Faculty*

Individual study of one or more selected topics in the neuroscience literature, and preparation of an annotated bibliography of a detailed proposal for subsequent research. To register for this course, the student must have the consent of a member of the neuroscience faculty to serve as adviser. *One semester hour.*

### **NEUR-302. Readings in Neuroscience** *Faculty*

This course is a continuation of NEUR-301. Prerequisite: NEUR-301 and permission of instructor. Three hours of reading per week.

### **NEUR/PSYC-330. Behavioral Neurosciences** *Faculty*

This course will build on knowledge of basic neuroanatomy and neuroscience techniques in the exploration of the neural substrates of behavior. Topics may include neurophysiology, neuroanatomy, neurochemistry, sensorimotor processes, perception, attention, and learning. A working knowledge of behavioral neuroscience will be developed. Prerequisite: PSYC-100 or NEUR-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken NEUR/PSYC-325 Behavioral Neuroscience cannot register for NEUR/PSYC-330 Behavioral Neuroscience.*

### **NEUR/PSYC-332. Cognitive Neuroscience** *Dr. Bish, Dr. Stevenson*

This course will build on knowledge of basic neuroanatomy, behavioral measures, and neuroscience techniques in the exploration of cognitive and neural processes supporting higher-level cognitive functions. Topics may include attention, object recognition, motor control, memory, language, cognitive control, and consciousness. A working knowledge of cognitive neuroscience will be developed. Prerequisite: PSYC-100 or NEUR-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken NEUR/PSYC-335 Applied Cognitive Neuroscience cannot register for NEUR/PSYC-332 Cognitive Neuroscience.*

### **NEUR-350. Special Topics in Neuroscience** *Faculty*

A special course offering intended to familiarize the student with the current trends and special topics in neuroscience. Emphasis will be given to the preparation and oral presentation of papers on selected topics as well as related laboratory experience (when applicable). Prerequisite: Permission of the instructor. Three hours per week. *Four semester hours.*

### **NEUR-381. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact Neuroscience Coordinator for further information. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: 9 credit hours in neuroscience and approval of a faculty internship adviser. *Three semester hours. (I.)*

### **NEUR-382. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact Neuroscience Coordinator for further information. Open to juniors and seniors. The

term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: 9 credit hours in neuroscience and approval of a faculty internship adviser. *Four semester hours. (I.)*

### **NEUR-391. Directed Research Faculty**

An introduction to the nature of neuroscience research. A laboratory experience under the direction of a neuroscience faculty member and designed to introduce students to fundamental research procedures and data manipulation in the context of an original research project. Prerequisites: Permission of a member of the neuroscience faculty to serve as adviser. Three hours of laboratory per week. Graded S/U. *One semester hour.*

### **NEUR-392. Directed Research Faculty**

Content as in NEUR-391, but offered in the spring term. Prerequisites: Permission of a member of the neuroscience faculty to serve as adviser. Three hours of laboratory per week. Graded S/U. *One semester hour.*

### **NEUR/PSYC-430W. Advanced Research Methods in Behavioral Neuroscience Faculty**

This course will apply students' knowledge of behavioral neuroscience through the development and execution of an empirically based research project or assessment that meets ethical standards. Topics may include sensorimotor processes, perception, attention, and learning. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ or NEUR-200WQ; and PSYC/NEUR-330. Three hours per week. *Four semester hours. (SS.)*

### **NEUR/BIO-431W. Cellular Neurobiology Dr. Round**

An advanced examination of current research in the field of cellular neuroscience. Highlighted topics include the cell biology of neurogenesis, neuron morphology, electrical and chemical communication, intracellular signaling, and the importance of neuron-glia interactions. Class discussions will be grounded in primary literature, and the laboratory component will feature a semester-long original research project. This is a writing intensive course in which students will draft and revise a mock research proposal on a topic of their choice. Prerequisite: BIO-201W or permission of the instructor. Three hours of discussion; three hours of laboratory per week. *Four semester hours. (LS.)*

### **NEUR/PSYC-432. Advanced Research Methods in Cognitive Neuroscience Dr. Bish, Dr. Stevenson**

This course will apply students' knowledge of cognitive neuroscience through the development and execution of an empirically based research project or assessment that meets ethical standards. Topics may include neuropsychological assessment, attention, object recognition, motor control, memory, language, cognitive control, and consciousness. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ or NEUR-200WQ; and PSYC/NEUR-332. Three hours per week. *Four semester hours. (SS.)*

### **NEUR/BCMB/BIO-433W. Molecular Neurobiology Dr. Kohn**

A study of the cellular and molecular basis of neuronal function. The course includes properties of neurons, release of neurotransmitters, receptors in synaptic transmission, effects of drugs, synaptic plasticity, and neurological disorders. Prerequisites: BIO-201W; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. *Four semester hours. (LS.)*

### **NEUR/BIO-435W. Developmental Neurobiology Dr. Favero**

An investigation of the cellular and molecular mechanisms underlying nervous system development. This course will discuss nervous system organization, neural cell fate, axon and synapse formation, neurological conditions, and research techniques in the context of a variety of animal models.

Laboratory work will emphasize cooperative problem-solving and hypothesis-driven experimental design to analyze nervous system development and behavior. Prerequisites: BIO-201W; or permission of the instructor. Three hours of discussion; three hours of laboratory per week. *Four semester hours. (LS.)*

**NEUR/PSYC-464. Seminar: Psychopharmacology** *Dr. Bish*

This course will build on basic understanding of the structure and function of the nervous system, neurotransmitters, and psychological disorders to explore how drugs affect the brain and behavior. This course will examine psychopharmacology in depth, which will require critical examination and application of scientific research. Topics may include chemical signaling, neurotransmitter systems, recreational and illegal drugs, pharmacotherapy, and substance abuse and addiction. Emphasis will be placed on effective communication skills. Prerequisites: Junior standing; and PSYC-100 or NEUR-100; PSYC-200WQ or NEUR-200WQ recommended. Three hours per week. *Four semester hours. (SS.)*

**NEUR/PSYC-466. Seminar: Neurodiversity and the Autism Spectrum** *Dr. Stevenson*

Neurodiversity is a civil rights movement asserting that atypical brain development is part of normal human variation. This course will examine neurodiversity in the context of the autism spectrum in depth, which will require critical examination and application of scientific research. Topics may include speech and language, face processing, theory of mind, intelligence, and mirror neurons. Emphasis will be placed on effective communication skills. Students are encouraged to be open-minded about differences among people, as this course will challenge commonly-held assumptions about persons on the autism spectrum. Prerequisites: Junior standing; and PSYC-100 or NEUR-100; PSYC-200WQ or NEUR-200WQ recommended. Three hours per week. *Four semester hours. (SS, D.)*

**NEUR-481W. Independent Research in Neuroscience** *Faculty*

Investigations of an experimental, clinical, or theoretical nature pursued independently by the student. The preparation of a written and oral scientific report is required. To register for the course, a student must have the consent of a participating neuroscience faculty member to serve as research adviser. Graded S/U. Prerequisites: NEUR-200WQ and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours. (I.)*

**NEUR-482W. Independent Research in Neuroscience** *Faculty*

Content as in NEUR-481W, but offered in the spring term. Graded S/U. Prerequisites: NEUR-200WQ and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours. (I.)*

**NEUR-485. Off-campus Research** *Faculty*

An approved, off-campus clinical or laboratory research experience supervised by a neuroscience faculty adviser and an on-site supervisor. Approved projects result in the preparation of a final written thesis and an oral presentation of its results before a faculty/student colloquium. Prerequisite: Junior or senior standing and permission of a member of the neuroscience faculty to serve as research adviser. Eleven to fourteen hours per week. Graded S/U. *Four semester hours. (I.)*

*Note: Students having received credit for NEUR-381 may not receive credit for NEUR-485.*

**NEUR-486. Off-campus Research** *Faculty*

Content as in NEUR-485. This course continues the original work begun in NEUR-485. Prerequisites: NEUR-485, junior or senior standing and permission of a member of the neuroscience faculty to serve as research adviser. Graded S/U. *Four semester hours.*

*Note : Students having received credit for NEUR-381 may not receive credit for NEUR-486*

**NEUR-491W. Independent/Honors Research in Neuroscience** *Faculty*

This course is open to candidates for Neuroscience Honors and to other students with instructor permission.. The content is the same as in NEUR-481. The preparation of a written and oral scientific

report is required. Prerequisite: Junior or senior standing, and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours. (I.)*

### **NEUR-492W. Independent/Honors Research in Neuroscience Faculty**

A continuation of NEUR-491. Prerequisite: NEUR-491 and permission of a member of the neuroscience faculty to serve as research adviser. *Four semester hours. (I.)*

## **Peace and Social Justice**

Peace and Social Justice Studies is an interdisciplinary minor which challenges students to think critically in order to create a more equitable and nonviolent world. The minor integrates theory and practice, combining interdisciplinary studies with an applied learning experience, wherein students are exposed firsthand to structural inequities and/or the obstacles to peace.

### **Requirements for Minors**

A minor concentration in Peace and Social Justice Studies consists of 20 credits and an applied learning experience, for a total of 24 credits. All students must take PSJ-200, Introduction to Peace and Social Justice Studies. In addition to this core course, students need to take an additional 16 credits. Students cannot take more than two courses from one department (excluding internships).

The remaining credits must come from the following:

AAAS-200, ECON-110, EDUC-210, EDUC-446, ENGL-222, ENV-100, ENV/SOC-220, ENV/SOC-285, ENV/PHIL-248, ENV/SOC-288, ENV-332, ENV-340W, ENV-342, ENV-382, ENV-430W, GWMS-200, HIST-207, HIST-222, HIST-223, HIST-327, HIST/GWMS-328, HIST-329, HIST-331, HIST-353, IDS-001-008, LAS-200, LAS-215, MCS-286, MCS-330, MCS-350, MCS-366, PHIL-140, PHIL-246, POL-252, POL-344, POL-350A, POL-350B, POL-357, POL-399, RELS-225, RELS-326, RELS-327, RELS-361, RELS-366, SOC-245, SOC-255, SOC-256, SOC-258, SOC/GWMS-263, SOC-265, SOC-275, SOC-295, THEA-351, THEA-352, THEA-353. Special topics courses may be counted toward the minor with permission of the instructor and the Peace and Social Justice coordinator.

In order to fulfill the minor, students will also need to complete an applied learning experience whose focus is germane to Peace and Social Justice Studies. Students will need to complete one of the following: an internship, a community-based research project, or a relevant study-abroad experience. Students who complete at least four semesters in the Bonner Leaders program can satisfy the applied learning experience this way. In order for this applied learning experience to count toward the minor, approval should be sought in advance from the facilitator of the Peace and Social Justice Studies minor.

### **Courses**

**PSJ-200. Introduction to Peace and Social Justice Studies** *Dr. Christian Rice*

PSJ-200 will introduce students to many different types of social problems, challenging them to think critically about the conditions under and contexts within which violence and injustice occur. Students will also learn about U.S. social movements which have mobilized to challenge social injustices. A primary objective of the course will be to expose students to the many disciplines on campus that are grappling with the realities of social inequality and violence. Four semester hours.

### **PSJ-381. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Discuss details with the Peace and Social Justice Coordinator. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: PSJ-200 and approval of a faculty internship adviser. *Three semester hours. (I.)*

### **PSJ-382. Internship Faculty**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Discuss details with the Peace and Social Justice Coordinator. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: PSJ-200 and approval of a faculty internship adviser. *Four semester hours. (I.)*

## **Philosophy and Religious Studies**

The department of philosophy and religious studies comprises two independent programs of study, offering a major and minor in philosophy and a major and a minor in religious studies.

### **Philosophy**

Socrates claimed that “the unexamined life is not worth living,” and Aristotle said that philosophy begins in wonder. In fact, philosophical reflection is unavoidable. Fundamental questions and puzzles about the ultimate nature of the world and the mind’s place in it, the possibility of free will, the constituents of consciousness and intentional action, the foundations of moral judgment, and the character of justice animate our deepest thinking and structure our approach to life.

The American philosopher William James said that philosophy is “nothing but an unusually obstinate effort to think clearly.” That accurately describes our courses. Applying distinctively philosophical methods in studying both historical figures like Aristotle and Descartes and the best contemporary work, students learn to think rigorously, critically and creatively and to express their ideas effectively.

### **Requirements for Majors**

A major in philosophy requires PHIL/MATH-260; and either PHIL/POL-237 or PHIL-240 or PHIL-340; and six other four-credit courses (with at most two from the 100-level); and one of the following: PHIL-404W, 437W (Senior Seminars). Students



pursuing honors in Philosophy should also register for PHIL-491W and PHIL-492W in succession.

## **Requirements for Minors**

A minor concentration in philosophy requires PHIL/MATH-260; and either PHIL/POL-237 or PHIL-240 or PHIL-340; and any three four-credit courses (with at most one from the 100-level).

Note: With the permission of the Department Chair, a student may take HIST-341 to fulfill requirements for a major or minor in philosophy.

## **Religious Studies**

Religious studies majors develop an informed awareness of the world's religious traditions through the scholarly and theoretical study of religious ideas, practices, and communities, both contemporary and historical. Courses in religious studies also examine the critical role of religion in the world today. By taking courses in religious studies, the student will gain a critical knowledge of the reality of religious difference and acquire expertise in the skills of interpreting and analyzing religious practices, texts, and artifacts.

## **Requirements for Majors**

A major in Religious Studies requires RELS-111 and RELS-212; either RELS-233, RELS-234, or RELS-236; RELS-404W (Senior Seminar); in addition to five other four-credit courses in Religious Studies. Religious Studies majors will fulfill the College's capstone and oral presentation requirements by taking RELS-404W. Students pursuing honors in Religious Studies should also register for RELS-491 and RELS-492 in succession.

## **Requirements for Minors**

A minor in religious studies requires RELS-111 (World Religions); and four other four-credit courses in Religious Studies.

Note: With the permission of the Department Chair, a student may take SOC-235, HIST 342, HIST-363 or HIST-364 to fulfill requirements for a major or minor in religious studies.

## **Courses**

### **Philosophy**

#### **PHIL-100. Introduction to Philosophy** *Dr. Florka, Dr. Goetz*

An introductory examination of many of the central issues in philosophy. Among the topics that may be discussed are: free will and determinism, skepticism about knowledge, the existence of God, the nature

of the mind and its relation to the body, the ground of moral judgment, and the relation of language and thought to each other and to the world. Three hours per week. *Four semester hours. (H.)*

**PHIL-106. The Meaning of Life** *Dr. Florka, Dr. Goetz*

A philosophical examination of whether life has a purpose or is absurd and meaningless. Particular attention is given to what it means for something to have a purpose, what are possible sources of a purpose, and the issues of the afterlife and God. Three hours per week. *Four semester hours. (H.)*

**PHIL-107. Philosophy of Love and Sex** *Dr. Florka, Prof. Romano, Prof. Rice*

Philosophers, writers and intellectuals have pondered love and sex from the ancient Greeks to the present, yet both key aspects of life are often seen as resistant to serious analysis or rational control. Looking at material from the philosophical, scientific and literary traditions, we'll test that view. Subjects to be discussed will range from the fundamental criteria of both love and sex to such related topics as the nature of desire, the idea of the natural and unnatural, and how love and sex should connect to matters of procreation. Three hours per week. *Four semester hours. (H.)*

**PHIL-109. Topics in Philosophy** *Faculty*

Topics may include special issues, movements, and leading figures in philosophy. Open to students with no previous experience in philosophy. Three hours per week. *Four semester hours. (H.)*

**PHIL-140. Applied Ethics** *Prof. Rice*

An examination of the virtues of compassion, gratitude, and love, and the application of ethics to concerns of social justice such as just war, animal rights, and capital punishment. The course includes a preparatory overview of major ethical theories. Three hours per week. *Four semester hours. (H.)*

**PHIL-160. Critical Thinking** *Dr. Florka*

This course will train students in the systematic evaluation or formulation of beliefs according to standards of good reasoning. Unlike symbolic logic, which is highly abstract and formal, critical thinking is applied to claims, reasons and arguments expressed in natural language as they are found in editorials, Supreme Court decisions, blog posts, talk radio, day-to-day decision making and most academic papers. Three hours per week. *Four semester hours. (H.)*

**PHIL/RELS-220. Philosophy of Religion.** *Dr. Goetz, Dr. Rein*

A philosophical study of both belief itself as a psychological attitude and what has been believed about God. Particular attention is given to such questions as whether or not belief is a matter of choice and whether or not one must have a reason to believe in God. Questions about the natures of God and man, evil and immortality are also addressed. Three hours per week. *Four semester hours. (H.)*

**PHIL-230. Philosophy of Race.** *Dr. Florka, Rev. Charles Rice, Dr. Christian Rice*

This course will study the philosophical assumptions behind various concepts of race, the social realities underlying those concepts, and the ethics and politics of racial identity. Three hours per week. *Four semester hours. (H.)*

**PHIL/POL-237. Political Philosophy** *Dr. Marks, Dr. Stern*

This course examines the nature of justice through a careful reading of major works in the history of political philosophy. Specifically, we will consider selected political writings of Plato, Aristotle, Machiavelli, Hobbes, Locke, and Marx. Three hours per week. *Four semester hours. (SS.)*

*Note: Every year, one section of this class will be offered as POL-237W. Students in this section will be required to do extensive writing and revision of papers. Enrollment is limited to freshman or sophomore Politics majors, or by permission of instructor. Majors are encouraged to enroll in POL-237W if they intend to take the senior seminar in Political Philosophy, POL-437W.*

**PHIL-240. Ethics** *Dr. Florka, Dr. Goetz, Prof. Rice, Dr. Sorensen*

A study of the theories of ethical relativism, psychological and ethical egoism, altruism, utilitarianism, Kantian deontology, and virtue theory, and of various views on the human good, virtue, the role of motive and consequences in determining right and wrong conduct, and the like. (Formerly PHIL-204.) Three hours per week. *Four semester hours. (H, G.)*

*Note: Students who have received credit for the former PHIL-204 may not enroll in PHIL-240.*

**PHIL-246. Biomedical Ethics** *Dr. Sorensen*

An introduction to and examination of some major issues in bioethics, including abortion, euthanasia, surrogate motherhood, informed consent, doctor/patient confidentiality, medical futility, the distribution of health care resources, genetic engineering, prenatal testing, stem cell research, and medical experimentation. Three hours per week. *Four semester hours. (H, D.)*

**PHIL-247. Business Ethics** *Faculty*

An examination of some major issues in business ethics, including duties to consumers and investors, duties between employers and employees, the ethics of advertising and marketing, accounting and finance ethics, hiring and firing, justice and the market system, the problem of public goods, social responsibility and stakeholders, whistleblowing, conflicts of interest, and the environment. Three hours per week. *Four semester hours. (H)*

**PHIL/ENV-248. Environmental Ethics** *Dr. Sorensen*

The central issue in environmental ethics concerns what things in nature have moral standing and how conflicts of interest among them are to be resolved. After an introduction to ethical theory, topics to be covered include anthropocentrism, the moral status of non-human sentient beings, preservation of endangered species and the wilderness, holism versus individualism, and the land ethic. (Formerly PHIL315.) Three hours per week. *Four semester hours. (H.)*

**PHIL-254. Early Modern Philosophy** *Dr. Florka*

An examination of the major works of four or more of the major European philosophers of the seventeenth and eighteenth centuries. Among the candidates for study are Descartes, Spinoza, Leibniz, Malebranche, Locke, Berkeley, Hume, Reid, and Kant. Three hours per week. *Four semester hours. (H.)*

**PHIL-258. Existentialism** *Romano, Faculty*

Existentialism boasts a long philosophical and literary tradition that extends from Kierkegaard, Dostoevsky and Nietzsche, to such formidable later figures as Miguel de Unamuno, Nicholas Berdyaev, Albert Camus, Simone de Beauvoir and Jean-Paul Sartre. Does life have any meaning? Are we free to shape our own lives? How do concepts such as existence, essence and free will affect our world views? In this class, we'll read the great Existentialist writers in English, but approach the subject with international breadth. Three hours per week. *Four semester hours. (H.)*

**PHIL/MATH-260. Logic** *Dr. Florka, Dr. Goetz*

An introduction to the concepts and techniques used in symbolic reasoning, primarily through the study of first-order logic, the translation of sentences of ordinary English into a formal language, and the construction of derivations. Topics include: formalization, proofs, mathematical induction, propositional and predicate logic, quantifiers, and sets. (Formerly PHIL-202.) Three hours per week. *Four semester hours. (M.)*

*Note: Students who have received credit for MATH-236W or the former PHIL-202 may not enroll in PHIL-260.*

**PHIL-274. Philosophy of Mind** *Dr. Florka, Dr. Goetz*

An examination of various arguments for and against different views of what a person or self is. Attention is given both to the claim that a person is a soul or mind which is distinct from its physical body and to the conflicting assertion that a self is identical with its body or brain. (Formerly PHIL-303.) Three hours per week. *Four semester hours. (H.)*

*Note: Students who have received credit for the former PHIL-303 may not enroll in PHIL-274.*

**PHIL-276. Freedom and Determinism** *Dr. Florka, Dr. Goetz*

An examination of what human action is, how it is explained, and whether it is free or determined. The examination raises such issues as how explanations in science are related to explanations of human behavior in terms of reasons, whether there is a science of human behavior, and for what, if any, behavior human beings are responsible. (Formerly PHIL-305, Philosophy of Action.) Three hours per week. *Four semester hours. (H.)*

*Note: Students who have received credit for the former PHIL-305 may not enroll in PHIL-276.*

**PHIL-278. Theory of Knowledge** *Dr. Florka, Dr. Stern*

An examination of competing theories of knowledge and epistemic justification (foundationalism, coherentism, and externalism) with special attention to the problems of skepticism and the riddle of induction. Three hours per week. *Four semester hours. (H.)*

**PHIL-279. Theory of Perception** *Dr. Florka*

A philosophical examination of perception, including the analysis of the senses and the content of perceptual experience, the role of consciousness and of beliefs and concepts in perception, the arguments for and against sense-data and sensations, and the relation of perception and action. Three hours per week. *Four semester hours. (H.)*

**PHIL-301. Reading in Philosophy** *Faculty*

Individual study of one or more selected topics in the philosophical literature. May include preparation of a bibliography for a proposal for subsequent research. Requires consent of a member of the department who will serve as adviser. This course is graded S/U. *One semester hour.*

**PHIL-302. Reading in Philosophy** *Faculty*

Individual study of one or more selected topics in the philosophical literature. May include preparation of a bibliography for a proposal for subsequent research. Requires consent of a member of the department who will serve as adviser. This course is graded S/U. *Two semester hours.*

**PHIL-309. Advanced Topics in Philosophy** *Faculty*

Topics may include special issues, movements, and leading figures in philosophy. Three hours per week. *Four semester hours. (H.)*

**PHIL/POL-337. Classical Political Philosophy** *Dr. Stern*

This course examines the classical understanding of politics through a careful reading of selected works of Plato and Aristotle. We will consider such issues as the nature of justice, the meaning of moral and intellectual virtue, and the relation between philosophy and politics. Prerequisite: PHIL/POL-237. Three hours per week. *Four semester hours. (SS.)*

**PHIL-311. Reading in Philosophy** *Faculty*

Group study of an important or classic philosophical book or a selection of articles centered around a philosophical topic. This course is graded S/U. *One semester hour.*

**PHIL/POL-338. Modern Political Philosophy** *Dr. Stern*

This course examines and evaluates the world-revolutionary challenge to classical and medieval political philosophy posed by such writers as Machiavelli, Hobbes, Spinoza, Locke, Rousseau and Hegel. Prerequisite: PHIL/POL-237. Three hours per week. *Four semester hours. (SS.)*

**PHIL/POL-339. Contemporary Political Philosophy** *Dr. Stern*

This course examines selected authors and issues in contemporary political philosophy. We will read the works of such authors as Nietzsche, Heidegger, Kojève, Rawls and Foucault. We will consider such issues as historicism, contemporary liberalism, feminism, and Marxism. Prerequisite: PHIL/POL-237. Three hours per week. *Four semester hours. (SS.)*

**PHIL-340. Metaethics** *Dr. Sorensen*

A close examination of one or more controversial issues and theories in metaethics. Among the possible topics are: the nature of moral theory, the foundations of normative judgment, the “internalism” or “externalism” of practical reasoning, realism vs. anti-realism in ethical theory, the roles of reason and emotion in morality, moral skepticism, virtue theory, utilitarianism, and Aristotelian or Kantian moral views. Three hours per week. *Four semester hours. (H.)*

**PHIL-344. Topics in Ethics** *Dr. Sorensen*

An intensive investigation of one or more topics in ethics—such as well-being, autonomy, rights, consequentialism, Kantian ethics, virtue ethics, and other topics. Three hours per week. *Four semester hours. (H.)*

**PHIL-345. Philosophical Problems of Literature** *Romano, Faculty*

Is it ever ethical for a novelist to base characters on real people, possibly violating their expectations of privacy? Why does fiction move us even though what happens in a novel is not “real”? Can fiction ever argue for something? This course examines such questions in the light of philosophical thinking in ethics, the theory of knowledge, political theory, and aesthetics. Other topics may include exploration of the concepts of style, metaphor and criticism. Three hours per week. *Four semester hours. (H.)*

**PHIL-351. Topics in Ancient and Medieval Philosophy** *Dr. Florka, Dr. Stern*

An examination of one or more philosophers of the classical and medieval periods (for example, Plato, Aristotle, Augustine, Aquinas, Duns Scotus, Ockham), or a study in a single area such as metaphysics, ethics, or the theory of knowledge in several of the philosophers. Three hours per week. *Four semester hours. (H.)*

**PHIL-354. Topics in Modern Philosophy** *Dr. Florka, Dr. Stern, Dr. Sorensen*

An examination of one or more philosophers of the period from 1600 to 1900 (for example, Descartes, Locke, Leibniz, Hume, Kant, Hegel, Schopenhauer, Nietzsche), or a study in a single area such as metaphysics, ethics, or the theory of knowledge in several of the philosophers. Three hours per week. *Four semester hours. (H.)*

**PHIL-356. Descartes** *Dr. Florka*

A close study of the philosophy of René Descartes through reading his major works and some responses to and criticisms of his ideas. Three hours per week. *Four semester hours. (H.)*

**PHIL-360. Quantification Theory** *Dr. Florka*

A continuation of PHIL/MATH-260. Includes: further study of the logic of quantifiers and appropriate methods of proof, and working through the proofs of the Completeness and Soundness Theorems for propositional and predicate logic. Three hours per week. *Four semester hours. (H.)*

**PHIL-364. Philosophy of Language** *Dr. Florka, Dr. Goetz*

An examination of the notions of truth, meaning, reference, and language use, including the distinctions between sense and denotation, synonymy and analyticity, direct and indirect discourse, and natural and non-natural meaning. Prerequisite: PHIL/MATH-260 (Logic) or permission of instructor. Three hours per week. *Four semester hours. (H.)*

**PHIL-370. Topics in Metaphysics and Epistemology** *Dr. Florka, Dr. Goetz, Dr. Stern*

An intensive investigation of a few topics in metaphysics—such as personal identity, possibility and necessity, universals and particulars, causality—or in epistemology—such as skepticism, a priori knowledge, the problem of induction, knowledge as justified true belief. Three hours per week. *Four semester hours. (H.)*

**PHIL-374. Consciousness and Thought** *Dr. Florka*

An exploration of past and present philosophical studies of the nature of conscious awareness and the relation of the mind to the world. May include consideration of problems about perception, intentionality, representation, and rationality. *Four semester hours. (H.)*

**PHIL-381. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Prerequisite: approval of a faculty internship adviser. *Three semester hours. (I.)*

**PHIL-382. Internship** *Faculty*

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact the chair of the department for further details. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Prerequisite: approval of a faculty internship adviser. *Four semester hours. (I.)*

**PHIL-391. Independent Study in Philosophy** *Faculty*

Independent work on a philosophical topic, under the supervision of a faculty advisor. A substantial written final product is required. Prerequisites: at least three Philosophy courses at the 200 level or above, a written project proposal, and permission of a department faculty member who will serve as advisor. *Four semester hours.*

**PHIL-404W. Senior Seminar in Philosophy** *Faculty*

The aim of this capstone course is to explore in great depth an area of philosophical concern using all the tools students have developed as philosophy majors. There will be several papers and oral presentations. Open only to senior philosophy majors or by departmental permission. Three hours per week. *Four semester hours. (H.)*

**PHIL/POL-437W. Seminar in Political Philosophy** *Faculty*

This capstone course is an intensive study of a special topic in political philosophy emphasizing original research and substantial oral and written work. Prerequisites: junior or senior status and one 300-level course in political philosophy. Three hours per week. *Four semester hours. (SS.)*

**PHIL-491W. Research/Independent Work** *Faculty*

Open only to students seeking departmental honors or distinguished honors. *Four semester hours. (I.)*

**PHIL-492W. Research/Independent Work** *Faculty*

A continuation of PHIL-491. Prerequisite: PHIL-491. *Four semester hours. (I.)*

## Religious Studies

**RELS-111. World Religions** *Dr. Rein, Dr. Townsend, Faculty*

An introduction to five major living religions, namely Hinduism, Judaism, Buddhism, Christianity and Islam. An examination of the leading problems of religious traditions, their history and cultural context, and the approaches of world religions to ultimate questions concerning the meaning of human life. Three hours per week. *Four semester hours. (H, G.)*

*Note: Students who have received credit for the former RELS-211 may not enroll in RELS-111.*

**RELS-161. Jesus in Film** *Dr. Townsend*

Jesus has proved a fascinating subject for movie-makers throughout the history of film. This course will explore films about Jesus across a variety of genres, including films that set the story of Christ in contemporary contexts. The course will explore the cultural and theological questions raised by these varying interpretations of Jesus' life, while also addressing the methodological issues involved in studying religion and film. Three hours per week. *Four semester hours.* (H, G.)

**RELS-212. What Is Religion?** *Dr. Rein, Dr. Townsend*

An overview of definitions, theories, and interpretations of religion, with the goal of understanding the range of ways people have tried to make sense of the global phenomenon of religious traditions, beliefs, and practices. Theorists whose work we will examine and critique may include Frazer, Tylor, Durkheim, Freud, Marx, Weber, Eliade, Lévi-Strauss, and others. Three hours per week. *Four semester hours.* (H)

**RELS/PHIL-220. Philosophy of Religion** *Dr. Goetz, Dr. Rein*

A philosophical study of both belief itself as a psychological attitude and what has been believed about God. Particular attention is given to such questions as whether or not belief is a matter of choice and whether or not one must have a reason to believe in God. Questions about the natures of God and man, evil and immortality are also addressed. Three hours per week. *Four semester hours.* (H.)

**RELS-225. African American Religious Experience** *Prof. Rice*

This historical, theological, and contextual study of religion examines the African American religious experience, including: the African Background, slavery in America, the struggle for freedom and identity, the development of the Black Church, the Black Muslims, the Civil Rights movement, and the emergence of Black and Womanist theologies. (Formerly PHIL-225.) Three hours per week. *Four semester hours.* (H, D.)

*Note: Students who have received credit for the former PHIL-225 may not enroll in RELS-225.*

**RELS-233. Christianity: An Introduction** *Dr. Rein, Dr. Townsend*

A survey of important thinkers, literature and movements typical of the Christian tradition from the early church period through the 20th century. Careful study of such writers as Clement, Athanasius, Augustine, Anselm, Aquinas, Ockham, Bernard, Luther, Edwards and others is included. Three hours per week. *Four semester hours.* (H.)

**RELS-234. Judaism: An Introduction** *Faculty*

Attention is given to the history, traditions, and literature of the Jewish people from their origins in the second millennium B.C.E. to the present day. Stress is given to specific religious concepts and teachings which are pertinent to modern times. Three hours per week. *Four semester hours.* (H.)

*Note: Students who have received credit for the former RELS-244 may not enroll in RELS-234.*

**RELS-236. Islam: An Introduction** *Faculty*

An introduction to the religious tradition of Islam. Topics to be covered may include, among others, the origins and spread of Islam; the Qur'an; faith and practices of Muslims; theology and law; Islamic art and culture; Sufi mysticism; Islam and the West; and Islamic modernism. Three hours per week. *Four semester hours.* (H, G.)

**RELS-242. The Hebrew Bible** *Faculty*

An introduction to the literature and thought of the Hebrew scriptures (the Christian Old Testament). Attention is given to the archeological and historical background of the Hebrew scriptures, as well as to the biblical materials themselves. Three hours per week. *Four semester hours.* (H.)

**RELS-245. Introduction to the New Testament** *Dr. Townsend*

This course examines the Christian scriptures, focusing primarily on the Gospels, the Pauline epistles, and the other books of the New Testament. Attention will also be given to the historical tradition of biblical interpretation. Three hours per week. *Four semester hours. (H.)*

**RELS-301. Reading in Religious Studies** *Faculty*

Individual study of one or more selected topics in the literature of religious studies. May include preparation of a bibliography for a proposal for subsequent research. Requires consent of a member of the department who will serve as adviser. This course is graded S/U. *One semester hour.*

**RELS-302. Reading in Religious Studies** *Faculty*

Individual study of one or more selected topics in the literature of religious studies. May include preparation of a bibliography for a proposal for subsequent research. Requires consent of a member of the department who will serve as adviser. This course is graded S/U. *Two semester hours. (G, depending on topic.)*

**RELS-309. Selected Topics in Religious Studies** *Faculty*

The course will concentrate on special issues, movements, and leading figures in the study of religion. Three hours per week. *Four semester hours. (D, H, G, depending on topic.)*

**RELS-326. Comparative Religious Ethics** *Dr. Christian Rice*

In this course, we will analyze the complex relationship between religion and ethics. In what ways might a religious ethic differ from a secular ethic? Does religious belief and/or practice augment the ethical life or not? We will also explore carefully the worldviews of Christianity, Judaism, and Buddhism in an attempt to understand the context in which ethical reflection is practiced in these traditions. Then, we will examine various social issues from the perspective of these religious traditions. Three hours per week. *Four semester hours. (H)*

**RELS-327. Religion and Violence** *Dr. Rein*

The turn of the twenty-first century has been accompanied by an alarming global increase in religiously-motivated violence. Historically, religious ideas have been used to justify both war and peace, both violence and reconciliation. This course will examine the relationship between religion and violence in various historical contexts. Topics will include: just war doctrine, crusades and holy wars; sacrificial rituals in traditional cultures; modern revolutionary and terrorist movements; and religious pacifism. (Formerly PHIL-327.) Three hours per week. *Four semester hours. (H.)*

*Note: Students who have received credit for the former PHIL-327 may not enroll in RELS-327.*

**RELS-328: Religious Diversity in Southeastern Pennsylvania** *Dr. Rein*

Religious diversity and difference have become crucial political and social issues in the early years of the twenty-first century. In this course, students will participate in an ongoing effort to understand, investigate, and connect with the religious diversity of our region. Readings will focus on theoretical and practical interpretations of religious diversity, primarily in a modern American context. The course will also involve frequent field trips and site visits to religious institutions and organizations near Ursinus, including but not limited to Buddhist, Hindu, and Islamic sites. Three hours per week. *Four semester hours. (H, D.)*

**RELS-361. Religion and Civil Rights** *Prof. Charles Rice*

An examination of the lives and events of the Civil Rights era, focusing on religious leadership, student involvement, and local empowerment. Through religious, historical, and literary readings, we will explore and analyze the personalities and proceedings of the late fifties, sixties, and seventies. Topics may include the Mississippi movement, the life and work of Martin Luther King, Jr. and of Malcolm X, the role of women in the movement, the black power movement, and King's concept of the "Beloved Community," among others. The course includes a study tour of historical Civil Rights sites in



Mississippi, including meetings and dialogue with community representatives and spokespersons (optional). Three hours per week. *Four semester hours.* (H, D)

**RELS-362. Sex and Gender in Early Christianity** *Dr. Townsend*

An exploration of Early Christian attitudes towards sex and gender. Topics may include asceticism and celibacy, marriage and childbirth, women's roles in the church, homosexuality, and the social significance of the body. Primary texts to be considered may include the letters of Paul, the acts of the martyrs, the writings of Augustine and Jerome, and the so-called "Gnostic gospels." Three hours per week. *Four semester hours.* (H.)

**RELS-364. Lost Gospels** *Dr. Townsend*

The New Testament contains only four gospels, but there were many other ancient texts written about the life of Jesus. In this course, we will explore these "lost gospels," written centuries ago by early followers of Jesus, yet completely unknown to most modern Christians. Through an examination of these and other texts, we will learn about the life of Jesus, the development of early church teachings, and the process by which religious movements decide which texts to include in their sacred scriptures. Prerequisite: RELS-245 or permission of the instructor. Three hours per week. *Four semester hours.* (H.)

**RELS-365. The Protestant Reformation** *Dr. Rein*

An examination of the sixteenth-century Protestant Reformation through the writings of Luther, Calvin, representatives of the Radical and Catholic reforms, and others, with attention to their social, cultural, and political context. Topics include the crisis of medieval culture, Luther's biography and teachings, the theology of faith and grace, the creation of a Protestant culture, the radical reformers, and international Calvinism. (Formerly PHIL-325.) Three hours per week. *Four semester hours.* (H.)

*Note: Students who have received credit for the former PHIL-325 may not enroll in RELS-365.*

**RELS-366. Religion and Human Rights** *Dr. Christian Rice*

An exploration of the relationship between religion and human rights. Topics may include the connection between human rights and belief in God; religious traditions' contributions and/or resistance to human rights movements and to individual rights; and the position of secular states towards religious freedom and related rights. Three hours per week. *Four semester hours.* (H.)

**RELS-391. Research/Independent Work** *Faculty*

Independent work on a topic in Religious Studies, under the supervision of a faculty advisor. A substantial written final product is required. Prerequisites: a written project proposal and permission of a department faculty member who will serve as advisor. *Four semester hours.* (I.)

**RELS-404W. Senior Seminar in Religious Studies** *Faculty*

The aim of this capstone course is to explore in depth an area of interest in the field of religious studies, using all the tools students have developed as majors. There will be several papers and oral presentations. Open only to senior religious studies majors or by departmental permission. Three hours per week. *Four semester hours.* (H.)

**RELS-491. Research/Independent Work** *Faculty*

This course is open only to candidates for departmental honors or distinguished honors. *Four semester hours.* (I.)

**RELS-492. Research/Independent Work** *Faculty*

A continuation of RELS-491. Prerequisite: RELS-491. *Four semester hours.* (I.)

# Physics and Astronomy

The courses in physics are designed to give the student an understanding of the logic and structure of physics. Methods of analysis and presentation of concepts and ideas are emphasized. Laboratory work demonstrates the dependence of physical theory on experimentation.

## Requirements for Majors

### Physics Track

Students must take the following courses:

- CS-173; MATH-112; PHYS-121Q, 122Q, 201, 207W, 299, 408W, 450W
- any three of PHYS-304, 309, 401, 409
- and at least four credits of additional work at the 300 level or above

### Astrophysics Track

Students must take the following courses:

- CS-173; MATH-112, PHYS-121Q, 122Q, 201, 207W, 299, 408W, 450W
- any three of PHYS-304, 309, 401, 409
- PHYS-301, and at least two credits of research (from 411, 412, 421, 422, 491)

Physics majors fulfill the W, oral presentation, and capstone requirements by taking PHYS-207W, PHYS-408W and PHYS-450W.

Students anticipating graduate study in physics or astrophysics should select additional courses from PHYS-305, 316, 401, 405, 409, 410 and from MATH-235, 310, 413.

## Requirements for Secondary School Teaching Certification

Students must take the following courses:

- BIO-101Q or 102Q or ENV-100; MATH-112 and CS-173; PHYS-121Q, 122Q, 201, 207W, 299
- Either PHYS-408W or PHYS-450W
- Any three of PHYS-304, 309, 401, 409
- and at least four credits of additional work at the 300 level or above

## Requirements for Minors

### Minor concentration in physics:

MATH-112; PHYS-121Q, 122Q, 201, 207W, 299, and four credits of additional work at the 300 level or above (excluding PHYS450).

### **Pre-engineering:**

Students interested in pursuing pre-engineering should contact the departmental pre-engineering adviser at the earliest opportunity to plan a program of study.

### **Courses**

#### **PHYS-101Q. Introduction to Astronomy Faculty**

A survey of astronomy, including the following topics: the development of astronomy as a modern science, the birth and death of stars (white dwarfs, neutron stars, and black holes), the origin of the solar system, galaxies and the origin of the universe, the search for extraterrestrial intelligence. Three hours of lecture and two hours of laboratory per week. *Four semester hours. (LS.)*

#### **PHYS-111Q. General Physics I Faculty**

A study of mechanics and thermodynamics, utilizing the principles of calculus in the presentation and in exercises. Prerequisite or corequisite: MATH-111, or permission of instructor. Three hours of lecture and three hours of lab per week. *Four semester hours. (LS.)*

#### **PHYS-112. General Physics II Faculty**

A continuation of PHYS 111Q. A study of waves, electricity, magnetism, and light, utilizing the principles of calculus in the presentation and in exercises. Prerequisites: PHYS-111Q, MATH-111 or permission of the instructor. Three hours of lecture and three hours of lab per week. *Four semester hours. (LS.)*

#### **PHYS-121Q. Spacetime and Quantum Physics Faculty**

A study of special relativity and an introduction to quantum physics, utilizing the principles of calculus in the presentation and in exercises. Topics will include spacetime diagrams, the relativity of simultaneity, time dilation, relativistic kinematics, probability, quantization, and interference. Prerequisite or corequisite: MATH-111, or permission of the instructor. Three hours of lecture and three hours of lab per week. Offered fall semester. *Four semester hours. (LS.)*

#### **PHYS-122Q. Electricity, Magnetism, and Waves Faculty**

A study of electricity and magnetism (electric forces, capacitance, currents, magnetic forces, induction). Introduction to vector calculus. Prerequisite or corequisite: PHYS-121, MATH-112, or permission of the instructor. Three hours of lecture and three hours of lab per week. Offered spring semester. *Four semester hours. (LS.)*

#### **PHYS-201. Introductory Classical Mechanics Faculty**

Vectors, vector calculus, classical mechanics, statics, kinematics, dynamics of a particle, energy, harmonic motion, moving reference systems, central forces, chaos. Prerequisites: PHYS-122, MATH-112. Three hours of lecture. Offered fall semester. *Four semester hours.*

#### **PHYS-207W. Modern Physics Faculty**

Origins of quantum theory, physics of atoms, molecules, solids, nuclei, and elementary particles. Work will include a literature review and presentation on a topic of current interest. Offered spring semester. Prerequisites: PHYS-122Q. Three hours per week. *Four semester hours.*

#### **PHYS-299. Mathematical Physics I Faculty**

Ordinary differential equations, special functions of mathematical physics, linear algebra, coordinate transformations, vector analysis, Fourier series, numerical solution of algebraic equations. Offered spring semester. Prerequisites: PHYS-122, MATH-112. Three hours per week. *Four semester hours.*

### **PHYS-301. Introduction to Astrophysics Faculty**

Astrometry, astronomical photometry, CCD imaging and image processing, spectroscopy. The astronomical two-body problem, tidal forces, the Sun and planets, observable properties of stars, stellar structure and evolution, binary stars, galaxies and cosmology. Prerequisites: PHYS-201, 207. Three hours lecture and three hours lab per week. *Four semester hours. (LS.)*

### **PHYS-304. Thermal Physics Faculty**

An introduction to thermodynamics and classical and quantum statistical mechanics with an emphasis on the statistical foundations. Topics include temperature, laws of thermodynamics, work, heat, energy, entropy, thermodynamic potentials, kinetic theory of dilute gases, equations of state. Offered fall semester in even numbered years. Prerequisites: PHYS-122, PHYS-299. Three hours per week. *Four semester hours.*

### **PHYS-305. General Relativity Faculty**

Development of Einstein's theory of general relativity from basic physical principles. Introduction to the mathematics of curved spacetime. Astrophysical applications, including gravitomagnetism, blackholes, cosmology and the creation and detection of gravitational waves. Prerequisite: PHYS-201, 299. Three hours per week. *Four semester hours.*

### **PHYS-309. Electronics for Scientists Faculty**

Foundations of analog and digital circuits. D-C and A-C circuits, transistors, operational amplifiers, digital electronics. Offered spring semester in odd numbered years. Prerequisite: PHYS-122. Three hours lecture and three hours laboratory per week. *Four semester hours. (LS.)*

### **PHYS-316. Mathematical Physics II Faculty**

Complex analysis, partial differential equations, numerical integration and differentiation, numerical solution of ordinary differential equations, Fourier and Laplace transforms. Prerequisite: PHYS-299. Three hours per week. *Four semester hours.*

### **PHYS-350. Special Topics in Physics Faculty**

Study and discussion of advanced topics or recent developments in physics. Students must consult the chair of the department before registering for this course. Three hours per week. *Four semester hours.*

### **PHYS-381. Internship Faculty**

A laboratory project in cooperation with industry at an industrial site, a national lab, or other appropriate academic site. Before beginning the internship, the student must submit a proposal to be approved by the Physics faculty and the on-site supervisor. Upon completion of the work, written and/or oral reports must be presented to the department. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. *Three semester hours. (I)*

### **PHYS-382. Internship Faculty**

A laboratory project in cooperation with industry at an industrial site, a national lab, or other appropriate academic site. Before beginning the internship, the student must submit a proposal to be approved by the Physics faculty and the on-site supervisor. Upon completion of the work, written and/or oral reports must be presented to the department. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer).

Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. *Four semester hours. (I.)*

**PHYS-401. Applications of Quantum Mechanics. Faculty**

The hydrogen atom, angular momentum, systems of identical particles, perturbation theory, and other applications selected from atomic, molecular, solid-state, and nuclear physics. Offered fall semester in odd numbered years. Prerequisites: PHYS-207W, 299. Three hours per week. *Four semester hours.*

**PHYS-405. Computational Physics Faculty**

Sophisticated numerical and nonlinear techniques will be developed and applied to modern and traditional problems in physics. Problems whose solutions are not accessible analytically will be explored through the use of symbolic and compiled languages with visualization. Prerequisites: PHYS-299, CS-371, or permission of a member of the physics faculty. Three hours per week. *Four semester hours.*

**PHYS-408W. Advanced Physics Laboratory Faculty**

Experimental investigations of physical phenomena with emphasis on laboratory techniques and the written and oral communication of scientific results. Offered spring semester. Prerequisites: PHYS-201, 207W. Six hours of laboratory per week. *Four semester hours. (LS.)*

**PHYS-409. Electrodynamics Faculty**

Electric and magnetic fields and potentials, Laplace's equation, dielectrics and magnetic materials, Maxwell's equations, electromagnetic waves. Offered spring semester in even-numbered years. Prerequisites: PHYS-122, 201, 299. Three hours per week. *Four semester hours.*

**PHYS-410. Classical Mechanics Faculty**

Dynamics of a system of particles, mechanics of rigid bodies, general motion of a rigid body, Lagrange's equations, Hamilton's equations, theory of vibrations. Prerequisites: PHYS-201, 299 Three hours per week. *Four semester hours.*

**PHYS-411. Research Faculty**

Investigations, of experimental or theoretical nature, pursued independently by the student. The preparation of a summarizing report is required. To register for this course, a student must have the consent of a member of the physics Faculty to serve as the adviser. *One semester hour.*

**PHYS-412. Research Faculty**

Continuation of PHYS-411. *One semester hour.*

**PHYS-421. Research Faculty**

Same as PHYS-411, but more extensive in scope. *Two semester hours.*

**PHYS-422. Research Faculty**

Continuation of PHYS-421. *Two semester hours.*

**PHYS-431. Research Faculty**

Same as PHYS-421, but more extensive in scope. *Three semester hours. (I.)*

**PHYS-432. Research Faculty**

Continuation of PHYS-431. *Three semester hours. (I.)*

**PHYS-450W. Senior Seminar Faculty**

Senior Seminar is the capstone course in the Department of Physics and Astronomy. Each student will select a topic of current interest in physics and investigate the primary literature on that topic. Students

will meet and give a series of informal presentations on their chosen topics. The final products of the course are a formal literature review paper and a presentation. *Four semester hours.*

### **PHYS-491. Research/Independent Work Faculty**

This course is open to candidates for departmental honors and to other students with the permission of the departmental chairman. *Four semester hours. (I.)*

### **PHYS-492W. Research/Independent Work Faculty**

A continuation of PHYS-491. Writing a major paper and giving an oral presentation are required. Prerequisite: PHYS-491. *Four semester hours. (I.)*

## **Politics and International Relations**

**The general objectives of the department of politics and international relations are:**

- 1) To challenge students to evaluate their conceptions of the good life for the individual and for society.
- 2) To prepare students for lives of enlightened and responsible citizenship.
- 3) To help students attain knowledge of the theory and practice of politics.
- 4) To help students develop the faculties of expression and critical thinking.

**The professional objectives are:**

- 1) To prepare students for graduate work in politics, law, and public service.
- 2) To prepare students for examinations required for governmental service.
- 3) To prepare students to be political leaders.

## **Politics**

### **Requirements for Majors**

A major in politics requires POL-218, 237, either 242 or 252, one seminar at the 400 level, plus six additional courses, at least five of which must be at the 300 level or above. Politics majors can fulfill the College's capstone, writing, and oral presentation requirements by taking one of the following seminar courses: POL-418W, POL- 437W, POL-442W, POL-452W, or IR-400W; or POL-491 and POL-492W.

### **Secondary School Teaching Certificate**

In addition to the basic requirements of the major, students seeking a teaching certificate in social studies must be enrolled in the College's teacher education program.

Substantial further coursework outside of either major is required in order to prepare the student for actual subject matters taught in the secondary curriculum. Students who wish teaching certification should consult their departmental adviser and the chair of the department of education as early as possible, preferably at the end of the freshman year. Students and their advisers should also consult the Ursinus College Education Department.

## **Requirements for Minors**

A minor in politics consists of two courses from among POL-218, 237, 242, 252; and three courses at the 300 or 400 level.

## **International Relations**

*Professors* Clark, Doughty, Gallagher, Hood, Melrose (*Program Coordinator*), Oboler, *Associate Professors* Evans, Kane, King, *Lecturer* Brown.

International relations majors become capable of living and working in a worldwide setting by developing an understanding of how that setting came to be and how its various political, economic, and social systems function.

## **Requirements for Majors**

The international relations major is an interdisciplinary program for students interested in careers in international politics and diplomacy, intelligence work, higher education, international law, international trade, journalism, and other fields where expertise in international affairs is necessary. Courses required to complete the international relations major include: ANTH-100, ECON-102, HIST-207, POL-242, 252, and a capstone consisting of either POL-442W, 452W, IR-400W or another capstone approved by the International Relations coordinator. Eligible students may write a departmental or interdisciplinary honors paper for their capstone requirement, with the approval of the IR coordinator. (Note: Students planning to do graduate study in political science should take POL-218 and 237 as well.) Majors are additionally required to take five of the following courses, including courses in at least two different departments: POL-305, 344, 345, 346, 347, 349, 350A and 350B, 352, 353, 355, 357, 358; HIST-205, 231, 241, 243, 253, 308, 344, 353, 365, 368; HIST/GWMS- 361; ECON-201, 202, 263, 361, 362; ANTH-232, 242, 352; or LAS-200. (Note: Both POL-350A and 350B must be taken in order to qualify as one elective.) Special topics courses such as MGT-300 and POL-399 may count as electives with permission of the IR coordinator. Finally, all students in the International Relations major must take at least two courses at the 200 level or above in a foreign language. International Relations majors are strongly encouraged to pursue study-abroad options. The department regularly tries to accommodate students by accepting courses taken abroad in fulfillment of major requirements.

International Relations majors can fulfill the College's capstone, writing, and oral presentation requirements by taking one of the following seminar courses: POL-418W, POL-437W, POL-442W, POL-452W, or IR-400W.

## Requirements for Minors

The international relations minor consists of POL-242, 252 and three courses from the following list: ANTH-232, 242, 252; MGT-300, ECON-361, 362, 263; HIST-205, 207, 231, 241, 243, 253, 308, 344, 353, 365, 368; HIST/GWMS- 361; LAS-200; IR-400W; POL-305, 344, 345, 346, 347, 349, 350A and 350B, 352, 353, 355, 357, 358. Minors are required to take courses from at least two contributing departments.

## Courses

## Politics

### **POL-101. Introductory Special Topics in Politics** *Faculty*

An introductory social science course that provides students an opportunity to focus on topics related to politics and government. This course is an excellent introduction for students considering the Politics major, but is designed for any student with an interest in politics and government and will help students develop skills useful to all majors, including critical reading, analytical and writing abilities. Open to all first-year and second-year students, or by permission of instructor. Three hours per week. *Four semester hours. (SS; D or G, if so designated, contingent upon the topic.)*

### **POL-218. American Government** *Dr. Fitzpatrick, Dr. Marks*

A critical examination of the institutions, processes, policies, and underlying principles of the American political system. Topics include the Constitution, interest groups, parties and elections, the presidency, Congress, the bureaucracy, and the judiciary. Three hours per week. *Four semester hours. (SS.)*

### **POL/PHIL-237. Political Philosophy** *Dr. Marks, Dr. Stern*

This course examines the nature of justice through a careful reading of major works in the history of political philosophy. Specifically, we will consider selected political writings of Plato, Aristotle, Machiavelli, Hobbes, Locke, and Marx. Three hours per week. *Four semester hours. (SS.)*

### **POL-242. Comparative Politics** *Dr. Evans, Dr. Karreth*

The structure and function of governments and political groups will be compared to develop basic theory. Representative Western, Third World, and Communist systems will be studied. Three hours per week. *Four semester hours. (SS, G.)*

### **POL-252. International Politics** *Dr. Evans*

General theory, simulations, games, and case studies explain the relations between states and the roles of politics, individuals, and international law and organizations in the making and resolving of conflict. Three hours per week. *Four semester hours. (SS, G.)*

### **POL-299. Tutorial in Politics and International Relations** *Faculty*

Individual study and directed reading of a particular topic or book within the discipline. Students will work closely with a member of the department in selecting, reading, and discussing the topic, and in determining a proper written assignment. Prerequisites: prior permission of the instructor. One hour per week. *One semester hour.*

### **POL-300. Research Methods in Politics** *Dr. Karreth*

This course examines quantitative and qualitative methods used in political science, providing students with the knowledge and skills needed to engage in critical analysis, and to understand and conduct basic research. The knowledge and skills learned in this course are helpful for future undergraduate or



graduate course work, as well as for students interested in public policy and political campaigns. Three hours per week. *Four semester hours. (SS)*

**POL-305. Politics and the Arts** *Faculty*

This course analyzes the political messages in selected works of art and relates these to works in political science. Works of art may include, among other things, novels, plays and films. Prerequisite: a 200-level Politics class or permission of instructor. Four hours per week. *Four semester hours. (SS)*

**POL-310. Congress and the Presidency** *Dr. Fitzpatrick*

The decision-making process in Congress and the executive branch with emphasis on the interaction of the branches in their struggle to make and apply policy. Prerequisite: POL-218. Three hours per week. *Four semester hours.*

**POL-314. Political Parties and Elections** *Dr. Fitzpatrick*

An examination of the evolution of the American two-party system and the increasingly volatile nature of the American electorate. Topics include the dynamics of party realignment, the changing characteristics of the American voter, the politics of presidential selection, and the consequences of party and electoral reform. Prerequisite: POL-218. Three hours per week. *Four semester hours. (SS.)*

**POL-315. Race and Politics in the United States** *Faculty*

An examination of the politics of the relationships among Americans of African, Asian, Hispanic, and European decent. The major theories concerning the influence of race on policy attitudes will be investigated. Efforts will also be undertaken to identify and evaluate the strategies used by various racial groups in their attempts to gain political power in the United States. Prerequisite: POL-218 or permission of the instructor. Three hours per week. *Four semester hours. (SS, D.)*

**POL-316. African American Politics in the United States** *Faculty*

A survey of the philosophical perspectives and political strategies adopted by African Americans in their efforts to obtain equality in the United States. In addition to analyzing the approaches and techniques undertaken by African American political leadership, the course will investigate and evaluate mass based political efforts such as protests and voting. Prerequisite: POL-218 or permission of the instructor. Three hours per week. *Four semester hours. (SS, D.)*

**POL-319. Public Administration** *Faculty*

A survey of the field of public administration, emphasizing administrative organization, fiscal management and personnel management. The administrative process is considered as a unit encompassing Federal, state and local administration. Prerequisite: POL-218. Three hours per week. *Four semester hours. (SS.)*

**POL-320. Legal Writing and Argument** *Faculty*

In an appellate court format, students analyze arguments presented in a series of court cases, apply those arguments to concrete legal situations, and write legal briefs. Three hours per week. *Four semester hours.*

**POL-321. Constitutional Interpretation I** *Dr. Fitzpatrick*

The role of the Supreme Court in the interpretation and enforcement of the Constitution is examined through analysis of leading cases. Judicial review, powers of Congress and the President, and the division of powers between the national and state governments are among the topics considered. Prerequisite: POL-218. Three hours per week. *Four semester hours. (SS.)*

**POL-322. Constitutional Interpretation II** *Dr. Fitzpatrick*

The role of the Supreme Court in the interpretation and enforcement of individual rights within a system of limited government. Substantive and procedural due process, freedom of expression and

conscience, and equal protection of the law are among the topics considered. Prerequisite: POL-218. Three hours per week. *Four semester hours.* (SS.)

**POL-325. The Judicial Process** *Dr. Fitzpatrick*

Proceeding from the idea that the judicial process is essentially a political process, this course will examine the ways in which participants in the judicial process—particularly judges—reach decisions, engage in politics, and affect public policy. Prerequisite: POL-218. Three hours per week. *Four semester hours.* (SS.)

**POL/ENV-326. Environmental Law** *Faculty*

The study of various state, national, and international legal patterns that have arisen to address environmental concerns. The environmental field will be used to examine the nature and effectiveness of civil, criminal, and administrative action to address a complicated and important social issue. Topics will include federal administrative law; international trade and environmental regulation; control of toxic substances and hazardous wastes; the impact of scientific uncertainty on regulation; federal regulatory programs; civil liability under federal regulations; citizen suits; and the preservation of natural areas. Prerequisites: POL-218 for Politics and International Relations majors or permission of the instructor. Three hours per week. *Four semester hours.* (SS.)

**POL-330. American Political Thought** *Dr. Marks*

This course examines the founding principles of our regime and the problems inherent in those principles as revealed by the great crises of our history. Accordingly, we will examine carefully the speeches and writings of those statesmen who founded the regime as well as those who guided it through its crises. Readings may include the works of Jefferson, Madison, Hamilton, the Anti-Federalists, Lincoln, Frederick Douglass, Wilson, and F.D.R. Three hours per week. *Four semester hours.* (SS, D.)

**POL/IDS-336. Science and the Common Good** *Dr. Stern*

This is the core course for the fellows of the Center for Science and the Common Good. It examines the philosophic bases and critique of modern science through the works of such authors as Francis Bacon, Rene Descartes, Friedrich Nietzsche and Martin Heidegger. The course also considers the ethical, political, and religious implications of contemporary developments in science such as advancements in genetic and information technologies. Three hours per week. *Four semester hours.* (SS.)

**POL/PHIL-337. Classical Political Philosophy** *Dr. Stern, Dr. Marks*

This course examines the classical understanding of politics through a careful reading of selected works of Plato and Aristotle. We will consider such issues as the nature of justice, the meaning of moral and intellectual virtue, and the relation between philosophy and politics. Three hours per week. *Four semester hours.* (SS.)

**POL/PHIL-338. Modern Political Philosophy** *Dr. Stern, Dr. Marks*

This course examines and evaluates the world-revolutionary challenge to classical and medieval political philosophy posed by such writers as Machiavelli, Hobbes, Spinoza, Locke, Rousseau and Hegel. Three hours per week. *Four semester hours.* (SS.)

**POL/PHIL-339. Contemporary Political Philosophy** *Dr. Stern, Dr. Marks*

This course examines selected authors and issues in contemporary political philosophy. We will read the works of such authors as Nietzsche, Heidegger, Kojève, Rawls and Foucault. We will consider such issues as historicism, contemporary liberalism, feminism, and Marxism. Three hours per week. *Four semester hours.*

**POL-344. Political Development** *Dr. Evans, Dr. Karreth*

An analysis of political change in developed and less-developed countries, focusing on the various theories used to explain socioeconomic and political conditions, and development strategies among

several political systems in the international community. Prerequisite: POL-242. Three hours per week. *Four semester hours. (SS, G.)*

**POL-345. Democracy and Politics in Latin America** *Dr. Evans*

An examination of political and economic change in Latin America with particular emphasis on the reasons why democracy, prosperity and equality have been difficult to achieve. The course focuses on common historical and institutional legacies as well as the different political and economic trajectories of major Latin American countries. Three hours per week. *Four semester hours. (SS, G.)*

**POL-346. East Asian Democracy** *Faculty*

Study of the contemporary democratic regimes of East Asia, including Japan, Korea, and Taiwan. In addition, an examination of democratic theory and East Asian Culture. Three hours per week. *Four semester hours. (SS, G.)*

**POL-347. Chinese Politics** *Faculty*

An examination of the contemporary government and politics of China with special attention paid to contemporary Chinese political thought, culture and policy. Three hours per week. *Four semester hours. (SS, G.)*

**POL-349. European Politics** *Dr. Evans*

An examination of modern European economic and political systems and the different ways in which various European countries have sought to preserve social stability, promote economic prosperity and guarantee democracy in the post-WWII period. The course also focuses on European integration and democratization in Southern and Eastern Europe. Three hours per week. *Four semester hours. (SS.)*

**POL-350A. International Organizations and Diplomacy** *Dr. Evans*

A study of governmental international organizations and diplomacy with particular emphases on functions of the United Nations and other intergovernmental and non-governmental organizations and multilateral political affairs. Students must take both POL-350A and B to receive credit for one elective course in the major. Two hours per week. *Two semester hours.*

**POL-350B. International Organizations and Diplomacy** *Dr. Evans*

A continuation of POL-350A. This course also prepares students to participate in the National Model United Nations conference. Prerequisite: POL-350A or permission of the instructor. Students must take both POL-350A and B to receive credit for one elective course in the major. Two hours per week. *Two semester hours.*

**POL-352. Theories of International Relations** *Dr. Evans*

This course explores the theories that have been used to study international relations from ancient times to the present. Particular attention is given to the roots of contemporary theories, especially realism, neoliberalism, constructivism, feminism and critical theories. Three hours per week. *Four semester hours. (SS.)*

**POL-353. International Relations of Asia** *Faculty*

An examination of the foreign and international policies of the major countries of East Asia. Special emphasis is given to the politics of international trade and economics, war and security issues, and the role of the superpowers in the East Asian region. Three hours per week. *Four semester hours. (SS, G.)*

**POL-354. Global Health** *Dr. Evans*

This course considers contrasting views on health as a human right and explores how social, economic and political forces influence who gets sick, what diseases afflict them, which treatments are available to them, and what the outcome of those treatments are. It examines a number of global health problems, including malaria, tuberculosis, AIDS, polio, global obesity and global hunger as well as mental health.

The roles of global public health organizations and private foundations are also studied. Three hours per week. *Four semester hours. (SS, G.)*

**POL-355. U.S. Foreign Policy** *Dr. Karreth*

Analysis of the process and substance of U.S. foreign policy. Attention is paid to the roles and limitations of the Presidency, Congress, the State Department, the National Security Council, public opinion and nongovernmental actors. Emphasis will be placed on current controversial global issues. Three hours per week. *Four semester hours. (SS.)*

**POL-356. Human Rights** *Dr. Evans*

This course examines the theory and practice of human rights, examining historical and contemporary cases of human rights violations drawn from various regions of the world. The course will include study of international documents that govern human rights practice and mechanisms that protect human rights found in the UN system as well as regional organizations and domestic legal systems. Three hours per week. *Four semester hours. (SS, G.)*

**POL-357. War and Peace** *Dr. Evans*

An examination of the nature of war, including debates over the causes and inevitability of war. The course also explores the question when, if ever, war is justified and analyzes how recent changes in military technology and doctrine have affected the way that war is fought, including in the contemporary "war on terror." Various theories and perspectives on how to end war and build peace are discussed as well. Three hours per week. *Four semester hours. (SS.)*

**POL-358. The Vietnam War** *Faculty*

An examinations of the Vietnam War analyzing objectives and strategies of the competing Vietnamese regimes, the United States, China, the Soviet Union, Cambodia, and Laos. Three hours per week. *Four semester hours. (SS.)*

**POL-382. Internship** *Faculty*

Internship in a public or governmental organization or participation in an overseas study program. A 2.67 grade average and permission of the department are required. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. *Four semester hours. (I.)*

**POL-399. Topics in Law and Politics** *Faculty*

An occasional course dealing with special subject areas or events. *Four semester hours. (SS, G, or D, depending on topic.)*

**POL-418W. Seminar in American Government** *Dr. Fitzpatrick*

Intensive study of a special topic in American government emphasizing original research and substantial oral and written work. Prerequisites: junior or senior status and one 300-level course in American government. Three hours per week. *Four semester hours. (SS.)*

**POL-437W. Seminar in Political Philosophy** *Dr. Stern, Dr. Marks*

Intensive study of a special topic in political philosophy emphasizing original research and substantial oral and written work. Prerequisites: junior or senior status and one 300-level course in political philosophy. Three hours per week. *Four semester hours. (SS.)*

**POL-442W. Seminar in Comparative Politics** *Dr. Evans, Dr. Karreth*

Intensive study of a special topic in comparative politics emphasizing original research and substantial oral and written work. Prerequisites: junior or senior status and one 300-level course in comparative politics. Three hours per week. *Four semester hours. (SS.)*

**POL-452W. Seminar in International Politics** *Dr. Evans*

Intensive study of a special topic in international politics emphasizing original research and substantial oral and written work. Prerequisites: junior or senior status and one 300-level course in international politics. Three hours per week. *Four semester hours. (SS.)*

**POL-491. Research/Independent Work** *Faculty*

This course is open to candidates for departmental honors and to other students with the permission of the departmental chair. *Four semester hours. (I.)*

**POL-492W. Research/Independent Work** *Faculty*

A continuation of POL-491. Prerequisite: POL-491. *Four semester hours. (I.)*

## International Relations

**IR-400W. Research in International Relations** *Faculty*

This capstone course will require a series of short papers and a major research project. An oral presentation will be made before an upper-division course on the subject. Three hours per week. *Four semester hours. (I.)*

## Psychology

The Department of Psychology offers a comprehensive curriculum characterized by breadth and depth of study. A major in psychology prepares students for immediate employment in a wide variety of positions (e.g., human services, health care, research, sales and marketing) as well as for graduate study in psychology or another field (e.g., speech therapy, occupational therapy, law, elementary and secondary school counseling, school psychology). Pennsylvania certification in social studies for grades 7-12 is also attainable; students and their advisors should consult the Education Department for more information.

The general learning objectives of the department of psychology are that students:

1. develop a knowledge base of key concepts and perspectives of the various content areas and applications of psychology;
2. engage in scientific inquiry and develop critical thinking skills;
3. develop an understanding of ethical and social responsibility in a diverse world;
4. develop strong oral and written communication skills; and
5. refine skills relevant to their professional development such as project management skills and teamwork capacity.

In order to meet these objectives, the psychology major requirements are divided into five components as explained below: foundation courses, content courses, advanced research methods courses, capstone course, and elective courses. Recommended courses for majors

pursuing graduate school in psychology or a related field and minor requirements are also explained below.

Psychology majors fulfill the writing requirement by completing PSYC-200WQ and the oral and capstone requirement by completing a capstone course (i.e., a course numbered 460 or higher).

## **Requirements for Majors**

1. Foundation Courses: PSYC-100, 200WQ.
2. Content Courses: Each student must select four courses, one from each content area, at least two of which must be at the 300 level.
  - a. Clinical/Personality: PSYC-220, 320, 322.
  - b. Cognitive/Cognitive Neuroscience: PSYC-230, 232, PSYC/NEUR-330, 332.
  - c. Developmental: PSYC-240, 340, 342.
  - d. Social: PSYC-250, 350, 352.
3. Advanced Research Methods Courses: Each student must select one course from at least two different content areas (two courses total).
  - a. Clinical/Personality: PSYC-420.
  - b. Cognitive/Cognitive Neuroscience: PSYC/NEUR-430, 432.
  - c. Developmental: PSYC-440, 442.
  - d. Social: PSYC-450.
4. Capstone Course: One course numbered 460 or higher (i.e., seminar, research, or independent research/honors).
5. Elective Courses: Eight additional elected credits in Psychology.

## **Recommended Courses**

These are not required but rather intended for the student who plans to pursue graduate study in psychology or related fields.

1. STAT-141Q, 242, or 243W.
2. PSYC-481, 482, 491, or 492.
3. At least three electives from departmental offerings at the 300-400 level.
4. BIO-101Q or BIO-102Q.

## **Requirements for Minors**

A minor concentration in psychology comprises PSYC-100; one course in clinical/personality psychology chosen from PSYC-220, 320, or 322; one course in cognitive psychology/cognitive neuroscience chosen from PSYC-230, 232, PSYC/NEUR-330, or 332; one course in developmental psychology chosen from PSYC-

240, 340, or 342; and one course in social psychology chosen from PSYC-250, 350, or 352. At least one course is required at the 300-level.

## Courses

### **PSYC-100. Introductory Psychology Faculty**

This course will cover key concepts, principles, and overarching themes in psychology. A range of topics will be covered, such as biological psychology, sensation and perception, consciousness, learning, memory, cognition, intelligence, human development, personality, social behavior, stress and health, and psychological disorders and treatment. Three hours per week. *Four semester hours. (SS.)*

### **PSYC-200WQ. Introductory Research Methods and Statistics Dr. Stevenson, Dr. Mattingly**

This writing-intensive course is an introduction to research methods and statistics in psychology. Emphasis will be placed on information literacy, scientific reasoning, interpretation of research design, evaluation of ethics in psychological science, and quantitative analysis of data. Students will frequently practice statistical analysis and APA writing. Prerequisite: PSYC-100. Four hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC-210W Experimental Design and Statistical Methods cannot register for PSYC-200WQ Introductory Research Methods and Statistics.*

### **PSYC/ENV-210. Environmental Psychology Faculty**

This course is an overview of approaches to understanding the psychological relationship between human beings and the natural world and to a lesser extent our built environment. Humans, based on our nature and behavior, have created problems in the natural environment. In this course we will examine environmentally problematic human behavior from the perspective of all major psychological disciplines (behavioral, developmental, cognitive, social, Gestalt, and more). We will explore how we might use psychological modifications, based on these psychological approaches, to change thinking and behavior and become better stewards of the environment. A working knowledge of psychological principles and their application to solving global environmental issues will be developed. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC/ENV-282 Environmental Psychology cannot register for PSYC/ENV-210 Environmental Psychology.*

### **PSYC-212. Psychology and Law Faculty**

This course examines the American legal system in light of basic and applied psychological research and theory. The efforts of psychologists in the legal system have generated various legal, moral, and political controversies which will be discussed and debated in this course including the practice of criminal profiling, jury selection, jury deliberation and decision-making, police interrogations and confessions, use of deception detection techniques, eyewitness testimony, repressed and recovered memories, child witnesses in sex abuse cases, perceptions of guilt versus innocence, the death penalty, the insanity defense, the role of psychologists as trial consultants and expert witnesses and more. Perceptions of differential application of laws with respect to gender, ethnicity and SES will also be examined. A working knowledge of psychological principles and their application in the legal system will be developed. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC-240 Psychology and Law cannot register for PSYC-212 Psychology and Law.*

### **PSYC/IDS-214. Human Sexuality Faculty**

A multidisciplinary study of the development and expression of human sexuality through the ages, across cultures, and through the lifespan of the individual. Topics include how is "having sex" defined, sexual anatomy and physiology, sexual behaviors and response cycles, sexual research, development of gender identity, sexual orientations, relationships, atypical sexual practices, sexual dysfunctions,

sexually transmitted infections, contraceptive methods, conception and birth. A working knowledge of sexual intelligence will be developed. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken IDS-350 Human Sexuality cannot register for PSYC/IDS-214 Human Sexuality.*

### **PSYC-220. Mental Health and Abnormal Psychology** *Dr. Chambliss*

Mental health problems will be examined from the biological, behavioral, cognitive, humanistic/existential and sociocultural perspectives. Topics include reactive, anxiety, mood, and personality disorders, brain disorders, and substance abuse. Prevention and treatment of mental illness will be discussed. A working knowledge of abnormal psychology will be developed. This course will address sociocultural factors related to psychopathology, and how sensitivity to individual differences can promote outcomes that benefit society. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-260 Mental Health and Abnormal Psychology cannot register for PSYC-220 Mental Health and Abnormal Psychology.*

### **PSYC-230. Sensation and Perception** *Faculty*

This course will explore fundamental sensory processes with an emphasis on vision and audition. Additionally, this course will explore how our brain interprets or perceives sensory information. Topics related to perception may include object recognition, color, motion, depth and size, pitch, auditory localization, speech. A working knowledge of sensation and perception will be developed. Prerequisites: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

### **PSYC-232. Learning** *Faculty*

This course is an introduction to how we acquire new behaviors, skills, and knowledge. Topics include habituation, sensitization, classical conditioning, operant conditioning, schedules of reinforcement, extinction, observational learning, and the roles of attention, memory, and motivation. A working knowledge of learning will be developed. Prerequisites: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC-340 Learning and Motivation cannot register for PSYC-232 Learning.*

### **PSYC-240. Lifespan Development** *Faculty*

This course will examine the individual, universal, and collective experiences of human development across the lifespan. Lifespan development includes the range of development from conception to older adulthood, with a focus on adulthood and aging. Topics cover the various stages of development and key social and cultural institutions (such as schools, work, and family) and key experiences (such as infant/toddler milestones, puberty, marriage, grief and dying) related to each of these stages. Throughout this course, a working knowledge of lifespan development will be developed as we examine these topics through the fundamental areas related to human development: physical/sexual development, cognitive development and psychosocial development. This course will address sociocultural factors related to human development and how knowledge of human development can promote outcomes that benefit society. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS, D.)*

### **PSYC-250. Industrial / Organizational Psychology** *Faculty*

This course will examine psychological processes and human behavior in business and other organizational settings. A range of topics will be covered, such as psychological assessment, group processes, teams and teamwork, leadership, organizational attitudes, motivation, decision making, workplace satisfaction, and job productivity. A working knowledge of industrial/organizational psychology will be developed. This course will address sociocultural factors related to industrial/organizational psychology, and how industrial/organizational psychology can promote



outcomes that benefit society. Prerequisites: PSYC-100. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-365 Organizational Psychology cannot register for PSYC-250 Industrial/Organizational Psychology.*

### **PSYC-275. Special Topics in Psychology** *Faculty*

An occasional content course which will focus on a special topic in psychology. This course is offered as needed. A working knowledge of this special topic will be developed. Prerequisites: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

### **PSYC-320. Psychopathology and Psychotherapy** *Dr. Chambliss*

This course will explore clinical and experimental approaches to the understanding and treatment of psychosis, anxiety disorders, and related conditions. Selected topics will be studied intensively to illustrate the wide variety of contemporary viewpoints and techniques. A working knowledge of psychotherapy approaches and clinical research strategies will be developed. This course will address sociocultural factors that influence psychotherapy, and how appropriate choice of therapeutic interventions can promote outcomes that benefit society. Prerequisites: PSYC-100, 220. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-450 Psychopathology and Psychotherapy cannot register for PSYC-320 Psychopathology and Psychotherapy.*

### **PSYC-322. Personality** *Dr. DaCosta*

This course is a comprehensive survey of psychological theory and research on the normal aspects of human nature with focus on individual differences. This emphasis distinguishes the field of personality psychology. The psychoanalytic, biogenetic, trait, humanistic, social cognitive and behavioral perspectives will be explored. Throughout this course, a working knowledge of personality psychology will be developed as we examine these perspectives through the critical appraisal of the interactions among personality theory, research, and applications (assessment and therapeutic change). Prerequisites: PSYC-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC-455 Personality cannot register for PSYC-322 Personality.*

### **PSYC/NEUR-330. Behavioral Neurosciences** *Faculty*

This course will build on knowledge of basic neuroanatomy and neuroscience techniques in the exploration of the neural substrates of behavior. Topics may include neurophysiology, neuroanatomy, neurochemistry, sensorimotor processes, perception, attention, and learning. A working knowledge of behavioral neuroscience will be developed. Prerequisites: PSYC-100 or NEUR-100. Three hours per week. *Four semester hours. (SS.)*

Students who have already taken PSYC/NEUR-325 Behavioral Neuroscience cannot register for PSYC/NEUR-330 Behavioral Neuroscience.

### **PSYC/NEUR-332. Cognitive Neuroscience** *Dr. Bish, Dr. Stevenson*

This course will build on knowledge of basic neuroanatomy, behavioral measures, and neuroscience techniques in the exploration of cognitive and neural processes supporting higher-level cognitive functions. Topics may include attention, object recognition, motor control, memory, language, cognitive control, and consciousness. A working knowledge of cognitive neuroscience will be developed. Prerequisite: PSYC-100 or NEUR-100. Three hours per week. *Four semester hours. (SS.)*

*Note: Students who have already taken PSYC/NEUR-335 Applied Cognitive Neuroscience cannot register for PSYC/NEUR-332 Cognitive Neuroscience.*

### **PSYC-340. Child Development** *Faculty*

This course is an overview of modern child development. We will be critically considering the history, theories, research methods, empirical findings, and applications of findings. We will discuss

development in all domains—cognitive, social, physical, and emotional—from conception to adolescence—and draw from diverse fields of study including psychology, biology, anthropology and neuroscience. A working knowledge of child development and applications in research, policy making, child care, education and parenting will be developed. This course will address sociocultural factors related to child development including, cultural differences, the impact of differential environments and current dilemmas and controversies in child rearing, and how knowledge of child development can promote outcomes that benefit society. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-345 Child Development cannot register for PSYC-340 Child Development.*

### **PSYC-342. Adolescent Development** *Dr. DaCosta*

This course will examine the individual, universal, and collective experiences of adolescence. Topics covered include adolescence as a socio-cultural construct, adolescent experiences with work, family, schools, media, gender and within other social and cultural contexts. Throughout this course, a working knowledge of adolescent psychology will be developed as we examine these topics through the fundamental areas related to human development: physical/sexual development, cognitive development, and psychosocial development. This course will address sociocultural factors related to adolescent development, and how knowledge of adolescent development can promote outcomes that benefit society. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-355 Adolescent Psychology cannot register for PSYC-342 Adolescent Development.*

### **PSYC-350. Social Psychology: Social Cognition and Influence** *Dr. Mattingly*

This course will examine how individuals think about, make judgments about, behave towards, and are influenced by the social world. A range of topics will be covered, such as impression formation, stereotypes and prejudice, attitudes and attitude change, conformity, obedience, and social influence. A working knowledge of the social psychology will be developed. This course will address sociocultural factors related to social cognition and influence, and how social cognition and influence can promote outcomes that benefit society. Three hours per week. Prerequisite: PSYC-100. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-440 Social Psychology cannot register for PSYC-350 Social Psychology: Social Cognition and Influence or PSYC-352 Social Psychology: Self and Interpersonal Relations.*

### **PSYC-352. Social Psychology: Self and Interpersonal Relations** *Dr. Mattingly*

This course will examine how the social world influences individuals' self-knowledge and interactions with others. A range of topics will be covered, such as the self-concept, self-esteem, group processes, interpersonal relationships, and prosocial and antisocial behavior. A working knowledge of the social psychological aspects of self, identity, and interpersonal relations will be developed. This course will address sociocultural factors related to self and interpersonal relations, and how self and interpersonal processes can promote outcomes that benefit society. Prerequisite: PSYC-100. Three hours per week. *Four semester hours. (SS, D.)*

*Note: Students who have already taken PSYC-440 Social Psychology cannot register for PSYC-350 Social Psychology: Social Cognition and Influence or PSYC-352 Social Psychology: Self and Interpersonal Relations.*

### **PSYC-381. Internship**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact departmental chair for further information. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a

minimum of 120 hours of work. Graded S/U. Prerequisites: nine credits in psychology and approval of a faculty internship adviser. *Three semester hours. (I.)*

### **PSYC-382. Internship**

An off-campus academic/work experience under the supervision of an internship adviser and an on-site supervisor. Contact departmental chair for further information. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: nine credits in psychology and approval of a faculty internship adviser. *Four semester hours. (I.)*

### **PSYC-391. Reading in Psychology Faculty**

Reading in psychology is an individual study and directed reading course in which a student can further develop an interest. In order to register for this course, a student must have a clear goal and present a preliminary reference list to the faculty member who will be supervising the course. Students will work closely with a member of the psychology faculty in selecting, reading, and discussing the topic, and in determining a proper written assignment. Prerequisite: PSYC-100 and permission of instructor. Three hours of reading per week. *One semester hour.*

### **PSYC-392. Reading in Psychology Faculty**

This course is a continuation of PSYC-391. Prerequisite: PSYC-391 and permission of instructor. Three hours of reading per week. *One semester hour.*

### **PSYC-420. Psychopathology Dr. Chambliss**

This course will apply students' knowledge of abnormal psychology and psychotherapy through the development and execution of an empirically based research project that meets ethical standards. Topics may include randomized controlled trials of experimental therapeutic interventions, as well as personality and interpersonal correlates of psychopathology. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ; and PSYC-320 or PSYC-322. Three hours per week. *Four semester hours. (SS.)*

### **PSYC/NEUR-430. Advanced Research Methods in Behavioral Neuroscience Dr. Chambliss**

This course will apply students' knowledge of behavioral neuroscience through the development and execution of an empirically based research project or assessment that meets ethical standards. Topics may include sensorimotor processes, perception, attention, and learning. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ or NEUR-200WQ; and PSYC/NEUR-330. Three hours per week. *Four semester hours. (SS.)*

### **PSYC/NEUR-432. Advanced Research Methods in Cognitive Neuroscience Dr. Bish, Dr. Stevenson**

This course will apply students' knowledge of cognitive neuroscience through the development and execution of an empirically based research project or assessment that meets ethical standards. Topics may include neuropsychological assessment, attention, object recognition, motor control, memory, language, cognitive control, and consciousness. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ or NEUR-200WQ; and PSYC/NEUR-332. Three hours per week. *Four semester hours. (SS.)*

### **PSYC/NEUR-440. Advanced Research Methods in Child Development Faculty**

This course will apply students' knowledge of child development through the development and execution of a 25 hour empirically based fieldwork research project. Students will work in child care settings conducting standard ethically based activities and recording, analyzing and journaling the results. Topics include cognitive, social, physical, language, intellectual and emotional development.

Emphasis will be placed on effective communication, teamwork, and management skills. Note: To be eligible to work with children and complete the required hours, students must obtain the necessary security clearances: 1) Act 34, Pennsylvania State Criminal History Record; 2) Act 114, FBI Fingerprints (Federal Criminal History Record); 3) Act 151, Pennsylvania Child Abuse Background Check; and 4) Tuberculosis test prior to the beginning of the course. Students are responsible for finding their own sites and their own transportation to complete the fieldwork. Prerequisites: PSYC-200WQ, PSYC-340, and necessary security clearances listed above. Three hours per week. *Four semester hours. (SS.)*

**PSYC-442. Advanced Research Methods in Adolescent Development** *Dr. DaCosta*

This course will apply students' knowledge of adolescent psychology through the development and execution of an empirically based research project that meets ethical standards. Topics may include school psycho-educational program evaluation, food- and body-related attitudes and behaviors, physical and relational aggression, and gender and/or racial/ethnic differences in all these areas. Methods vary according to survey, experimental, or interview designs. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ and PSYC-342. Three hours per week. *Four semester hours. (SS.)*

**PSYC-450. Advanced Research Methods in Social Psychology** *Dr. Mattingly*

This course will apply students' knowledge of social psychology through the development and execution of an empirically based research project that meets ethical standards. Topics may include attitudes and persuasion, prejudice, social perception, self-esteem, self-concept structure and change, interpersonal relationships, group processes, prosocial and antisocial behavior, social motivation, and/or social influence. Emphasis will be placed on effective communication, teamwork, and management skills. Prerequisites: PSYC-200WQ; and PSYC-350 or PSYC-352. Three hours per week. *Four semester hours. (SS.)*

**PSYC-460. Seminar: Depression** *Dr. Chambliss*

This course will examine depression and related disorders in depth, which will require critical examination and application of scientific research. Topics may include depression etiology, treatment strategies, and prevention techniques. Emphasis will be placed on effective communication skills. Prerequisites: Junior standing and PSYC-100; PSYC-200WQ recommended. Three hours per week. *Four semester hours. (SS.)*

**PSYC-462. Seminar: Cultural Psychology** *Dr. DaCosta*

Cultural psychology is a field that introduces the idea of "psychological pluralism." This course emphasizes a perspective that acknowledges multiple psychologies rather than a one-size-fits-all psychology for a diverse range of people worldwide. This course will examine cultural psychology through fundamental questioning of the meaning of "culture" and in-depth analysis of cross-cultural variations in psychological processes. These investigations will require critical examination and application of scientific research. Topics may include cultural psychology of emotions, self, moral judgment, appetite/eating behavior, and intelligence. Emphasis will be placed on effective communication skills. Prerequisites: Junior standing and PSYC-100; PSYC-200WQ recommended. Three hours per week. *Four semester hours. (SS, G.)*

**PSYC/NEUR-464. Seminar: Psychopharmacology** *Dr. Bish*

This course will build on basic understanding of the structure and function of the nervous system, neurotransmitters, and psychological disorders to explore how drugs affect the brain and behavior. This course will examine psychopharmacology in depth, which will require critical examination and application of scientific research. Topics may include chemical signaling, neurotransmitter systems, recreational and illegal drugs, pharmacotherapy, and substance abuse and addiction. Emphasis will be placed on effective communication skills. Prerequisites: Junior standing and PSYC-100 or NEUR-100; PSYC-200WQ or NEUR-200WQ recommended. Three hours per week. *Four semester hours. (SS.)*

**PSYC-466. Seminar: Neurodiversity and the Autism Spectrum** *Dr. Stevenson*

Neurodiversity is a civil rights movement asserting that atypical brain development is part of normal human variation. This course will examine neurodiversity in the context of the autism spectrum in depth, which will require critical examination and application of scientific research. Topics may include speech and language, face processing, theory of mind, intelligence, and mirror neurons. Emphasis will be placed on effective communication skills. Students are encouraged to be open-minded about differences among people, as this course will challenge commonly-held assumptions about persons on the autism spectrum. Prerequisites: Junior standing and PSYC-100 or NEUR-100; PSYC-200WQ or NEUR-200WQ recommended. Three hours per week. *Four semester hours. (SS, D.)*

**PSYC-468 Seminar: Relationships** *Dr. Mattingly*

This course will examine the psychology of close relationships (primarily romantic relationships) in depth, which will require critical examination and application of scientific research. A review of classic and contemporary literature is an integral component of this course. Topics may include attraction, attributional processes, interdependency, self-concept changes, relationship stressors (e.g., infidelity, jealousy), motivation, relationship maintenance, conflict and conflict resolution, and dissolution. Emphasis will be placed on effective communication skills. Prerequisites: Junior standing, PSYC-200WQ; and PSYC-350 or PSYC-352. Three hours per week. *Four semester hours. (SS.)*

**PSYC-475. Seminar : Special Topics in Psychology** *Faculty*

An occasional seminar course which will focus on a special topic in psychology. This course is offered as needed. This course will examine this special topic in depth, which will require critical examination and application of scientific research. Emphasis will be placed on effective communication skills. Prerequisite: Junior standing. Three hours per week. *Four semester hours. (SS.)*

**PSYC-481. Research** *Faculty*

Research experience under the direction of a faculty member designed to further develop students' research procedures and data analysis skills in the context of a research project. The preparation of a written and oral scientific report is required. Prerequisites: PSYC-200WQ and permission of instructor. *Four semester hours. (I.)*

**PSYC-482. Research** *Faculty*

This course is a continuation of PSYC-481. Prerequisites: PSYC-481 and permission of instructor. *Four semester hours. (I.)*

**PSYC-491. Independent Research/Honors** *Faculty*

This course is open to candidates for departmental honors and to other students with permission of the departmental chair. This course involves independent or student-initiated research experience under the direction of a faculty member. The preparation of a written and oral scientific report is required. Prerequisites: Junior standing, PSYC-200WQ, and permission of instructor. *Four semester hours. (I.)*

**PSYC-492. Independent Research/Honors** *Faculty*

This course is a continuation of PSYC-491. Prerequisite: PSYC-491 and permission of instructor. *Four semester hours. (I.)*

# Theater and Dance

The theater and dance programs at Ursinus prepare students for a life in which intellectual thinking, aesthetic awareness, communication, and collaboration are integral components. The study of theater and dance within the context of a liberal arts education will develop students for whom rigorous intellectual and artistic inquiries are inextricably linked.

The theater and dance department offers coursework in acting, dancing, choreography, directing, history and theory of performance, theatrical design, and production. Our objectives are: 1) to offer historical, critical, and practical training in the performing arts; 2) to develop in students an awareness that the performing arts are vital forms of cultural expression that reflect their socio-political contexts; 3) to provide students with a deep understanding of the balance between awareness, thought, imagination and creative expression; 4) to engage students in the creative process as a unique means to develop their self-knowledge as citizens, individuals and passionate artists who can inspire and transform audiences; and finally, 5) to prepare students for graduate study, a career in the performing arts, or to apply their knowledge and experience to other fields of endeavor.

## Dance

Dance as an artistic language utilizes choreography as text, and offers unique opportunities to express and comment upon the human condition. The courses in dance are designed to give students an in-depth and embodied understanding of the art of dance and choreography, the field of dance scholarship, the science of mind/body integration, the craft of performance and the project management skills necessary to produce creative work. In addition to rigorous movement training, the dance major demands the critical thinking, creative imagination, interpersonal communication skills and organizational skills that are central to a liberal arts education.

## Requirements for Majors

A major in Dance consists of 42-46 credits in technique, composition, production, and history/theory/criticism. Requirements:

- At least 2 semesters of DANC-001-008
- DANC-100 and TD-150
- DANC-210 and DANC-310
- Two dance technique courses from among the following: DANC-200, 205, 215, 220, 225, 230, 235 and 240
- DANC-300W and DANC-340
- 12 semester hours of dance courses in addition to the above listed requirements. Up to 4 semester hours of DANC-001-008 may be utilized toward this requirement; up to 8 semester hours of 200 level courses may be utilized toward this requirement; up to 8 semester hours may be fulfilled by courses outside the dance department, including:

HEP-351, 352, 353; ART-100, 150, 160, 270; MCS-212; THEA-100, 200, 201, 270; TD-130. Up to 6 credits from Directed Studies/Research 351, 352, 451, 452 may be utilized towards this requirement.

- One Capstone course (TD-400, or DANC-491-492) For fulfillment of the ILE credit requirement, students are encouraged to study abroad in a dance program approved by the department, or an off campus internship, or coursework in an approved dance program or festival.
- Dance majors can complete the 'W' requirement in DANC-300W and the oral and capstone requirements in either TD-400 or DANC 491-492.

## **Requirements for Minors**

A minor concentration in dance consists of 20 credits. Requirements:

- At least 2 semesters of DANC-001-008
- DANC-100 and TD-150
- DANC-210 and DANC-310
- One dance technique course from among the following: DANC-200, 205, 215, 220, 225, 230, 235, and 240
- 4 semester hours of additional dance courses. Up to 2 hours of DANC-001-008 may be utilized toward this requirement; all 4 hours may be 200 level courses.

## **Theater**

Theater is a powerful form of experiential learning that allows students to grow as individuals, critical thinkers, and artists. Interdisciplinary by nature, theater also compels students to learn about society and the role of theater artists therein. Theater classes and rehearsals are spaces of creative and critical thinking where students undertake deep exploration of the imagination through performance and design. Courses are also contexts for learning theater history concurrent with contemporary developments in theater and performance.

## **Requirements for Majors**

A major in Theater consists of 42-46 semester hours of credit. Requirements:

- THEA-100
- TD-150
- At least one performance course: THEA-251, 252, 260, or 261
- At least one production-related course: TD/ART-130, THEA-240, or THEA-370
- THEA-201W and THEA-211
- One capstone course (TD-400 or THEA-491-492)
- One credit of TD-001-008
- At least three additional credits of THEA-001-008 or TD-001-008

- At least three additional THEA or TD courses. Up to six credits from Directed Studies/Research (THEA-361, 362, 461, and 462) may be utilized towards this requirement.
- Theater majors can complete the 'W' requirement in THEA 201W and the oral and capstone requirements in either TD-400 or THEA 491-492.

For fulfillment of the ILE credit requirement, the department encourages students to study abroad in an approved theater program, to complete an off-campus theater internship, or to work in an approved theater program/production.

Up to four credits of THEA-001-008, TD-001-008 or THEA-245 beyond the required four credits may be substituted for one of the additional courses. Up to eight credits of relevant courses in disciplines such as dance, art, music, English and modern languages may be included in the major with approval by theater faculty.

## Requirements for Minors

A minor concentration in Theater consists of 20 semester hours of credit.

Requirements:

- THEA-100
- TD-150
- At least two credits of THEA-001-008 or TD-001-008
- Three additional THEA or TD courses (at least one of which is at the 300 or 400 level).

## Courses

### **TD-001-008. Production Practicum *Rothermel***

A hands-on learning experience in which students assume responsibility for the technical aspects of major campus theater or dance productions. Positions vary but can include production stage manager, assistant stage manager, lighting and/or sound board operator, or backstage run crew for any Theater or Dance production. Students may also choose to work in the Scenic, Paint or Electrics Shop over the course of the semester. This course may be taken independently or as part of TD-150-requirement. Graded S/U. Four hours per week. *One semester hour. (A; may be used to partially fill requirement.)*

### **TD/ART-130. Introduction to Design *Faculty***

In this studio class, students will be introduced to principles of theatrical design and the artistry of imagination. They will explore how theater designers think about images and use elements such as line, shape, space, mass, texture, light and color to create visual expression and communicate dramatic intention in three-dimensional space. Students will gain an understanding of the effect of lighting, scenic and costume design choices for theater and dance productions. Four hours per week. *Four semester hours. (A.)*

### **TD-150. Basic Stagecraft *Rothermel***

An introduction to many of the aspects relating to the technical production of the Performing Arts on the stage. Students will be introduced to and learn safe practices for scenic construction techniques, scenic painting, theatrical rigging, lighting, sound, and scenic design, and the production roles relating to the successful realization of a performance. This class will provide students with an understanding of these endeavors through instructor tutorial, visiting lectures, and hands-on experience. Co-requisite: TD-001-008 (once). Three hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*



**TD-250. Special Topics in Theater and Dance Faculty**

This course will focus on a specific topic in theater and dance not covered in other courses in the curriculum. Four hours per week. *Four semester hours. (A.)*

**TD-350. Advanced Special Topics in Theater and Dance Faculty**

This course will focus on a specific topic at an advanced theoretical or critical level within theater and dance not covered in other courses in the curriculum. Three hours per week. *Four semester hours. (A.)*

**TD-381. Internship Faculty**

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research or production project. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 120 hours of work. Graded S/U. Prerequisites: major or minor in theater or dance and three courses in the department, and approval of a faculty internship adviser. *Three semester hours. (I.)*

**TD-382. Internship Faculty**

An off-campus work experience under the supervision of a faculty adviser and an on-site supervisor. Includes periodic meetings with the faculty adviser and completion of an approved research or production project. Open to juniors and seniors. The term during which the internship work is performed will be noted by one of the following letters, to be added immediately after the internship course number: A (fall), B (winter), C (spring), or D (summer). Internships undertaken abroad will be so indicated by the letter I. The intern must complete a minimum of 160 hours of work. Graded S/U. Prerequisites: major or minor in theater or dance and three courses in the department, and approval of a faculty internship adviser. *Four semester hours. (I.)*

**TD-400. Seminar in Performance Clemente**

This course integrates theoretical and practical course work as the foundation for the student's performance experience. During the course of the semester's work, each student will prepare a significant research document and prepare several works for concert production. The resultant document/performance will be presented publicly. In addition, each student will be responsible for an oral presentation of his or her work. Three hours per week. *Four semester hours. (A.)*

## Dance

**DANC-001-008. Dance Production: Performance Faculty**

Students participating in the Ursinus College Dance Company will have opportunities for both informal and produced performances throughout the semester, will be encouraged to create and present their own work, and to perform in works choreographed by faculty and guest artists. The company will work in a wide range of dance forms and styles including jazz dance, modern dance, social dance, improvisation, partnering, etc. It is highly recommended that students participating in the dance company also take a dance technique course. Graded S/U. Four hours per week. *One semester hour. (A; may be used to partially fill requirement.)*

**DANC-100. Introduction to Dance Faculty**

This course is designed to broaden students' understanding and appreciation of contemporary dance in the United States. Students will examine a wide variety of styles and forms, including ballet, modern, postmodern, hip-hop and social/vernacular dance. Through the study of some of the major choreographers and dance trends in the U.S., the class will address the diverse creativity of individual and cultural expression through the art of dance. This course involves both critical analyses of

performance and theory as well as practical dance experience. Four hours per week. *Four semester hours. (A.)*

### **DANC/ESS-200. Fundamental Dance Technique Faculty**

An introduction to dance and movement techniques. The class will focus on the basic principles of dance movement, including alignment, coordination, musicality, and locomotion through space. Students will develop increased body awareness, flexibility, strength, and ease within a broad movement vocabulary. This class is designed for students with no previous experience in dance technique. Students may take this course twice for credit. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC- 205. Strength and Flexibility Faculty**

This course provides students with a practical and theoretical understanding of the relationship between the strength, flexibility and alignment of the body. We will develop a practice throughout the semester which draws from yoga, gyrokinesis, dance, and athletic training methods. Four hours per week. *Two semester hours. (A, may be used to partially fill requirement.)*

### **DANC-210. Dance Improvisation Faculty**

This course explores dance improvisation both as a choreographic tool and as a performing art. Students will learn how to develop new movement skills, how to sensitize themselves to what is happening around them, how to improvise with music, and how to make choreographic choices while performing. Students are required to keep a journal of their classroom activities. This class is open to all levels of dancers. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC- 215. Yoga Faculty**

This course is designed to introduce students to yoga as a holistic art of living which can lead to improved health of mind, body and spirit. We will focus on hatha yoga, (psycho-physical yoga) which includes yogic breathing (pranayama), postures (asanas) and relaxation, with a goal of deepening mind/body integration. Four hours per week. *Two semester hours. (A, may be used to partially fill requirement.)*

### **DANC-220. Contemporary Ballet Faculty**

Designed to develop in the student a deep and sophisticated body awareness, this course interweaves contemporary ballet and modern dance techniques. The warm-up opens, extends and integrates the body by focusing on alignment, breath and movement efficiency. Students will build strength, flexibility and coordination by beginning each class with floor work, moving next to the barre, and culminating with danced combinations in the center that combine the line and shape of ballet with the momentum, falling and flying of contemporary modern dance. Students may take this course up to four times for credit. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC-225. Intermediate/Advanced Contemporary Ballet Faculty**

An intermediate/advanced level course in traditional ballet technique. Students will gain an understanding of the aesthetics of classical ballet, develop the ability to clearly articulate the movement vocabulary, and gain a sense of dynamic phrasing in performance. The course will focus on developing technical skills including amplitude, extension, rotation, and correct alignment. A physically rigorous course, class will begin with a ballet barre, progress to center work, and culminate in long danced combinations. Prerequisite: DANC 220 or Permission of Instructor. Students may take this course up to four times for credit. Four hours per week. *Two semester hours. (A, may be used to partially fill requirement.)*

### **DANC- 230. Jazz Dance Faculty**

This course celebrates jazz dance as a passionate, expressive and continuously evolving form. Based on the premise that jazz dance is fundamentally inspired by vernacular dance and music, the class explores movement sourced from a wide range of music including swing, blues, jazz, ragtime, rhythm and blues,

soul and funk. The class will consist of a warm-up designed to develop strength, ease of movement, flexibility and musicality, and move into across-the-floor progressions culminating in longer danced combinations. Students will increase their technical skills as well as deepen their stylistic sophistication. Students may take this course up to four times for credit. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC- 235. Intermediate/Advanced Jazz Dance Faculty**

An intermediate/advanced level course in jazzdance technique. Students will gain an understanding of the stylistic range and complexity of jazzdance, in combination with developing technical and performance skills including musicality, expressive individual performance, and mastery of jazzdance vocabulary. Students will learn to approach jazzdance from a somatically sophisticated base, integrating elements from current and classical movement techniques with a deep understanding of the body. Prerequisite: DANC 230 or Permission of Instructor. Students may take this course up to four times for credit. Four hours per week. Two semester hours. (A, may be used to partially fill requirement.)

### **DANC-240. Repertory Faculty**

In this course students will have an intensive rehearsal process with the goal of mastery of a choreographic work which will be performed at Ursinus. This course is open to dance minors and majors or by instructor's permission. Students may take this course up to six times for credit. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC-245. Contact Improvisation/Partnering Faculty**

This class explores partnering techniques based in momentum, energy flow and use of weight, both within a context of improvised movement as well as within choreographic phrases. Students will learn skills of supporting, lofting, rolling and flying in connection with another body. Prerequisite: One of the following: DANC/ESS-200, 210 or 220 or permission of the instructor. Students may take this course up to six times for credit. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC-250. Special Topics in Dance Faculty**

A focused exploration of special subject areas within the field of dance, including hip hop, African Dance, Advanced Classical Ballet/Pointe, Tap, and Ballroom Dance. Four hours per week. *Two semester hours. (A; may be used to partially fill requirement.)*

### **DANC-300W. Dance History Faculty**

A historical survey of the origin, growth and development of 20th century Western Theatrical Dance. The course will focus on the forces, processes and personalities that influenced dance during this time. Students will develop a critical understanding of the major trends in the development of dance in the twentieth century, as well as examining these trends in relation to their socio-political context. Prerequisite: DANC-100 or permission of instructor. Four hours per week. *Four semester hours. (A, D, H.)*

### **DANC- 310. Dance Composition Faculty**

An immersion into the creative act of choreography. Students will examine the compositional process both from a theoretical and historical perspective as well as by creating their own work. Through both short, in class assignments as well as extensive work outside of class, students will investigate the ideas of form and content in choreography, "classical" rules and how and whether to break them, the development of a personal and expressive movement vocabulary, and various methodologies for creating both solo and group work. Prerequisites: DANC-100, TD-210; suggested: DANC-300. Students may take this course up to three times for credit. Four hours per week. *Four semester hours. (A.)*

### **DANC 330. History of Jazzdance Faculty**

An in depth study of Jazzdance , sometimes called "the American Folk Form." Taking a chronological approach, we will explore the distinct but intertwined elements that have contributed to the creation of this unique dance form, beginning with its roots in African dance and African American vernacular

(social) dance. We will examine the co-evolution of vernacular music and movement, and the contributions of specific choreographers and how they have shaped the form. The course will examine the impact of popular entertainment, such as vaudeville, musical theatre, films, television, and music videos on jazzdance. Based on the premise that social dance and popular entertainments reflect and embody the political and cultural climates in which they are created, we will look at issues of race and gender relations and the dynamics of power and privilege in 20th century United States. Suggested Prerequisites: Introduction to Dance. Four hours per week. *Four semester hours. (A.)*

**DANC-340. The Thinking Body: Somatic Theory and Practice** *Faculty*

Utilizing lectures, discussion and guided movement explorations, students will study the relationships between the form and function of the mind/body. Through a study of anatomy, physiology and the mind, students will develop a deeper understanding of the influence of the mind on movement, posture and experience. All students are required to keep weekly journals, present classroom materials in a formal assignment, and conduct a major research project to illustrate their command of kinesiological principles and somatic theory. Four hours per week. *Four semester hours. (A.)*

**DANC-350. Special Topics in Dance** *Faculty*

This course will focus on a specific topic at an advanced theoretical or critical level within theater not covered in other courses in the curriculum. Three hours per week. Four semester hours. Topics might include: History of Jazz Dance, Perception, Imagination and Creativity, Feminist Choreographies, Aesthetics and Education, World Dance, Dance Pedagogy. (A.)

**DANC-361. Directed Studies/ Research in Dance** *Faculty*

Individual work on a project related to the study of dance. Prerequisites: Written consent of a department faculty member. Graded S/U. 40 hours of research. *One semester hour.* Note: This course may be taken more than once.

**DANC-362. Directed Studies/ Research in Dance** *Faculty*

Individual work on a project related to the study of dance. Prerequisites: Written consent of a department faculty member. Graded S/U. 80 hours of research. *Two semester hours.* Note: This course may be taken more than once.

**DANC-461. Advanced Directed Studies/ Research in Dance** *Faculty*

Advanced individual work on a project related to the study of dance. Prerequisite: eight credits of 300-400 level course work in dance, demonstrated competence in the specific area of study, a written proposal and permission of a department faculty member who will serve as project adviser. 120 hours of research. *Three semester hours. (I.)* Note: This course may be taken more than once.

**DANC-462. Advanced Directed Studies/ Research in Dance** *Faculty*

Advanced individual work on a project related to the study of dance. Prerequisite: eight credits of 300-400 level course work in dance, demonstrated competence in the specific area of study, a written proposal and permission of a department faculty member who will serve as project adviser. 160 hours of research. *Four semester hours. (I.)* Note: This course may be taken more than once.

**DANC-491. Research/Independent Work** *Faculty*

This work is open to candidates for departmental honors and to other students with the permission of the departmental chair. *Four semester hours. (I.)*

**DANC-492W. Research/Independent Work** *Faculty*

A continuation of DANC-491, culminating in a written and oral presentation of a major research project. Prerequisite: DANC-491. *Four semester hours. (I.)*

# Theater

## **THEA 001-008. Performance Practicum Faculty**

A learning experience in which students perform in major campus productions under the direction of theater faculty. Prerequisite: permission of the instructor. Graded S/U. *One semester hour. (A; may be used to partially fill requirement.)*

## **THEA-100. Introduction to Theater Scudera**

A study of the art of theater through an examination of varieties of theater spaces, literary genres, the work of actors, playwrights, directors, and designers, and the nature of the audience. Three hours of class plus one hour arranged production work per week. *Four semester hours. (A.)*

## **THEA-210W. History of Theater and Drama: Classical Stages Faculty**

A historical exploration of the development of dramatic literature, theater performance, theatrical spaces and production styles as vital expressions and reflections of social, political, and cultural attitudes and movements from Ancient Greece and Classical Japanese theater through Molière and French Neoclassicism. Prerequisite: THEA-100 or permission of instructor. Three hours per week. *Four semester hours. (A, H.)*

*Note: Students who have received credit for THEA-300W may not receive credit for THEA-210W.*

## **THEA-211W. History of Theater and Drama: Raising Revolutions and the Modern/Postmodern Stage Faculty**

This course delves into the revolutionary, ever-shifting conceptions of the role of theater, the human condition and truth in society and how practitioners—playwrights, directors and designers—have manifested their theoretical ideas about theater and the world in their work from 1900 to the present. Readings in theater history, plays, manifestos, plus dramatic and performance theory will provide the link between revolutionary cries for change in theater, aesthetic developments and the various visions of theater. Prerequisite: THEA-100 or permission of instructor. Three hours per week. *Four semester hours. (A, H.)*

*Note: Students who have received credit for THEA-301 may not receive credit for THEA-211.*

## **THEA-240. Special Topics in Theater Production or Design Faculty**

This course will focus on a specific topic of theater production, technical theater or design not covered in other courses in the curriculum. Topics might include: Scenic Design, Costume Design, Lighting Design, Stage Management. Three hours per week. *Four semester hours. (A.)*

## **THEA-245. Special Topics in Performance Styles & Genres Faculty**

This course provides students with practical studio work and performance practices related to a particular dramatic genre or style. Topics might include: Acting Shakespeare, Classical Performance, Moliere, Comedy Improvisation. Four hours per week. *Two semester hours. (A, may be used to partially fill requirement.)*

## **THEA-250. Special Topics in Performance Faculty**

This course will focus on a specific topic of theatrical performance not covered in other courses in the curriculum. Topics might include: Stage Comedy, Devised Theater, Solo Performance, Drag Performance. Four hours per week. *Four semester hours. (A.)*

## **THEA-251. Voice Production and Introduction to Speech for the Stage Actor Faculty**

This course will focus on the development of healthy use of the voice and beginning speech training for the stage actor. The course covers: Relaxation and breathing techniques; the anatomy of vocal production; identification and correction of muscle tension; correction of holding and poor alignment;

identification and use of articulators, with special attention to standard American accent; and awareness of resonance, with introductory attention to placement adjustments. Four hours per week. *Four semester hours. (A.)*

**THEA-252. Speech Training with Accent/Dialect Study Faculty**

This course reviews vocal anatomy and vocal production. It covers: An introduction to English phonetics and phonology; use of the International Phonetic Alphabet in accent study/acquisition; and three accents with accompanying performances of monologue. Four hours per week. *Four semester hours. (A.)*

**THEA-260. Acting: Objectives and Tactics Scudera**

An introduction to the building blocks of the Stanislavski system, objectives and tactics. Students participate in acting exercises, improvisation, monologue and scene study to explore the internal lives of dramatic characters. Four hours per week. *Four semester hours. (A.)*

*Note: Students who have received credit for THEA-200 may not receive credit for THEA-260.*

**THEA-261. Acting: Building a Character Scudera**

Acting theory and physical training are applied to the development of technique. Building a role is explored through in-depth character analysis and performance, movement exercises, mask work, improvisation and monologue and scene study. Students may enroll for THEA-261 without having taken THEA-260. Four hours per week. *Four semester hours. (A.)*

*Students who have received credit for THEA-201 may not receive credit for THEA-261.*

**THEA-270. Dramaturgy Faculty**

Fundamentals of dramaturgy and its application through production dramaturgy, from Lessing's Hamburg dramaturgy, Piscator and Brecht's dramaturgy, to contemporary European and American dramaturgical practices. Will include methodologies for script preparation and analysis, research of production histories and applicability to new productions. Prerequisite: THEA-100. Three hours per week. *Four semester hours. (A.)*

**THEA-350. Advanced Special Topics in Theater Faculty**

This course will focus on a specific topic at an advanced theoretical or critical level within theater not covered in other courses in the curriculum. Topics might include: Community-Based Theater and Civic Engagement, Performance Theory and Practice. Three hours per week. *Four semester hours. (A.)*

**THEA-351. Latin American Drama and Performance Faculty**

This course surveys a wide variety of 20th century Latin American plays, playwrights and theater histories, as they exist as expressions of cultural identity. It covers texts in translation from Central American, South American and Caribbean communities, as well as plays by US Latino writers from the Chicano/a, Nuyorican, and Cuban American communities, noting also the work of particular actors, theater companies, documentaries and documentary artists that have formed various Latino theater movements in the Americas. Three hours per week. *Four semester hours. (A, D.)*

**THEA-352. Asian/Asian American Drama and Performance Faculty**

This course surveys a broad, ancient to contemporary, history of performance practices and dramatic output of Asian theater and performance and 20th/21st century Asian American theater and performance, as they exist as expressions of cultural identity. It covers texts in translation, a selection of performance styles and the work of notable performers from Indian, Chinese and Japanese communities, as well as performance styles, particular artists and plays by 20th/21st century Asian American artists from Indian American, Chinese American and Japanese American communities. Three hours per week. *Four semester hours. (A, G.)*

**THEA-353. African/African American Drama and Performance Faculty**

This course surveys the broad history of African performance traditions and covers a selection of Colonial and Post-Colonial dramas from five African communities. At the semester's midpoint, the course shifts to 20th /21st century African American dramas, looking at the work of artists from the late 1800s, the Harlem Renaissance of the 1920s and 1930s, the Black Arts Movement of the 1960s and 1970s, as well as more recent dramas originating out of US regional theaters. Three hours per week. *Four semester hours. (A, G.)*

**THEA-361. Directed Studies/ Research in Theater Faculty**

Individual work on a project related to the study of theater. Prerequisites: Written consent of a department faculty member. Graded S/U. 40 hours of research. *One semester hour.* Note: This course may be taken more than once.

**THEA-362. Directed Studies/ Research in Theater Faculty**

Individual work on a project related to the study of theater. Prerequisites: Written consent of a department faculty member. Graded S/U. 80 hours of research. *Two semester hours.* Note: This course may be taken more than once.

**THEA-370. Directing For the Stage Scudera**

An exploration into the role of the director in the theatrical process. Research in the history, theory and application of directing is combined with actual directing assignments. Pre-requisites: THEA-100, THEA-260; or instructor permission. Four hours per week. *Four semester hours. (A.)*

**THEA-461. Advanced Directed Studies/ Research in Theater Faculty**

Advanced individual work on a project related to the study of theater. Prerequisite: eight credits of 300-400 level course work in theater, demonstrated competence in the specific area of study, a written proposal and permission of a department faculty member who will serve as project adviser. 120 hours of research. *Three semester hours. (I.)* Note: This course may be taken more than once.

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**THEA-491. Research/Independent Work Faculty**

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**THEA-492W. Research/Independent Work Faculty**

A continuation of THEA-491, culminating in a written and oral presentation of a major research project. Prerequisite: THEA-491. *Four semester hours. (I.)*

# Faculty

## **African American and Africana Studies**

*Professors Edwards, Oboler, Schroeder; Associate Professors Keita (Coordinator), Clark, Florka, Goodman, Jaroff, Shuru, VanGilder; Assistant Professors Harris, Karreth, Leppert, Onaci, Rice.*

## **American Studies**

*Professors Schroeder (Coordinator), Edwards, Fitzpatrick, Oboler; Associate Professors Clark, Goldsmith, Hubbs, Hurley, Jaroff, Keita, Mackler, Spencer, Woodstock; Assistant Professor Onaci.*

## **Anthropology and Sociology**

*Professor Oboler; Associate Professor Clark (Chair); Assistant Professor Harris; Instructor Davis; Lecturers Hall, Bejarano.*

## **Applied Ethics**

*Professors Cirka, Goetz, Marks, Stern; Associate Professors Sorensen (Coordinator), Evans, VanGilder; Assistant Professor Rice.*

## **Art and Art History**

*Associate Professors Barkun (Chair), Shoaf; Assistant Professors Aipperspach, Freno, Kaufman.*

## **Biochemistry and Molecular Biology**

*Professors E. Dawley, R. Dawley, Hess, Kohn, Small, Tortorelli; Associate Professors Roberts (Co-Coordinator), Williamsen (Co-Coordinator), Cameron, Ellison, Goddard, Lobo, Lyczak, Straub; Assistant Professors Favero, Koeppe, Reig, Round.*

## **Biology**

*Professors Small (Chair), E. Dawley, R. Dawley, Kohn; Associate Professors Bailey, Cameron, Goddard, Lobo, Lyczak, Roberts, Straub; Assistant Professors Favero, King, Price, Round.*



## **Business and Economics**

*Professors Economopoulos (Chair), Cirka, O'Neill; Associate Professors Harris, VanGilder; Assistant Professors Deacle, Gannon, Gaus, Henkel; Lecturers Parnell, Taormina.*

## **Chemistry**

*Professors Hess, Tortorelli; Associate Professors Ellison (Chair), Williamsen; Assistant Professors Koeppe, Pfennig, Reig, Wagner; Lecturers Chu, Klein, Sturgess.*

## **Classics**

*Associate Professor Rein (Chair), Assistant Professor Luborsky.*

## **Creative Writing**

*Professor Volkmer (Director), Associate Professor Keita, Visiting Creative Writer Hong.*

## **East Asian Studies**

*Professor Clark; Associate Professor Mizenko (Coordinator).*

## **Education**

*Associate Professors Spencer (Chair), Mackler; Assistant Professor Mulryan; Lecturers Masciantonio, Romanoski, Josel, Shady.*

## **English**

*Professors Dole, Schroeder, Volkmer; Associate Professors Goldsmith, Jaroff (Chair), Keita, Kozusko; Assistant Professor McShane; Visiting Creative Writer Hong.*

## **Environmental Studies**

*Professors Wallace (Chair), E. Dawley, R. Dawley, Oboler, Small; Associate Professors Hurley, Joseph, Clark, Goddard, Jaroff, Sorenson, Straub; Lecturer Ashcroft.*

## **Film Studies**

*Professor Dole; Associate Professor Mizenko; Assistant Professors Fleeger (Coordinator), Leppert.*

## **Gender and Women's Studies**

*Professor Oboler; Associate Professors Evans (Coordinator), Barkun, Goodman, Jaroff, Throop, VanGilder; Assistant Professor Onaci.*

## **Health and Exercise Physiology**

*Professors Borsdorf, Engstrom (Chair); Associate Professor Chlad; Assistant Professors Carpenter, Fearheller; Lecturers Wright, Bain, Chapman, Harper, Paisley, VandeBerg.*

## **History**

*Professors Doughty (Chair), Clark; Associate Professors King, Throop; Assistant Professor Onaci; Lecturers Ghazvinian, Mackintosh, Murray.*

## **Latin American Studies**

*Associate Professor Shuru; Assistant Professors Ko (Coordinator), Useche.*

## **Mathematics and Computer Science**

*Associate Professor Kontostathis (Chair); Assistant Professors Chi, Dhawan, Mauriello, Sadowski, Scoville, Smith; Lecturer Assaid; Instructors Grossbauer, Schilling.*

## **Media and Communication Studies**

*Professors Miller, Edwards; Associate Professors Woodstock (Chair), Goodman; Assistant Professors Fleeger, Leppert, Nadler; Instructor Butler; Lecturers Fetterman, Hamidi.*

## **Modern Languages**

*Professor Clouser; Associate Professors Mizenko (Chair), de Arana, Shuru; Assistant Professors Brossillon-Rivera, Everett, Ko, McCarthy, Steyaert, Useche; Lecturers Larakı, Luttcher-Hoorfar, Lee; Instructors Sun, Goda.*

## **Music**

*Professor French; Associate Professor Hubbs (Chair); Assistant Professor Bratt; Lecturers Ashby, Kenney, Lee, Metzler, Urban.*

## **Neuroscience**

*Professors E. Dawley (Chair), Kohn; Associate Professor Bish; Assistant Professors Favero, Makuch, Round, Stevenson.*

## **Peace and Social Justice Studies**

*Associate Professor Evans; Assistant Professor Rice.*

## **Philosophy and Religious Studies**

*Professors Goetz, Romano; Associate Professors Florka (Chair), Rein, Sorensen; Assistant Professors Frisch, Kluchin, Charles Rice, Christian Rice.*

## **Physics and Astronomy**

*Professor Riley; Associate Professors Carroll, Nagy (Chair).*

## **Politics and International Relations**

*Professors Fitzpatrick, Stern, Marks, Clark, Doughty, Oboler; Associate Professors Evans (Chair), Kane, King; Assistant Professor Karreth.*

## **Psychology**

*Professor Chambliss (Chair); Associate Professors J. Bish, DaCosta; Assistant Professors Mattingly, Stevenson; Lecturers M. Bish, Lawrence, Lederach, Seidman.*

## **Theater and Dance**

*Professors Clemente (Chair), Scudera; Assistant Professors Brodie, McCain.*