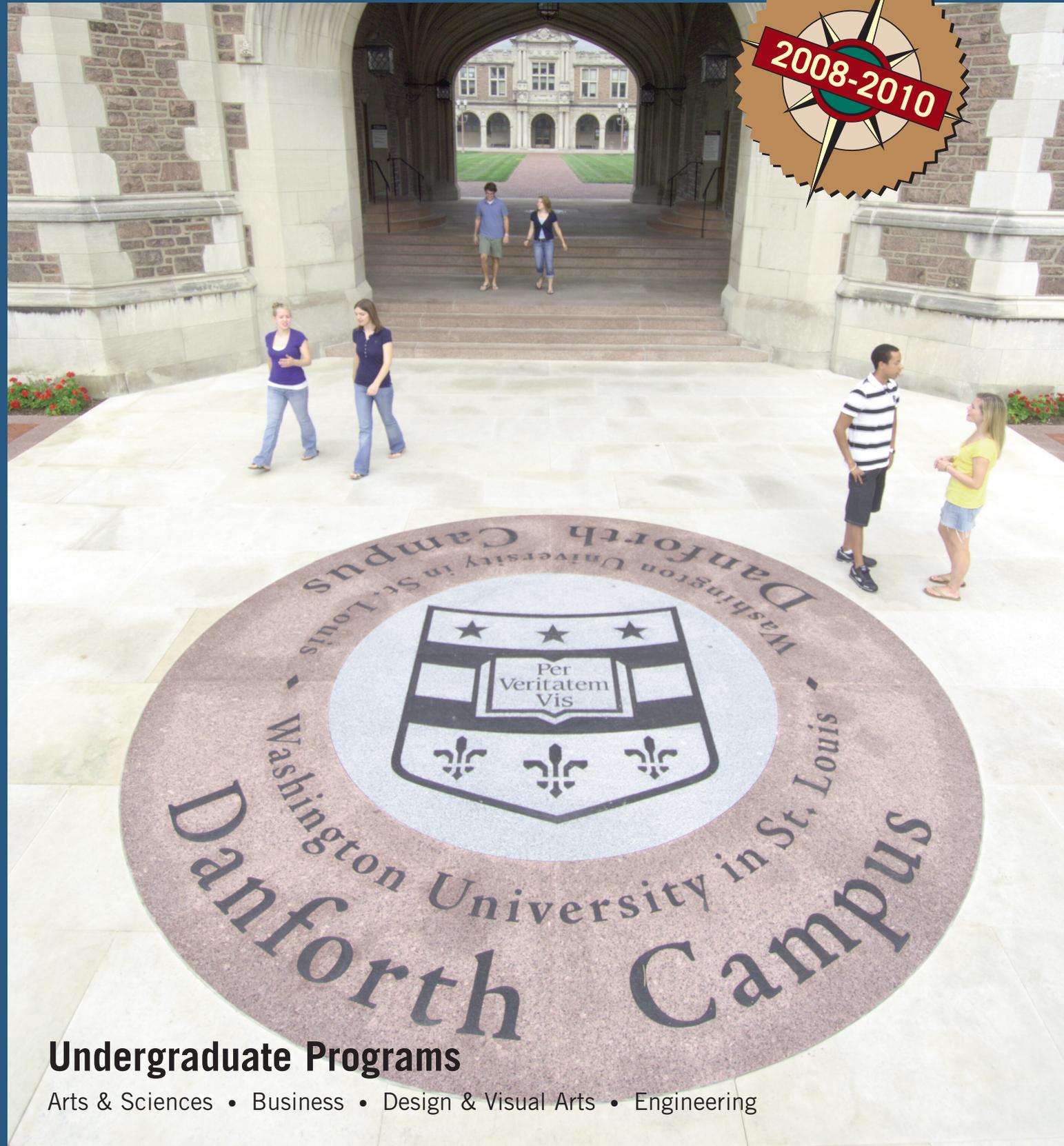


# Washington University in St. Louis



## Undergraduate Programs

Arts & Sciences • Business • Design & Visual Arts • Engineering

 Washington University in St. Louis

 Washington University in St. Louis

(USPS: 078-340)  
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One Brookings Drive  
St. Louis, Missouri 63130-4899

2008-2010

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Business

Design & Visual Arts

Architecture

Art

Engineering



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This *Bulletin* provides information on Washington University's programs and services available as of June 1, 2008, to the student or prospective student of the University. It offers an accurate presentation of the kinds of offerings the student may expect to find in Washington University's four undergraduate programs. However, curricula, courses, degree requirements, fees, and policies are subject to revision. Specific details may vary from the statements printed here without further notice.

Washington University in St. Louis

# **Undergraduate Programs 2008–10**

College of Arts & Sciences

Olin Business School

Sam Fox School of Design & Visual Arts

College of Architecture

College of Art

School of Engineering & Applied Science

# 2008–09 Academic Calendar

## Fall Semester 2008

<b>AUGUST</b>	27	Wed.	Classes begin
<b>SEPTEMBER</b>	1	Mon.	Labor Day holiday
<b>OCTOBER</b>	17	Fri.	Fall break
<b>NOVEMBER</b>	26	Wed.	Thanksgiving break begins
	30	Sun.	Thanksgiving break ends
<b>DECEMBER</b>	12	Fri.	Final examinations begin
	18	Thurs.	Final examinations end

## Spring Semester 2009

<b>JANUARY</b>	12	Mon.	Classes begin
	19	Mon.	Martin Luther King, Jr. Holiday
<b>MARCH</b>	9	Mon.	Spring break begins
	15	Sun.	Spring break ends
<b>APRIL</b>	30	Thurs.	Final examinations begin
<b>MAY</b>	6	Wed.	Final examinations end
	15	Fri.	Commencement

## Summer 2009

<b>MAY</b>	18	Mon.	Summer I Session begins
	25	Mon.	Memorial Day holiday
<b>JUNE</b>	5	Fri.	Summer I Session ends
	8	Mon.	Summer II & III Sessions begin
<b>JULY</b>	3	Fri.	Independence Day holiday
	10	Fri.	Summer II Session ends
	13	Mon.	Summer IV Session begins
	31	Fri.	Summer III Session ends
<b>AUGUST</b>	13	Thurs.	Summer IV Session ends

Washington University recognizes individual students' choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

Dates for the last days of classes and reading periods are given in *Course Listings*.

# 2009–10 Academic Calendar

## *Fall Semester 2009*

<b>AUGUST</b>	26	Wed.	Classes begin
<b>SEPTEMBER</b>	7	Mon.	Labor Day holiday
<b>OCTOBER</b>	16	Fri.	Fall break
<b>NOVEMBER</b>	25	Wed.	Thanksgiving break begins
	29	Sun.	Thanksgiving break ends
<b>DECEMBER</b>	11	Fri.	Final examinations begin
	17	Thurs.	Final examinations end

## *Spring Semester 2010*

<b>JANUARY</b>	18	Mon.	Martin Luther King, Jr. Holiday
	19	Tues.	Classes begin
<b>MARCH</b>	7	Sun.	Spring break begins
	13	Sat.	Spring break ends
<b>MAY</b>	6	Thurs.	Final examinations begin
	12	Wed.	Final examinations end
	21	Fri.	Commencement

## *Summer 2010*

<b>MAY</b>	24	Mon.	Summer I Session begins
	31	Mon.	Memorial Day holiday
<b>JUNE</b>	11	Fri.	Summer I Session ends
	14	Mon.	Summer II & III Sessions begin
<b>JULY</b>	5	Mon.	Independence Day holiday
	16	Fri.	Summer II Session ends
	19	Mon.	Summer IV Session begins
<b>AUGUST</b>	6	Fri.	Summer III Session ends
	19	Thurs.	Summer IV Session ends

Washington University recognizes individual students' choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

Dates for the last days of classes and reading periods are given in *Course Listings*.

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## About This Bulletin

The degree programs, requirements, course listings, and faculty for the four undergraduate schools of Washington University in St. Louis—the College of Arts & Sciences, the Olin Business School, the Sam Fox School of Design & Visual Arts, and the School of Engineering—are represented in this *Bulletin*.

All announcements in this *Bulletin* are subject to change without notice. Unless specified otherwise, changes become effective at the time they are announced. For the most current information on courses, you are encouraged to consult the course listings, which are available prior to registration. Course listings are available online through the Washington University homepage on the Internet at [www.wustl.edu](http://www.wustl.edu).

## University Addresses

### Office of Undergraduate Admissions

Room 135, S. Brookings Hall  
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One Brookings Drive  
St. Louis, Missouri 63130-4899  
314/935-6000  
1-800/638-0700  
Fax: 314/935-4290  
Web site: [admissions.wustl.edu](http://admissions.wustl.edu)  
E-mail: [admissions@wustl.edu](mailto:admissions@wustl.edu)

### Student Financial Services

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One Brookings Drive  
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314/935-5900  
1-888/547-6670  
Fax: 314/935-4037  
Web site: [sfs.wustl.edu](http://sfs.wustl.edu)  
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### Director of International Recruitment

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### Office of Student Records/Registrar

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314/935-5959  
Fax: 314/935-4268

### College of Arts & Sciences

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St. Louis, Missouri 63130-4899  
314/935-6800  
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### Olin Business School

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E-mail: [bsbamail@olin.wustl.edu](mailto:bsbamail@olin.wustl.edu)

### Sam Fox School of Design & Visual Arts

Washington University in St. Louis  
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One Brookings Drive  
St. Louis, Missouri 63130-4899  
Web site: [www.samfoxschool.wustl.edu](http://www.samfoxschool.wustl.edu)  
E-mail: [samfoxschool@wustl.edu](mailto:samfoxschool@wustl.edu)

### College of Architecture

Room 105, Givens Hall  
Washington University in St. Louis  
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One Brookings Drive  
St. Louis, Missouri 63130-4899  
314/935-6200  
Fax: 314/935-8520  
Web site: [www.samfox.wustl.edu](http://www.samfox.wustl.edu)  
E-mail: [wuarch@samfox.wustl.edu](mailto:wuarch@samfox.wustl.edu)

### College of Art

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One Brookings Drive  
St. Louis, Missouri 63130-4899  
314/935-6500  
Fax: 314/935-6462  
Web site: [www.samfox.wustl.edu](http://www.samfox.wustl.edu)  
E-mail: [artinfo@samfox.wustl.edu](mailto:artinfo@samfox.wustl.edu)

### Mildred Lane Kemper Art Museum

Campus Box 1214  
Washington University in St. Louis  
One Brookings Drive  
St. Louis, Missouri 63130-4899  
314/935-5490  
Fax: 314/935-7282  
Web site:  
[www.kemperartmuseum.wustl.edu](http://www.kemperartmuseum.wustl.edu)  
E-mail: [kemperartmuseum@wustl.edu](mailto:kemperartmuseum@wustl.edu)

### School of Engineering & Applied Science

Room 105, Sever Hall  
Washington University in St. Louis  
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One Brookings Drive  
St. Louis, Missouri 63130-4899  
314/935-6166  
Fax: 314/935-6949  
Web site: [www.engineering.wustl.edu](http://www.engineering.wustl.edu)

### Office of Residential Life

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Campus Box 1250  
6515 Wydown Boulevard  
Clayton, Missouri 63105-2298  
314/935-5050  
Fax: 314/935-4001  
Web site: [reslife.wustl.edu](http://reslife.wustl.edu)

### Office for International Students and Scholars

Stix International House  
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Campus Box 1083  
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St. Louis, Missouri 63130-4899  
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Fax: 314/935-4075  
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### International and Area Studies (and Overseas Programs)

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St. Louis, Missouri 63130-4899  
314/935-5958  
Fax: 314/935-7642  
Web site: [www.artsci.wustl.edu/~ias](http://www.artsci.wustl.edu/~ias)

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## Educational Goals for Our Undergraduates

*Noted novelist and essayist William H. Gass, the David May Distinguished University Professor Emeritus in the Humanities, composed the following piece on our educational goals for undergraduates at the University. The goals were formulated by the University's Undergraduate Council, a group of faculty, students, and staff who meet regularly to focus on undergraduate education.*

Education should be lifelong and lifewide. You may leave college, but you ought not to leave learning. And knowledge is not a pet you put in a kennel while you go on vacation.

Education is not like the flat earth either; its landscape has many dimensions. You need to know well a few things, not only because depth and focus in a field will get you a good job, but because those who have been to the bottom of the mine know how superficial their knowledge of the hills is. Yet in the mine you may see only a short way. It is also essential to hike over those

hills and experience the view from the top.

Undergraduates at Washington University may enroll in one of four schools and may proceed within them to concentrate in major fields or specialized areas. Like vines, specialties have support systems, so the University provides plenty of opportunity for minors, second majors, and cross-school enrollments. Students may share the same river, but they will each form their own delta.

Studios, laboratories, classrooms, libraries are places for study; however, a great deal of your learning will occur in part-time jobs, in internships and cocurricular activities, in student organizations and athletics, where both leadership and teamwork can be learned; on various publications where your writing skills can gain a polish; and in public service where values are challenged and clarified. Your fellow students are your teachers too. You and your friends will grow up and get out and go on together.

Skill and savvy, knowledge and ability are like old clothes on a scarecrow—only the crows will be fooled—unless they are connected to a strong, open, and vibrant intellectual character the way flesh grows over bone.

This *Bulletin* may tell you where to go to learn classics or calculus or chemistry, but course work alone won't enable you to express social concern, value excellence, or deal honestly with the world.

Consequently, Washington University supports a number of personal and educational goals for its undergraduates, and you and those who advise you should keep these goals in sight when you select courses and plan programs. And your success should be regularly reviewed.

### Personal Development

**Set high standards.** Excellence is the University's central concern. It should be yours. Define both short- and long-term goals for social and intellectual achievement.

**Know thyself.** Each of us is a world of golden opportunities. Locate those interests that are worthwhile and lasting. Students should have experiences that will help them in their choice of careers.

**Solidify good character.** A good character is anyone's best possession. Each student should strive to meet the highest standard of civilized conduct and should be able to

## Why Students Choose Washington University in St. Louis

Pursuing a college education is about exploring choices, discovering possibilities, and developing talents. As a student at Washington University, you will have the opportunity to explore who you are, to discover what you want to do in the future, and to develop your potential to the fullest.

Students come from across the United States and from around the world to study at Washington University because we offer a broad range of educational and cultural opportunities within a friendly, supportive environment. In our medium-sized university setting, you will enjoy the advantages associated with a large university—comprehensive academic resources and extracurricular activities—plus the individualized attention and friendliness that a small college community provides.

Washington University is recognized internationally for academic excellence. Whatever your interests—architecture, art, chemical engineering, international business, life sciences, performing arts, social science—we have classes available from which you may design a course of study that is right for you.

And whatever you may choose to study, you'll learn from teachers who are leaders in their fields. Our faculty are renowned for their scholarly, creative, and research achievements and are committed to both teaching and learning.

Outside the classroom, you can take advantage of special internships and cooperative education programs, enroll in study abroad programs, and participate in exciting research and fieldwork alongside faculty and graduate students. In addition to studying, you have the opportunity to pursue a wide

range of interests in approximately 200 student-run organizations.

Students choose Washington University because our focus is on our students, our mission is learning, and our commitment is to quality education.

## About Washington University

### Who We Are Today

When Wayman Crow and William Greenleaf Eliot founded Washington University in 1853, they envisioned it as a great center of learning for the youth of St. Louis. Since then, Washington University has grown in both size and stature, adding undergraduate and graduate schools, degree programs, departments, facilities, and student resources. Through the years, the University expanded not just its opportunities for learning, but also its campus boundaries, student populations, and faculty accomplishments.

Today, Washington University is a medium-sized independent university with a national reputation and a full-time undergraduate student body of about 6,000. We offer more than 300 undergraduate, graduate, and doctoral programs through the College of Arts & Sciences; the Graduate School of Arts & Sciences; University College; the Sam Fox School of Design & Visual Arts' College of Architecture, College of Art, Graduate School of Architecture & Urban Design, and Graduate School of Art; the Olin Business School; the School of Engineering; the School of Law; the School of Medicine; and the George Warren Brown School of Social Work.

Our 169-acre Danforth Campus is set just west of the city of St. Louis in a friendly, sub-

urban setting, adjacent to Forest Park, site of the 1904 World's Fair and one of the nation's largest urban parks. The Danforth Campus comprises a beautiful mixture of Gothic architecture and modern buildings.

At the other end of Forest Park is our 59-acre Medical Campus, which includes the School of Medicine and associated hospitals and institutes of the Washington University Medical Center. Our West Campus and South Campus are in Clayton, the North Campus is in the city of St. Louis, 560 Music Center and Lewis Center are in University City, and the University's Tyson Research Center is 20 miles southwest of St. Louis.

### Undergraduate Enrollment by School (as of November 2007)

College of Arts & Sciences	3,771
Olin Business School	749
Sam Fox School, College of Architecture	200
Sam Fox School, College of Art	339
School of Engineering	1,065
<i>Total Full-time Undergraduate Students</i>	6,124

### Committed to Our Students: Mission Statement

Washington University's educational mission is the promotion of learning—learning by students and by faculty. Teaching, or the transmission of knowledge, is central to our mission, as is research, or the creation of new knowledge. The faculty, composed of scholars, scientists, artists, and members of the learned professions, serves society by teaching; by adding to the store of human art, understanding, and wisdom; and by providing direct services, such as health care.

Our goals are to foster excellence in our teaching, research, scholarship, and service; to prepare students with the attitudes, skills, and habits of lifelong learning and with lead-

explain and justify those norms.

**Be ready to accept social and environmental responsibility.** We all lead local lives; we have close regional concerns; we each have a flag; we are members of the human community; and we share our world with the trees, the bees, and the bears. The compass of citizenship directs us to family, city, nation, and world.

**Recognize that the arc of learning is lifelong.** Learning is the same as living. It isn't any old apple a day that keeps the doctor away. It is an apple from the tree of knowledge.

### Intellectual development

**Reasoning.** The student should develop a strong, supple, disciplined mind, which can understand and analyze complex arguments and is able to formulate and support informed opinions on a wide variety of issues.

**Communication.** The student should strive to write clearly, correctly, and forcefully; to speak fluently and well. These skills signify the presence of a careful, uncluttered, and imaginative mind.

**Aesthetic appreciation.** Unless the student is satisfied to be someone who "knows

what they like," he or she should have an appreciation of aesthetic principles and some knowledge of the accomplishments of the arts, gained through formal study, personal creative endeavor, or attending exhibitions and other arts-related programs.

**Mathematical skill.** The student should understand basic mathematics and be able to use mathematical techniques to solve practical problems, as well as have some appreciation of the role of mathematics in the history of ideas.

**Historical perspective.** Those who are ignorant of history are not only doomed to repeat it, they are doomed to be beaten by it. Some understanding of the historical development and current state of human activities, knowledge, inventions, and institutions is essential.

**Scientific understanding.** We live in a scientific and technological world, and what the scientists discover and the technologists invent is sometimes more important in the long run than who rules in what country. The student should become familiar with scientific methodology and gain an awareness of the impact scientific discovery has had in shaping the past and will continue to have in

the future. Students should also have an appreciation of the principles on which technology is based and the creative procedures through which knowledge is transformed into useful mechanisms and processes.

**Literature.** Students should be able to read and analyze a wide range of texts, including significant works of literature, and have some grasp of the impact on a culture of language well and powerfully used.

**International and cultural awareness.** A language as wide-ranging, rich, and powerful as English may not seem confining, but those who put another tongue in their mouths have changed more than their anatomy. It will be unthinkable, in the world to come, to be ignorant of other climes and cultures, other languages and literatures.

**Information acquisition and research.** Students must master the techniques of locating and retrieving information by learning to use a variety of information sources.

Does this seem like a lot? You cannot do everything at once. College is only preparatory. It will possibly let you know what you don't know; it should give you the tools to fill in the blanks; but above all, it should fill you with a fire for a lifetime of learning.

ership skills, enabling them to be useful members of a global society; and to be an exemplary institution in our home community of St. Louis, as well as in the nation and in the world.

Through our goals Washington University intends to judge itself by the most demanding standards; to attract people of great ability from all types of backgrounds; to encourage faculty and students to be bold, independent, and creative thinkers; and to provide the infrastructure to support teaching, research, scholarship, and service for the current and for future generations.

## Teaching and Learning at Washington University

### A Statement of Expectations

*Endorsed by the Undergraduate Council*

All members of the Washington University community share responsibility for creating an atmosphere conducive to learning. A collaborative learning environment involves the active participation of both instructors and students in the classroom and in activities outside the classroom. This environment requires:

- the best effort on the part of both faculty and students to enhance the learning experience for the benefit of all persons involved;
- the recognition that all present play important roles; all participants in the learning experience deserve respect for what they bring to it, and all should be sensitive to the importance of the others in this process;
- an atmosphere in the classroom of mutual respect for all persons regardless of political, ethnic, religious, gender, sexual orientation, and disability considerations.

**Expectations and responsibilities of the faculty.** The faculty member is involved in several major roles, including those of teacher, scholar-researcher, and citizen in the University. For the unimpeded performance of these functions, the faculty member is guaranteed academic freedom. At the same time, faculty members have clear responsibilities to the students and to the institution, particularly in her/his role as teacher. Instructors should provide the basic outlines for the learning experience and provide guidance as appropriate, generally in the form of a hand-out. Such guidance should normally involve:

- the presentation of a syllabus that clearly identifies the goals of the course and its prerequisites, a schedule of major assignments and examinations, explicit criteria for how student work will be evaluated, and a clear articulation of ground rules for classroom interaction (How much active participation is expected of the student? Is attendance required? If the course meets over the lunch hour, is it acceptable to eat during class?);
- reminding students of the University's standards for academic integrity (see also pages 18–19);
- bringing new perspectives and insights to assigned readings and other text materials;
- regularly meeting class and punctuality in starting and dismissing class;

- prompt and responsible grading, with evaluative comments and opportunities for students to discuss their grades with the faculty member;

- adherence to the announced office hour schedule and offering as many avenues as possible for contact, including by telephone and e-mail;

- the use of appropriate technology as relevant both inside and outside the classroom to enhance communication between faculty and students (including web pages, microphones, and overhead projectors);

- close oversight of teaching assistants (TAs), especially to ensure grading uniformity in large classes;

- facilitation of regular student evaluations of their teaching methods and materials, including mid-semester evaluations, as a means to create an atmosphere of shared responsibility within the classroom;

- when possible, avoiding prohibitive costs when ordering textbooks and other course materials;

- adhering to the published final examination schedule to avoid interfering with students' preparation for other classes.

**Expectations and responsibilities of the students.** Students must take responsibility for their own learning. Students also share with the instructor the responsibility for providing an environment conducive to learning.

**Students should personally:**

- be actively engaged with the material and with the process of education;
- build their own knowledge and skills (faculty guide students to materials and methods, but the learning is up to the student);
- attend all classes, both lecture and discussion sessions, and participate in discussions;

- prepare for classes in accordance with the class syllabus;

- be punctual in completing assignments;
- behave in the classroom in a manner that demonstrates concern for other students;

- share responsibility for the flow of communication concerning a course (this may involve regularly checking the course web page for changing assignments and relevant information and responding to e-mail from instructors; using the e-mail address assigned by the University is the easiest way to ensure that instructors can reach all students in the class);

- be familiar with and adhere to matters of academic integrity as identified by their School within the University;
- participate in objective and constructive evaluations of the instructor and of the course (this helps to clarify problems and strengths that will help the instructor to improve the course in subsequent semesters).

**Special student concerns.** Students should take the initiative in discussing special arrangements with the instructor when for any reason they miss class. Students should also recognize that the collective needs of the faculty and other students in a course may outweigh individual preferences. Faculty should be sensitive to individual student needs for special arrangements:

- to accommodate disabilities, illnesses,

or academic or professional opportunities that interfere with usual class attendance or performance;

- for students who miss class because of religious holidays.

**Responsibilities of the University administration.** For its part, University administrators must:

- continue to provide facilities and to ensure adequate classroom and laboratory space that is stocked with sufficient appropriate equipment;

- give priority to supporting both faculty and students in teaching and learning;
- be responsive when normal communications between faculty and students break down by providing for discussion and negotiations;

- facilitate communications among various constituents of the University;

- facilitate the flow of visitors to the classroom by notifying faculty in advance of such matters in a timely fashion.

### Where to get help

*For instructors:* The departmental chair, the Teaching Center, colleagues, and the relevant dean's office can offer useful advice on teaching techniques, materials, and methods.

*For students:* The instructor, TAs, and Cornerstone can provide guidance on how best to learn; the Writing Center can be a helpful resource for all sorts of written assignments. For complaints, contact the relevant dean's office for further advice.

### Flexible Options

With more than 1,900 courses in more than 150 undergraduate programs, you can chart your own course at Washington University. Many major programs allow you to tailor a course of study that fits your particular needs. Depending on your interests and goals and the requirements of the school in which you are enrolled, you may even be able to design your own major.

If you're uncertain about which major to pursue, we provide the opportunity to explore your choices. To help you develop a program that best meets your long-term goals, you will work with an academic adviser who will get to know you and your academic requirements.

As an undergraduate student at Washington University, you have the opportunity to study across a variety of disciplines. Many majors incorporate courses from several disciplines. You also may be eligible as a third- or fourth-year student to enroll in specialized graduate courses.

You may choose to concentrate your major in one discipline, which allows you to focus on a particular area either specifically or broadly. Through a number of Combined Studies programs, you may elect to major in one subject and minor in another, which gives you an intensive focus in one area and a solid introduction to another. Students combine such areas as engineering and art, business and political science, architecture and history, or computer science and communication design.

Another Combined Studies option is to major in two areas under one degree, such as

a Bachelor of Arts degree in both history and French, earned within the College of Arts & Sciences. Alternatively, you may choose two majors from different schools earned under one degree, such as a Bachelor of Arts degree in English literature from the College of Arts & Sciences, with a second major in finance from the Olin Business School.

Earning two degrees from two different schools also is an option that usually requires additional units to complete. Programs such as a Bachelor of Arts degree in mathematics from the College of Arts & Sciences and a Bachelor of Science degree in Mechanical Engineering from the School of Engineering are available.

**University Scholars Program.** The University Scholars Program gives selected students the opportunity to be admitted to undergraduate study and to a graduate program at the same time. This gives a select group of highly motivated students an early orientation to a career path that interests them. Before entering college, students apply for admission to both undergraduate and graduate degree programs.

Those accepted into the University Scholars Program will receive pre-professional advising and will be invited to attend special events, such as guest lectures, taking place within the graduate program. They will have a mentor from their graduate program. Graduate study is available through this program in business, law, medicine, and social work.

**If your plans change, you are not required to attend the graduate program.**

To participate in the University Scholars Program, you must be admitted to Washington University and enter the University as a full-time student in the fall. In addition, you will need to complete the application for the University Scholars Program. The University Scholars Committee will select a group of finalists, who will be invited to visit campus during the spring of their senior year of high school, at the University's expense, to participate in special activities and interviews.

Those who are named University Scholars will be notified shortly thereafter. All application forms are available on our web site at [admissions.wustl.edu](http://admissions.wustl.edu). Additional information about the University Scholars Program is available at [uscholars.wustl.edu](http://uscholars.wustl.edu).

## Registration

Students register for classes online, using the University WebSTAC functions on the WU homepage ([www.wustl.edu](http://www.wustl.edu)). Online registration for continuing students at Washington University begins in late April for the following fall semester and in late November for the spring semester. Prior to arrival on campus, new students will receive information from their deans' offices outlining the procedures to follow for registration.

## Class Size

More than three-fourths of Washington University's undergraduate classes range from 1 to 24 students. We believe smaller classes help you learn more through stimulating group discussion. Many of your classes may be larger at first, but they generally become

smaller as you progress in your chosen field.

Depending on the department you choose, your classes may be smaller or larger than the overall average of 19 students per class.

## Average Class Sizes by Level

(Introductory to Advanced)

Class Size	L-100	L-200	L-300	L-400
1-10	318	286	352	578
11-24	302	169	337	263
25-39	39	46	112	55
40-64	37	32	71	34
65-100	25	31	41	9
101-200	29	9	14	0
Over 200	13	6	2	0
<b>Totals</b>	<b>763</b>	<b>579</b>	<b>929</b>	<b>939</b>

## Undergraduate Degree Opportunities

### College of Arts & Sciences

#### Majors, Second Majors, and Concentrations

African and African American Studies  
 American Culture Studies  
 Anthropology  
 Arabic  
 Archaeology  
 Art History  
 Biochemistry and Molecular Biology  
 Biology  
 Chemistry  
 Chinese  
 Classics/Ancient Studies  
 Comparative Arts  
 Comparative Literature  
 Dance  
 Drama  
 Earth and Planetary Sciences  
 East Asian Studies  
 Economics  
 Education  
 Educational Studies  
 English Literature  
 Environmental Studies  
 European Studies  
 Film and Media Studies  
 French  
 German  
 Geobiology  
 Hebrew  
 History  
 Interdisciplinary Project in the Humanities  
 International and Area Studies  
 Italian  
 Japanese  
 Jewish, Islamic, and Near Eastern Studies  
 Latin American Studies  
 Linguistics  
 Literature and History  
 Mathematics  
 Music  
 Persian  
 Philosophy  
 Philosophy, Neuroscience, and Psychology  
 Physics  
 Political Economy  
 Political Science  
 Psychology  
 Religious Studies  
 Spanish  
 Urban Studies  
 Women, Gender, and Sexuality Studies

### Minors

*Minors are offered in most of the above and in:*

Ancient Studies  
 Applied Statistics and Computation  
 Bioinformatics  
 Biomedical Physics  
 Children's Studies  
 History and Philosophy of Science  
 Institutional Social Analysis  
 Jazz Studies  
 Korean Language & Literature  
 Learning Sciences  
 Legal Studies  
 Persian  
 Public Health  
 Renaissance Studies  
 Russian  
 South Asian Language & Civilization  
 Text and Tradition  
 Writing

### Olin Business School

#### Majors

Accounting  
 Economics and Strategy  
 Entrepreneurship  
 Finance  
 Healthcare Management  
 International Business  
 Marketing  
 Operations and Supply Chain Management  
 Organization and Human Resources

#### Minors

Accounting  
 Business Economics  
 Finance  
 Healthcare Management  
 Marketing  
 Operations and Supply Chain Management  
 Organizational Behavior  
 Strategy  
 General Business (for non-B.S.B.A. degree students only)

### Sam Fox School, College of Architecture

#### Major

Architecture

#### Minors

Architecture  
 Urban Design

### Sam Fox School, College of Art

#### Majors

Communication Design  
 Digital Imaging and Photography  
 Fashion Design  
 Painting  
 Printmaking/Drawing  
 Sculpture

#### Minors

*Minors are offered in all of the above and in:*  
 Art  
 Book Arts

### School of Engineering

#### Majors

Biomedical Engineering  
 Chemical Engineering  
 Civil (Structural) Engineering  
 Computer Engineering  
 Computer Science  
 Electrical Engineering

Mechanical Engineering  
Systems Science and Engineering

### Second Majors

Computer Science  
Systems Science

### Minors

Aerospace Engineering  
Bioinformatics  
Computer Science  
Electrical Engineering  
Environmental Engineering  
Robotics  
Structures

## University College

University College is the evening division of Arts & Sciences and offers a wide range of courses in a variety of academic departments and interdisciplinary and professional areas of study. Part-time and full-time study in undergraduate degree programs, graduate degree programs, and certificate programs is available. In addition, University College offers several special credit programs, such as the College Credit Program for high school students, and special noncredit programs, such as short courses, writing workshops, and career workshops.

## Faculty Dedicated to Teaching

In your courses, you will learn from renowned faculty who are dedicated to your undergraduate learning experience.

Washington University's faculty are distinguished both for their teaching and for their research and creative activities. Virtually all of the full-time teaching faculty hold the doctorate or final professional degree in their fields, and the same professors often teach both undergraduate and graduate courses.

Many faculty serve as undergraduate academic advisers, using their experience and knowledge to help you plan your courses. You'll have the opportunity to work with your professors on important research and independent study projects, to confer with them during their office hours, and to interact with them outside the classroom at lectures, at special events, and on field trips.

## Some Honors Awarded to Faculty

- 1 Nobel Memorial Prize in Economic Sciences
- 1 Nobel Prize in Chemistry
- 3 National Book Critics Circle Awards
- 3 MacArthur Prize Fellowships
- 2 National Medals of Science
- 3 David and Lucile Packard Foundation Fellowships in Science and Engineering

## Faculty Membership in Honorary Societies

American Academy and Institute of Arts and Letters  
American Academy of Arts and Sciences  
American Association for the Advancement of Medicine  
American Association for the Advancement of Science  
American Institute of Architects  
American Institute of Medical and Biological Engineering  
American Law Institute

American Philosophical Society  
Institute of Electrical and Electronics Engineers  
Institute of Medicine  
National Academy of Engineering  
National Academy of Sciences

## Academic Opportunities

At Washington University, the undergraduate experience offers a variety of exciting opportunities for exploring your intellectual interests.

**Residential Colleges.** All new students who live on campus reside in one of the residential colleges located on the "South 40" residence hall area. Each residential college comprises two or three buildings that form a single community. Each college has its own identity and offers residents a wide variety of programs and activities.

The newest residential colleges offer an opportunity for students to be part of a living and learning environment that includes a faculty member who lives in the college and provides academic counseling to students.

**Research.** Washington University is a leading research institution, and we encourage students to pursue research interests. Interested students may have the opportunity to collaborate with faculty on significant research projects in the studio, in the laboratory, or in the field. In addition to faculty research, there also are special research programs available, such as the Department of Biology's Summer Scholars Program in Biology and Biomedical Research.

**Internships, cooperative study, and employment opportunities.** These are available in a wide range of disciplines. The Career Center is a clearinghouse for information on internships and employment opportunities (see page 8). Students also can use alumni contacts to help craft a unique experience. You may choose to work locally or out of town in corporations, nonprofit organizations, or governmental agencies.

Information about a variety of public service internships and volunteer service opportunities is available from the Gephardt Institute for Public Service.

The Career Center offers the Engineering Cooperative Program (Co-op) to qualified engineering students. This program integrates professional work experience with formal academic training, practically preparing students for advanced positions in some of the more progressive companies in the United States. Recognition of the work experience is indicated by entries on your academic record.

Students will find many exciting opportunities for internships in Washington, D.C., at the world-class Washington University School of Medicine, and within the individual departments of the undergraduate schools. The Olin Business School and the Department of Romance Languages and Literatures in Arts & Sciences offer internship programs in international business.

The Mildred Lane Kemper Art Museum offers opportunities for students to gain experience in a range of museum activities. It also runs a volunteer student docent program and employs approximately 90 Federal Work-

Study students each year. Some of these positions qualify as community service.

The Skandalaris Center offers 20 internships to students every summer, including a stipend as well as room and board on campus for the 10-week period. The program provides an exceptional learning experience for the students, and St. Louis enterprises benefit from the contributions of talented Washington University students who have a strong interest in entrepreneurship. The program includes a speaker series and multiple opportunities to connect with the St. Louis innovation environment.

**Study abroad.** International study provides a valuable learning experience that helps you gain knowledge and understanding of cultures and societies other than your own. Programs are offered in more than 40 different countries. Through the Office of International and Area Studies in the College of Arts & Sciences (314/935-5958), students in Arts & Sciences can choose a program that best suits their interests and the requirements of their major or minor.

Each undergraduate school or college has its own Study Abroad policy and programs. Students in Business and Design & Visual Arts should consult with their Dean's Office. Students in Engineering should consult with the Engineering Student Services Office.

In Arts & Sciences, semester and year-long Study Abroad programs are available in Australia, Britain, the Czech Republic, Chile, China, Egypt, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Kenya, Korea, the Netherlands, New Zealand, Russia, South Africa, and Spain, depending on your major.

Summer programs, many focusing on intensive language learning, are offered in China, Ecuador, France, Germany, Italy, Kenya, Mexico, and Spain. A four-week summer course in acting and directing is available at Shakespeare's Globe Theatre in London. Opportunities to incorporate academic interests with a summer service internship overseas also are being expanded.

Business students have the opportunity to participate in various Study Abroad programs offered both through the Olin Business School and the College of Arts & Sciences. Olin's International Internship Program offers students the opportunity to combine classroom learning with an internship experience in Germany, Britain, or France. A summer program in London offers a unique opportunity to study international business in the center of the world's leading international financial center. Olin students may participate in a traditional study abroad experience through an academic exchange program or a semester-based experience. Opportunities to study abroad are available in Australia, Hong Kong, Italy, and Spain. Olin students will combine their business studies with a blend of liberal arts course work and continue their pursuit of their degree requirements without disruption at one of the approved locations of study. Additional information about Olin's study abroad programs is listed on our web site: [www.olin.wustl.edu/bsba/srv/abroad.cfm](http://www.olin.wustl.edu/bsba/srv/abroad.cfm).

Engineering Students can choose from a wide range of choices for study abroad experiences. Programs include summer, semester, and year-long study in engineering as well as other disciplines. In addition, students can engage in short-term (two to three weeks) international study opportunities with WU Engineering professors. Engineering also works with the Arts & Sciences Overseas Programs Office to offer additional study abroad opportunities. Students may find study abroad a great way to pursue a second major or minor in a foreign language or other area.

The Sam Fox School of Design & Visual Arts has both a semester and a summer program at the Washington University in St. Louis Florence Center in Florence, Italy. Additionally, students in the College of Architecture can spend four-and-one-half weeks during the summer studying and documenting significant buildings and spaces throughout Europe. Senior architecture students also may study at the Denmark International Studies Program in Copenhagen, Denmark.

To study abroad on a semester or year-long program, you must be in your junior or senior year and have a B average. You also should be able to speak and write competently in the language of instruction (some programs offer instruction in English). Credit hours earned abroad will be determined upon your return to Washington University and according to your degree requirements; normally, you may earn 15–30 credit units toward the Bachelor of Arts degree or the Bachelor of Science degree.

Participating in a Washington University-sponsored or approved program may allow financial assistance to follow you abroad. Plan ahead if you're considering going abroad — talk to your adviser, declare a major, and contact the Study Abroad representative for your school at least one year before you intend to depart.

## Our Community Outside the Campus

The University's central location in St. Louis makes it easy for you to explore our exciting city and surrounding metropolitan area. We're located just seven miles west of the famous Gateway Arch and downtown riverfront St. Louis, easily accessible by MetroLink, the city's light rail system.

The St. Louis metropolitan area is ranked as the 18th largest in the United States and ranks sixth in the number of Fortune 500 company headquarters.

**Neighborhoods.** St. Louis is a region of distinct neighborhoods, each with its own charm and character. Surrounding our suburban campus are the neighborhoods of University City, Clayton, and the Central West End, which are filled with parks, office buildings, historic homes, ethnic restaurants, museums, and interesting shops.

You will have the opportunity to spend leisure time in beautiful Forest Park, site of the 1904 World's Fair, which is now a sprawling municipal park located on the east side of the Danforth Campus. The park is

home to the Saint Louis Zoo, Saint Louis Art Museum, the Missouri History Museum, and the St. Louis Science Center. It features numerous lakes, sports fields, and miles of wooded areas and bike paths, which thousands use for ice skating, canoeing, picnicking, soccer, softball, in-line skating, cycling, jogging, and walking. The park also features an 18-hole golf course, tennis courts, and handball courts.

**Cultural advantages.** St. Louis is home to exciting cultural treasures, such as the acclaimed Saint Louis Symphony Orchestra; the ornate Fox Theatre, which was once the second-largest movie theater in the United States and now hosts touring theatrical productions; the Black Repertory Theatre; the Repertory Theatre of St. Louis; the internationally recognized Saint Louis Art Museum, Pulitzer Foundation for the Arts, Contemporary Art Museum St. Louis, Laumeier Sculpture Park, and Opera Theatre of St. Louis; many other small theaters and experimental drama studios; Verizon Wireless Amphitheater; dance groups; art film houses; art galleries and museums; and music and comedy clubs. Other area universities also sponsor a wide range of programs and performances.

Professional sports teams include the baseball Cardinals, the hockey Blues, and the football Rams.

## Advantages of Being a Washington University Student

A complete undergraduate experience should include opportunities for learning outside the walls of a classroom, studio, or laboratory. That's why, at Washington University, you can broaden your experience by joining student organizations that range from musical to political to athletic, by attending special entertainment events, and by taking advantage of a broad spectrum of campus services and programs.

### Student Activities: Learning Beyond the Classroom

Students and faculty represent more than 125 different countries and every ethnic group in the United States. This diverse population helps to contribute to the richness of cocurricular student-sponsored activities.

**Campus groups, clubs, and organizations.** As an undergraduate student, you can explore your interests, discover new experiences, and develop lasting friendships in our approximately 200 campus groups, clubs, and organizations. Student leaders administer an activities fund of approximately \$2 million for such student groups.

You may choose to get involved in:

- academic and preprofessional organizations
- community and volunteer service
- fraternity and sorority life
- intramural sports and recreation
- media and literary organizations
- multicultural opportunities
- music, dance, theater, and visual art

- politics and social action groups
- religious life
- student government

Information about student activities may be obtained through the Office of Student Activities, located in the Danforth University Center.

**Other activities.** Campus entertainment serves a wide variety of interests and provides opportunities to socialize. For example, there are film series, coffeehouses, bands and other musical groups, and parties and dances sponsored by various organizations. Theatrical performances, concerts, films, lectures, exhibitions, museum tours, and readings are frequently scheduled on campus and around the St. Louis area. Chief among them is the Assembly Series, which brings to campus leading scholars, authors, artists, and other public figures of national and international renown, whose campus visits complement the curriculum and broaden the classroom experience.

You can participate in such popular student-sponsored events as Thurtene Carnival, the nation's oldest and largest student-sponsored fair; Service First, Each One Teach One, Campus Y programs, and STONE Soup, programs through which students are introduced to and become involved in community service; Black Anthology, a student-run theatrical production; Lunar New Year's Festival and Diwali (Indian Festival of Lights), both student-produced cultural performances; All Student Theatre, a student-produced production held outdoors; and WILD (Walk In Lay Down), a semiannual outdoor festival that features music and food.

**Varsity sports.** You may choose to take part in varsity sports either as a team member or as a fan. Washington University is an NCAA Division III school and a founding member of the University Athletic Association (UAA), which includes Brandeis, Carnegie Mellon, Case Western Reserve, Chicago, Emory, New York, and Rochester universities.

The University's men's varsity sports are baseball, basketball, cross country, football, soccer, swimming/diving, tennis, and indoor and outdoor track and field. Women's varsity sports include basketball, cross country, golf, soccer, softball, swimming/diving, tennis, indoor and outdoor track and field, and volleyball.

To learn more about the varsity sports programs or to contact a coach, visit the Athletic web site: [bearsports@wustl.edu](mailto:bearsports@wustl.edu).

**Musical ensembles.** You may audition and participate in University musical ensembles either for academic credit or as an extracurricular activity. The following ensembles perform publicly at least once a semester: Symphony Orchestra, Chamber Winds, Concert Choir, Jazz Band, Flute Choir, Opera Production, small chamber ensembles, and jazz combos.

### Student ID Cards

A Washington University student ID Card provides current students with access to various campus buildings and labs, as well as the residence halls, athletic complex, the

campus Metro/shuttle service, and admission to various campus events. The student ID Card may also be used for library privileges, dining services, and purchases through the Campus Card program.

New students are provided with an initial ID Card at no cost. Student ID Cards for all Danforth Campus students are issued by the Office of Student Records, located in the Ann W. Olin Women's Building.

## Campus Housing

Living in one of the University's residential colleges, located in an area called the South 40, provides an opportunity to get to know other students well and allows you to take full advantage of campus offerings. As a full-time freshman student, if you live outside the St. Louis metropolitan area (more than 25 miles away), you are required to live in a residential college. (The majority of other undergraduate students choose to live in University housing as well.)

For your first year, housing in one of our residence halls is guaranteed. You may choose to live in one of our limited number of single rooms or in a double room or a triple room. Most first-year students live in double and triple rooms. Each floor has a resident adviser (RA), who provides support services and advising and arranges social and educational events. Each residential college has a residential college director (RCD).

Housing applications are mailed to you upon admission to the University. You must fill out the application and return it along with the required advance payment before a room assignment is made.

New students may occupy rooms on the first day of New Student Orientation and may stay until the day following the last day of final examinations. Residence halls are officially closed during winter recess.

The Office of Residential Life also manages a wide variety of other housing options for upper-class students ranging from suites to on- and off-campus apartments. The Village housing complex, located on the northwest corner of campus, provides living opportunities for groups of students who share common interests and goals. Each group, which ranges in size from four to 24 members, has a faculty or staff mentor.

You may contact Residential Life for more information about student housing at 314/935-5050 or the web site: [reslife.wustl.edu](http://reslife.wustl.edu).

## Meal Plans

Meal plan options for resident students at Washington University consist of several different declining balance plans. Each plan provides students with a predetermined dollar amount from which food and beverage purchases are deducted throughout the year. Plans vary by price according to the student's dining needs, but first-year students are required to purchase one of the three larger plans.

Students who move off-campus are also required to purchase a meal plan. The Off-Campus Plan is much smaller than the resident meal plans and is designed to provide the convenience and savings of a meal plan to

students who eat on campus only two or three times per week.

Kosher and fraternity meal plans are also available, with the fraternity plan being a requirement for members living in The Village.

For more information about meal plans, call Residential Life at 314/935-5050.

## Parking & Transportation Services

Parking on campus requires a permit or pass. To learn more about the parking options available, contact Parking Services at [parking.wustl.edu](http://parking.wustl.edu) or 314/935-5601.

There are many transportation options on and around campus. To learn more about transportation options in the area, and to get information about the U-Pass program, visit Transportation Services at [parking.wustl.edu](http://parking.wustl.edu) or 314/935-4140. The parking and transportation office is located at the North Campus, 700 Rosedale Ct., St. Louis, MO 63112.

## Off-campus University Housing

After your freshman year, you may choose to live more independently in one of the many University-owned apartment buildings located in nearby residential neighborhoods. Some of these buildings are wired for Internet access and the University phone system, and there is community-based staff available. In addition, there is an evening watchman patrol, and public transportation services are close and convenient. For more information on University-owned apartments, see the Off-campus Housing homepage at [www.offcampushousing.wustl.edu](http://www.offcampushousing.wustl.edu) or contact our management agent at Quadrangle Housing, 700 Rosedale Ct., St. Louis, MO 63112; 314/935-9511 or 1/800/874-4330; or fax 314/935-9515; or send e-mail to [offcampushousing@wustl.edu](mailto:offcampushousing@wustl.edu).

## Apartment Referral Service

The Apartment Referral Service (ARS) offices are a source of information and support for students who wish to live off-campus. The ARS provides apartment listings and can answer all your questions about leases, security and damage deposits, and other landlord-tenant concerns. The office also serves as a resource of community services, such as schools, banks, transportation, sites to visit, and so forth.

If you have not made prior arrangements for housing, you should plan to arrive in St. Louis no later than five days to a week before registration to locate suitable accommodations. Late spring is the best time to search for housing for the fall; November or December is the best time to search for spring housing.

For more information, contact the Apartment Referral Service Office, Washington University, Campus Box 1016, 700 Rosedale Ct., St. Louis, MO 63112; 314/935-5092, or fax 314/935-7631; or send e-mail to [ars@wustl.edu](mailto:ars@wustl.edu).

## Student Support Services

### Career Services

The staff members of the two on-campus

career centers provide career advising and can help you improve your internship and job-seeking skills. They also offer workshops and seminars on résumé writing and interviewing and networking skills. The centers have comprehensive career resources libraries, offer on-campus recruitment interviews with major local, national, and international organizations, and assist you in finding employment after graduation. Because our career advisers work closely with you, they are able to tailor resources to fit your career objectives, interests, abilities, and preferences.

**The Washington University Career Center** offers personalized help to assist students as they search for an internship, research opportunity, engineering co-op or a first job. The Career Center offers services to all undergraduate students and has additional resources tailored to the needs of students in Arts & Sciences, Engineering, Art, and Architecture.

**Start Your Search Here!** Whether you are looking for a summer internship, a full-time job, or a one- to two-year transitional job, we are here to help. We have a breadth of resources, including eRecruiting, our online job and internship database; Job and Internship Search Teams; special events; skill-building workshops; career fairs; and on-campus interviews and résumé referrals for job opportunities. Stop by our office today to get started.

**Career Advising.** The Career Center offers one-on-one career guidance to students at any stage of their career-planning process. You have been assigned a Career Adviser who will follow you through four years at Washington University. You are encouraged to meet with your Career Adviser in your sophomore year and at least once each semester afterward to establish a relationship. To schedule an advising appointment, please call 314/935-5930.

**New Location.** The Career Center's main office is now located in Room 110 on the first floor of the Danforth University Center. We also have two satellite offices to better serve students in Engineering, Art, and Architecture: 324 Lopata Hall and Steinberg Hall. You can contact us via phone at 314/935-5930, e-mail at [careers@wustl.edu](mailto:careers@wustl.edu) or website at [www.careers.wustl.edu](http://www.careers.wustl.edu).

**College of Art Career Services.** The "Life After Art School Seminar" taught by College of Art faculty covers a variety of topics specific to artists. Upper-level students also receive career guidance from faculty in the individual majors. Support in locating internships and residencies is available in Room 1 of Bixby Hall. The Career Center also provides a career adviser in its office in Steinberg Hall who works with Art students to locate internships and residencies and assists with post-graduation career planning. Call 314/935-5930 to schedule an appointment.

**Weston Career Center.** The Weston Career Center offers a full range of career-planning and job-search services and resources for students in the Olin Business

School. The center also is available to non-business students with a business minor, math, economics, or double major referred by other campus career centers for career, company, industry, and employment information relating to the business world.

Managing Your Business/Career Strategy (MGT 200) is a course geared to sophomore-level business students who wish to develop career-planning skills to help them secure summer internships and/or full-time jobs. The course covers self-assessment, résumé- and cover-letter writing, networking, interviewing techniques, and information on the Olin School curriculum. Career panels with professionals in business provide students the opportunity to hear firsthand about a variety of careers and companies as well as to network. Students are encouraged to work closely with the undergraduate advising team to design and implement a career plan suited to their interests and goals. The Career Preparation Series (CPS) is also available online and addresses career search strategy.

The Career Resources Library is well stocked with company and career information, reference materials, and contact databases, including a large network of alumni who have volunteered to assist students. A large array of online information also is available.

Full-time, part-time, and summer job postings, as well as other useful information, are available via the center's homepage at [www.olin.wustl.edu/wcc](http://www.olin.wustl.edu/wcc).

### Additional Student Services

**Cornerstone: The Center for Advanced Learning.** Located on the first floor of Gregg Residence House on the South 40, Cornerstone offers a variety of academic and technology services and provides accommodations to students with disabilities. They provide course-specific mentors, study groups, and intensive intercession review programs in such gateway courses as chemistry, physics, and mathematics. They offer workshops on study skills, time management and note-taking, as well as evening walk-in help desks for calculus and writing. In addition, Cornerstone offers final exam work sessions for chemistry, math, and physics. Take advantage of their Tech Lab to learn new software programs and access practice problem sets. Use their resource room and lobby area to study or relax. Services provided to students are free. Last year about 3,000 students participated in one or more Cornerstone programs. For more information, visit the web site at [cornerstone.wustl.edu](http://cornerstone.wustl.edu) or call 314/935-5970.

**Disability Resources.** Cornerstone also is the home of Disability Resources, the official source for students with disabilities or suspected disabilities. If you have received accommodations in the past or have any physical, learning, or attention disorders, you may request accommodations and services to ensure equal access in the classroom. Visit the web site at [disability.wustl.edu](http://disability.wustl.edu) or call Cornerstone at 314/935-5970 for more information. Disability Resources is located

within Cornerstone, first floor Gregg Residence House, on the South 40.

**Office for International Students and Scholars.** If you're a student joining the University from a country other than the United States, this office can assist you through its orientation programs, by issuing certificates of eligibility (visa documents), and by offering a special program in the English Language Programs. In addition, the office provides personal and cross-cultural counseling and arranges social, cultural, and recreational activities that foster international understanding on campus.

The Office for International Students and Scholars is located in the Stix International House at 6470 Forsyth Boulevard.

**The Writing Center.** This center provides free writing advice to all Washington University students. Tutors help with a variety of works in progress, including student papers, senior theses, application essays, and oral presentations. The Center also offers workshops for students (for example, "Writing a Research Paper") and consultations for faculty who wish to assign more writing or speaking in their courses (for example, on topics such as evaluating student writing).

The Center can help students at any stage of the writing process, including brainstorming, developing and clarifying an argument, organizing evidence, and improving style. Rather than proofreading papers, tutors instead emphasize the process of revision and teach students how to edit their own work. Students primarily are seen by appointment, although walk-ins will be accepted as the schedule allows. For more information or to schedule an appointment, call 314/935-4981 or stop by the Writing Center in Eads Hall, Room 111.

## Reserve Officers Training Corps (ROTC)\*

### Army ROTC

**Military Science.** Army ROTC is a program that develops leadership, management, and training skills regardless of your career plans. Those who successfully complete the program will earn a commission as a Second Lieutenant in the U.S. Army, Army Reserve, or Army National Guard. All students are eligible to participate in Army ROTC courses. Introductory courses are available in which you will develop confidence, self-esteem, and motivation. The intent is to develop and refine your leadership traits and skills to ensure success. Instruction also includes the role of the military in national defense strategy. Once you accept a scholarship or enter the advanced courses (300 and 400 levels), you incur a military obligation. Military Science course work taken in the Army ROTC program does not count toward the A.B. degree in the College of Arts & Sciences.

For Army ROTC scholarship information, see page 21 of this *Bulletin*.

### Air Force ROTC

**Our Core Values:** Integrity First, Service Before Self, Excellence In All We Do. Air Force operations are currently conducted in the technologically demanding environments of air, space, and cyberspace. AFROTC is a four-year officer development program, producing the leaders of tomorrow's Air Force. In AFROTC, Washington University students have the opportunity to be challenged within a unique leadership environment, with the potential to earn a commission as a Second Lieutenant. Air Force ROTC attracts the very best and brightest college students. To receive more information, call 314/977-8328, and go to [www.afrotc.com](http://www.afrotc.com).

**Aerospace Studies:** The first two years of AFROTC are available to all qualified Washington University students — without incurring any service commitment. Classroom instruction consists of AS 100: Introduction to the Air Force, AS 200: The History of Aerospace Power, AS 300: Leadership Studies, and AS 400: International Security Studies & Preparation for Active Duty.

The Gateway Detachment is located on Saint Louis University's main campus at 3631 Forest Park Ave., St. Louis, MO 63108.

## University Libraries

**Collections.** The Washington University Libraries are a powerful academic resource with holdings of more than 3.7 million books, journals, maps, literary manuscripts, photographs, government documents, microforms, and AV titles. The University has 14 libraries (12 on the Danforth Campus, one at West Campus, and one at the Medical School) plus extensive services and expert librarians whose first priority is helping students and faculty find the information they need.

The center of this rich network of libraries is the John M. Olin Library, a 197,000-square-foot research library at the heart of the Danforth Campus. Olin Library houses collections in humanities, social sciences, engineering, and special collections; a technology center (the Arc); a dual-purpose café and extended-hours study space; reading rooms; lounges; and small-group studies. Other libraries serve specific departments or schools, including art and architecture, biology, business, chemistry, earth and planetary sciences, East Asian studies, law, mathematics, medicine, music, physics, and social work. Hours vary at each library.

The Department of Special Collections maintains the Libraries' many rare and unique non-circulating materials, including early printed books, literary manuscripts, archives, graphics, films, and ephemera. The four Special Collections units (Rare Books, Manuscripts, University Archives, and the Film & Media Archive) are divided between Olin Library and the West Campus Library. The unique scholarly resources in Special Collections draw scholars from around the world, and the department regularly hosts visiting classes, lectures, and exhibitions to showcase its holdings.

\* Present Department of Defense policy governing ROTC and AFROTC programs discriminates on the basis of sexual orientation; such discrimination is inconsistent with Washington University policy.

The digital library, the online gateway to all digital collections at the University, is administered by the Digital Library Services unit of the Libraries. Digital Library Services (created in 2006) offers support to students and faculty creating digital projects, and promotes, houses, and preserves these projects.

**Electronic Resources.** The Libraries offer instant access to vast online resources. Using the Libraries' web site ([library.wustl.edu](http://library.wustl.edu)), students can search the catalog, request or renew books, read articles, search databases, chat with a reference librarian, or check out upcoming library events. Using a popular service called MOBIUS, students can borrow materials from 60 academic libraries across Missouri and pick them up at whichever University library they specify. Library users may also request materials from libraries around the world through Interlibrary Loan. All electronic resources are available around the clock to people connecting from a library computer, dorm room or apartment, or anywhere that Internet access is available.

Computers, printers, and copiers are available at each library. Laptop users can plug into the network in some of the libraries or get wireless access in most areas of Olin Library, the Biology Library, the East Asian Library, the Gaylord Music Library, the Kopolow Business Library, and the Kranzberg Art & Architecture Library.

Geospatial Information Systems (GIS) is now available across the University. Supported by the Libraries, geospatial technology allows users to represent information visually on computerized maps. Researchers can create maps with several layers of data and explore the relationships among them.

**Research Help.** Washington University librarians can help students find information, identify the best resources, and improve research skills. Each subject librarian has expert knowledge in one or more areas of study and is available to help students discover new and more efficient ways of finding information for class assignments and research papers. Contact a subject librarian or check with the Help Center (Olin Library, Level 1) if you have questions. Students and faculty can use instant messaging to communicate with librarians.

**Events & Workshops.** The Libraries host regular exhibitions, talks, receptions, and other events focused on library holdings, as well as lectures by well-known authors; past speakers have included Frank McCourt, Salman Rushdie, William Gass, Susan Sontag, Christopher Buckley, and Joyce Carol Oates. In addition, the Libraries regularly organize workshops and information sessions on using library resources, honing research skills, and understanding trends in academic research, such as digital scholarship and GIS technology. For more information, check the Libraries' web site at [www.library.wustl.edu](http://www.library.wustl.edu)

## Campus Resources

### Research Affiliations

Washington University is affiliated with the

Central Institute for the Deaf, the Donald Danforth Plant Science Center, the Missouri Botanical Garden, the Newberry Library for Medieval and Renaissance Studies in Chicago, and the Saint Louis Zoo. The University also owns Tyson Research Center—2,000 acres located 20 miles west of the campus, which houses additional facilities for biology and physics. The Sam Fox School also houses the Newman Money Museum, a numismatic center.

In addition, the University has three interdisciplinary research institutes—the Division of Biology and Biomedical Sciences, the Center for Computational Biology, and the Institute of Biological and Medical Engineering—plus a number of interdisciplinary research centers on the Danforth and Medical campuses.

### Laboratories

The Department of Biology in Arts & Sciences has laboratories equipped for teaching and research in broad areas of biology—from molecular to field studies. Students and faculty have access to facilities at the Saint Louis Zoo and the Missouri Botanical Garden as well as our own 2,000-acre field station at Tyson. In addition, animal and plant growth facilities are available on our campus for research in advanced molecular and physiological studies. Numerous research laboratories at the Washington University School of Medicine and the Danforth Plant Science Center also introduce students who participate in faculty research groups to modern biomedical and biological instruments and techniques.

The Department of Chemistry in Arts & Sciences offers undergraduate laboratory courses in general, organic, and physical chemistry and radiochemistry. Students also have access to a variety of visible, ultraviolet, infrared, and fluorescence optical as well as nuclear magnetic and electro-paramagnetic resonance spectrometers. Lab facilities provide training in laser spectroscopy, X-ray diffraction, microelectronics, and mass spectrometry. The department operates world-class nuclear magnetic resonance, mass spectroscopic, and computational laboratories and research support services. Arts & Sciences Laboratory Sciences Building houses 11 new state-of-the-art teaching laboratories.

The Department of Earth and Planetary Sciences in Arts & Sciences has teaching laboratories for environmental dynamics, remote sensing, petrology, geochemistry, and geophysics. The Department also hosts the Geoscience Node of NASA's Planetary Data System. The Node archives and manages NASA spacecraft data from all missions, past and present. The Geoscience Node's extensive collection of digital images of the planets and their satellites, as well as other spacecraft datasets, is available for use by earth and planetary sciences students.

The Department of Physics in Arts & Sciences has four undergraduate laboratories—one for the introductory course and three for advanced courses in optics and biophysics, electronics, and physical measurements. Undergraduates also may work in laboratories

on special projects in the McDonnell Center for the Space Sciences; in the Laboratory for Ultrasonics; in the Laboratory for Novel Carbon Materials; and with research groups in nuclear magnetic resonance, materials science, and high-energy astrophysics.

The School of Engineering has numerous undergraduate laboratories in biomedical engineering, chemical engineering, civil engineering, electrical and systems engineering, and mechanical and aerospace engineering. In addition to the undergraduate instructional laboratories in these areas, many of the students studying computer science and computer engineering have access to state-of-the-art research laboratories in a wide range of areas including networking and communications, advanced software systems, computer engineering, mobile computers, media and machines, and sensor networks.

Biomedical engineering laboratories support courses in quantitative physiology, biotechnology, bioinstrumentation, and signal analysis and protein structure. In addition, research opportunities are available in a variety of laboratories, including cell mechanics, biomechanics, cardiovascular biophysics, developmental mechanics, and cardiac imaging.

Chemical engineering laboratories are used by undergraduates to study the principles of thermodynamics, transfer, reaction engineering, bioprocessing, and environmental engineering science. Laboratory work includes the use of equipment to separate the components of gases, liquids, and soils; and bench- and pilot-scale reactor technology to study reactor optimization and scale up. Opportunities for undergraduates exist in various research laboratories to perform experiments.

Civil engineering laboratories support courses in environmental (aerosol, water treatment, and bioremediation), structural (steel, concrete, composite, and timber structural components), and geotechnical and earthquake engineering. The earthquake engineering laboratory includes a "shake table," which is a seismic simulator to simulate earthquake loads on structures. Additionally, the laboratory has four tabletop "shake tables" for students to study the effects of dynamic loads on self-built structures.

Electrical and systems engineering laboratories support courses in basic electrical circuits, advanced electronics and modern instrumentation, electrical machinery, power electronics, digital signal processing, optimization, decision making, linear and nonlinear control systems, robotics, and telecommunications. The systems engineering laboratories support courses in control systems, robotics, optimization, and transportation networks.

Mechanical and aerospace engineering laboratories support courses in dynamics and vibrations, fluid mechanics, mechanical engineering design, machine design, materials science, and thermal science. Combustion laboratories also allow students to participate in ongoing research programs.

## Computing Facilities and Resources

Within the library, from computer centers on campus, and from your residence hall room, you can take advantage of computing resources, such as electronic mail, word processing, scientific applications, online library resources, and the Internet. The University's extensive fiber-optic network connects more than 20,000 computers on campus.

Each undergraduate school has independent computing facilities designed to support and enhance your learning experience. Word processing, desktop publishing, spreadsheets, statistical programs, design programs, and other programs are available in Macintosh and PC formats. Each school's computing facility offers students extended hours, with some open 24 hours. Support and assistance are always available.

All residence halls have wired and wireless computer connections to the Washington University network, as well as to the Internet. Most halls have computer centers that are open 24 hours, with Student Technology Consultants available to assist you with problems or questions. If you own your own computer, hookup to the University network is available in all halls directly from your room ([sts.wustl.edu](http://sts.wustl.edu)).

## Edison Theatre

Edison Theatre is the principal center for the performing arts on campus. Edison is home to OVATIONS, an annual series that brings the highest-caliber national and international artists in music, dance, and theater to Washington University and the St. Louis community. Focusing on presentations that are interdisciplinary, multicultural, and/or experimental, OVATIONS presents work intended to challenge, educate, and inspire. Edison is an affordable entertainment venue with student tickets to many events at half of the general public price.

Edison Theatre, along with the A.E. Hotchner Studio Theatre and Annelise Mertz Dance Studio, serves as home to an annual season of performing arts productions produced by the Performing Arts Department and Department of Music in Arts & Sciences. In addition, the Edison hosts a vast array of student-produced events, including productions by ASHOKA, the Association of Black Students, and the Chinese Student Association, to name but a few.

## Mildred Lane Kemper Art Museum

A part of the Sam Fox School of Design & Visual Arts, the Mildred Lane Kemper Art Museum is recognized as one of the finest university art museums in the country. The Museum's new home is a vital meeting point for the University and larger St. Louis communities to consider the connections between art and culture to contemporary life. The Museum presents a dynamic range of exhibitions, publications, and related public programs, including symposia, lectures, tours, films, concerts, and readings throughout the year. The Kemper Art Museum is distinguished by its permanent collection of more than 3,500 objects, which includes significant holdings of 19th-, 20th-, and 21st-century American and European paintings,

sculpture, prints, photographs, and installations. A stroll through the permanent exhibition galleries and adjacent sculpture plaza brings students into direct contact with major figures in the history of art, including George Caleb Bingham, Thomas Cole, Pablo Picasso, Alexander Calder, Jackson Pollock, Robert Rauschenberg, and Barbara Kruger. The Museum offers undergraduates professional opportunities to serve as a museum docent or work for the Museum in a number of different capacities.

## Design & Visual Arts Resources

The recently established Sam Fox School of Design & Visual Arts boasts a unique combination of academic, intellectual, and technological resources.

### Art & Architecture Fabrication Workshop

Wood and metal workshop and darkroom facilities are an important part of the School's curriculum and are used extensively for hands-on experimentation with materials, model building, full-scale detail construction, and furniture design and fabrication. The workshop equipment includes laser cutters, a CNC milling machines, and a 3-D printer.

### Des Lee Gallery

Located in the heart of the historic Washington Avenue Loft District, this 2,500-square-foot facility is housed in the University Lofts, an eight-story, 100-year-old refurbished warehouse with living and studio space for emerging visual artists. The Des Lee is a noncommercial venue with a reputation for showing local and internationally known contemporary artists in addition to annual student exhibitions.

### Kenneth and Nancy Kranzberg Art & Architecture Library

Located on the lower level of the Mildred Lane Kemper Art Museum, the Kranzberg Art & Architecture Library houses collections on art, architecture, art history, and archaeology in an inviting and elegant space. This library's 100,000-plus books and journals, AV materials, and special collections are supplemented by hundreds of online databases and electronic resources. Library staff are available to help with research questions, and students may help themselves to the use of computers, copiers, scanners, and quiet study space.

### Nancy Spirtas Kranzberg Studio for the Illustrated Book

Established through the generous support of Nancy and Kenneth Kranzberg and in partnership with Washington University Libraries, the Illustrated Book Studio brings together an unusual combination of scholarly and artistic practices. The Book Studio is dedicated to the study of narrative, the book, authorship, and publishing. Students explore the book form as artwork, consider narrative issues in

image and text, and learn the craft of handmade books.

## Visual Resources Collection

The Visual Resources Collection in the Department of Art History & Archaeology in Arts & Sciences holds more than 200,000 slides and digital images encompassing a broad range of visual culture, particularly in the areas of art and architecture. Use of the collection is strictly limited to Washington University faculty and is by appointment only to ensure that service and space for your use will be available.

The Visual Resources Collection also plays a vital role in the development of Luna Insight, an innovative digital image management system. Luna Insight will allow faculty and students to search for, retrieve, and present digital materials in a visually dynamic image "workspace." The Luna Insight system reflects the true potential of technology to provide broad and consistent access to digital resources, including images, film, and sound, while allowing its users to seek and create their own instructional materials.

## Whitaker Foundation Learning Laboratory

The Whitaker Learning Laboratory serves the collective digital media needs of the Sam Fox School. The Laboratory supports instruction and research initiatives of the students, faculty, and staff across the areas of design and visual arts by providing cross-platform resources in digital technologies.

## The Center for the Humanities

The Center for the Humanities is dedicated to activities and projects that promote the humanities both on the campus and beyond. The Center sponsors a visiting writers series that includes biographers, essayists, arts critics, journalists, children's writers, science writers, and public intellectuals, all of whom read from their work and discuss their careers. It also conducts lectures and colloquia on the subject of translation and organizes and sponsors conferences. The Center sponsors an annual celebration of WU faculty book publications. In addition, it publishes the biannual *Belles Lettres: A Literary Review* and *The Figure in the Carpet*, which features a monthly literary calendar of St. Louis. The Center's library contains rich special collections that include children's books and magazines and mainstream and underground comics. For more information and to receive the Center's publications, call 314/935-5576 or e-mail us at [cenhum@artsci.wustl.edu](mailto:cenhum@artsci.wustl.edu).

## Skandalaris Center for Entrepreneurial Studies

At Washington University, entrepreneurship is defined as "the process of seeing novel opportunities, acting energetically, and using limited resources and collaboration to create new value for others."

Entrepreneurship is about collaboration

and we believe the best collaboration happens among people with diverse experiences, perspectives, and interests. At Washington University, entrepreneurship is not just about starting a business, but it is about fostering leadership and innovation to benefit mankind. The Skandalaris Center was founded in 2004 when the Ewing Marion Kauffman Foundation selected Washington University as one of its Kauffman Campuses with the goal of instilling the culture of entrepreneurship and innovation across campus into all schools and degree programs. The Center's many programs include curricular and cocurricular activities, and begin with IdeaBounce®. The web site at [www.ideabounce.com](http://www.ideabounce.com) connects students and community members who are the creators, inventors, practitioners, investors, business people, artists, service providers, customers, mentors, and others who can help move ideas forward.

### **Murray Weidenbaum Center on the Economy, Government, and Public Policy**

Founded in 1975, this center in Arts & Sciences has played a distinctive role in public policy research by providing timely, scholarly analyses of issues affecting America's system of private enterprise. Its mission is "to improve public understanding of the private enterprise system in a global context, thereby fostering a public policy environment in which the U.S. market economy can prosper."

The center focuses on three important public policy areas: regulatory reform, environmental issues, and international competition. In addition, the center's studies on management issues provide valuable information to business executives and business school professors around the country.

### **Gephardt Institute for Public Service**

A nexus on campus for service, the Gephardt Institute for Public Service encourages collaboration between faculty, students, and community organizations. We support the members of the University community in contributing their time and talents, applying their scholarship and expertise, and discovering new ways to make a positive impact through five key areas: coordination and communication of community service opportunities for students through the Community Service Office, support of faculty innovation in community-based teaching and learning, facilitation of international service, promotion of civic life and public service careers, and advancement of service by older adults and alumni.

### **Athletic Complex**

Students may take advantage of the University's Athletic Complex, which includes an indoor swimming pool, fieldhouse, recreational gymnasiums, racquetball courts, handball courts, squash courts, saunas, indoor track, weight room, and fitness center.

For facility hours, call the 24-hour hotline at 314/935-4705.

### **Campus Store**

The Washington University Campus Store is

located in Mallinckrodt Center. The Campus Store offers a large selection of academic titles, as well as technical reference, popular fiction, nonfiction, travel, local interest, and more. Special orders are welcome. Students will find a selection of housing and school supplies, electronics, software, computer peripherals, and an extensive selection of art supplies. The store provides a full line of Washington University clothing and gifts, and is open nights and most weekends. Visit the Campus Store homepage at [www.wustl.bkstr.com](http://www.wustl.bkstr.com).

### **Student Health Services**

Student Health Services staff members include licensed professionals in Medical Services, Mental Health Services, and Health Promotion Services. Please visit us in Dardick House on the South 40, or visit our web site at [shs.wustl.edu](http://shs.wustl.edu) for more information about each of our services and staff members.

Hours: Monday, Tuesday, and Thursday 8 a.m. – 6 p.m.; Wednesday 10 a.m. – 6 p.m.; Friday 8 a.m. – 5 p.m.; Saturday 9 a.m. – 1 p.m. A nurse answer line is available to answer any medical questions a student may have when SHS is closed. For after-hours care, please call: 314/935-6666.

**Medical Services** staff members provide care for the evaluation and treatment of an illness or injury, preventative health care and health education, and nutrition, orthopedic, physical therapy, travel medicine, and women's health services. **All WU students should seek treatment at SHS first.** Any condition requiring specialized medical services will be referred to an appropriate community specialist. The WU student health insurance plan requires a referral any time care is not provided at SHS. **Call 314/935-6666 or visit [shs.wustl.edu](http://shs.wustl.edu) to schedule an appointment for medical care,** including allergy injections prescribed by your allergist, health consultations, for HIV or other STD testing, or for immunizations.

Appointments also are available for assessment, treatment, and referral for students who are struggling with **substance abuse.**

The **SHS dispensary (pharmacy)** is available to all students of WU and their dependents who participate in the student health insurance plan. Missouri law requires that all medication dispensed by the SHS dispensary is prescribed by one of the SHS providers. We cannot fill outside prescriptions.

The **SHS lab** provides full laboratory services. Approximately 20 tests can be performed in the SHS lab. The remainder of all testing that is ordered by SHS is completed by Quest Diagnostics. Quest serves as our reference lab and is on the student health insurance plan as a preferred provider. The SHS lab can collect any test ordered by our providers.

All incoming students must provide **proof of immunization** for two measles, mumps, rubella vaccines after the age of one year old. (A titer may be provided in lieu of the immunizations). A PPD skin test in the past six months is required for students entering WU from certain countries. This list of countries may be found on our web site. We suggest all

students also have Tetanus Diphtheria immunization within the past five years, Meningococcal Vaccine, Hepatitis A Vaccine series, Hepatitis B Vaccine series, and Varicella Vaccine. **Medical History Forms** are available online at [shs.wustl.edu](http://shs.wustl.edu). Failure to complete the required forms will delay registration.

**Mental Health Services** staff members work with students to resolve personal and interpersonal difficulties, including conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. Although some concerns are more frequent than others, students' experiences are as varied as the students themselves. Staff members help each person figure out her or his own situation. Services include individual, group, and couples counseling, crisis counseling, psychiatric consultation, and referral for off-campus counseling. Call 314/935-6666 or visit [shs.wustl.edu](http://shs.wustl.edu) to schedule an appointment.

**Health Promotion Services** staff members provide information and resources on issues of interest to WU students including alcohol and other drugs, weight and body image, sexual health, sleep, and stress; customize professional health education programs for groups; and work with groups of students dedicated to educating their peers about healthy decision making. Call 314/935-7139 for more information.

### **Important Information About Health Insurance**

Washington University has a student health fee designed to improve the health and wellness of the entire Washington University community. All full-time Washington University students are automatically enrolled in the Student Health Insurance Plan upon completion of registration. Specific fees and co-pays apply to students using Medical Services and Mental Health Services. More information is available at [shs.wustl.edu](http://shs.wustl.edu).

### **Campus Security**

The Washington University campus is among the most attractive in the nation and enjoys a safe, relaxed atmosphere. Your personal safety and the security of your property while on campus is a shared responsibility. Washington University has made safety and security a priority through our commitment to a full-time professional police department, good lighting, shuttle services, emergency telephones, and ongoing educational safety awareness programs. The vast majority of crimes that occur on college campuses are crimes of opportunity, which can be prevented.

The best protection against crime is an informed, alert campus community. Washington University has developed several programs to help make your experience here a safe and secure one. An extensive network of emergency telephones, including more than 100 "blue light" telephones, are connected directly to the University Police Department and can alert the police to your exact location. In addition to the regular shuttle service, an evening walking or mobile Campus Circulator is available on the Danforth Campus.

The University Police Department is a

full-service organization staffed by certified police officers who patrol the campus 24 hours a day throughout the entire year. The Police Department offers a variety of crime prevention programs including a high-security bicycle lock through a unique “lease/purchase” program, free personal-safety whistles, computer security tags, personal safety classes for women and men, property inventory services, and security surveys. For more information on these programs, check out the police web site at [police.wustl.edu](http://police.wustl.edu).

In compliance with the Campus Crime Awareness and Security Act of 1990, Washington University publishes an annual report, *Safety and Security on the Danforth Campus—A Guide for Students, Faculty, and Staff*, which is available to all current and prospective students on the Danforth Campus and University employees on the Danforth and West campuses. To request a copy, contact the Washington University Police Department, Campus Box 1038, One Brookings Drive, St. Louis, MO 63130-4899, 314/935-9011. This information also is available on the Washington University Police Department web site at [police.wustl.edu](http://police.wustl.edu).

## Admission Procedures

### Applying for Freshman Admission

Washington University encourages and gives full consideration to all applicants for admission, financial aid, and employment. The University does not discriminate in access to or treatment or employment in its programs and activities on the basis of race, color, age, religion, sex, sexual orientation, national origin, gender identity or expression, veteran status, or disability. Present Department of Defense policy governing all ROTC programs discriminates on the basis of sexual orientation; such discrimination is inconsistent with Washington University policy. Inquiries about compliance should be addressed to the University’s Vice Chancellor for Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130.

The Committee on Admissions studies each undergraduate application, seeking talented students of aptitude and character who will not only benefit from the demands of a strong academic program but also contribute to the Washington University community. While the most important factors in the selection process include the rigor of high school courses, grades, class rank, and standardized test scores, personal talents and extracurricular activities also are considered.

As preparation for study at Washington University, the Office of Undergraduate Admissions requires all students to have a high-school diploma or equivalent. The following courses are recommended:

- four years of English
- four years of mathematics (calculus is recommended for the schools of Architecture, Business, and Engineering and

for premedical students)

- three to four years of history and social sciences
- three to four years of laboratory sciences (chemistry and physics are recommended for the School of Engineering; biology, chemistry, and physics are recommended for biomedical engineering and premedical students)
- at least two years of a foreign language.

To compete with other applicants, you should have challenged yourself as much as possible within your high school curriculum. This includes taking honors, advanced placement, and international baccalaureate courses, if offered.

Admission procedures applicable for the five undergraduate programs are explained in a specific section for each school.

### Submitting the Application

If you are a freshman applicant, you should submit the freshman application, the nonrefundable application fee, and various support materials, which include secondary school report and official transcript, teacher recommendation, standardized test scores, and midyear grade report. All application materials should be sent to the Office of Undergraduate Admissions (see page 1 for address). Alternatively, the application is available online at [admissions.wustl.edu](http://admissions.wustl.edu).

### Entrance Examinations

All applicants to the freshman class are required to take either the Scholastic Assessment Test (SAT I) of the College Board or the American College Test (ACT). You should request a report of your test scores to be sent to the Office of Undergraduate Admissions. If you take an examination more than once, you will be evaluated on the basis of your highest individual scores. Test scores taken during your junior year in high school are acceptable, but we encourage you to take the test(s) during the first semester of your senior year. The College Board SAT II Tests are not required but are recommended.

If English is your second language, you are required to submit results from the Test of English as a Foreign Language (TOEFL), in addition to the SAT or ACT. The test administered in January of your high school senior year will be the last one accepted for fall admission.

### Notification and Response

The application for admission is evaluated after the application, the nonrefundable application fee, and all support materials are received. You are encouraged to submit your application early in your senior year of high school, but no later than the deadlines published in the Freshman Application Calendar. For current application deadlines and details regarding decision plans, you may contact the Office of Undergraduate Admissions or visit [admissions.wustl.edu](http://admissions.wustl.edu).

### Deferred Enrollment

If you are an admitted student who has submitted the enrollment deposit and you wish to begin your studies at a later date, you may defer enrollment at Washington University

for a period of one year with an option to extend. Deferred enrollment is designed for students who wish to travel or work between high school and college. Courses taken during the deferred period normally will not be accepted for credit. Deferral should be requested in writing from the Office of Undergraduate Admissions. The Committee on Admissions will review your case and notify you of its decision. You must reapply for financial assistance during the application cycle immediately preceding the date of desired entry.

### Admission of Undergraduate International Students

If you are a citizen of another country or are in the United States on a visa, you must submit an application for undergraduate admission, the nonrefundable application fee, the results of the Scholastic Assessment Test or American College Test, scores from the Test of English as a Foreign Language (TOEFL), detailed information about previous education, including original academic transcripts or certified copies, a description of the grading system, examination results, school-leaving certificates, certified English translations of all of the above, and two letters of recommendation. All applicants also must submit verification of the availability of funds in U.S. dollars to cover tuition and living expenses. All academic and financial credentials should be sent to the Director of International Recruitment in the Office of Undergraduate Admissions.

### Admission Procedures by School

#### Arts & Sciences

You should follow the general admission procedures.

#### Architecture

You should follow the general admission procedures and should pursue mathematics for all four years of high school; calculus is strongly recommended. We strongly recommend studio art electives in lieu of drafting courses. You are strongly encouraged to submit a portfolio with samples of visual arts work completed either independently or in studio courses.

Although a portfolio is optional for entering freshmen, it is required if you wish to be considered for the Fitzgibbon Scholarship.

A slide or digital portfolio should include good examples of artwork in any media (sculpture, painting, photography, etc.), as well as several drawings from direct observation, such as still life, landscape, or figure. Rough sketches from notebooks are acceptable, as are examples of construction and furniture.

If you have questions, you should contact the Architecture liaison in the Office of Undergraduate Admissions.

#### Art

You should follow the general admission procedures. In addition to your completed application, you are encouraged to submit a portfolio with samples of your artwork. A Portfolio

lio is optional for entering freshmen. It is required if you wish to be considered for the Conway or Proetz Scholarship. You also may simply wish to have your artwork considered along with your other application materials.

Portfolios may be slide or digital format, consisting of 12 to 15 pieces of recent work, which may include drawings, two- and three-dimensional pieces, or photographs.

**Slide Portfolio:** Submit good quality 35mm slides in a plastic slide sleeve. Each slide must be labeled with your name. The portfolio will be returned by May 31 only if you provide a stamped, self-addressed mailer.

**Digital Portfolio:** Submit images as a simple, non-timed PowerPoint presentation. Also include all of the work in the presentation, in a separate folder, as jpgs saved at 72 dpi resolution and at a size of 600 pixels in the longest direction. Write your name on the inventory/contact sheet showing thumbnails of all work on the CD/DVD. The inventory sheet must include your name. If preferred, you may include additional information such as title of work, medium, dimensions, and date completed.

*(While reasonable care will be taken to ensure the proper handling of your portfolio, the University is not responsible for loss or damage.)*

Your portfolio should include good examples of artwork in any media (sculpture, painting, photography, etc.), as well as several drawings from direct observation of the still life, landscape, or figure. Rough sketches from notebooks are acceptable. The scholarship committee is interested in your imagination and creativity, as well as your technical skills. If you have questions, you should contact the Art liaison in the Office of Undergraduate Admissions.

### Business

You should follow the general admission procedures.

### Engineering

You should follow the general admission procedures.

## Transfer Admission

Washington University welcomes the application of eligible transfer students as space and faculty resources permit. Students in college transfer programs at community and junior colleges, as well as students from four-year institutions, are encouraged to apply for admission.

If you are applying as a transfer student, you are expected to present a strong and consistent record of academic achievement. Because requirements for degrees vary from institution to institution, you are advised to consult with the Office of Undergraduate Admissions early in your academic career to minimize problems with the transfer of credits.

If you are admitted from an accredited institution, you will be given full credit for work satisfactorily completed with a grade of C or better, if the work is equivalent to that accepted for graduation at Washington University. You will be advised of the transferability of credits upon admission. Although

credits earned in courses may transfer, the grades earned do not.

You should apply for transfer admission one semester in advance of the semester for which you wish to enroll. We encourage first-semester students to complete a full year at the current college. For current application deadlines, please contact the Office of Undergraduate Admissions.

Applicants must submit their high school transcripts, the application, official transcripts of all previous college work, standardized test scores (SAT or ACT), two letters of recommendation, and the nonrefundable application fee to the Office of Undergraduate Admissions.

If you wish to be considered for financial assistance, you must file the Financial Aid Profile. Detailed information on financial support can be found beginning on page 20 of this *Bulletin*.

Transfer admission information for individual schools is listed as follows.

### Transferring into Arts & Sciences

Each year, in both fall and spring semesters, a number of students from other colleges and universities transfer into the College of Arts & Sciences. Upon their admission the transfer student adviser reviews and evaluates their previous academic work. Full credit is normally granted for courses taken at accredited institutions provided that the University offers comparable courses and the student has completed the courses with a grade of C or better (please note: online course work does not transfer). In addition, transfer credit may be counted where applicable and upon approval toward major or minor requirements. Transfer students must be enrolled for at least four consecutive full-time semesters to satisfy the residency requirement. They must earn no fewer than 60 units during that time.

All transfer students are assigned an academic adviser. When they declare a major, they also meet with an adviser in the major department. The full range of curricular opportunities offered through the College is open to transfer students when prerequisites are satisfied. You should direct specific questions about transfer credit and course sequences at Washington University to the College of Arts & Sciences.

### Transferring into Architecture

Places for transfer students are extremely limited and require strong performance in an arts and sciences curriculum, and preferably preparation in the visual arts—in particular freehand drawing and 3-D design. If you have taken studio courses (design, drawing, and others) at other schools, your application is best accompanied by a portfolio with samples of that work. Placement into the design studio sequence is determined by portfolio review.

A transfer applicant into the College of Architecture should consult with the Sam Fox School of Design & Visual Arts associate dean of students as early as possible to assist in appropriate placement. It is advisable that the transfer applicant have demon-

strated experience in two-dimensional and three-dimensional design. Your previous work should parallel as closely as possible the course work outlined on pages 290–304 of this Bulletin.

### Transferring into Art

The number of studio art credits you already have earned, combined with an evaluation of your portfolio, determines the year and semester level at which you are admitted.

You must have a minimum number of appropriate studio art credit units to be placed at a particular level in the program, as follows:

2nd semester, 1st year	=	6 units
1st semester, 2nd year	=	15 units
2nd semester, 2nd year	=	21 units
1st semester, 3rd year	=	30 units

As much as possible, the studio art courses taken at other institutions should correspond to the core drawing and design program at Washington University.

### Portfolio Requirements

1. Twenty color slides or digital images of completed work:

**Slide Portfolio:** Submit good quality 35mm slides in a plastic slide sleeve. Each slide must be labeled with your name.

**Digital Portfolio:** Submit images as a simple, non-timed PowerPoint presentation. Also include all of the work in the presentation, in a separate folder, as jpgs saved at 72 dpi resolution and at a size of 600 pixels in the longest direction. Write your name on the CD/DVD — DO NOT use a stick-on label. Remember to include an accompanying inventory/contact sheet showing thumbnails of all work on the CD/DVD. The inventory sheet must include your name. If preferred, you may include additional information such as title of work, medium, dimensions, and date completed.

2. Include examples of work from basic drawing and design classes that indicate your technical and conceptual level of accomplishment—some drawing should be from direct observation.
3. If possible, good examples of work in different media to demonstrate a range of art experiences.
4. If applying to the third-year level, one-half of the work should be in the area of your intended major.

### Portfolio Instructions

1. Mailed portfolios may be slide or digital. Portfolios should be mailed to the Art liaison in the Office of Undergraduate Admissions. (Portfolios will be returned only if a return self-addressed envelope with proper postage is included with the portfolio.)
2. Original work can be presented only if you plan to deliver and pick up the portfolio. Your name should be included on the back of each piece, with name, address, and telephone number on the outside of the portfolio. Work does not need to be matted, nor should it be in frames or under glass. Portfolios can be delivered to the Office of the Associate

Dean of Students, Room 1, Bixby Hall. (While reasonable care will be taken to ensure proper handling of the portfolio, the University is not responsible for loss or damage.)

- To assist in appropriate placement, an interview with the associate dean, while not required, is strongly recommended.

### Transferring into Business

Your previous course work should parallel as closely as possible the course work outlined on pages 275–286 of this Bulletin. This course work should include accounting, calculus II, English composition, microeconomics, and macroeconomics.

### Transferring into Engineering

You may apply for admission for either the fall or the spring semester if you have completed a minimum of one year of college work elsewhere. You must demonstrate academic achievement (grade average of B or better) with strength in mathematics (calculus) and science (chemistry/physics). An evaluation of your record will be made to determine the transferability of college credit. Grades earned do not transfer, and you must earn a letter grade of C or better for the course credit to transfer. For English composition to transfer, a letter grade of B or better is required for the course credit to transfer. Courses taken pass/fail do not transfer.

To be recommended for any bachelor's degree, you must satisfy applicable requirements of the School of Engineering shown under Degree Requirements on pages 319–321.

Transfer students and undergraduates in the preprofessional division of the School of Engineering who are seeking professional degrees and who satisfy the entrance requirements listed below are admitted automatically to the Sever Institute of Technology.

- You must have earned at least 50 acceptable units applicable to the professional degree sought.
- You must have completed a sequence of courses in calculus, including ordinary differential equations.
- If your major is civil, computer, electrical, or mechanical engineering, you must have completed a one-year (two-semester or three-quarter) sequence in physics.
- If your major is biomedical engineering or chemical engineering, you must have completed a one-year (two-semester or three-quarter) sequence in chemistry.
- If your major is computer science or systems science and engineering, you must have completed a one-year (two-semester or three-quarter) sequence in either physics or chemistry.

### Pre-Matriculation Units

Pre-matriculation units are units of credit earned before you enroll as a first-year student at Washington University, which can be applied toward a Washington University degree. Sources for pre-matriculation units include Advanced Placement (AP) examinations, International Baccalaureate (IB), British Advanced (A) Levels, and college

credit.

A student in the College of Arts & Sciences may be awarded up to 15 units of credit from all sources—standardized placement tests and college course work—that were completed prior to enrollment as a first-year student at Washington University. The units of credit awarded from these sources do not apply toward the distribution requirements.

A student should submit official score reports from AP examinations, College Board Achievement and Aptitude Tests, the International Baccalaureate (higher-level scores), and British A-Level examinations. All appropriate test scores will have course equivalents assigned to them and noted on the transcript. However, a maximum of 15 units of credit will be awarded provided credit has not been already designated as the result of college course work having been transferred as well.

Grades for courses taken at another college or university do not transfer. A maximum of 15 units of credit may be awarded for college course work done prior to matriculation provided no other pre-matriculation credits have been awarded. In the College of Arts & Sciences, course work completed at another college or university prior to matriculation must meet the following standards:

- Enrolled in primarily by matriculated college students
- Taught by college faculty
- Taught on a college campus
- Taken after the junior year in high school
- The course is not on the high school transcript and did not count toward the high school diploma.
- The course was taken at a fully accredited college or university.

The 15-unit cap does not apply to the other undergraduate schools. See this page for more information about AP examinations and International Baccalaureate.

### Secondary School Course Work

Washington University does not recognize credit for courses taken in high schools and taught by secondary instructors, even when offered under the aegis of a university. The University accepts credit for courses taken at and taught by faculty of a college or university, provided the course has not been credited toward the high school diploma.

The College of Arts & Sciences accepts credit only for college course work taken after the junior year of high school.

### Proficiency and Placement Examinations

Students in the College of Arts & Sciences will have all accepted pre-matriculation work noted on their transcript so they may go directly into advanced courses, but the maximum number of pre-matriculation units awarded will be 15 units. Sources for pre-matriculation units are Advanced Placement exams, International Baccalaureate Exams, British A-Level grades, and college credit. Superior results on proficiency and

placement examinations allow you to enter advanced courses at the beginning of your college career, to fulfill some requirements for a major or a minor by examination rather than by course work, and to earn credit toward your degree.

Four types of examinations are recognized:

**Washington University Placement Examinations.** These placement examinations are administered by various departments and have different requirements for advanced placement.

**International Baccalaureate.** If you have earned the International Baccalaureate diploma, or you have successfully passed examinations in the program, you should consult a dean in your undergraduate division of the University about advanced placement and credit. Scores may be used for placement or granting of degree credit, according to the recommendations of the various departments. Subsidiary-level scores are not recognized.

**British Advanced (A) Levels.** These grades may be used for placement or granting of degree credit, according to the recommendations of the various departments.

**Advanced Placement (AP) Examinations.** These are used for placement, partial fulfillment of major or minor requirements, and the granting of degree credit, according to the recommendations of the various departments. Examinations are given by the College Board in May of each year for secondary school students who have been enrolled in a college-level course in the same subject or subjects of the exam. For the most current policy information, visit the web site: [college.artsci.wustl.edu/placement-and-credit](http://college.artsci.wustl.edu/placement-and-credit).

You may obtain information about these exams from the College Board Advanced Placement Examinations, Box 592, Princeton, NJ 08540 or by calling 1/888/225-5427.

**SAT II Tests.** These examinations in modern languages are administered by the College Board. They are required for study in certain languages.

College Level Examination Program (CLEP) scores are not accepted for credit or placement.

### Accounting: British A-Levels

Advanced Level grades of A, B, C, & D to be awarded 3 units of credit for Acct 2610.

### Arabic: British A-Levels, University Placement Exam

Please see the departmental policy (Asian and Near Eastern Languages and Literatures) for more information.

### Art: General Portfolio, Advanced Placement, International Baccalaureate

A score of 5 on the AP examination in Art: General Portfolio, Art 2-D, or Art 3-D, or a score of 7 on the International Baccalaureate examination earns 3 units of elective credit.

### Art History: Advanced Placement

A score of 4 or 5 on the AP examination

earns 3 units of credit for introductory art history upon completion of a 300- or 400-level art history course at the University with a grade of B or better.

### **Biology: Advanced Placement, International Baccalaureate, British A-Levels**

A score of 4 or 5 on the AP examination or a score of 6 or 7 on the International Baccalaureate examination earns 6 units of credit for Biol 100A (elective credit). Students who plan to major in Biology or who are pre-med normally will enroll in Biol 2960 in the spring of freshman year, Biol 2970 in the fall of sophomore year, and Biol 3050 in the spring of the sophomore year. Grades of A or B on the British A-Level examination will be awarded 3 units of credit equivalent to Biol 100A.

### **Chemistry: Advanced Placement, International Baccalaureate, University Examination, British A-Levels**

A score of 5 on the AP examination earns 6 units of credit equivalent to Chem 103 and 104. A score of 4 on the AP examination earns 3 units of credit equivalent to Chem 103. Receipt of these credits has no bearing on fulfillment of chemistry requirements for premedicine or any science major and cannot be used to satisfy prerequisites for organic chemistry. All students who wish to pursue a major or a preprofessional preparatory curriculum requiring general chemistry must take Chem 111A and 112A and the associated labs, Chem 151 and 152. Students who wish to exempt either the first or second semester of general chemistry, including the labs, must pass a placement exam administered by the Department of Chemistry during the first week of classes in the fall. Grades of A or B on the upper-level International Baccalaureate examination to be awarded 10 units of elective credit. Or, you may take the University departmental placement examination given during the first week of classes each fall. Grades of A or B on the British A-Level examination will be awarded 10 units of elective credit.

### **Classical Languages: Advanced Placement, Achievement Tests**

To determine placement, the Department of Classics relies primarily on its own placement test, administered during registration week. Grades from Latin and Greek courses taken in secondary school, College Board Achievement Tests, the International Baccalaureate, and AP examinations may also be taken into consideration.

The department awards back credit based on AP examinations. Students who earned a score of 4 or 5 on the Latin AP exam may receive 6 units of back credit on completion of Latin 317C with a grade of B or better.

### **Computer Science: Advanced Placement, International Baccalaureate, British A-Levels**

A score of 4 or 5 on the AB Computer Science AP examination earns 4 units of credit equivalent to CSE 126. Students also have

the option of taking a CSE 131 placement exam. Any student who passes the placement exam will receive 4 units of credit for CSE 131 instead of the CSE 126 credit. No credit is given for the A Computer Science AP, International Baccalaureate, or British A-Level examination, but a student can take the CSE 131 placement exam. Contact the CSE office at 314/935-6160 for further information.

Upon request, the computer science department will evaluate a student for proficiency for any of our introductory courses. If a student is determined to be proficient in a given course, that course will be waived (without awarding credit) in the student's degree requirements, and the student will be offered guidance in selecting a more advanced course.

### **Economics: Advanced Placement, International Baccalaureate, British A-Levels**

A score of 5 on the AP examination in microeconomics or macroeconomics or a score of 7 or 6 on the International Baccalaureate examination places a student into Econ 401 or 402. Completion of Econ 401 or 402 with a B- or better earns 3 units equivalent to Econ 103B or 104B, respectively. A score of 4 on the AP examination allows you to enroll in Econ 401 or 402 or in any 300-level course with an Econ 103B or 104B prerequisite, so long as the other prerequisites, such as calculus, are met; no units of credit are awarded. Bypassing introductory courses may be disadvantageous. If Econ 103B or 104B are bypassed, additional elective is required. See department's Academic Coordinator. A grade of A on the British A-Level examination is awarded 3 units of credit for 103B or 104B contingent upon completion of Econ 401 or 402, respectively, with a B- or better.

### **English Composition: Advanced Placement, International Baccalaureate, SAT II, British A-Level**

A score of 5 on the AP examination (Composition or Literature) or a score of 7 on the International Baccalaureate examination earns 3 units of elective credit contingent on completion of E Comp 100 with a grade of B or better. Engineering students follow a different policy than the one described here and should refer to page 321. No credit or placement is given for the British A-Level examination.

### **Environmental Studies: Advanced Placement**

A score of 4 or 5 on the Environmental Studies AP examination earns 3 units of elective credit contingent on completion of a 300- or 400-level Environmental Studies course with a grade of B or better.

### **French: Advanced Placement, International Baccalaureate, British A-Levels, SAT II, University Placement Exam**

A score of 5 on the AP examination (Language or Literature) earns 6 units of credit

equivalent to Fr 102D and 201D. Students may enroll in a 300-level course conducted in the language. A score of 4 on the AP examination automatically grants 3 credits for French 102D, and gives another 3 extra credits for French 201D contingent upon satisfactory completion of a 300-level course—other than conversation—conducted in the language. A score of 3 on the AP examination earns 6 units of credit equivalent to French 102D and 201D, contingent upon completion of a 300-level course with a grade of B or better—other than conversation—conducted in the language. A grade of A on the British A-Level examination to be awarded 6 units for French 201D with 3 additional units being granted upon completion of a 300-level course (other than conversation). A grade of B on the British A-Level examination to be awarded 3 units upon successful completion of a 300-level course.

Scores from the Modern Language Achievement Test (SAT II) can be used for placement. This exam is taken while in secondary school or in July following graduation. The College Board Bulletin of Information provides complete details as to dates, centers, and instructions for taking the tests. No automatic credit is awarded for the International Baccalaureate exam. Students must take the university placement exam, which is offered prior to the start of fall semester classes. Students who place into and successfully complete higher-level courses can earn up to 6 units of back credit for preceding courses.

### **German: Advanced Placement, SAT II, International Baccalaureate, British A-Levels, University Placement Exam**

A score of 5 on the AP examination earns 3 units of credit for Ger 102D and 3 units for Ger 210D awarded automatically; students may enroll in a 300-level course: Ger 301D, 302D, 313, 340C (Literature in Translation and German Tutorial). A score of 4 on the AP examination earns 3 units of credit for Ger 102D automatically; an additional 3 units of credit for Ger 210D is awarded upon satisfactory completion of Ger 301D. A score of 3 earns 3 units of credit for Ger 102D and 3 units for Ger 210D, contingent upon satisfactory completion of Ger 301D.

Scores from the Modern Language Achievement Test (SAT II) can be used for placement. This exam is taken while in secondary school or in July following graduation. The College Board Bulletin of Information provides complete details as to dates, centers, and instructions for taking the tests. Students who have completed German courses in the International Baccalaureate or British A-Level program should take the university placement exam. Students who place into and complete these courses with a B- or better will receive the following credit:

- Ger 210D—3 units for Ger 102D
- Ger 301D—3 units for Ger 102D, and 3 units for Ger 210D
- Ger 302D—3 units for Ger 102D, and 3 units for Ger 210D

### **History: Advanced Placement, International Baccalaureate, British A-Levels**

A score of 4 or 5 on the American History AP examination earns 3 units of credit equivalent to History 163. A score of 4 or 5 on the European History AP examination earns 3 units of credit equivalent to History 102. A score of 4 or 5 on the World History AP examination earns 3 units of credit equivalent to History 164. AP credits fulfill introductory course requirements for the History major and minor. Grades of A or B on the British A-Level examination earn 3 units of elective credit. No credit or placement is awarded for International Baccalaureate.

### **Italian: International Baccalaureate, University Placement Exam**

Scores from the Modern Language Achievement Test (SAT II) can be used for placement. This exam is taken while in secondary school or in July following graduation. The College Board Bulletin of Information provides complete details as to dates, centers, and instructions for taking the tests. No automatic credit is awarded for the International Baccalaureate exam. Students must take the university placement exam, which is offered prior to the start of fall semester classes. Students who place into and successfully complete higher-level courses can earn up to 6 units of back credit for preceding courses.

### **Latin: Advanced Placement, International Baccalaureate, British A-Levels, University Placement Exam**

Information about the Advanced Placement for Latin can be found online at [artsci.wustl.edu/~college/first-year/Placement/Advanced](http://artsci.wustl.edu/~college/first-year/Placement/Advanced).

### **Mathematics: Advanced Placement, International Baccalaureate, British A-Levels, University Placement Exam**

The Mathematics Department gives a placement exam, available online and also during the fall orientation period. We ask that all entering students planning to enroll in a calculus course (except those with an AP score of 5) take the placement exam. This gives us one more piece of information to try to ensure correct placement into the calculus sequence. Only an AP score of 5 receives automatic credit and placement into the calculus sequence.

Students with scores of 5 on the BC calculus examination are awarded 6 units of credit for Math 131-132 and placed into Math 233. Students with scores of 5 on the AB calculus examination are awarded 3 units of credit for Math 131 and placed into Math 132.

Students with BC scores of 4 are recommended for Math 233; students with AB scores of 4 are recommended for Math 132. Placement for other students is recommended in consultation with an adviser, based on the math department's placement test score and other information in the students' records.

Students with a 5 on the AP statistics examination will receive 3 units of credit for Math 1011.

Upon completing a course in the calculus sequence (Math 131, 132, 233) with a grade of C+ or better, students are eligible to receive credit for the preceding courses in the calculus sequence assuming you do not already have credit for earlier courses (for example, by transfer from another university).

A score of 6 or 7 on the International Baccalaureate exam earns 3 units of credit for Math 131.

British A-Level grades of A and B for Mathematics will be awarded 3 units of credit for Math 131 automatically. An Advanced Level grade of C for Mathematics will only receive credit for Math 131 upon successful completion of Math 132. Advanced Level grades of A and B for Mathematics (further) will be awarded 6 units of credit for Math 131 and Math 132 automatically. An Advanced Level grade of C for Mathematics (further) will only receive credit for Math 131-132 upon successful completion of Math 233 (or for Math 131 contingent on completion of Math 132).

### **Music: Advanced Placement, International Baccalaureate, British A-Levels, University Placement Examination**

A score of 4 or 5 on the AP examination (theory or literature/listening) or a score of 6 or 7 on the International Baccalaureate earns 3 units of elective credit for students who do not major or minor in music. This credit does not correspond to any specific course. Students must petition the College of Arts & Sciences to have this credit count toward the distribution requirement. This credit does not earn advanced placement in music courses and may not count toward the requirement for music majors and minors.

Instrumental placement is by audition, for which no units of credit are awarded.

### **Norwegian: International Baccalaureate**

No credit awarded for the International Baccalaureate exam.

### **Philosophy: International Baccalaureate**

A score of 7 on the higher-level examination of the International Baccalaureate will result in 3 units of credit for Phil 110F.

### **Physics: Advanced Placement, International Baccalaureate, British A-Levels**

Credit will be awarded according to the following:

**Physics AP B Exam.** A score of 5 on the B exam earns 3 units of elective credit for Physics 113A. No credit is given for scores of 4, 3, 2, or 1.

**Physics AP C Exam.** A score of 5 on the C-Mechanics exam earns 4 units of credit for Physics 117A. A score of 4 on the C-Mechanics exam earns 3 units of credit for Physics 113A. A score of 5 on the C-Electricity & Magnetism exam earns 4 units of credit for Physics 118A. A score of 4 on the C-Electricity & Magnetism exam earns 3 units of credit for Physics 114A. No credit is given for scores of 3, 2, or 1 on either C

exam.

**International Baccalaureate Exam.** A score of 7 on the higher-level examination of the International Baccalaureate will earn 3 units of credit for Physics 101A and 3 units of credit for Physics 102A. A score of 6 or 5 on the higher-level examination of the International Baccalaureate will earn 3 units of credit for Physics 101A. No credit is awarded for scores of 4, 3, 2, or 1.

**British A-Level Exam.** A grade of A on the British A-Level physics exam earns 3 units of credit for Physics 113A and 3 units of credit for Physics 114A. A grade of B earns 3 units of credit for Physics 113A.

If you have not taken the AP examination but seek advanced placement and/or credit, you should consult with the department during registration.

### **Political Science: Advanced Placement**

A score of 5 on the AP examination (American politics or comparative politics) earns 3 units of credit for Pol Sci 101B or 102B. A score of 4 earns 3 units of credit contingent upon completion of a 300- or 400-level course in American or comparative politics at the University with a grade of B or better. You can get AP credit for American politics or comparative politics but not both. AP credit will not count toward the 30 graded units needed for the major.

### **Psychology: Advanced Placement, International Baccalaureate, British A-Levels**

No credit or placement is awarded for Advanced Placement, International Baccalaureate, and British A-level examinations.

### **Social Anthropology: International Baccalaureate**

Credit is evaluated on an individual basis by the Anthropology department.

### **Spanish: Advanced Placement, International Baccalaureate, British A-Levels**

A score of 5 on the AP examination (Language or Literature) earns 6 units of credit equivalent to Span 102D and 201D. Students may enroll in a 300-level course conducted in the language. A score of 4 on the AP examination automatically grants 3 credits for Span 102D, and gives another 3 extra credits for Span 201D contingent upon satisfactory completion of a 300-level course—other than conversation—conducted in the language. A score of 3 on the AP examination earns 6 units of credit equivalent to Span 102D and 201D, contingent upon completion of a 300-level course with a grade of B or better—other than conversation—conducted in the language. A grade of A on the British A-Level examination to be awarded 6 units for Span 201D with 3 additional units being granted upon completion of a 300-level course (other than conversation). A grade of B on the British A-Level examination to be awarded 3 units upon successful completion of a 300-level course.

Scores from the Modern Language Achievement Test (SAT II) can be used for placement. This exam is taken while in sec-

ondary school or in July following graduation. The College Board Bulletin of Information provides complete details as to dates, centers, and instructions for taking the tests. No automatic credit is awarded for the International Baccalaureate exam. Students must take the university placement exam, which is offered prior to the start of fall semester classes. Students who place into and successfully complete higher level courses can earn up to 6 units of back credit for preceding courses.

**Statistics: Advanced Placement, International Baccalaureate, British A-Levels, University Placement Exam**  
Information about the Advanced Placement for Statistics can be found online at [arts.wustl.edu/~college/first-year/Placement/Advanced](http://arts.wustl.edu/~college/first-year/Placement/Advanced).

## University Policies

### Medical Examinations

As an entering student, you must provide medical information to Student Health Services. This will include proof of a skin test for tuberculosis within six months prior to registration and a record of all current immunizations. Specifically, you must provide evidence of immunity to rubeola, rubella, and mumps by providing a physician's statement attesting to either a positive titer or an immunization subsequent to age 15 months.

If you fail to comply with these requirements prior to registration, you will be required to take the examination at the Student Health Services and obtain vaccinations for measles, mumps, and rubella, if there is no evidence of immunity. You will be assessed the cost of the examination and tests or vaccinations. You will be unable to complete registration for classes until all health requirements have been satisfied.

If you are unimmunized, you may be barred from classes and from all University facilities, including housing units, if in the judgment of the University your continued presence would pose a health risk to yourself or to the University community.

Medical and immunization information is to be given via the [shs.wustl.edu](http://shs.wustl.edu) web site. All students who have completed the registration process should access the web site and create a student profile. Creating a student profile enables a student to securely access the medical history form. Fill out the form and follow the instructions for transmitting it to Student Health Services. Your information is treated securely and confidentially.

### Student Conduct

The *University Student Judicial Code* addresses conduct expectations and discipline procedures for University students. The primary purpose of the behavior expectations set forth in the code is the protection of the campus community and the maintenance of an environment conducive to learning and inquiry.

Disciplinary proceedings are meant to be informal, fair, and expeditious. Charges of

nonserious misconduct are heard by the judicial affairs officer. Serious or repeated allegations are heard by the campus-wide University Judicial Board.

Students may be accountable to both governmental authorities and to the University for acts that constitute violations of law and the Student Code.

For a complete copy of the *University Student Judicial Code* see *Bearings*, the student handbook, which is published each summer.

### Undergraduate Student Academic Integrity Policy

Effective learning, teaching, and research all depend upon the ability of members of the academic community to trust one another and to trust the integrity of work that is submitted in classes for academic credit or conducted in the wider arena of scholarly research. When such an atmosphere of mutual trust exists, the free exchange of ideas is fostered, and all members of the community are able to work to achieve their highest potential. In all academic work, it is important that the ideas and contributions of others be appropriately acknowledged, and that work that is presented as original is in fact original. Ensuring the honesty and fairness of the intellectual environment at Washington University is a responsibility that is shared by faculty, students, and administrative staff.

This statement on academic integrity applies to all undergraduate students at Washington University. Graduate students are governed by policies in each graduate school or division. The purpose of the statement is to clarify the University's expectations with regard to undergraduate students' academic behavior and to provide specific examples of dishonest conduct. The examples are only illustrative, not exhaustive.

Students are expected to adhere to the highest standards of behavior, and the vast majority of Washington University students do so. Each year, however, a few students behave dishonestly. The following material describes the most common types of dishonest behavior.

It is dishonest and a violation of student academic integrity if you:

#### Plagiarize

You commit plagiarism by taking someone else's ideas, words, or other types of work product and presenting them as your own. You can avoid plagiarism by using proper methods of documentation and acknowledgement.

- Enclose every quotation in quotation marks, and acknowledge its source.
- Cite the source of every summary, paraphrase, abstraction or adaptation of material originally prepared by another person, and any factual data that is not considered common knowledge. Include the name of author, title of work, publication information, and page reference.
- Acknowledge material obtained from lectures, interviews, or other oral com-

munication by citing the source (name of the speaker, the occasion, the place, and the date).

- Cite material from the internet just as if it were from more traditionally published sources. Follow the citation style or requirements of your instructor.

#### Cheat on an Examination

You must not receive or provide any unauthorized assistance on an examination.

During an examination you may use only materials authorized by the faculty.

#### Copy or Collaborate on Assignments without Permission

Unless the instructor explicitly states otherwise, it is dishonest to collaborate with others when completing graded assignments or tests, performing laboratory experiments, writing and/or documenting computer programs, writing papers or reports, and completing problem sets.

- Never use, copy, or paraphrase the results of another person's work and represent them as your own, regardless of the circumstances.

When you submit work with your name on it, you are in effect stating the work is yours and only yours, unless you acknowledge in an endorsement all the help of persons who have contributed to the completion of the assignment.

If the instructor allows group work, you must be sure you understand the degree of acceptable collaboration.

- It is never appropriate to simply copy another's work, or to permit another student to copy your work.
- If you have any questions regarding the instructor's definition of allowable behavior, it is your responsibility to ask for clarification prior to engaging in the collaboration.

It is dishonest to turn in work as a collaborative effort if you did not contribute your fair share of the effort.

#### Fabricate or Falsify Data or Records

It is dishonest to fabricate or falsify data in laboratory experiments, research papers, reports or other circumstances; fabricate source material in a bibliography or "works cited" list; or provide false information on a résumé or other document in connection with academic efforts. It is also dishonest to take data developed by someone else and present them as your own.

#### Engage in Other Forms of Deceit or Dishonesty

Do not submit the same work for more than one course without explicitly obtaining permission from all instructors. When a paper or project builds on work completed earlier in your academic career, you must bring that fact to the attention of the instructor.

Do not request any academic benefit, including an extension of time, a better grade, or a recommendation, from an instructor when the request is based on false information or deception.

Do not make any changes (including adding material or erasing material) on any test paper, problem set, or class assignment

being submitted for a re-grade.

Do not willfully damage the efforts or work product of other students.

Do not steal, deface, or damage academic facilities or materials.

Do not collaborate with other students planning or engaging in any form of academic misconduct.

Do not engage in any other form of academic misconduct not covered here (as no list is necessarily exhaustive). If you are ever in doubt, ask the professor or teaching assistant for guidance.

### Faculty Responsibility

Faculty are strongly encouraged to report incidents of student academic misconduct to the academic integrity officer in their school or college, so that the incident may be handled in a consistent, fair manner, and so that substantiated charges of misconduct may be noted in students' records.

### Student Rights and Responsibilities

If you are accused of an academic integrity violation by a professor, teaching/graduate assistant, or academic integrity officer, you are entitled to do the following:

- Review the written evidence in support of the charge.
- Ask any questions you have.
- Offer an explanation as to what occurred.
- Present any material that would cast doubt on the correctness of the charge.

After you are notified of a charge of academic misconduct, you have several options:

- You may deny the charges and request a hearing in front of the appropriate academic integrity panel.
- You may admit the charges and accept the imposition of sanctions.
- You may request a leave of absence from the University. However, the academic integrity matter will have to be resolved prior to your re-enrollment.
- You may request to withdraw permanently from the University with a transcript notation that there is an unresolved academic integrity matter pending.

You have the following responsibilities in resolving the charge of academic misconduct:

- You must admit or deny the charge. This will determine the course of action to be pursued.
- You must provide truthful information regarding the charges. It is a student judicial code violation to provide false information to the University or anyone acting on its behalf.

### Sanctions

If, after a hearing, you are found to have acted dishonestly, or if you have admitted the charges prior to a hearing, the School academic integrity officer or hearing panel may do one or more of the following:

- Issue a formal written reprimand.

- Impose educational sanctions, such as completing a workshop on plagiarism or academic ethics.
- Recommend to the instructor that you fail the assignment.
- Recommend to the instructor that you fail the course.
- Recommend to the instructor that you receive a course grade penalty less severe than failure of the course.
- Place you on "Disciplinary Probation" for a definite period of time, or until defined conditions are met. The probation will be noted on your transcript and internal record while it is in force.
- In cases serious enough to warrant suspension or expulsion from the University, refer the matter to the University Judicial Board for consideration.

Withdrawing from the course will not prevent the academic integrity officer or hearing panel from imposing or recommending sanctions, including a failing grade in the course.

If the charges of academic misconduct are not proven, you may withdraw from the course in question without prejudice. Whether you complete the course or not, no record of the allegation will appear on your transcript or in your student file.

### Appeals

If you believe you did not receive a fair hearing from the academic integrity officer or the hearing panel, or if you believe the sanction imposed for misconduct is excessive, you may appeal to the University Judicial Board within 14 days of the original decision. Appeals are governed by Section VII. C. of the University *Student Judicial Code*.

### Reporting Misconduct by Others

If you observe other students violating this policy, you are strongly urged to confront the student(s), report the misconduct to the instructor, and/or seek advice from the academic integrity officer in the school in which the misconduct is occurring.

### Administrative Procedures

Individual undergraduate Colleges and Schools are free to design specific procedures to resolve allegations of academic misconduct by students in courses offered by that school, so long as the procedures comply with this policy and with the University *Student Judicial Code*.

### Administrative Record-Keeping Responsibilities

It is the responsibility of the academic integrity officer in each school to keep accurate, confidential records concerning academic integrity violations. When a student has been found to have acted dishonestly, a letter summarizing the allegation, the outcome, and the sanction shall be placed in the student's official file in the office of the

School or College in which the student is enrolled.

Each school's academic integrity officer shall make a report of the outcome of every formal accusation of student academic misconduct to the Director of University Judicial Programs, who shall maintain a record of each incident. When a student is formally accused of academic misconduct and a hearing is to be held by an academic integrity officer, a hearing panel, or the University Judicial Board, the person in charge of administering the hearing shall query the Director of Judicial Programs about the student(s) accused of misconduct. The Director shall provide any information in his/her records concerning that student to the integrity officer. Such information is to be used only in determining sanctions if the student is found to have acted dishonestly in the present case. Evidence of past misconduct may not be used to resolve the issue of whether a student has acted dishonestly in a subsequent case.

School and College academic integrity officers are encouraged to make periodic (at least annual) reports to the students and faculty within the school concerning accusations of academic misconduct and the outcomes, without disclosing specific information that would allow identification of the students involved.

### Statement of Intent to Graduate

You are required to file an Intent to Graduate at WebSTAC prior to the semester in which you intend to graduate. Additional information is available in your dean's office and in the Office of Student Records.

### Student Academic Records and Transcripts

The Family Educational Rights and Privacy Act of 1974 (FERPA)—Title 20 of the United States Code, Section 1232g, as amended—provides current and former students of the University with specific rights of access to and control over their student record information. In compliance with the statute, appropriate federal regulations, and guidelines recommended by the American Association of Collegiate Registrars and Admissions Officers, the University has adopted procedures that implement these rights.

A copy of the University policies regarding educational records and the release of student record information is available from the Office of Student Records and the University web site.

Transcript requests may be made in person, at WebSTAC, or by writing to the Office of Student Records. The written request must include your name, signature, student number, date of birth, and approximate dates of attendance.

# Tuition and Fees

## Tuition

Washington University relies on tuition income to pay more than 60 percent of the cost of undergraduate education. Most of the remaining cost is generously funded by gifts from the University's alumni and friends and from income from the University's endowment.

In setting the tuition rate, our emphasis is on being able to hire a high-caliber faculty and to offer extensive extracurricular opportunities.

Tuition for the 2008-09 academic year is \$18,100 per semester for full-time study. Full-time study is considered to be 12 to 18 units. If you enroll in more than 21 units per semester, you will pay additional tuition of \$1,508 for each credit unit beyond the 21. Freshman and sophomore architecture students who wish to enroll in more than 18 units per semester must have permission of the dean or associate dean and pay additional tuition of \$1,508 for each credit beyond 18. Junior- and senior-year architecture students who wish to enroll in more than 16 units must have the permission of the dean or associate dean of the College of Architecture.

First-year, first-semester students register online after arriving on campus. For all subsequent semesters, continuing students have the chance to register in April for the fall semester and in November for the spring semester. You will be billed for tuition in July for the fall semester and in December for the spring semester. You must pay tuition by the date specified on the bill or you will incur a late fee.

If you cannot afford to pay the full tuition bill, you should explore the University's extensive financial assistance opportunities, which are described in the Financial Support section of this *Bulletin*.

Many families prefer to pay educational expenses on a monthly basis. The interest-free monthly payment plan, TuitionPay, allows students and families to spread all or part of the academic year's expenses over equal monthly payments (see page 22). The Washington University Partners in Education with Parents (PEP) plan may provide tax savings for some families and offers monthly payment options over a period as long as 10 years at a competitive, fixed-interest rate. The PEP plan is described in the Financial Support section of this *Bulletin* (see page 22).

Your family should begin planning for educational costs as soon as possible following the decision to enroll. It is important to allow sufficient time to complete financial arrangements prior to your registration.

## Fees

**Student Activities.** The mandatory student activities fee is 1 percent of tuition; for the 2008-09 academic year, it is \$181 per semester. This special fee may vary from year to year. You may obtain information about the fee from the Office of Student Activities.

**Student Health.** Washington University

has a student health fee designed to improve the health and wellness of the entire Washington University community. The student health fee of \$343 is billed to the student tuition statement each semester. Students are automatically enrolled in the plan at the time of registration. More information about the fee and the plan is available at [shs.wustl.edu](http://shs.wustl.edu).

**Late Registration.** You may register for classes through the end of the second week of the semester. If you register after the second week, you must do so in person in the Dean's Office, and you will be assessed a late registration fee of \$100 per week. A 5 percent late payment fee may also be assessed by the Dean's Office if payment in full is not made with late registration.

The late registration fee is not applicable to graduate resident and nonresident candidates. Students in University College programs will incur a flat late fee of \$30. Part-time engineering students will incur a late fee of \$50 per week.

**Returned Checks.** The University assesses a service charge for handling and processing returned checks.

## Enrollment Deposit

First-year students and transfer students are required to pay a deposit upon admission to Washington University. Your \$200 enrollment deposit is not credited toward tuition and will be forfeited if you do not complete one full semester at Washington University. However, after you graduate, or if you withdraw for any reason after the first semester, your deposit will be refunded (minus any unpaid bills, such as parking or library fines).

## Withdrawals and Refunds

The College of Arts & Sciences, the Olin Business School, the Sam Fox School of Design & Visual Arts, and the School of Engineering have similar policies on withdrawals and refunds. During the first two weeks of a semester, a student may withdraw from all course work via the online registration system or by notifying the Dean's Office in writing. After the second week of classes, a written request to be dropped from courses must be received by the Dean's Office.

## Tuition Refund Schedule (as of Fall 2008)

Withdrawal Date	Refund*
1st or 2nd week of classes	100%
3rd or 4th week of classes	80%
5th or 6th week of classes	60%
7th or 8th week of classes	50%
9th or 10 week of classes	40%
After 10th week of classes	0%

Refunds are calculated based on the date the student notifies the University of withdrawal.

If a medical condition makes attendance for the balance of the semester impossible or medically inadvisable, the University will make a pro rata tuition refund, as of the date of withdrawal when that date occurs prior to the 12th week and the condition is verified by the Student Health Services or a private

physician. The date of withdrawal may correspond to the date of hospitalization or the date on which the medical condition is determined.

If a Federal Title IV aid recipient withdraws from school before the end of the academic semester, Washington University must refund (send loan funds back to the lender) the unearned (amount of time in the academic semester that the student did not attend) amount of Title IV funds. Unearned Title IV funds will be returned to the Title IV program. Students will be responsible for any disbursed but unearned portion of their Title IV funds.

An example of a typical refund calculation can be obtained from Student Financial Services.

## Changes in Fees

The University reserves the right to change the fees stated or to establish additional fees at any time without prior written notice. When fee changes or additions are made, they become effective with the next payment due.

## Nonpayment of Fees

Nonpayment of tuition or other charges due the University or otherwise affecting the University will prohibit the student from receiving certain services. Students with outstanding financial obligations to the University will not be allowed to register or to obtain transcripts or official verification of enrollment.

# Financial Support

Washington University bases most financial assistance on a careful assessment of two factors: financial need and your academic promise. In addition, the University offers a limited number of academic scholarships and fellowships based solely on academic merit. You may apply for both kinds of support simultaneously. Other financing options and innovative plans, such as the Partners in Education with Parents (see page 22) and TuitionPay, the monthly payment plan (see page 22), assist students and parents in financing the University's costs.

About 60 percent of Washington's undergraduates receive need-based financial assistance, which is offered in combinations of scholarships and grants, long-term subsidized loans, and in many cases, part-time campus employment. The average award in 2007 was approximately \$29,000.

Your financial circumstances are considered individually in the financial assistance process. In evaluating the extent of each applicant's need, the University considers many factors besides family income, such as the number of children in your family, the number in college at the same time, and unusual medical expenses. When you apply for financial assistance, you are considered for all types of assistance—grants, student loans, and part-time employment.

The University strives to make attendance a financial reality for qualified students, even when financial need is great. Information about application procedures

\* No refunds are available if individual courses are dropped.

may be obtained from Student Financial Services.

**Veterans.** If you are seeking benefits from the Veterans Administration, you should contact the Office of Student Records.

## Scholarship Funds

The following scholarship funds, which are administered by Washington University, are provided by generous donors to assist the University in supporting financially needy and deserving students. Note: These scholarships are included in financial assistance awards, and a separate application is not required.

A list of scholarships, fellowships, and loan funds specifically designated for students in a particular school (as part of their financial assistance award) can be found in that school's section of this *Bulletin*.

### General Scholarship Funds for Undergraduates in Any School

These scholarships are used to fund scholarship commitments the University makes to students in awarding financial assistance. Qualifying for one or more of these scholarships does not affect eligibility for other scholarship support.

#### Endowed Scholarships

*Grace Bergner Abrams Scholarship*  
*Buddy, Alan, and Andy Adler Memorial Scholarship*  
*Terry W. Allen Scholarship*  
*Anheuser-Busch Scholars Program*  
*Loretta A. Backer Missouri Scholarship*  
*Harold M. Baer Scholarship*  
*Jessie R. Barr Scholarship*  
*Ella Leona Beck Scholarship*  
*Richard G. Bengel Memorial Scholarship*  
*Clara Urquhart Blair Scholarship*  
*Jacob C. and Mary G. Van Blarcom Scholarship*  
*Scott H. Blewett Memorial Scholarship*  
*Blossom Scholarship*  
*William H. Boehm Scholarship*  
*E. R. and Patti C. Breaker Scholarship*  
*Lydia D. Buder Scholarships*  
*Adeline and Edna L. Burger Scholarship*  
*Charlotte B. Burkitt Scholarship*  
*Captain Taylor Kaye Castlen Memorial Scholarship*  
*Dr. Larry T. Chiang Scholarship*  
*Elizabeth Clark Scholarship*  
*Class of 1903 Scholarship*  
*Noel Steven Conner Scholarship*  
*Corporate Express Scholarship*  
*Della S. Crowe Scholarship*  
*Mary E. and Charles V. Dains, Sr. Scholarship*  
*Antoinette Dames Scholarship*  
*Elizabeth Gray Danforth Scholarship*  
*William H. and Elizabeth Gray Danforth Scholars Program*  
*H. James Davidson Memorial Scholarship*  
*Francis M. Dunford Scholarship*  
*Eastern Star of Missouri Scholarship*  
*William G. Eliot Scholarship*  
*Enterprise Rent-A-Car Scholars Program*  
*John B. Ervin Scholars Program*  
*Lloyd H. Faidley Scholarship*  
*First National Bank in St. Louis Scholarship*  
*Harry F. Fischer Scholarship*

*Frank and Esther Fishgall Scholarship*  
*Andrew Rankin Fleming and Susan Fleming Scholarship*  
*James G. and Margaret H. Forsyth Scholarship*  
*Joseph W. and Kate Abby Givens Scholarship*  
*Hiram E. Grant and Marguerite H. Grant Scholarship*  
*Helena Sessinghaus Graves Scholarship*  
*Jerry Hajek United Auto Workers Scholarship*  
*Frederic Aldin Hall Scholarship*  
*Lenora B. Halsted Scholarship*  
*Hartmann Family Scholarship*  
*Lillian Heltzell Scholarship*  
*Jules Henry Scholarship*  
*Kiyoshi Hikoyeda Scholarship*  
*Paul Ho Scholarship*  
*Hosmer Hall Scholarship*  
*Howorth Scholarship*  
*James Lee Johnson Scholarship*  
*John N. and Georgianna B. Judson Fund*  
*Kahn-Morris Scholarship*  
*Kappa Sigma Scholarship*  
*G. A. Knight Memorial Scholarship*  
*Myra T. and Leroy Kopolow APAP Scholarship*  
*Paul Kovacic Memorial Scholarship*  
*Ladenson Family Scholarship*  
*Mary and Ike Levinson Scholarship*  
*Jeanne Schulman Leventhal Scholarship*  
*Norman, Jerry, and Saul Levitt Scholarship*  
*John Ashbury Lewis II Scholarship*  
*John Allan Love Scholarship*  
*William W. and Drue Smalling May Scholarships*  
*Amy B. McCormack Scholarship*  
*Eliza McMillan Scholarship*  
*Mercantile Library Association of St. Louis Scholarship*  
*George Strodman Metcalfe Scholarship*  
*Joseph W. and Ida F. Miller Scholarship*  
*Missouri Pacific Railroad Lines Scholarship*  
*Philip S. Mountjoy, M.D., and Anne Weir Mountjoy Scholarship*  
*Janet Shapiro Mustin Memorial Scholarship*  
*Mary E. and Paul Nierenberg Scholarship*  
*LaVerne Noyes Scholarship*  
*Dr. and Mrs. Robert A. and Rae W. Nussbaum Scholarship*  
*Julia Jean Cromer O'Connor Scholarship*  
*Helen Ette Park Scholarship*  
*Peach Scholarship*  
*Peifuss Memorial Scholarship*  
*Albert J. Plessner Scholarship*  
*Virginia and James Power Scholarship*  
*Joseph H. Roblee Scholarship*  
*Maude A. Schrage Scholarship*  
*Summer Shapiro Scholarship*  
*William Eliot Smith Memorial Scholarship*  
*Spirit of America Scholarships*  
*Spirit of Washington University Scholarships*  
*Clara Gertrude Springmeier Scholarship*  
*I. Louis Stein Scholarship*  
*Julia C. Stimson Scholarship*  
*Solon E. Summerfield Scholarship*  
*Harold E. and Bess A. Thayer Scholarship*  
*Lawrence E. Thomas Scholarship*  
*Marie Davis and Harry Thomson Scholarship*  
*USS Scholarship*  
*Mildred Wagener Scholarship*

*Robert F. and Joyce A. Walton Memorial Scholarship/Zola Gass Andrews Memorial Scholarship*  
*Washington-DuBois Scholarship for African Americans*  
*Leroy A. Wehrle Scholarship*  
*Western Sanitary Commission Scholarship*  
*Gloria W. White Scholarship*  
*Jeanette L. Windegger Scholarship*  
*Andrew L. Wunsch Memorial Scholarship*  
*Zeffren Family Scholarship*  
*Zonta Club of St. Louis Scholarship*

### Annual Scholarships

*Black Alumni Council Scholarship*  
*Black Senior Scholarship*  
*Brian and Michele Cohen Scholarship*  
*George F. Durant Scholarship*  
*Washington University Employee Scholarship*  
*John B. Ervin Scholarship*  
*Farmer's Group, Inc. Scholarship*  
*William Pablo Feraldo Memorial Foundation Scholarship*  
*Alia Fischer Scholarship*  
*Guller Joint Program Scholarship*  
*Helen Hook Hume Scholarship*  
*Krouwer Foundation Scholarship*  
*Landau Scholarships*  
*Northern Trust Scholarship*  
*Cora E. O'Rourke Scholarship*  
*Edward L. Pipkin Scholarship*  
*Annika Rodriguez Scholarship*  
*Donald and Faye Samuels Scholarship*  
*Adolph M. Schmitt Scholarship*  
*1999 Division III Sears Trophy Scholarship*  
*Chester F. Shortal Scholarship*  
*Herbert P. Stellwagen Memorial Scholarship*  
*Orin Bruce Brown-Weingart Scholarship*

### Army ROTC Scholarships

High school seniors may compete for four-year Army Reserve Officer Training Corps scholarships; college students, for three- and two-year scholarships. These scholarships are awarded based on merit. Army ROTC scholarships provide the full amount of tuition and mandatory fees for undergraduate study at Washington University. Army ROTC scholarships also include support for textbook purchases and a monthly allowance during the period the student is in school on scholarship status. Some students who receive Army ROTC scholarships also receive stipends from the University for room and board. The source of the student's stipend will be the University, federal, or state government, or other scholarships, depending on the student's eligibility for assistance. For more information, write the Military Science Department, Washington University in St. Louis, Campus Box 1206, One Brookings Drive, St. Louis, MO 63130-4899, or call 314/935-5521, or visit the Washington University Army ROTC web site at [www.rotc.wustl.edu](http://www.rotc.wustl.edu). The Four-Year Scholarship application may be submitted through the Army ROTC National Headquarters web site, [www.goarmy.com/rotc/](http://www.goarmy.com/rotc/).

### Air Force ROTC Scholarships

High school seniors may compete for four-year AFROTC scholarships, which cover up to full tuition at Washington University, plus

a stipend and allowance for books. Extensive information and the electronic application portal can be found at [www.afrotc.com](http://www.afrotc.com). Informational interviews may be requested by serious students. Contact AFROTC, Gateway Detachment at 314/977-8332.

### Corporation Awards to Children of Employees

An increasing number of companies have scholarship programs open to children of their employees. Inquiries about such plans should be made through your parents' employer(s).

### Loans

In addition to privately sponsored loan programs (refer to individual schools' sections for restricted loan funds), Washington University participates in the federal Stafford and Perkins student loan programs, and the parent PLUS loan program. These loans provide reasonable interest rates and long-term repayment schedules; they make attendance possible for many of the University's students.

### Partners in Education with Parents (PEP)

Partners in Education with Parents (PEP) is an innovative multiple-option program financed and operated by Washington University to help parents to pay University charges—tuition, fees, and room and board.

PEP continues Washington University's commitment to a partnership with the families of our students. This partnership includes a variety of choices to make parents' contributions as affordable as possible. Parents may choose the Multiyear Option, Prepayment Option, or Annual Option.

The PEP **Multiyear Option** allows families to borrow one initial amount at the start of the freshman year to cover all, or part of, all four years of tuition, fees, and room and board charges. This option freezes the charges covered by PEP at the freshman-year rate, based on the percentage of costs covered by the PEP (participation rate). Families can benefit from the competitive, low-cost fixed interest rate and take up to 10 years to repay. There is no penalty for prepayment, and the family may be able to use the home equity option to claim a tax deduction for the interest.

The PEP program also offers the choice to prepay, without borrowing from Washington University, all or part of the tuition, fees, and room and board charges for all four undergraduate years at the freshman-year rate. This option, the **Prepayment Option**, assures families that the prepaid portion of college expenses is covered and will not be subject to later increases in University costs. You can also choose to prepay a portion of the charges and borrow the rest from Washington University. This combination works well for parents who may have saved for a portion or most of their student's college expenses and who want to take advantage of the benefit of increasing their participation rate by using PEP to finance the remaining charges.

If the family prefers to borrow for col-

lege costs one year at a time, then the PEP **Annual Option** might be their best choice. Each year they can borrow an amount up to or equal to that year's tuition, fees, and room and board charges and take up to 10 years to repay. There is no penalty for prepayment and they can benefit from the competitive fixed interest rate.

Financing under the Multiyear or Annual Options requires no security or collateral from participants. A prospective participant must have a good credit rating and provide evidence of being able to meet the required monthly payments to be approved for a loan.

A **Home Equity Option** is available under both the Multiyear and Annual Options. This option was developed so that the interest paid on a debt secured by a home may qualify for a tax deduction.

More information about Partners in Education with Parents is available from Student Financial Services, Washington University in St. Louis, Campus Box 1041, One Brookings Drive, St. Louis, MO 63130-4899; 314/935-4139 or 1/800/468-0569, or fax 314/935-4037; e-mail: [financial@wustl.edu](mailto:financial@wustl.edu).

### TuitionPay (Monthly Payment Plan)

TuitionPay, the monthly payment plan, provides for the payment of total annual University charges—tuition, fees, and room and board—in 10 or 9 monthly installments. Information about this plan is provided to all admitted students or may be obtained directly from Student Financial Services.

### Federal Work-Study

If you apply for financial assistance, you are considered for the Federal Work-Study program (FWS). FWS employees work an average of 10 to 12 hours a week on campus and typically earn \$2,000 over the course of the academic year.

## University Affiliations

Washington University is a member of the Association of American Universities, the American Council on Education, the College Board, and the Independent Colleges and Universities of Missouri. We also are a member of and accredited by the North Central Association of Colleges and Secondary Schools ([www.ncahigherlearningcommission.org](http://www.ncahigherlearningcommission.org) or 312/263-0456).

The College of Arts & Sciences is a member of the Association of American Colleges. Degrees in education offered by Arts & Sciences are accredited by the National Council for Accreditation of Teacher Education. The College of Architecture was one of the eight founding members of the Association of Collegiate Schools of Architecture (ACSA) in 1912. The Graduate School of Architecture & Urban Design's Master of Architecture degree is accredited by the National Architectural Accreditation Board (NAAB). The College of Art is a founding member of, and is accredited by, the National Association of Schools

of Art and Design. The Mildred Lane Kemper Art Museum is nationally accredited by the American Association of Museums (AAM). The Olin Business School is a charter member of the Association to Advance Collegiate Schools of Business International (1921). In the School of Engineering, many of the professional degrees are accredited by the Accreditation Board for Engineering and Technology. The University Libraries are a member of the Association of Research Libraries.

Washington University also is a member of Argonne Universities Association, the organization that coordinates the use of research facilities at Argonne National Laboratory.

## Using This Bulletin

On the following pages, you will find descriptions of all the undergraduate academic departments and programs of Washington University, beginning with the College of Arts & Sciences. Each division contains a faculty list, followed by a "headnotes" section, which gives an overview of available majors and minors and their respective course requirements. To help you better understand how the course descriptions are structured, please note the following information.

## Course Descriptions

- The number of weekly class hours corresponds with the number of units of credit assigned a course, unless different hours are specified in the course descriptions.
- Course numbering corresponds generally to the level of students for which the course is planned. Thus, courses numbered 100 through 299 are intended primarily for first-year students and sophomores; courses numbered 300 through 399 for sophomores, juniors, and seniors; and courses numbered 400 to 500 for juniors, seniors, and graduate students.
- When a course title is followed only by a reference to another department (e.g., Art-Arch 190B, *Same as Anthro 190B*), the course is offered in both departments but instruction is provided by the second department.
- Prerequisites are listed for individual courses except in those cases where a course has no prerequisite.
- Not all the courses listed will be given each year. Full information on the specific courses to be offered each semester is circulated to all members of the faculty and student body before preregistration in a publication titled *Course Listings*. Course Listings may also be found online at [courses.wustl.edu/](http://courses.wustl.edu/).

**College of  
Arts & Sciences**

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## College of Arts & Sciences

**Ralph S. Quatrano, Ph.D.**

Dean of Arts & Sciences

Spencer T. Olin Professor in Arts & Sciences and Professor of Biology

**James E. McLeod**

Vice Chancellor for Students and

Dean of the College of Arts & Sciences

**Henry Biggs, Ph.D.**

Associate Dean

**Darla Dale, Ph.D.**

Assistant Dean

**Warren Davis, M.A.**

Assistant Dean

**Matthew DeVoll, Ph.D.**

Assistant Dean

**Cathleen A. Fleck, Ph.D.**

Assistant Dean

**Ewan Harrison, Ph.D.**

Assistant Dean

**Carolyn Herman, Ed.D.**

Assistant Dean

**Delores K. Kennedy, Ph.D.**

Associate Dean

**Kristin Kerth, J.D.**

Assistant Dean

**Joy Kiefer, Ph.D.**

Assistant Dean

**Dirk Killen, Ph.D.**

Assistant Dean

**Mary Laurita, Ph.D.**

Assistant Dean

**Sean McWilliams, Ph.D.**

Assistant Dean

**Jennifer Romney, Ph.D. candidate**

Assistant Dean

**Sharon Stahl, Ph.D.**

Associate Dean

**Wilmetta Toliver-Diallo, Ph.D.**

Assistant Dean

### Arts & Sciences at Washington University

The College of Arts & Sciences is the largest undergraduate program at Washington University, offering you the most diverse range of courses in more than 50 different fields, ranging from anthropology and biochemistry to mathematics and performing arts.

The College draws on the rich and varied resources that this distinguished University has to offer—a creative and internationally recognized faculty, a diverse and able student body, a superior library, and excellent opportunities for advanced study. As the center of intellectual life of the campus, the College of Arts & Sciences benefits from and contributes to the studies of architecture, art, business, engineering, law, medicine, and social work.

Of central importance to the life of the College is the quality of teaching. As an undergraduate student, you have the opportunity to learn from and work beside stimulat-

ing teacher-scholars who are leaders in their fields. Our nationally recognized faculty, which numbers more than 500, is made up of artists, biologists, chemists, economists, historians, philosophers, and poets, who bring the excitement of new ideas into the classroom. Their varied intellectual pursuits add richness to your undergraduate experience.

### Governance

The College of Arts & Sciences is bound by the charter of the University and is ultimately responsible to the University Board of Trustees, which delegates to the chancellor the administration of the University. In turn, the chancellor delegates to the deans and faculty of the College of Arts & Sciences responsibility for its internal governance.

Because the College is continually reassessing its objectives and policies, faculty and students alike may take the initiative in proposing changes in curriculum and policies. New programs or proposed modifications are reviewed by committees whose members represent the diverse points of view of the academic community.

By action of the Faculty of Arts & Sciences in January 1969, revised in May 1971, the ArtSci Council shares joint responsibility with the faculty for collegewide degree requirements, the grading system, and those policies that directly affect the lives of students. The ArtSci Council appoints representatives to various standing and ad hoc College committees.

### The Curriculum

By studying in the College of Arts & Sciences, you can discover how the intellectual resources of people, libraries, laboratories, studios, and computers can best be used. More important, the College provides you with the opportunity to explore those resources necessary to all occupations: a heightened spirit of inquiry, an ability to organize and synthesize information, skills in written and oral expression, and a familiarity with the ways in which thoughtful men and women have discovered those commitments and values that make life worthwhile.

The College's academic program has two principal objectives: (1) to provide you with an understanding of the range of human knowledge and attainment by developing an appreciation of the characteristic problems, achievements, and limitations of the various fields of human endeavor, and (2) to give you the opportunity to pursue study of a subject or area in a sustained, intensive way.

A period of exploration, commonly called general education, helps you achieve an awareness of the richness inherent in the various fields of study. The College requires that you explore the curriculum widely for more than a quarter of the units needed to graduate. The College also requires you to choose one or more areas of concentration. Most students choose to master one of the traditional subject areas such as chemistry, economics, or music. You may choose from among 30 subject majors and 21 interdisci-

plinary majors. You may also develop special majors.

In all departments, you are encouraged to proceed as your capabilities and experience permit. Placement examinations are used in many departments to enroll you in courses at the levels your previous training warrants; in other departments, proficiency examinations are available (see Proficiency and Placement Examinations, beginning on page 15).

### Academic Advising

To assist you with your undergraduate planning, the College provides a closely coordinated academic advising program. As a first-year student, you will have a specially selected four-year academic adviser with whom you will meet periodically during the first year to help you with the transition into the University and to help you select courses for the fall and spring semesters. After the first year, you will meet each semester with your four-year academic adviser prior to registration to discuss your interests, goals, and academic course work. You are encouraged to consult with your four-year academic adviser any time you need assistance throughout the school year.

When you declare a major, you are assigned a major adviser in the department of your principal area of study. The extent of the adviser's assistance depends on your individual needs and wishes. Consultation with a major adviser, in addition to your four-year academic adviser is required each time you prepare to register for courses.

Students with problems or questions related to academic issues are invited to visit the College Office at any time. One of the deans is available every day on a drop-in basis to help you or refer you to an appropriate source of help. Important among these sources are individual faculty members with particular specialties who may be able to answer your questions. In addition, the Writing Center, Career Center, Student Health Services, and Cornerstone: The Center for Advanced Learning provide a wide range of services, including individual and group instruction, interest tests and advice, individual sessions with trained counselors about educational and personal problems, and the improvement of skills in learning.

### Pre-Matriculation Units

Pre-matriculation units are earned before your enrollment at Washington University as a first-year student, which can be applied toward a Washington University degree.

Sources for pre-matriculation units include Advanced Placement (AP) examinations, International Baccalaureate (IB), British Advanced (A) Levels, and college credit earned after your junior year in high school. Students in the College of Arts & Sciences have all accepted pre-matriculation work noted on their transcript so they may go directly into advanced courses, but the maximum number of pre-matriculation units awarded is 15 units. Pre-matriculation course work does not fulfill distribution requirements, but it may fulfill requirements for majors and minors.

## Integrated Programs for Entering Students

As a first-year student, you may choose one of the following programs that provide a basic structure for your course selection. Each option provides an effective means of discovering personal and educational interests.

### FOCUS Program

FOCUS is a one-year seminar program designed to bring you into close relationship with professors and other first-year students with similar interests. Several FOCUS plans are offered every year, each built around a seminar topic reflecting the professor's particular area of expertise. Students in each FOCUS seminar may also attend a "companion" course chosen to encourage exploration of the seminar topic from varying perspectives. The FOCUS program provides a coherent, group-oriented learning experience, while still allowing time for electives (see page 133-134).

### International Leadership Program

The International Leadership Program is a one-year program designed to help you develop the skills and awareness needed to thrive in the globalized world. You will study the economic, political, social, and cultural issues that arise due to globalization. You also will study past and present international conflicts with a view to understand how and why they began and developed, and what is being done to resolve them. This program also features a speakers series giving you the opportunity to learn from and interact with proven leaders in international business, the State Department, foreign governments, and higher education.

### The Mind, Brain, and Behavior Program

The Mind, Brain, and Behavior Program is a two-year program that introduces students to the key ideas about the mind-brain interaction by examining attention, memory, and language—three central mental abilities that are primary areas of research in cognitive science. Professor-led discussion groups explore questions such as: What is the relation between attention and consciousness? Why do we misremember past experience? When the brain is damaged, why are only certain functions lost? In the second year, students engage in hands-on research under the guidance of a faculty mentor (see page 184).

### Medicine and Society

The Medicine and Society Program is an exciting opportunity for undergraduate students in Arts & Sciences to address the important social and cultural foundations of health and illness in human societies, with a specific emphasis on service and research opportunities in health-related sites in St. Louis. Students who are accepted into the Medicine and Society Program are enrolled in a year-long Freshman Seminar on culture, health, and society in the Department of Anthropology. This seminar provides the academic foundation for future community health work in St. Louis.

Beginning in the sophomore year, students identify and select a local community health site for their internship. Internship sites may include the St. Louis city and county health departments, various non-governmental health aid agencies, sites for delivery of clinical care and research, and health philanthropic foundations.

During the junior and senior years, academic and service activities intensify at the internship site, culminating in a senior project or Honors thesis based on original research, conducted at the community health internship site. This experience provides an excellent foundation for future study in medicine and public health, as well as any of the allied health professions. (see page 182-183).

### Pathfinder Program

The Pathfinder Program in Environmental Sustainability gives participating students a chance to engage in interactive study of the environment with a small group of motivated undergraduates and a senior faculty member. Through case studies and field trips, students examine the issues surrounding environmental sustainability and the preservation of the environment for future generations. While participating in the Pathfinder Program, you may pursue a major in biology, chemistry, earth and planetary sciences, environmental studies, mathematics, or physics in the College of Arts & Sciences, or pursue a major within the School of Engineering. The Pathfinder Program supports the concept that taking interrelated courses and learning both analytical and technical skills not only helps you complete a senior-year capstone research experience, but also helps you with your career or graduate studies in the future (see page 189).

### Text and Tradition Program

This two-year program explores many of the fundamental texts and concepts of Western history, which have served as both foundations and obstacles for the development of some of the most significant cultural, moral, and political institutions of modern society. Through close reading, critical analysis, and frequent short papers, two seminars each term explore texts by such writers as Homer, Plato, Machiavelli, Cervantes, Locke, and Marx. The discovery of the self, the origin of ideas such as liberty and property, and the impact of the scientific revolution are some of the themes examined. The program's professors serve as academic advisers. Text and Tradition courses serve as beginning courses in the major programs of many of the humanities departments and programs in Arts & Sciences; they also provide a foundation for students interested in pursuing an interdisciplinary major in the humanities under the auspices of the Interdisciplinary Project in the Humanities (IPH; see page 155-156).

### Standard Program

This option is an excellent choice for you whether you already have made a firm commitment to a particular discipline in the natural sciences, social sciences, or humanities or you are uncertain about what you would

like to pursue. In the standard program, we suggest that you consider a freshman seminar when you select courses in consultation with your four-year academic adviser. The course schedule can be either widely exploratory or oriented toward a particular objective such as medical school.

### Major Fields of Study

The headnotes preceding the course offerings of each department or area of concentration explain which courses are recommended as prerequisites to advanced work. Information about other major requirements is also found there.

A student graduating with a Bachelor of Arts may receive no more than a total of two majors and a minor or one major and two minors.

To declare a major, you must complete the declaration form and secure the written permission of the department or interdisciplinary committee. An adviser for the major also will be assigned by the department. You may complete more than one major; including a second major in the Olin Business School or in the School of Engineering.

If a student has two majors, each major must have 18 upper-level units of credit independent of each other.

If you are a student in business, engineering, architecture, or art, you may choose to pursue a second major in the College of Arts & Sciences. You will receive one degree, a B.S. or B.F.A., with two majors—one in the professional school and one in the College of Arts & Sciences.

### Minor Fields of Study

If you develop a significant interest in one or more fields of study besides your major field, you may choose to pursue a minor in those fields. Optional minors may be fulfilled in an area closely related to the major or, to add breadth as well as depth to your educational program, in a different discipline. A minor normally consists of 15 to 21 units of credit with a grade of C- or better. At least half or 9 to 11 units of credit must be at the 300 level or above and must be completed in residence at Washington University. The course requirements for a minor are determined by each department or program. If a student has a major and a minor, the major must have 18 upper-level units independent of the minor. The minor must have 12 units independent of the major.

The departments and interdisciplinary committees of the College have designed a broad array of minor programs, both general and specific. In addition, you may undertake minors in Architectural Studies; Art; Business; and Computer Science in the Engineering School. Detailed information on minor programs and procedures for declaring a minor are in the *Minors Handbook*, which is available in the College Office.

### The Special Major and Special Minor

If you are interested in creating a special major or minor, you should confer with the dean charged with coordinating this program. After consultation, you must submit

to the coordinator a formal proposal consisting of: (1) a description of the program of study, including an explanation of the integrating idea in the program; (2) a tentative list of courses to be taken; (3) the name of the proposed academic adviser; and (4) the name of a faculty member in a second department who has approved the proposal.

A proposal for a special major or minor must be submitted no later than the fifth semester of your undergraduate enrollment. The Committee on the Special Major and Minor is responsible for final action on proposals.

## Bachelor of Arts Degree Requirements

Arts & Sciences places the primary responsibility for selection of an academic program on the student, in consultation with advisers. This freedom of choice carries with it a corresponding responsibility for the consequence of such choices. The faculty believes each student should strive toward breadth and intensity of study. This is represented in the formal requirements.

### Planning

The degree requirements for the Bachelor of Arts Degree in Arts & Sciences are designed to provide you with strong and sustained training in writing and quantitative analysis; to enable you to construct a coherent program in which courses reinforce each other in challenging and productive ways; and to take advantage of two distinctive features of the academic environment at Washington University—the strong tradition of cooperation among faculty working in different intellectual disciplines and the fact that teaching and learning at Washington University draw energies from an environment of vigor and creative research.

We regard active student engagement in curricular planning as central to successful student learning. Each semester, your advisers will help you project a personalized academic plan that responds to what you have already learned—about the University, about the structure and aims of intellectual disciplines, and about yourself.

*By the end of your sophomore year you must have constructed and nominated online to your four-year academic adviser a curricular plan that will satisfy all the following General Education requirements:*

#### I. Basic Skills

A. *Writing I* (3 units): You must demonstrate proficiency in reading and writing English and must begin to develop mature skills in framing and revising arguments by completing course work determined by the Department of English with grades of C+ or better. This should be completed in the freshman year.

B. *Quantitative Analysis* (3 units): You must develop your skills in quantitative analysis by completing one of an approved list of “QA” courses with a grade of C+ or better. You may find that there is a QA course in your major field of interest.

C. *Cultural Diversity and Social Differ-*

*entiation* (6 units): You must take one course designed to foster an understanding of cultural diversity and another course that substantially engages in the analysis of such forms of social differentiation as race, class, ethnicity, and gender. These courses, which may be taken credit/no credit, must be selected from an approved list of “CD” and “SD” courses; they may satisfy other requirements (although CD courses may not also satisfy SD requirements, and vice versa).

D. *Writing-Intensive Course* (3 units): So that you can consolidate your communications skills, you must take a writing-intensive course, preferably in your major field. You take the “WI” course in your junior year, or in your senior year. The course, which may satisfy other degree requirements, must be completed with a C+ or better.

#### II. Area Requirements

A. You must complete 8 or 9 units of course work in each of the following four academic areas:

1. Natural Sciences and Mathematics (NS)
2. Social Sciences (SS)
3. Textual and Historical Studies (TH)
4. Languages and the Arts (LA)

Up to 12 units of distribution requirements may be taken credit/no credit.

B. You must take 6 or more units in each of the four academic areas in approved course clusters. These clusters are designed to provide a deep and coherent experience of the four basic academic areas. Each complete major or minor may be used to satisfy a cluster requirement.

You may propose your own cluster, which will be reviewed by the student-faculty Curriculum Committee. You are permitted only one student-proposed cluster.

#### III. The Major

You must complete a major of no fewer than 18 units of courses numbered 300 or above with a grade of C– or better. A major consists of a regular major (a core specified by a department or area studies committee, plus a supporting program proposed by the student and approved by the department or area committee) or a special major (a program of studies planned by the student, together with a faculty adviser in one of the departments where the concentration will fall, and approved by the Committee on the Special Major and Minor). Degree completion is based on the primary major of record. At least half of the units for the major must be completed in residence. You are especially encouraged to complete a capstone experience in your major as a way of culminating your undergraduate education.

#### IV. Additional Requirements

A. You must complete 120 units with at least 30 units in advanced courses (numbered 300, 400, or 500). The 30 units in advanced courses may include the number of advanced units required by the major.

B. You must have an overall G.P.A. of 2.0.

C. You must earn the final 30 units toward the degree at Washington University.

D. You must be recommended by Arts & Sciences to the Board of Trustees.

#### V. Regulations

A. No more than 24 units may be taken credit/no credit and no more than 12 of the 24 units may be for distribution requirements.

B. No more than 15 units of pre-matriculation credit may be counted toward graduation. Pre-matriculation sources include Advanced Placement (AP), International Baccalaureate (IB), British Advanced (A) Levels, and college courses.

C. You may not earn more than 12 units toward the bachelor’s degree in group and individual performance courses combined.

D. No more than 12 units of work may be taken outside the College of Arts & Sciences during the first and sophomore years. Thereafter, additional work may be taken with the approval of your adviser, provided the total applicable toward the A.B. does not exceed 30 units.

E. No more than 18 units of credit in independent study may be applied to the A.B.; no more than 6 units of independent study may be attempted in a single semester.

F. No more than 6 units of internship credit may be applied to the A.B.

G. A student may receive no more than a total of two majors and one minor or one major and two minors.

#### VI. Transfer Students

A. For transfer students, where appropriate, previous course work may be applied to the distribution requirements based on the following guidelines.

B. For a student entering at the sophomore level (24+ units):

- i. one cluster may be fulfilled or
- ii. one course may count as units in an area (NS, SS, TH, or LA) and one course may fulfill a basic attribute (QA if a grade of C+ or better was received, SD, or CD)

iii. the writing-intensive course *must* be completed at Washington University

C. For a student entering at the junior level (57+ units):

- i. two clusters may be fulfilled or
- ii. one cluster may be fulfilled and one basic attribute fulfilled (QA if a grade of C+ or better was received, SD, or CD) or
- iii. two courses may count as units in two different distribution areas (NS, SS, TH, or LA) and one course (not two) may fulfill one of the basic requirements (QA if a grade of C+ or better was received, SD, or CD)

iv. the writing-intensive course *must* be done at Washington University

D. Transfer students must complete a minimum of 60 units at Washington University.

## Special Academic Options

### Overseas Study Programs

For information about study abroad, refer to page 6 of this *Bulletin*.

### Individual and Group Performance

Opportunities for individual and group performance include participation in various

musical organizations sponsored by the Department of Music (such as symphony orchestra, wind ensemble, mixed choir) and courses offered in physical education. To encourage you to pursue such physical, social, and creative activities, the College allows up to 12 units of credit toward the bachelor's degree for successful completion of enrollment in individual and group performance. This does not include music lessons or courses in the Performing Arts Department.

### Internships

1. Students may not receive credit for work done for pay.
2. Each internship must have a sponsor. The sponsor's primary role is to ensure that requirements for credit are met and that the work is of a substantial nature commensurate with the skills of college-educated employees. Detailed supervision of the intern in his or her job is the responsibility of the intern's site supervisor.
3. Registration in an internship for credit shall be conditional on satisfactory completion of the "Learning Agreement" form provided by the Career Center and the submission of this form to the Career Center and sponsor. The Career Center provides assistance in locating and organizing a good internship experience. If a student finds his or her own internship opportunity (either in the St. Louis area or another city), the student must contact the Career Center to file a Learning Agreement.
4. Work completed during the internship should contribute to the student's academic or professional development. Work should be of the type that requires a college education. (Completion of the Career Center Learning Agreement will help to ensure that this requirement is satisfied.)
5. The credit awarded for an internship shall correspond to the time spent in work activities. The student is expected to work 60 hours of internship experience over a period of 6 to 8 weeks for each unit of credit. Registration for 1 to 3 units of credit is possible.
6. Students may complete the work for an internship over the summer and receive credit during the subsequent semester. Any internship completed this way, however, must satisfy all requirements outlined here. The learning agreement must be filed and approval must be obtained prior to beginning work at the internship site.
7. Every internship shall require written work to be reviewed by the sponsor. The assignments shall be specified before work on the internship begins, and they shall be written into the Learning Agreement signed by the student and the sponsor. Suggestions for written assignments include a periodic report on work activities and a brief end-of-term paper that describes the student's experience and links it to academic studies.
8. Students may count no more than 6 units of internship credit toward the 120 units required for graduation.

9. Students may not receive more than 3 units of internship credit in any semester.
10. Internship units do not count toward major or advanced unit requirements.
11. Because faculty are not involved in detailed supervision of the student's work during an internship, internship courses shall be offered for credit/no credit grades only. Internship credits therefore count toward the maximum of 24 credit/no credit units that may be applied toward graduation requirements.

### Part-Time Study: Nontraditional Students

The University recognizes that for certain students with high educational goals, full-time study may not be feasible or appropriate. Employment in demanding positions, extensive family responsibilities, or other obligations may prevent an otherwise serious and competent student from completing the bachelor's degree at a rate of 15 units a semester. With their varied experiences outside the University, such students make valuable contributions to the classroom environment as they pursue programs of study suitable to their special circumstances. Please contact University College at 314/935-6700 for more information.

### Tuition Reduction

For the classes that enter Fall 2004 and after, tuition reduction is not available. However, a student may still graduate early.

### Combined Degree Opportunities

You may work toward the Bachelor of Arts degree in the College of Arts & Sciences at the same time you earn an undergraduate degree in business, engineering, architecture, or art. To do so, you must earn 150 units, 90 of the units in the College of Arts & Sciences; fulfill the minimum degree requirements for a major in each of the two schools, as well as fulfill the distribution requirements for both schools. You should contact both a dean in the College and the designated dean in the appropriate school as early as possible in your undergraduate career.

### Majors Across Schools

You may get an A.B. degree with a second major in business or engineering by fulfilling all the distribution requirements for the A.B. degree, completing the requirements for the first major in Arts & Sciences and the second major in business or engineering. With careful planning this can be done within the 120 units required for the A.B. degree. For further information on second majors in business go to the web site: [www.olin.wustl.edu](http://www.olin.wustl.edu), and for further information on the second major in engineering go to the web site: [www.cse.wustl.edu](http://www.cse.wustl.edu).

### The Joint A.B./A.M. Program

If you are an exceptional student who brings to the University a definite commitment to a field of study in the College of Arts & Sciences and a demonstrated capacity for intensive work, you may be able to complete simultaneously the Bachelor of Arts and the Master of Arts degrees within a four-year pe-

riod. The joint A.B./A.M. program is open to students approved by their departments, after completing 9 or more units of 300-level work with high attainment. Eligible students usually enter the College with some college credits already earned and/or carry more than the normal course load in regular semesters and, as appropriate, in summer school. Some departments may choose not to participate in this program. A.M. programs administered by University College, the evening division, are not eligible for the A.B./A.M. program.

The program is designed for students able to work in their chosen fields at a serious, professional level. Consequently, applicants should exhibit academic performance represented by a clear B (3.00) average throughout their programs of study, and in courses within the major field or their prerequisites no grade lower than B-. A student in the College who has achieved these academic standards and completed 9 or more units of advanced (300 level or above) course work should consult with the chair of the major department as early as possible in the junior year. Only in exceptional cases will candidates be admitted to the A.B./A.M. program after their fifth semester of study. If the department encourages candidacy, the student should confer with the Assistant Registrar of Graduate Arts & Sciences to assure completion of necessary procedures.

Once the projected course work and other requirements stipulated in the statement of intent have been approved by the Graduate School of Arts & Sciences, the student may embark upon the requirements described below.

Requirements for the joint A.B./A.M. are the following:

1. At least 135 units of college and/or graduate school course work, including all academic and residency requirements for the A.B.
2. At least 30 units of graduate (400- and 500-level) course work in the major field beyond the minimum required for the A.B. by that department. All courses offered toward the graduate degree must be passed with a grade of B or better and may not be counted toward the major.
3. No more than 9 of the 30 graduate units should be earned in independent study, thesis preparation, or research.
4. Completion of a thesis and/or special examination such that the department can certify that the student has achieved the level of competence normally expected of candidates for the A.M.

Departments may, at their discretion, add requirements such as proficiency in foreign languages.

As in all cases, actual award of each degree will be contingent on successful completion of all requirements for that degree. It is expected that A.B./A.M. students will receive both degrees on the same date. On rare occasions, a student who needs only to finish incomplete course work or final preparation of a master's thesis in order to complete the A.M. requirements may be permitted to receive the A.B. degree one semester prior to

the A.M. degree. If the outstanding Master's work is not completed within one semester, the student will no longer be part of the A.B./A.M. program, but will become subject to the requirements in force for other Master's students in the discipline in question. Extensions of this nature will be granted only with the concurrence of the major department and the Dean of the Graduate School.

### **Registration and Financial Assistance**

A.B./A.M. students are formally admitted into the Graduate School upon completion of the approval process but continue to register for this semester as undergraduates. (They thus assure access to government aid and loan programs available only to undergraduates who have not been certified for completion of the A.B.)

As undergraduate registrants, candidates remain eligible for all of the usual conditions of undergraduate study, including consideration for financial assistance by the Student Financial Services office in accordance with rules and practices adopted by that office for all undergraduates. They are not eligible for various forms of financial aid administered by the Graduate School: University Fellowships, University Scholarships (tuition remission), Teaching Fellowships. However, they may be employed by their major departments on a part-time basis to perform duties, whether classroom-related or other, assigned by that department. Since employment by a department may have a bearing on the amount of financial aid awarded, departments should consult with the Student Financial Services office prior to hiring an A.B./A.M. student.

Exceptions to the policy of awarding no Graduate School support to A.B./A.M. students will be contemplated only if all the following conditions are met:

1. For sound reasons attested to by the major department, students are unable to complete both degrees within four years but can complete them during all or part of a fifth year and
2. Students' financial resources are insufficient to allow them to attend Washington University during the fifth year without financial aid, and
3. In view of the major department and of the Graduate School, the student's academic performance is equal or superior to that of other Master's students currently receiving financial assistance.

If a decision is made to grant aid in these circumstances, students will be admitted into the Graduate School at the beginning of the fifth year. Departments are strongly urged to submit requests for such exceptions to the Dean of the Graduate School in the spring of the preceding academic year, simultaneously with aid requests for all graduate students.

### **The A.B. and Master's Degrees in the Professional Schools**

The College of Arts & Sciences—with the Olin Business School, the School of Engineering, the School of Medicine (Program in Occupational Therapy), and the George Warren Brown School of Social Work—offers

joint degree programs whereby you, if accepted into one of these schools, may work toward the A.B. and the first professional degree simultaneously.

All preprofessional students are admitted on the same terms as candidates for the A.B. Any student who expects to fulfill the requirements for entrance into a professional school by the end of any semester should, shortly after the semester begins, apply for admission by applying to the dean's office of that school.

Under this program, you must fulfill the professional school requirements and the following requirements of the College:

1. You must have satisfactorily completed at least 90 academic units in courses offered by the College of Arts & Sciences.
2. You must have completed all of the general education requirements, major requirements, and 21 of the 30 required units in advanced courses.
3. You also must satisfactorily complete the first year in the Washington University professional school.
4. A transfer student who seeks the A.B. under this plan must complete at least four semesters in full-time residence in the College of Arts & Sciences of Washington University. All other conditions must also be fulfilled.
5. You must be recommended by the faculty of the professional school to the dean of the College of Arts & Sciences.

### **Olin Business School**

A five-year program combining an undergraduate degree and a master's degree is available to a select number of students. (See page 275.)

### **School of Engineering**

A student may apply for the A.B./M.S. program that leads to both a Bachelor of Arts and a Master in Computer Science. For further information visit the web site: [www.cse.wustl.edu](http://www.cse.wustl.edu), or contact the department in 509 Bryan Hall.

### **Occupational Therapy**

(Leading to the A.B. and M.S.O.T. or O.T.D. from the Washington University School of Medicine)

Admission to the Program in Occupational Therapy at the School of Medicine requires a bachelor's degree or participation in the 3-2 program. Occupational therapy is an application of the basic biological and social sciences; hence, bachelor's degrees in psychology and biology are useful. Other suitable majors include business, engineering, computer science, and art. Undergraduate students are encouraged to contact the pre-health professions adviser to discuss academic plans.

The 3-2 program blends three years of undergraduate liberal arts (90 academic units) with two years of graduate study in occupational therapy. If you elect the 3-2 option, you will complete the general requirements for the bachelor's degree in Arts & Sciences during the initial three academic years, while simultaneously completing the prerequisites for entry into the Program in

Occupational Therapy (OT). Application to the OT program occurs in the fall of your junior year. Qualified, recommended 3-2 students from Washington University receive priority admission status to the Program in Occupational Therapy. The A.B. will be awarded following successful completion of the fourth year. You are awarded an M.S.O.T. following the fifth academic year and six months of fieldwork.

The following prerequisite courses must be completed with a grade of B- or better prior to matriculation in the Program in Occupational Therapy:

- 3 units in biology (200 level or above)
- 3 units in physiology
- 3 units in other physical sciences, such as anatomy, neuroscience, chemistry, or physics
- 3 units in developmental psychology
- 3 units in other social sciences, such as abnormal psychology, sociology, anthropology, or economics
- 3 units in statistics (behavioral, psychological, educational, or mathematical).

Pre-health professions students are encouraged to take OT courses offered to undergraduates, such as Issues of Disability in Society and Promoting Meaning and Quality of Life.

Applicants must also take the Graduate Record Exam and demonstrate competency in medical terminology and computer skills. Completion of at least 30 hours of volunteer/observation time in an occupational therapy-related setting is required.

The Doctor of Occupational Therapy (O.T.D.) is a professional degree providing students the opportunity to focus their OT studies in one of four areas of concentration: Productive Aging, Social Participation and the Environment, Work and Industry, and Pediatrics. The O.T.D. requires 39 months of course work and fieldwork. A full description of degrees in occupational therapy is available from the office of the Program in Occupational Therapy, or you can visit the web site: [www.ot.wustl.edu](http://www.ot.wustl.edu).

Information on financial aid for this program may be obtained from the Office of Financial Aid at the medical school. Occupational therapy merit scholarships are available for students entering the program.

### **Social Work**

(Leading to the A.B. and M.S.W. from the George Warren Brown School of Social Work)

Prerequisites for admission to the George Warren Brown School of Social Work are the same for those holding the A.B. or for those students who seek admission after the junior year in the College of Arts & Sciences. All applicants must have completed at least 30 units in the social sciences (anthropology, economics, political science, or psychology) and must have maintained at least a B+ average in all undergraduate work.

If you wish to enter the joint degree program, you should apply with the George Warren Brown School of Social Work during the first semester of your junior year. You will be evaluated on the same basis as students applying with an undergraduate degree. If you enroll for a joint degree, you

will complete the A.B. after the fourth year and the M.S.W. at the end of five years of study.

### Undergraduate Preprofessional Preparation

If you plan to pursue professional studies, you should refer to the recommendations given below.

#### Architecture

See the College of Architecture section in this *Bulletin*.

#### Business Administration

Students in the College of Arts & Sciences are welcome to consult with the associate dean for the undergraduate program in the Olin Business School concerning any aspect of preparation for careers in business.

#### Law

The two most significant factors law schools use in determining whom to admit for legal study are the undergraduate GPA (taking into consideration the difficulty of courses attempted and the breadth of study) and the score on the Law School Admission Test (LSAT). Admission to law school requires a bachelor's degree. There is no required set of courses for pre-law study at the undergraduate level.

Many law school applicants have majors in political science, history, philosophy, economics, and English, but law schools also seek students with undergraduate majors in science, engineering, business, and other disciplines. Whatever area(s) you choose to emphasize in your undergraduate studies, be sure to take courses that require significant amounts of writing and courses that train you to think analytically. Seek out courses that require application of principles or theories to new situations, and courses requiring original writing and revision of your written work in response to comment and critique. It is also important to learn to read and analyze complex written material and to develop sound research skills.

Political science, history, philosophy, and economics courses can help you develop an understanding of the traditions behind and the development of our legal system. Logic, accounting, and statistics courses also provide valuable background for legal study and the practice of law.

The pre-law adviser in the College of Arts & Sciences is available to help you plan your course of study and prepare a strategy for applying for admission to law school.

#### Medicine

Premedical students in the College of Arts & Sciences of Washington University must complete the bachelor's degree before admission to a medical school. Besides fulfilling the requirements for the A.B., you must fulfill the entrance requirements of the medical schools where you plan to apply. Specific requirements, which may vary, are summarized in the handbook *Medical College Admission Requirements*, published annually by the Association of American Medical Colleges.

As a premedical student, you must

demonstrate high achievement in academic work and must possess the character, responsibility, and level of commitment suitable for a career in medicine. Since the competition for admission to medical schools is keen, you should follow an educational program that will provide competence in a field that may serve as an alternative to medicine.

All medical schools require at least one year each of English, general biology, inorganic chemistry, organic chemistry, and physics. Laboratory courses also are required in all the science core courses. Most medical schools require a year of college mathematics. Medical schools also encourage applicants to develop a broad intellectual background that includes the humanities and the social and behavioral sciences.

Students interested in the health professions may choose a major in any field—the humanities, the social sciences, or the sciences—as long as they complete the pre-medical requirements. All students who plan to apply to M.D.-Ph.D. programs are advised to major in the sciences and begin a research experience no later than the beginning of their sophomore year. Research opportunities are available both on the Danforth Campus and at the School of Medicine and are open to both science and nonscience majors. Health-related volunteer opportunities also are widely available.

If you enter the University planning to apply to medical school, you should, with the aid of your adviser, structure your course of study to include the medical school requirements. It is strongly recommended that mathematics and chemistry be among the first courses taken and that the medical school requirements be completed by the end of the third college year, when you would normally take the Medical College Admission Test (MCAT).

If you are interested in careers in the health professions, you can draw on the advice and counsel not only of your advisers, but of the associate dean for pre-health professions in the College.

#### Physical Therapy

If you are interested in pursuing a career in physical therapy, you must complete a bachelor's degree before entering the Doctor of Physical Therapy (D.P.T.) program. This degree replaced the Master of Science in Physical Therapy (M.S.P.T.) in fall 2001.

Currently, preparation for the D.P.T. degree should include the following course work:

- 8 units in general biology
- 8 units in chemistry with laboratories
- 8 units in physics with laboratories
- 3 units in anatomy (human, vertebrate, comparative, or anatomical kinesiology)
- 3 units in physiology (human physiology preferred)
- 3 units in trigonometry (calculus is acceptable)
- 3 units in statistics
- 6 units in psychology (to include abnormal psychology)
- 6 units in English (to include English composition or an upper-level writing course)

6 units in social sciences or the humanities

You also must take the Graduate Record Examination and demonstrate competence in medical terminology. Among the factors on which admission is based are your grade point average (GPA), GRE scores, letters of recommendation, and written essays.

The Web address is [www.physicaltherapy.wustl.edu](http://www.physicaltherapy.wustl.edu).

### University College

Students in the College may enroll in course work offered by University College (see page 6) provided they do not exceed one course a semester. University College courses are subject to the degree requirement that stipulates only 30 units from one of the other schools of the University may be applied to the Bachelor of Arts degree. University College courses, unless so designated, do not fulfill distribution requirements.

### Academic Regulations

#### Maximum and Minimum Loads

The average course load necessary to fulfill the required 120 units for the bachelor's degree in timely fashion is 15 units—typically, five courses—in each semester. If you receive grades of C– or better in all courses in the previous semester, however, you may carry up to 18 units. If you have completed outstanding work in previous semesters, you may take up to 21 units of work. You may not enroll for more than 21 units without permission and additional per unit tuition charge.

Courses in the College that require more preparation and class time than average—foreign languages, mathematics, and science—may carry 4 or 5 units of credit. When enrolled in these and other demanding courses, you are advised to take fewer than 15 units of academic work in particular semesters, then to balance such intensive semesters with modest over-enrollments in subsequent semesters.

Except for reasons of health or other special circumstances, the minimum load is 12 units, but any enrollment between 12 and 18 units is considered normal.

#### Absences

Successful education at the college level depends to a large extent on regular attendance at classes and laboratories. The College of Arts & Sciences has no fixed rules for “cuts” or “excused absences” but leaves to the judgment of each department or instructor the number of absences of any kind a student may have and still expect to pass a course. The faculty expects each instructor to give reasonable consideration to unavoidable absences and to the feasibility of making up missed work. The student is expected to explain to instructors the reasons for such absences and to discuss the possibility of completing missed assignments.

#### The Grading System

The system now in use in the College of Arts & Sciences assumes that evaluation is useful

to effective learning and that grades provide an indicator of accomplishment to the student, to advisers and the College Office, to graduate and professional schools, and to employers to whom the student chooses to submit them. Grades are symbols of achievement in a *particular* endeavor and should not be confused either with achievement itself or with personal worth.

Grades *are* important, particularly for students with preprofessional interests, but the student whose concern for grades is primary may lose sight of the total educational process.

#### **Grade**

**A** Superior

**B** Good

**C** Satisfactory

**D** Passing, though marginal

**F** Failing

**CR** Credit awarded, but the work was not subjected to finer evaluation

**NCR** No credit awarded due to unsatisfactory work for courses taken on a CR/NCR basis.

**I** Incomplete. The semester's work was not finished.

**W** Withdrawal. The student withdrew from the course prior to completion.

**R** Repeat. The course has been retaken.

**L** Audit. The student satisfactorily audited the course throughout its progress.

**Z** Audit. The student did not satisfactorily audit the course.

**N** No grade was submitted.

Grades earned in physical education courses are not included in calculating the student's GPA.

#### **The Credit/No Credit Option**

To encourage students to enroll in courses they might not otherwise take, the faculty has established the credit/no credit option under which you may register in courses and receive a grade of credit or no credit. In any semester, a full-time student may enroll in one course under the credit/no credit option. You may *not* apply toward the A.B. more than 24 units earned under this option. You must designate which course is to be taken under the credit/no credit option each semester at the time of registration. No change into or out of the option may be made after the dates designated in the calendar of the College of Arts & Sciences, published in *Course Listings* each semester.

No more than 12 of the 24 units allowed for the credit/no credit option may be applied to distribution requirements.

The first-year writing course, the writing-intensive course, the quantitative analysis course, and courses in the major and minor, are excluded from the credit/no credit option. Preprofessional and prospective graduate students should also consider seriously the strong probability that professional schools may seek more definite grades than CR in courses that are required or strongly recommended for admission to professional or graduate study.

A few courses particularly designated by departments may require enrollment on a credit/no credit basis. When so required, you

are permitted to elect an additional course to be taken credit/no credit but should consider carefully the consequences of that choice.

You should be sure you understand from the instructor what the lowest letter grade is that will equate to passing in a credit/no credit course.

#### **Auditing a Course**

You may register for a specific course as an auditor. This status entitles you to all the privileges of a regularly enrolled member of the class. Audit courses do not count toward the degree. Consult the instructor on the requirements of a successful audit, as unsatisfactory performance results in a grade of Z. A successful audit results in a grade of L.

#### **Repeating a Course**

A student may be allowed to retake the course with the department's permission. The department has the authority to refuse the student's request and will not feel obligated to grant permission after the fact if the student has enrolled on the assumption that the R will be granted automatically. A student wishing to repeat a course should do the following:

1. Pick up the Approval for Retake form in the College office;
2. Have the first instructor or department designee sign the form before retaking the course;
3. Have his/her adviser sign the form before retaking the course;
4. Turn the completed form in to the College of Arts & Sciences before retaking the course.

If permission to retake a course is granted, both registrations will show on the transcript. The grade in the first enrollment will always be replaced by the symbol R and the grade and units in the second enrollment used to calculate the GPA. No student may use the retake option to replace a grade received as a sanction for violation of the Academic Integrity Policy. Retaken courses must be taken for the same grade option as the course was originally taken.

This procedure is not pedagogically sound and should be avoided in all but serious cases, such as a grade of D in a course required for the major.

To repeat a College course in Washington University Summer School or in University College requires the department to certify in advance the course's equivalence to the College course.

#### **Reporting of Grades**

At the end of each semester, a full report of all grades for all students, based on work for the entire semester, is filed with the University Registrar. Students may access their final semester grades on WEBSTAC; grades are not mailed to students or parents.

#### **Withdrawals and Course Changes**

You may enroll in or withdraw from courses only at designated periods of the semester. You should consult with your adviser before doing so. The dates of these periods are given in *Course Listings* each semester. Ex-

ceptions will be made only if, in the opinion of the deans, circumstances warrant them.

Any student who, for any reason whatsoever, wishes to withdraw from the College of Arts & Sciences before the end of a semester should consult a dean so that the record of the student's work may be clear and complete. No such withdrawal will be official until you file in the College Office a written request for withdrawal and that request has been approved by a dean.

#### **Incomplete Courses**

By action of the Faculty and the ArtSci Council, the College limits the number of accrued grades of Incomplete (I). The policy is intended to protect the student from building an overwhelming burden of unfulfilled course work. The regulation reads as follows: "Students who accrue three or more Incompletes will not be permitted to enroll for any subsequent semester until the number is reduced to two or fewer." Should students have too many incompletes, they will be declared ineligible for the following semester until they have satisfied enough of their outstanding work. This is normally achieved by the posting of grades online, but it may also be achieved by a note from a professor (or professors) to the College Office confirming that the student has turned in all requisite assignments for the relevant class (or classes).

If you experience medical or personal problems that make satisfactory completion of course work difficult or unlikely, you may request a grade of I (incomplete) from one or more instructors. In such a situation you should take the following steps:

1. Pick up an Incomplete petition in the College Office.
2. Meet with the instructor before the final examination or due date for the final paper to discuss the request.
3. If the instructor consents, agree on the work remaining to complete the course and on a date when it will be submitted.
4. Leave a copy of the petition with the instructor, submit one to the College Office, and retain one as your record.

If these steps are not followed, the instructor is under no obligation to award a grade of I. The dean will not accept more than two Incomplete petitions for a single semester without compelling medical evidence. An incomplete not made up within three months may revert to a grade of F.

#### **Leaves of Absence**

For certain students, time spent away from the academic setting is of great value in discovering objectives and gaining experience not available within the academic community. If you are an undergraduate in good standing at the completion of a term, you are eligible to take a leave of absence upon petition to the College Office. On a leave of absence you are assured re-enrollment within the next two years. Before returning you are asked to notify the College Office and submit a Reinstatement Form at least six weeks prior to the beginning of the appropriate

term. A student wishing to have a medical leave of absence must have a recommendation for the MLOA from Student Health Services submitted to the appropriate dean in the College Office prior to leaving and prior to re-enrollment. The dean in the College Office will decide whether or not to grant the request for the MLOA and re-enrollment upon reviewing the recommendations from Student Health Services and the student's file.

### Academic Probation and Suspension

Students are expected to maintain the highest level of scholarship of which they are individually capable as well as to meet the standards set by the faculty and, in the case of financial aid recipients, by the federal government. The minimum standard of academic progress to avoid loss of federally funded aid is completion of 20 units by the end of the first year, 45 units through the sophomore year, and 75 units through the junior year, in each case with a C- average.

The College, however, expects students to work at a level well above the minimum: Those who do not complete at least 12 units with a semester grade point average of C or better for each semester are subject to either an academic warning or, in extreme cases of poor academic performance, suspension.

In the event of an academic warning, the student will be matched with a progress counselor for the following semester and will be expected to sign an agreement with the progress counselor as to how improvement will be achieved. Failure to establish these guidelines with the progress counselor by the end of the second week of the relevant semester may result in the termination of the student's enrollment for that semester. Furthermore, should a student agree to, but persistently fail to, abide by the terms established in the agreement, suspension may be invoked during the semester.

A student on probation is expected to earn at least 12 units of credit and earn no single grade of C- or lower while on probation. Any student on probation whose performance in the following semester does not show this level of improvement is subject to academic suspension from the College. If a student is suspended for academic deficiency, he or she will not be eligible for readmission to the College of Arts & Sciences for two semesters and until he or she has demonstrated, under the conditions set for each individual case, a readiness to work productively at the level required by the College curriculum.

## Academic Honors

### Honors Programs

All departments and most interdisciplinary programs offer Honors work for majors leading to Senior Honors. Senior Honors are determined on the basis of your performance throughout eight semesters in the College.

To be eligible for such Honors, you must have maintained a 3.5 grade point average through the sixth semester and must be accepted for candidacy by the department or

area committee concerned. You must enroll in such courses as the department or interdisciplinary committee may require, complete satisfactorily a significant project appropriate to the nature of the discipline, and pass such written or oral examinations as the department or area committee may set. Upon completion of the Honors program, you may be awarded the A.B. cum laude, magna cum laude, or summa cum laude through achievement of cumulative averages of 3.5, 3.65, or 3.8, respectively, and recommendation by the department or area committee to the College Office for review, based in part on the evaluation of the senior project. Recommendations for Honors will ultimately depend on demonstrating genuine understanding of your discipline and high scholarly attainment.

The A.B. with College Honors will be awarded to you, upon assessment by the College Office, if you have achieved collegewide academic excellence as measured by a cumulative average of 3.5 or better throughout eight semesters but have chosen not to participate in a departmental Honors program.

To be eligible for Honors, transfer students must have earned 45 graded Washington University units prior to the final semester; grades earned at other institutions do not figure in the calculation of minimum averages required for eligibility for Honors.

### The Dean's List

In recognition of exceptional scholarship at the end of each semester, the College Office compiles a list of those students whose work has been particularly worthy of commendation. You will be cited on the Dean's List if you meet the following academic standards: completion of a minimum of 14 units of graded work while achieving a grade point average of 3.5 that semester.

### Phi Beta Kappa

For more than 200 years, election to Phi Beta Kappa has been a distinctive recognition of intellectual accomplishment in the liberal arts and sciences. The Washington University Chapter, Beta of Missouri, established in 1913, strives to enhance worthy intellectual endeavors and to recognize individual achievement.

Candidates for Phi Beta Kappa should have demonstrated both superior scholarship, as well as breadth and depth of interest in the liberal arts. Study of a foreign language and of mathematics, while not required, strongly enhances candidacy. Extensive study in professional fields detracts from candidacy.

Each year the Washington University chapter elects students into membership from the College of Arts & Sciences. Students do not apply for membership. The chapter also gives the annual Burton M. Wheeler Book Award for distinguished achievement in the first year. Selection committees are composed of Washington University faculty who are members of Phi Beta Kappa.

## Departmental Prizes and Awards

Several departments recognize the superior achievement of graduating seniors with election to the honor societies in their major fields. These honor societies include Sigma Gamma Epsilon for earth and planetary sciences students, Omicron Delta Epsilon for economics students, Delta Phi Alpha for German students, Phi Alpha Theta for history students, Pi Mu Epsilon for mathematics students, Mu Phi Epsilon for music students, Pi Sigma Alpha for political science students, and Psi Chi for psychology students.

In a number of academic fields, special recognition is given to students whose accomplishments have been noteworthy. The majority of such awards carry modest monetary benefits. They include the following:

*Academy of American Poets Prize*

*Achievement in German Prize*

*Richard Admussen Prize in Romance*

*Languages*

*Leota Diesel Ashton Prize in Playwriting*

*Award for Contributions to Anthropology*

*Award for Excellence in Research*

*in Anthropology*

*Award for Outstanding Leadership*

*in Anthropology*

*Award for Outstanding Senior Research*

*in Social Thought and Analysis*

*James Baldwin Essay Prize in African and*

*African American Studies*

*John W. Bennett Prize to the Outstanding*

*Graduate in Anthropology*

*Rowland T. Berthoff Award in History*

*Best Honors Thesis in Political Science*

*Margaret E. Bewig Memorial Field Camp*

*Scholarship in Earth and Planetary*

*Sciences*

*Leanna Boysko Essay Prize*

*David Bronsen Prize*

*David Bronsen Prize (German)*

*Ralph Bunche Prize in African and*

*African American Studies*

*Ian D.W. Cramer Award in Dance*

*Antoinette Dames Prize in Political Science*

*for the Outstanding Senior Honors Thesis*

*F. Ward Denys Prize in English*

*Liselotte Dieckmann Prize for Excellence*

*in Comparative Literature*

*Dramatics Club Prize*

*Stephen H. Duncan Prize for Technical*

*Theatre*

*Sherman Eoff Prize for Excellence*

*in Spanish*

*Essay Prize in Literary Criticism*

*in Russian*

*Margaret Ewing Prize for Acting*

*Excellence in Anthropology*

*Joy Ezra Book Prize in English*

*Todd Lewis Friedman Prize in Political*

*Science*

*Carrie S. Galt Award in Fiction*

*Goff Prize in English*

*J. Walter Goldstein Prize in History*

*Robert J. Greef Award in English*

*Henry Hampton Prize in African and*

*African American Studies*

*Roger Conant Hatch Prize in English*

*John G. Jutkowitz Memorial Fund Prize in*  
*Performing Arts*

*Harriet Schwenk Kluver Prize for Excellence in Writing*  
*Arnold J. Lien Prize in Political Science*  
*Norma Lowry Memorial Fund Prize in English*  
*Roberta Luery Award for Study in France*  
*Patrice Lumumba Award in Black Studies*  
*Nishi Luthra Prize in Philosophy*  
*The William H. Matheson Prize for Excellence in Comparative Literature*  
*Hyman Meltzer Memorial Award for Undergraduate Research in Psychology*  
*Hyman P. Mensley Prize in Economics*  
*Herbert E. Metz Prize for Dramatic Literature*  
*Ross Middlemiss Prize in Mathematics*  
*Howard Nemerov Prize in Creative Writing*  
*Ernest L. Ohle Award in Earth Sciences*  
*John M. Olin Prize for Excellence in Economics*  
*Outstanding Paper for an Upper-Division Undergraduate Class in Political Science*  
*William Benton Parshall Prize in Political Science*  
*Prize for Excellence in Russian*  
*Putnam Examination Prize in Mathematics*  
*Paul and Silvia Rava Prize for Excellence in Italian Studies*  
*Robert H. Salisbury Prize in Political Science*  
*Steven S. Schwarzschild Prize in Jewish Studies and Philosophy*  
*Senior Honors in Anthropology*  
*Senior Physics Prize for Outstanding Performance*  
*Service in Anthropology*  
*Adam Smith Prize in Economics*  
*John C. Sowden Prize in Chemistry*  
*Marian Smith Spector Prize in Biology*  
*Harrison Dailey Stalker Award in Biology*  
*Helen Stenner Essay Competition in Philosophy*  
*John A. Stern Award for Undergraduate Research in Psychology*  
*Tavener Prize in Classics*  
*Percy Tucker Scholarship in Economics*  
*Robert N. Varney Prize for Introductory Physics*  
*Jinx Walker Poetry Prize of the Academy of American Poets*  
*Shirley McDonald Wallace Prize in History*  
*Edward Weltin Prize in Ancient History*  
*Courtney Werner Memorial Prize in Earth Sciences*  
*Louis G. Zelson Prize in Spanish*

## Scholarship and Loan Funds

### Scholarship Funds

Below is a listing of scholarship funds administered by Washington University for students in the College of Arts & Sciences exclusively:

*George and Ethel R. Bishop Scholarship Fund.* For undergraduates preparing for admission to schools of medicine.  
*Andrew Britva Memorial Scholarship.* Established as a memorial to Andrew Britva by his family and friends for undergraduate students majoring in the biological sciences.

*The Julia Ray Chassels Memorial Fund.* A merit scholarship awarded to a freshman, sophomore, or junior pursuing the study of music.

*Bernice Fuller Connell Scholarship Fund.* For undergraduates enrolled in the College of Arts & Sciences.

*Sarah A. Connor Scholarship Fund.* A bequest of Sarah A. Connor for students enrolled in the College of Arts & Sciences.

*Antoinette Frances Dames Awards for Productive Scholarship.* A bequest of Antoinette Frances Dames for scholarships in various fields of study.

*Andrew and Susie Fleming Scholarship Fund.* For undergraduates enrolled in the College of Arts & Sciences.

*Charlotte A. Friedman Scholarship Fund.* For undergraduates enrolled in the College of Arts & Sciences.

*Frank Blair and Harriet Cavender Hanson Scholarship Fund.* Established in their memory by their daughters for undergraduates majoring in biological sciences.

*Arthur Hoskins Scholarship Fund.* For undergraduates enrolled in the College of Arts & Sciences.

*Howorth Scholarship Fund.* Endowed in memory of Minnie M. Howorth for students preparing for a teaching career, particularly in the elementary schools.

*Stephen Klepka Scholarship Fund.* For undergraduates majoring in history.

*John Ashbury Lewis II Memorial Scholarship Fund.* A bequest by Wilson Lewis in memory of his son for a junior or senior in the College of Arts & Sciences, preferably an athlete.

*The Manufacturers' Bank and Trust Scholarship Fund.* For undergraduates enrolled in the College of Arts & Sciences.

*Aubrey C. Mills Scholarship Fund.* Established as a memorial to Aubrey C. Mills by his wife, Marion L. Mills, for students in the College of Arts & Sciences.

*Cornelia A. Mueller Scholarship Fund.* For undergraduate women in the College of Arts & Sciences preparing for a career in education.

*Frederick Nussbaum Scholarship Fund.* For an undergraduate student majoring in music, the recipient to be selected by the Department of Music.

*Dolores M. Paul Scholarship Fund.* For undergraduates studying mathematics.

*George W. Pieksen Memorial Scholarships.* Established by gift of Margot I. Pieksen as a memorial to her husband for scholarships in the College of Arts & Sciences.

*Ronald Prentke Scholarship Fund.* Established by Marjorie Prentke and Mr. and Mrs. Ottesen Prentke for undergraduates majoring in psychology.

*The Presser Foundation Scholarship.* For undergraduate majors in music, with preference to those who expect to become teachers of music.

*Mildred Rubin Memorial Scholarship Fund.* Endowed in memory of Mildred Rubin by her parents, Miriam and Abraham Holtzer, for scholarships in the College of Arts & Sciences, with preference given to students of the natural sciences and literature.

*Clarence W. Schnatzmeyer and Anna E. Seibuhr Memorial Scholarship Fund.* A bequest by Catherine R. Schnatzmeyer in memory of her husband and mother for undergraduates in the College of Arts & Sciences.

*John E. Simon Scholarship Fund.* For undergraduates in the College of Arts & Sciences preparing for a career in medicine.  
*Marie Davis and Harry Thompson Scholarship.* For juniors and seniors in the College of Arts & Sciences.

*Tower Grove Bank and Trust Company Scholarship.* Established by Tower Grove Bank and Trust Company for students in the College of Arts & Sciences.

*Percy Tucker Scholarship Fund.* A gift from Paul Tucker, honoring his father, for an undergraduate majoring in economics.

*The Marie Weinreich Winchester Scholarship in Music.* A merit scholarship awarded to a student majoring in music.

*Zeip Memorial Scholarship.* Established by Ben and Lydia Zeip in memory of their daughter Vera for undergraduates majoring in English or economics.

### Arts & Sciences Scholarship Program

The College of Arts & Sciences, in collaboration with the Office of Alumni and Development Programs, offers a program of scholarships to talented and deserving undergraduate and graduate students. These scholarships, which provide both annual and endowed support, are funded by alumni and friends of Washington University.

An annual dinner, held each fall, provides an opportunity for students and sponsors to meet.

The following scholarships were funded through the Arts & Sciences Scholarship Program:

### Benefactor Endowed Scholarships

*The Berenice Fuller Connell Scholarships.* Established by Mrs. Berenice Fuller Connell.

*The Mr. and Mrs. Nicolas M. Georgitsis Scholarship.* Established by Mrs. Nicolas M. Georgitsis.

### Founder's Endowed Scholarships

*The Charles W. Buescher Memorial Scholarship.* Established by Adele M. Buescher.

*The Thomas S. Duncan Scholarship.* Established by Miss Eleanor A. Bergfeld.

*The Charles C. and Hildur Mannebach Memorial Scholarship.* Established by Mrs. Hildur Mannebach.

*The Joseph and May Winston Memorial Scholarship.* Established by Mr. and Mrs. David A. Winston and Mr. and Mrs. Allan B. Winston.

### Sustaining Endowed Scholarships

*The Bernard M. Barenholtz Scholarships.* Established by Mrs. Bernard M. Barenholtz.

**The Warren A. and Deloris Coy Boecklen Scholarships.** Established by Mrs. Warren A. Boecklen.

**The Otis and Carol Bowden Scholarship in Physics.** Established by Mr. Otis H. Bowden II.

**The Marianne Fischer Scholarship.** Established by Mr. Charles W. and Dr. Margo Todd.

**The Rosalind and Morris Golman Scholarships.** Established by Mr. and Mrs. Morris Golman.

**The Catharine M. Lieneman Scholarship.** Established by Miss Catharine M. Lieneman.

**The Cornelia A. Mueller Scholarship.** Established by Mrs. Cornelia A. Mueller.

**The Roma Schaefer Nooter Scholarship.** Established by Mrs. Roma Schaefer Nooter.

**The Gary Clemens Roth Scholarship Fund.** Established by Mrs. Olga Roth.

**The James H. and Mary Josephine Schudy Scholarship.** Established by Dr. Fred F. Schudy.

**The Elmer J. and Catherine F. Scott Endowed Scholarship.** Established by Mrs. Catherine F. Scott.

**The Maxwell Weiner Memorial Scholarship.** Established by Mr. Maxwell C. Weiner.

## Endowed Scholarships

**The Ida Doris Pearline Appel Scholarship.** Established by Dr. and Mrs. Michael F. Appel.

**The Evadne Alden Baker Scholarship.** Established by Mrs. Kenneth C. Baker.

**The Dr. Leo Bartels and Pauline Bartels Hurlbut Scholarship.** Established by Gen. and Mrs. Oren E. Hurlbut.

**The Joseph H. Bascom Memorial Scholarship.** Established by Rev. and Mrs. John D. Evans III.

**The Grace E. Bergner Memorial Scholarships.** Established by Dr. Grace Bergner.

**The George H. and Ethel R. Bishop Scholarship.** Established by Dr. and Mrs. George H. Bishop.

**The Donald S. Bottom Scholarship.** Established by Mrs. Donald S. Bottom.

**The David B. Buffington Scholarship.** Established by Mrs. Barbara Buffington.

**The Clara Giese Cist Scholarship.** Established by Mrs. Franklin M. Cist.

**The Walter Clark and Kerstin Hruska Clark Scholarship.** Established by Mr. and Mrs. Walter Clark.

**The Susan and Emma Coultas Scholarship.** Established by Miss Susan Coultas.

**The Claire Gempp Davidson Scholarship.** Established by Miss Elizabeth Gempp.

**The H. James Davidson Memorial Scholarship.** Established by Mr. E. Eugene Carter.

**The Johan Egilsrud Memorial Scholarship.** Established by Mrs. Helen L. Sverdrup.

**The Fischer Family Scholarship.** Established by Mr. and Mrs. Timothy Fischer.

**The Michael Friedlander Scholarship.** Established by an anonymous donor.

**The Charlotte A. Friedman Scholarship.** Established by Miss Charlotte A. Friedman.

**The Rose and Emanuel Gahan Scholarship.** Established by Mr. Arthur Gahan.

**The Otto E. Gansow Memorial Scholarship.** Established by Mr. Otto E. Gansow.

**The Julia A. Gehm Scholarship.** Established by Miss Julia A. Gehm.

**The Anne Varhol and Mark Jay Ginsburg Scholarship.** Established by Dr. Mark Jay and Ms. Anne Varhol Ginsburg.

**The Edmund O. Godbold Scholarship.** Established by Mr. Edmund O. Godbold.

**The Sara Green Cohan and Jonathan Green Scholarship.** Established by Mr. Daniel Alan and Ms. Sara Green Cohan and Mr. Jonathan Green.

**The Anna R. and Edward O. Haenni Scholarship.** Established by Dr. Edward O. Haenni.

**The Blair Hanson Scholarship.** Established by Dr. Blair Hanson.

**The Lynne Cooper Harvey Scholarship.** Established by Mrs. Lynne Cooper Harvey.

**The August and Ruth Homeyer Scholarship.** Established by Dr. and Mrs. August H. Homeyer.

**The Houston Kirk Scholarship.** Established by Mr. Houston Kirk.

**The Alene and Meyer Kopolow Scholarship.** Established by Mrs. Meyer Kopolow.

**The Sandra Mizes Last Scholarship.** Established by Dr. Sandra P. Last.

**The John W. Lawless Scholarship.** Established by Mr. and Mrs. John W. Lawless.

**The Jeannette and John Lebens Scholarships.** Established by Mrs. John C. Lebens.

**The Levis Family Scholarships.** Established by the Robert Levis Family.

**The Milton Lewin Endowed Scholarship.** Established by the Estate of Milton Lewin.

**The Lucy and Stanley Lopata Scholarship.** Established by Mrs. Lucy Lopata.

**The Minnie Makovsky Scholarship.** Established by Mr. and Mrs. Kenneth D. Makovsky.

**The Robert McDowell Scholarship.** Established by an anonymous donor.

**The Frances L. Mensh Memorial Scholarship.** Established by Dr. Ivan N. Mensh.

**The Jack E. and Mina Dill Morris Scholarship.** Established by Dr. Mina Dill Morris.

**The Phillip Mountjoy and Anne Weir Mountjoy Scholarship.** Established by Dr. Phillip and Mrs. Anne Mountjoy.

**The Roma Schaeffer Nooter Scholarship.** Established by Mrs. Roma Schaefer Nooter.

**The Kathy Gudermuth O'Donnell Scholarship.** Established by Mr. James V. and Mrs. Kathy G. O'Donnell.

**The William Julius and Marie Prange Oetting Scholarship.** Established by Mrs. William J. Oetting.

**The Verna Voisin Palecek Scholarship.** Established by Mr. Joseph Martin Palecek.

**The Roland Quest Scholarships.** Established by Ms. Phyllis Tirmenstein.

**The Morris B. Rettner Scholarship.** Established by Mr. and Mrs. Ronald M. Rettner.

**The Peter Riesenberg Scholarship.** Established by an anonymous donor.

**The Judith Ross Scholarships in Mathematics and Physics.** Established by Mrs. Judith F. Ross.

**The Martin Rothman Scholarship.** Established by Mr. and Mrs. Douglas Sherman Rothman and Mr. and Mrs. Russell Rothman.

**The William Henry and Alta Woodson Rothschild Scholarship.** Established by Ms. Ruth W. Rothschild.

**The Dr. Edwin L. Sheahan and Deborah Martin Sheahan Scholarship.** Established by Dr. Mary Sheahan Lauderdale-Howard & Miss Deborah J. Sheahan.

**The Martin K. Speckter Scholarship.** Established by Mr. and Mrs. Martin K. Sneider.

**The Elvera Stuckenberg Scholarship.** Established by Miss Elvera Stuckenberg.

**The Barbara S. Schaps Thomas and David M. Thomas Scholarships.** Established by Mr. David and Ms. Barbara Thomas.

**The Dr. Carl Tolman Memorial Scholarship.** Established by Mrs. Carl Tolman.

**The Fanchon and Herbert Weitman Scholarship.** Established by Mr. Herbert Weitman.

**The George Williams Scholarships.** Established by Mr. George H. Williams.

**The Roma and Raymond Wittcoff Scholarship.** Established by Mr. and Mrs. Raymond H. Wittcoff.

**The Pearl and Albert Woll Scholarship.** Established by Mrs. Susan A. Woll.

**The John R. and Eloise Mountain Wright Scholarship.** Established by Mr. and Mrs. John R. Wright.

**The Zeffren Family Scholarship.** Established by Dr. Eugene and Mrs. Tita Zeffren.

**The Zeffren Family Scholarship.** Established by Dr. Eugene and Mrs. Tita Zeffren.

## Term Endowed Scholarships

**The Class of 2001 Scholarship.** Established by the Class of 2001.

**The Orah L. Ahlborg Memorial Scholarship.** Established by Mrs. Orah L. Ahlborg.

**The Ameren Scholarships.** Established by the Ameren Corporation.

**The Irby and Bernice Schramm Cooper Scholarship.** Established by Mrs. Bernice Cooper.

**The Frisch Family Scholarship.** Established by Drs. David M. and Janis Frisch.

**The Gold Family Scholarship.** Established by Dr. and Mrs. Mark Stephen Gold.

**The Marion E. Horstman Scholarship.** Established by Miss Marion E. Horstman.

**The David Horton Scholarship.** Established by Mrs. Amy G. Miller.

**The Therese K. and Robert A. Kreier Scholarship.** Established by Mrs. Ann Brown.

**The Levin Family Scholarship.** Established by Mrs. Lois C. Levin.

**The Wilbur May Foundation Scholarships.** Established by Ms. Dee May-Baker.

**The Frances L. and Dr. Ivan N. Mensh Scholarship.** Established by Dr. Ivan N. Mensh.

**The Lydia and C. Theodore Richter Scholarship.** Established by Mr. Remi Eberenz.

**The Edna and Adam Rosenthal Scholarship.** Established by Mr. and Mrs. Richard S. Rosenthal.

**The SEMCOR Scholarship.** Established by Mr. and Mrs. Rudolph Freedman.

*The Strenger-Beckmann Scholarship.* Established by Mr. David C. and Dr. Esther S. Beckmann.

*The Reverend Dr. David B. White and Mrs. Betty J. White Scholarship.* Established by Rev. Dr. and Mrs. David B. White.

### Annual Patron's Scholarships

*The Distler Family Scholarships.* Established by Mr. and Mrs. Stephen Distler.

*The Hancock Family Scholarships.* Established by Mr. and Mrs. Kenneth R. Hancock.

*The Virginia Storer Scholarships.* Established by Mr. and Mrs. William M. Van Cleve.

### Annual Benefactor's Scholarships

*The Jesse Nathan Abramowitz Memorial Scholarship.* Established by Dr. Joel W. and Dr. Joan Abramowitz.

*The John Alpern Scholarship.* Established by Mr. and Mrs. Robert A. Wagner.

*The Judith Tytel Catalano Scholarship.* Established by Ms. Judith Tytel Catalano.

*The Clear Family Scholarships.* Established by Mr. John Michael Clear and Ms. Isabel Marie Bone.

*The Virginia and William E. Cornelius Scholarships.* Established by Mr. and Mrs. William Edward Cornelius.

*The Distler Family Scholarship.* Established by Mr. and Mrs. Stephen Distler.

*The Laurie E. Lang Scholarship.* Established by Ms. Laurie Ellen Lang.

*The Bryn Sara Linkow Foundation Scholarship.* Established by Dr. and Mrs. Mark Linkow.

*The Louise and Louis Lockwood Scholarships.* Established by Mrs. Louise Lockwood.

*The Sandy Loewentheil-Jackie Robinson Minority Scholarship.* Established by Mr. Sanford Loewentheil.

*The Priscilla and Sanford McDonnell Scholarship.* Established by Mr. and Mrs. Sanford N. McDonnell.

*The Susan Jane Miller Scholarship.* Established by Ms. Susan Jane Miller.

*The A. Wellborne Moise Scholarships.* Established by Mrs. A. Wellborne Moise.

*The Marie and William J. Oetting Scholarship.* Established by Mrs. William J. Oetting.

*The Renée and William Pollard Scholarship.* Established by Mr. and Mrs. William B. Pollard III.

*The Roth Family Scholarship.* Established by Mr. and Mrs. Laurence Roth.

*The Aaron Schneider Memorial Scholarships.* Established by Mrs. Ruth Beidler Schneider.

*The Maurice E. and Clarice B. Serling Scholarship.* Established by Miss Susan H. Serling.

*The Virginia Storer Scholarship.* Established by Mr. and Mrs. William M. Van Cleve.

*The Theodore H. Von Laue Scholarship.* Established by Mr. Kenneth M. Grandberg and Ms. Marcy D'Agostine.

*The Orpha B. Wayland Scholarship.* Established by Mr. Joseph Franklin Wayland and Ms. Patricia Verrilli.

*The Mary T. Zeller Memorial Scholarship.* Established by Mr. and Mrs. Lyle Dean Zeller.

### Annual Scholarships

*A Scholarship for the College of Arts & Sciences.* Established by Dr. Albert Leung.

*The Class of 1994 Scholarship.* Established by the Class of 1994.

*The Class of 1995 Scholarship.* Established by the Class of 1995.

*The Class of 1998 Scholarship.* Established by the Class of 1998.

*The Class of 1999 Scholarship.* Established by the Class of 1999.

*The Class of 2000 Scholarship.* Established by the Class of 2000.

*The Ben and Taube Aberman Scholarship.* Established by Mr. and Mrs. Richard Alan Angell.

*The Jill Abrams Scholarship.* Established by Mr. and Mrs. Fredric L. Abrams.

*The Morton and Annabelle Adler Scholarship.* Established by Dr. and Mrs. Robert C. Adler.

*The Sam and Rose Angell Scholarship.* Established by Mr. and Mrs. Richard Alan Angell.

*The Shirley Jean Ansehl Scholarships.* Established by Mr. Jack Ansehl.

*The Drs. Arekapudi Family Scholarship.* Established by Drs. Bapu and Vijay Arekapudi.

*The Averick Philanthropic Scholarship.* Established by Ms. Pamela Gail Averick.

*The John and Julia Bagi Scholarship.* Established by Prof. and Mrs. Joseph J. H. Ackerman.

*The Newell and Janine Baker Scholarship.* Established by Mr. and Mrs. Newell A. Baker.

*The Mae H. Ballman Scholarship.* Established by Mrs. Jane O. Risk.

*The Phyllis Church Beard Memorial Scholarship.* Established by Mr. C. Richard Beard.

*The Peg and John Bedford Scholarships.* Established by Mrs. John P. Bedford.

*The Edward G. Beimfohr Scholarship.* Established by Mr. and Mrs. Edward G. H. Beimfohr.

*The George and Iris Belding Scholarship.* Established by Mr. and Mrs. George W. Belding.

*The John Bertolini Memorial Scholarship.* Established by Mr. and Mrs. Jeffrey H. Erickson.

*The June R. and Arthur Bierman Scholarship.* Established by Mr. and Mrs. Arthur Bierman.

*The Norman Bierman Scholarship.* Established by Mr. and Mrs. James N. Bierman.

*The Donald A. and Mabel Bancroft Blake Scholarship.* Established by Miss Mabel L. Blake.

*The Mabel Louise Blake Scholarship.* Established by Miss Mabel L. Blake.

*The Blessing Scholarship.* Established by Miss Edith C. Varley.

*The Stephen R. Bradford Scholarship.* Established by Mr. and Mrs. Ronald C. Hausmann.

*The Alan and Carol Brown Scholarship.* Established by Dr. and Mrs. Alan Keith Brown.

*The Charlene Sherman Bry Scholarship.* Established by Ms. Charlene Sherman Bry.

*The Kathryn Buder Scholarship.* Established by Mrs. Kathryn M. Buder.

*The James Butler Bushyhead Scholarship.* Established by Mrs. Dorothy W. Rosebrough.

*The Chun Scholarship.* Established by Mr. Clayton Kee Young Chun.

*The Clara Giese Cist Scholarships.* Established by Mrs. Franklin M. Cist.

*The Brian and Michele Cohen Scholarship.* Established by Mr. and Mrs. Brian S. Cohen.

*The Dr. Terrell Covington Scholarship.* Established by Dr. and Mrs. Terrell Covington, Jr.

*The Inez W. and Frederick L. Deming Scholarship.* Established by Dr. and Mrs. Frederick L. Deming.

*The Sol and Shirley Denlow Memorial Scholarship.* Established by the Hon. Morton and Ms. Reva Denlow.

*The Peter Diller Memorial Scholarship.* Established by Mr. John A. Duvall.

*The Matt Dillingham Scholarship.* Established by Mrs. Gene C. Hutchinson.

*The Lina and Arthur Dougan Scholarship.* Established by Mr. and Mrs. Arthur L. Dougan.

*The Irene Carp Finkelstein Scholarship.* Established by Mrs. Irene Carp Finkelstein.

*The Alia Fischer Scholarship.* Established by American Honda Motor Co. Inc.

*The Mary and Kenneth Fox Scholarship.* Established by Mr. and Mrs. Kenneth L. Fox.

*The Freedman Family Scholarship.* Established by Mr. and Mrs. Barry Freedman.

*The Leah Friedman Scholarships.* Established by Mr. Norman and Ms. Leah Friedman.

*The Louis and Marie Gianoulakis Scholarship.* Established by Mr. John L. and Ms. Dora Gianoulakis.

*The Rosalind and Morris Golman Scholarship.* Established by Mr. and Mrs. Jack Zacks.

*The Doris and Thomas Graber Scholarships.* Established by Drs. T. M. and Doris A. Graber.

*The Sylvia Greenwald Scholarship.* Established by Mr. David D. Greenwald.

*The James B. Gross Memorial Scholarships.* Established by Mrs. James B. Gross.

*The Ray and Anita Hacker Scholarship.* Established by Mr. and Mrs. Ray Hacker.

*The Amy and Fred Haffner Scholarship.* Established by Mrs. Amy Haffner.

*The Alexis B. Hafken Scholarships.* Established by Ms. Alexis B. Hafken.

*The Suzanne S. and Earle H. Harbison, Jr. Scholarships.* Established by Mr. and Mrs. Earle H. Harbison, Jr.

*The Lewis T. and June L. Hardy Scholarship.* Established by Mr. Lewis T. Hardy.

- The Judith and Ronald Harris Scholarship.** Established by Drs. Ronald and Judith Harris.
- The Mr. Alfred O. and Mary Jane Heitzmann Scholarship.** Established by Mr. and Mrs. Alfred O. Heitzmann.
- The Catherine F. Hoopes Scholarship.** Established by Mrs. Thomas T. Hoopes.
- The A. E. Hotchner Scholarships.** Established by Mr. Aaron E. Hotchner.
- The June Dixon Hudis Memorial Scholarship.** Established by Dr. and Mrs. Jerome Hudis.
- The Robert L. Johnston Scholarships in Arts and Sciences.** Established by Dr. and Mrs. David V. Habif, Jr.
- The Sidney Kahn Scholarship.** Established by Dr. Sam and Mrs. Rhoda Nussbaum.
- The Marilyn Kriege Kane Scholarship.** Established by Mr. and Mrs. Robert C. Kane.
- The Regina Karmel Memorial Scholarship.** Established by Mr. and Mrs. Howard David Steinberg.
- The Kaufman Family Scholarship.** Established by Mr. and Mrs. Stephen Kaufman.
- The W. R. Konneker Scholarships.** Established by Dr. and Mrs. Wilfred R. Konneker.
- The Darlene Williams Kupke Scholarship.** Established by Ms. Darlene Williams Kupke.
- The La Rosa–Zurkuhlen Scholarship.** Established by Mr. Hugh S. Zurkuhlen and Ms. Karen J. La Rosa.
- The Mary Lauderdale-Howard Scholarship.** Established by Dr. Mary Sheahan Lauderdale-Howard.
- The Herbert M. Levy Memorial Scholarship.** Established by Drs. Robert J. and Judith T. Levy.
- The John and Marjory Lewin Scholarship.** Established by Mr. and Mrs. John Jeremiah Lewin.
- The Lee and Ann Liberman Graduate Fellowships.** Established by Mr. and Mrs. Lee M. Liberman.
- The Lee M. Liberman Scholarships.** Established by Mr. and Mrs. Lee M. Liberman.
- The Arnold J. Lien Scholarship.** Established by Prof. and Mrs. Howard R. Williams.
- The Dr. Nathan J. Lipkin Scholarship.** Established by Ms. Harriet Anne Lipkin and Mr. Chris Sautter.
- The Lloyd Family Scholarship.** Established by Mr. and Mrs. Lewis Lloyd.
- The Joseph Losos Scholarship.** Established by Mr. and Mrs. Joseph O. Losos.
- The Robert G. D. Mac Avoy Scholarship.** Established by Ms. Janice Mac Avoy.
- The Gertrude and Douglas MacPhail Scholarship.** Established by Mr. and Mrs. Douglas F. MacPhail.
- The Myrna and Mark Mason Scholarships.** Established by Mr. and Mrs. Mark E. Mason.
- The Marjorie W. and Robert M. Mayer Scholarship.** Established by Mr. Robert M. Mayer.
- The Helen and J. Mark Michael Scholarship.** Established by Drs. J. Mark and Helen Michael.
- The Millstone Family Scholarships.** Established by Mr. I. E. Millstone.
- The Marvin and Berta Molasky Scholarship.** Established by Mr. and Mrs. Marvin L. Molasky.
- The Peter Mollman Scholarship.** Established by Mr. Peter Mollman.
- The Claire and Charles Morgan Scholarship.** Established by Drs. Charles J. and Claire Morgan.
- The Howard and Anne Morgens Scholarships.** Established by Mrs. Howard J. Morgens.
- The Leila Jane (Fonyo) Murek Scholarship.** Established by Mr. George L. Fonyo.
- The Murray Sisters' Scholarship.** Established by Ms. Kate Murashige.
- The Gladys Hecker Myles Scholarship.** Established by Mr. and Mrs. James Myles.
- The Mildred Orenstein Scholarship.** Established by Drs. Milton and Sondra Schlesinger.
- The Verna Voisin Palecek Scholarship.** Established by Mr. Joseph Martin Palecek.
- The James M. C. Parker Scholarship.** Established by Mr. and Mrs. Barry J. C. Parker.
- The Paul Family Scholarship.** Established by Mr. and Mrs. Michael Paul.
- The Joyce and Carol Pillsbury Scholarship.** Established by Mr. and Mrs. Joyce S. Pillsbury.
- The Joyce and Carol Pillsbury Scholarship.** Established by Mr. and Mrs. Don Wainwright.
- The Leona May Matassarini Portnoy Scholarship.** Established by Mr. Robert Alan Portnoy.
- The Harold and Erica Mann Ramis Scholarships.** Established by Mr. and Mrs. Harold Ramis.
- The Jane and Milton Rand Scholarship.** Established by Rev. Jane E. and Mr. Milton L. Rand.
- The Jack Reichenbach Memorial Scholarship.** Established by Mr. Mitchell Scott Goldman.
- The Lydia and C. Theodore Richter Scholarship.** Established by Miss Ruth E. Richter.
- The Jeanette K. and William F. Rogers Scholarship.** Established by Mrs. Jeanette K. Rogers.
- The Norman Rosenberg Scholarship.** Established by Mr. Robert Rosenberg and Ms. Lisa Ruggeri.
- The Rosen–Polmer Memorial Scholarships.** Established by Mr. Henry M. and Ms. Barbara R. Polmer.
- The Ruder Family Scholarship.** Established by Mr. and Mrs. Brian Ruder.
- The Nina Sackheim Scholarship.** Established by Mr. and Mrs. Ronald Sackheim.
- The Professor Merritt Sale Scholarship.** Established by Dr. and Mrs. Robert G. Silvers.
- The Geraldine and Gideon Schiller Scholarship.** Established by Mr. and Mrs. Gideon H. Schiller.
- The Seigle Family Scholarships.** Established by Mr. and Mrs. Harry J. Seigle.
- The Audrey and Hyman Senturia Scholarship.** Established by Mrs. Audrey Senturia.
- The Joseph F. and Rosemary E. Shaughnessy Scholarship.** Established by Mr. and Mrs. Joseph F. Shaughnessy.
- The Herbert A. Simmons Scholarship.** Established by Mr. Herbert A. Simmons.
- The Erich and Barbara Sippel Scholarship.** Established by Mr. and Mrs. Erich Sippel.
- The Ida Siwoff Scholarships.** Established by Mr. Russell Seth Schwartz and Ms. Susan D. Goland.
- The Virginia L. and Robert F. Smith Scholarships.** Established by Mr. Robert F. and Mrs. Virginia L. Smith.
- The Nicholas and Barrie Bridgewater Somers Scholarships.** Established by Mr. Nicholas E. and Mrs. Barrie B. Somers.
- The Frank L. St. Cyr Memorial Scholarship.** Established by Mrs. Elsie Lantz St. Cyr.
- The Barbara and Arthur Stern Scholarship.** Established by Mr. and Mrs. Arthur L. Stern.
- The Sally E. Strain Scholarship.** Established by Mr. and Mrs. Robert C. Strain, Sr.
- The Maurita Estes Stueck Scholarship.** Established by Mrs. Maurita Estes Stueck.
- The Joan Sumers Scholarship.** Established by Mr. and Mrs. Gary M. Sumers.
- The Megan E. Taylor Scholarships.** Established by Mr. Jeffrey and Mrs. Jane Taylor.
- The Barbara S. Schaps Thomas and David M. Thomas Scholarships.** Established by Mr. David and Ms. Barbara Thomas.
- The Ann Rubenstein Tisch Scholarships.** Established by Mr. and Mrs. Andrew H. Tisch.
- The Ralf and Lois Toensfeldt Scholarship.** Established by Mrs. Marcia Osborne.
- The Dr. Carl Tolman Scholarship.** Established by Dr. and Mrs. Lawrence C. Bonham.
- The Tondel Family Scholarship.** Established by Mrs. Sharyn and Mr. Lawrence Tondel.
- The George B. Tragos Scholarship.** Established by Mr. and Mrs. William G. Tragos.
- The Amelia Troik Scholarship.** Established by Dr. Diana Troik.
- The Rhoda and Eli Turner Scholarship.** Established by Mr. Bruce V. and Mrs. Renee Michelson.
- The Eleanor Werber Wehmiller Scholarship.** Established by Mr. and Mrs. John F. Wehmiller and Mrs. Eleanor Fernald.
- The Helen K. and Ted C. Wetterau Scholarships.** Established by Mr. and Mrs. Theodore Wetterau, Jr.
- The Lewis C. Wiederhold Scholarship.** Established by Dr. and Mrs. Edward S. Macias.
- The Carey M. Williford Scholarship.** Established by Mr. John Philip Williford.
- The Roma and Raymond Wittcoff Scholarship.** Established by Mr. and Mrs. Raymond H. Wittcoff.
- The Helen Marie Witty Scholarship.** Established by Dr. and Mrs. Jorge Robert Ruiz.
- The Wolff Family Scholarship.** Established by Wolff Properties.

**The Jane and David Yarian Scholarship.**

Established by Dr. and Mrs. David L. Yarian.

**The George A. Zimmer Scholarships.** Established by Mr. and Mrs. George A. Zimmer.

**Other Awards**

**The Lynne Cooper Harvey Fellowships.** Established by Mrs. Lynne Cooper Harvey.

**The Lennette Field Research Award.** Established by Drs. David and Evelyne Lennette.

**The SRC Education Alliance Graduate Scholarship.** Established by SRC Education Alliance.

**Special Awards**

Each year, the College of Arts & Sciences offers up to 12 fellowships—distributed among the humanities, the social sciences, the life sciences, and mathematics and physics—to outstanding entering first-year students. These merit-based scholarships, which are awarded in a national competition, honor distinguished former faculty members Florence Moog, George Mylonas, and Arnold J. Lien, and former Chancellor Arthur Holly Compton. Each carries an award of full tuition plus a \$1,000-a-year stipend for four years.

The Compton, Mylonas, Moog, and Lien competitions require special applications. Applications, plus an additional essay and recommendation, must be submitted no later than January of the year prior to prospective entrance into the College. (The exact date in January will be set by the Office of Undergraduate Admissions.) For further information, contact the Director of Honorary Scholarship Programs, College of Arts & Sciences, Campus Box 1117, One Brookings Drive, St. Louis, Missouri 63130-4899.

Compton or Moog applicants may be considered for the J. Stephen Fossett Pathfinder Fellowship in Environmental Sustainability if they are interested in environmental studies. For more information, see the Pathfinder web site at [wufs.wustl.edu/pathfinder](http://wufs.wustl.edu/pathfinder).

**Loan Funds Established for College Students**

**Auer-Rosenfeld Memorial Loan Fund.** Established by gifts from Elizabeth Rosenfeld Auer in memory of her husband, Dr. Albert E. Auer, and her parents, Florence and Arthur Rosenfeld, for loans to undergraduate students in the College.

**Arnold J. Lien Student Aid Fund.** Established as a memorial to Arnold J. Lien, professor of political science, by his friends and former students for financial assistance in various fields of study.

**George F. McMillen Loan Fund.** Established by gift of George F. McMillen for male students in science and engineering.

For information about eligibility and other conditions for using loan funds, contact Student Financial Services (see page 1).

# African and African American Studies

**Director****John Baugh**

Margaret Bush Wilson Professor in Arts & Sciences

(Linguistics)

Ph.D., University of Pennsylvania

**Endowed Professors****Gerald L. Early**

Merle Kling Professor of Modern Letters (English)

Ph.D., Cornell University

**James Gibson**

Sidney W. Souers Professor of Government (Political Science)

Ph.D., University of Iowa

**Professors****David Konig**

(History)

Ph.D., Harvard University

**Kimberly Norwood**

(Law)

J.D., University of Missouri

**Timothy H. Parsons**

(History)

Ph.D., Johns Hopkins University

**Carl Phillips**

(English)

M.A., Boston University

**Rafia Zafar**

(English)

Ph.D., Harvard University

**Associate Professors****Garrett Albert Duncan**

(Education)

Ph.D., The Claremont Graduate School

**Assistant Professors****Margaret Garb**

(History)

Ph.D., Columbia University

**Denise Head**

(Psychology)

Ph.D., University of Memphis

**Michael Minta**

(Political Science)

Ph.D., University of Michigan

**Shanti Parikh**

(Anthropology)

Ph.D., Yale University

**Senior Lecturers****Ronald J. Himes**

Henry E. Hampton, Jr., Artist in Residence

B.S., Washington University

**Mungai Mutonya**

(Sociolinguistics)

Ph.D., Michigan State University

**M. Priscilla Stone**

(Anthropology)

Ph.D., University of Arizona

**Joseph D. Thompson**

(English)

Ph.D., Yale University

**Wilmetta Toliver-Diallo**

(History)

Ph.D., Stanford University

**Adjunct Instructors****Rudolph Clay**

A.M.L.S., University of Michigan

**Jacqueline Dace**

B.A., Webster University

African and African American Studies offers the opportunity to explore the social, political, and intellectual history as well as the literature, culture, and artistic life of various peoples in the world who are African or of African descent.

Because African and African American Studies embraces a wide spectrum of experiences and issues, the program is both multidisciplinary and interdisciplinary in its approach. Courses are balanced between the humanities and the social sciences. Principal areas of concentration are sub-Saharan Africa and the United States.

Students who major in the program are encouraged to design a course of study that will focus on a particular area of interest. You also have opportunities to do research with faculty or to take internships with organizations such as the Missouri Historical Society. Our summer program in Kenya as well as study abroad in other African countries can further enrich your experience.

Courses in the program are numbered to assist students to progress from introductory courses (100–200+), to intermediate courses (300+), to advanced courses (400+). Students in advanced courses are expected to have previous course work and background in the area of African and/or African American Studies.

The program regularly sponsors lectures on topics of interest to African Americanists as well as Africanists. In many cases, lecturers participate in classes by giving special lectures within the classroom setting.

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 306).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

**The Major:** You may major in African and African American Studies by completing 27 credits, which must include AFAS 208B, 209B, 3 units in AFAS 401 (senior seminar), and 18 units in advanced courses with a significant African component.

**The Minor:** You may minor in African and African American Studies by completing 18 credits, including AFAS 208B, 209B, and 12 units in advanced courses. You may minor in African and African American Studies with a concentration in African Studies by completing 18 credits, including AFAS 208B, 209B, and 12 units in advanced courses with a significant African component.

### Scholastic Honors

**Senior Honors:** If a student maintains an overall grade point average of at least 3.4 and a 3.5 average in the major by the second semester of his or her junior year, he or she may be eligible to do a Senior Honors thesis. Completed application forms for Honors should be submitted to the director as early as possible, preferably before May 1 of your junior year. The program also coordinates faculty nominations for senior honors projects through the Harriet and Dred Scott Scholars Program in Human Rights and Justice. This program is open to all Washington University sophomores with a cumulative grade point average of 3.4 or higher, and students must be nominated by a faculty member who has agreed to serve as their mentor.

**Departmental Prizes:** The program offers the opportunity to win monetary prizes for achievement annually. They include the James Baldwin Essay Prize for the best essay on African-American culture, the Julius Nyerere Prize for the best essay in any social science or humanities discipline related to Africa, the Henry Hampton Prize for the best essay on the civil rights movement or any book by Rev. Dr. Martin Luther King, Jr., and the Ralph Bunche Prize awarded for the best essay related to Africans or African Americans and political science. In addition, prizes may also be given for the best undergraduate and graduate personal libraries on African or African-American subjects.

### Undergraduate Courses

#### AFAS 103D. Beginning Swahili I

A beginning language course emphasizes acquisition of reading, writing, and conversational skills in Swahili language. Through video and other multimedia presentations, students also are introduced to the culture of Swahili-speaking communities living in more than a dozen African countries. Five hours a week including culture and language laboratory hours. This course is strongly recommended for students participating in the Summer in Kenya Program. Credit 5 units.

A&S LA

#### AFAS 104D. Beginning Swahili II

Second-semester Swahili language course emphasizes conversational competence and knowledge of Swahili-speaking cultures of East Africa. In addition to learning grammar and vocabulary sufficient to allow a student to perform basic survival tasks (asking for directions, buying a ticket for travel, checking into a hostel, ordering food) in Swahili, students also will be introduced to authentic Swahili texts including plays, short stories, and newspapers. Students will have an opportunity

to practice their acquired language skills by interacting with Swahili speakers in the St. Louis region. Prerequisite: AFAS 103D. Credit 5 units.

A&S LA

#### AFAS 1096. Ragtime

Same as Music 109.

A&S LA FA AH

#### AFAS 1161. Freshman Seminar: The Physician, the Patient, and the Community

Same as Ge St 116.

A&S SS

#### AFAS 127. Popular Music in American Culture

Same as Music 1022.

A&S LA, SD FA AH

#### AFAS 1277. Musics of the World

Same as Music 1021.

A&S CD, TH FA AH

#### AFAS 136. Freshman Seminar: The Concept of Race in Black Thought

Although many people now believe that the idea of distinct human races is a socially constructed fiction, race can play a major role in determining such aspects of life as where one lives, the quality of one's education, and one's access to health care. Clearly, the notion of race still holds a great deal of power. Therefore, we must attempt to understand where it came from and where it seems to be headed. In this course, we will use the works of black authors to explore the concept of race historically, particularly during the early 20th century when people of African descent were still forced to contend with the prevalent idea of innate black inferiority. Authors may include W.E.B. DuBois, Langston Hughes, Zora Neale Hurston, and Claude McKay. Credit 3 units.

A&S SD, TH

#### AFAS 187. Afro-Hispanic Literature: an Introductory Course

In *The Black Atlantic: Modernity and Double Consciousness*, Paul Gilroy defines the Black Atlantic as "a culture that is not specifically African, American Caribbean, or British but all of these at once." This cultural phenomenon will be explored by analyzing selected poems, novels, short stories, essays, and dramas of Spanish-speaking writers of African descent from Latin America, the Caribbean, and Africa. Utilizing the theoretical framework of Paul Gilroy, Stuart Hall, and Frantz Fanon, the texts will be analyzed considering their sociohistorical, geographic, and racial implications and their respective literary movements beginning with the 1900s to the present. No prior knowledge of Spanish is required as this course will be taught in translation. Credit 3 units.

A&S CD, LA FA Lit

#### AFAS 188. Freshman Seminar: Self and Identity in African-American Literature

Same as E Lit 190, AMCS 188.

This course offers an introductory examination of classic African-American literary texts that deal with identity and the quest for self. Among authors we may read: Gwendolyn Brooks, Richard Wright, Nella Larsen, and W.E.B. DuBois. Freshmen only. Credit 3 units.

A&S SD, TH FA Lit

#### AFAS 196C. Images of Africa in Literature and Art, c. 1800 to Present Day

Same as History 196C.

This course examines representations of Africa, African peoples, and African cultures from the early 19th-century to the present. Drawing on a wide variety of African and colonial source materials—including novels, photographs, art, advertising, and movies—we will critically explore the ways in which historical developments and cultural products helped to shape conceptions of African identities and ethnicities. Among other is-

sués, we will address the legacy of the slave trade; gender and the construction of cultural "traditions"; colonial society, nationalist resistance, and the rise of pan-Africanism; and South African Apartheid. Emphasis will be placed on critical engagement with the source materials through written assignments and participation in class discussion. Freshmen only. Credit 3 units.

A&S CD, TH FA Lit

#### AFAS 203D. Intermediate Swahili III

Enhanced acquisition of language fundamentals acquired in first-year Swahili through performance, reading, and writing. Students gain skills performing role-plays such as asking for directions, booking a bus ticket, ordering food in a restaurant, etc. Students read more authentic Swahili texts including plays, short stories, newspapers, and poems. Prerequisite: AFAS 103DQ-104DQ or the equivalent. Credit 3 units.

A&S LA

#### AFAS 204D. Intermediate Swahili IV

Fourth-semester Swahili language course emphasizes the development of the ability to discuss a wide range of cultural and literary topics with native speakers of the language. These topics are introduced by reading authentic Swahili texts such as plays, novels, poems, and newspapers. Students enhance their writing skills and creativity in the language through group-writing projects. Prerequisites: Swahili 103D(Q), 104D(Q) and 203 D(Q). Credit 3 units.

A&S LA

#### AFAS 208B. African-American Studies: an Introduction

Same as Pol Sci 208B, Lw St 208B, AMCS 208B, AFAS 208.

Lectures, readings, films, and discussions reflect a range of academic approaches to the study of African American people. Course materials drawn from literature, history, archeology, sociology, and the arts to illustrate the development of an African American cultural tradition that is rooted in Africa, but created in the Americas. Required for the major. Credit 3 units.

A&S SD, TH FA SSP

#### AFAS 209B. African Studies: An Introduction

Same as AFAS 209B.

This course will introduce students to a variety of approaches to the study of Africa by considering the ways that scholars have understood the African experience. It will expose students to the history, politics, literature, and artistic creativity of the continent. Emphasis will be placed on the diversity of African societies, both historically and in the present, and explore Africa's place in the wider world. Required for the major. Credit 3 units.

A&S CD, TH FA SSP

#### AFAS 210. The Linguistic Legacy of the African Slave Trade in Interdisciplinary Perspective

Same as AMCS 2101.

This course explores the linguistic consequences of the African slave trade, and in so doing introduces students to basic concepts in linguistic science that are relevant to human language development and controversial educational theories that are based on race. Anthropological, linguistic, and psychological dimensions of African-American culture are embedded within complementary evaluations of educational controversies surrounding the teaching of (standard) English to American slave descendants, including the Ebonics controversy and its relevance to larger questions of social efficacy, and the affirmative action debate that has consumed the nation. Students will work individually or in groups to produce a major intellectual artifact (e.g., a term paper, a scholarly web page, or a project pertaining to the linguistic plight of citizens within this African Diaspora. Students

will be introduced to foundational African-American studies in anthropology, education, English, linguistics, and psychology. Credit 3 units.  
**A&S** SD, SS

**AFAS 2131. Introduction to Comparative Practice: Glimpses of Africa: Exoticism, Negritude, and Post-Colonialism**

*Same as Comp Lit 215C.*  
**A&S** TH **FA** Lit

**AFAS 2151. St. Louis African-American History**

*Same as STA 2151, AMCS 2151, History 276.*  
 A look at the past 100 and more years of the black experience in St. Louis. Primary and secondary source materials are used. Individual presentations made by many St. Louis notables. Requires one-half day Saturday tour. Credit 3 units.  
**A&S** SD, TH

**AFAS 2231. Cross-Cultural Women Playwrights**

*Same as Drama 223.*  
**A&S** SD, TH **FA** AH, Lit

**AFAS 2250. Freshman Seminar: African American Women's History: Sexuality, Violence, and the Love of Hip-Hop**

*Same as History 2250.*  
**A&S** SD, TH

**AFAS 2944. Freshman Seminar: Marginal Freedom in Modern America, 1865–1920**

**AFAS 301. A History of African-American Theater**

A survey of African-American theater from post-Civil War “coon” shows and revues to movements for a national black theater, such as Krigwa, Lafayette and Lincoln, and the Black Arts Movement. Early black theater and minstrels; black theater movement and other ethnic theater movements in America. Critical readings of such plays as Amiri Baraka’s *Dutchman*, Lorraine Hansberry’s *A Raisin in the Sun*, Langston Hughes and Zora Neale Hurston’s *Mulebone*. Also works by August Wilson, Ed Bullins, Charles Fuller, Georgia Douglas Johnson. Credit 3 units.  
**A&S** SD, TH **FA** AH

**AFAS 3011. Honors Seminar for Sophomores I: Tutorial in History**

**AFAS 3012. Historical Methods: The Slave Trade**

*Same as History 301A.*  
**A&S** TH

**AFAS 302. Black Theater Workshop III**

*Same as Drama 368.*  
**A&S** LA, SD

**AFAS 3041. Historical Methods**

*Same as History 301A.*  
**A&S** TH

**AFAS 304C. Topics on Africa**

*Same as IAS 3057, Anthro 3404, History 3040.*  
 This course explores the relationship between economic and cultural processes associated with globalization and sub-Saharan Africa. In order to better understand the nature of globalization and its implications for inequality and day-to-day life, we will examine case studies dealing with topics such as the marketing of soap in colonial southern Africa, conflicts over the extraction of oil in Nigeria, and undocumented West African migrants living in New York City. The course begins with investigating colonialism in Africa. We will explore similarities and differences between colonialism and contemporary globalization, especially in relation to issues of exploitation and the extraction of resources from Africa. This will be followed by a series of readings related to notions of modernity and consumption. We will examine the movement

of Indian movies, secondhand clothes, and other international commodities into Africa in order to understand how identity is constructed within a context of globalization. The next section examines global movements of people, especially from Africa to the United States and Europe. We close the course by considering the future of Africa and the particular implication of globalization for African youth. Credit 3 units.  
**A&S** SS

**AFAS 3061. Literacy Education in the Contexts of Human Rights and Social Justice**

*Same as Educ 306.*  
**A&S** SS

**AFAS 306B. Africa: Peoples and Cultures**

*Same as Anthro 306B.*  
**A&S** CD, SS **FA** SSP

**AFAS 3161. African-American Politics**

*Same as Pol Sci 316B.*  
**A&S** SS

**AFAS 316B. African Politics: Pathways to Resistance and Accommodation**

**AFAS 319C. The Pre-History of Africa**

*Same as Anthro 318C.*  
**A&S** CD, SS **FA** SSP

**AFAS 321C. African Civilization to 1800**

*Same as History 394C, IAS 325C.*  
 Beginning with an introduction to the methodological and theoretical approaches to African history, this course surveys African civilization and culture from the Neolithic age until 1800 AD. Topics include African geography and environmental history, migration and cross-cultural exchange, the development of Swahili culture, the Western Sudanese states, the transatlantic slave trade, and the historical roots of Apartheid. Credit 3 units.  
**A&S** CD, TH **FA** SSP

**AFAS 322C. African Civilization: 1800 to the Present**

*Same as AFAS 322, IAS 395C, JNE 322C, History 395C, URST 322C.*

Beginning with social and economic changes in 19th-century Africa, this course is an in-depth investigation of the intellectual and material culture of colonialism. It is also concerned with the survival of pre-colonial values and institutions, and examines the process of African resistance and adaptation to social change. The survey concludes with the consequences of decolonization and an exploration of the roots of the major problems facing modern Africa. Credit 3 units.  
**A&S** CD, TH **FA** SSP

**AFAS 3254. African Americans and Children's Literature**

*Same as E Lit 3254, CFH 3254, AMCS 3254.*  
 This course explores two distinct themes: how African-descended people have been depicted in American and British children's literature and how African Americans have established a tradition in writing for children and young adults. It will also examine two related questions: How has African-American childhood been constructed in children's literature and how have African-American writers constructed childhood in children's literature? We will look at such classic white writers for children as Helen Bannerman, Annie Fellows Johnston, and Mark Twain as well as efforts by blacks like *The Brownies Book*, published by the NAACP, and children's works by black writers including Langston Hughes, Ann Petry, Shirley Graham Du Bois, Arna Bontemps, Virginia Hamilton, Walter Dean Myers, Mildred Taylor, Floyd and Patrick McKissack, Julius Lester, Rosa Guy, Sharon Bell Mathis, bell hooks, and others. Credit 3 units.  
**A&S** SD, TH

**AFAS 327B. African Politics**

*Same as Pol Sci 327B.*  
**A&S** SS **FA** SSP

**AFAS 3282. Sexuality in Africa**

*Same as IAS 3282, WGSS 3282, Anthro 3282.*  
 An examination of various themes of African sexuality, including courtship, marriage, circumcision, STDs and AIDS, polygamy, homosexuality, child marriages, and the status of women. Course materials include ethnographic and historical material, African novels and films, and U.S. mass media productions. Using sexuality as a window of analysis, students are exposed to a broad range of social science perspectives such as functionalist, historical, feminist, social constructionist, Marxist, and postmodern. Credit 3 units.  
**A&S** CD, SS **FA** SSP

**AFAS 3531. Selected English and American Writers: Zora Neale Hurston**

*Same as E Lit 3531.*  
 Credit 3 units.

**A&S** TH **FA** Lit

**AFAS 3542. The Quest for Racial Reconciliation**

This course is based within African and African American Studies, and it explores the quest for racial reconciliation, with emphasis equally divided between the United States and racial strife in other parts of the world. Although racial considerations are inherent to central themes within this course, we explore various sources of linguistic, cultural, social, political, racial, and ethnic foundations of strife at different points in history, and in different regions of the world. Particular attention will be devoted to nonpartisan strategies to advance racial harmony within the United States, and other regions of the world that are of personal interest to students. Credit 3 units.  
**A&S** SD, TH **FA** SSP

**AFAS 3582. Race, Class, and Writing in the United States and the Caribbean, 1900–1950**

This is a comparative course that focuses on African-American literature and Anglophone Caribbean literature during the period from 1900 to 1950. The cultures of the United States and the Caribbean have both been profoundly shaped by the relationship between race and power, yet the intersection of these forces has affected the societies and their writers in distinct ways. Studying fictional texts from the first half of the 20th century, we will discuss the differences in literary tradition that arose from the divergent social, racial, and educational milieux of the United States and the West Indies. For example, we will compare the racial and class concerns of the Beacon Group in Trinidad with those of the Harlem Renaissance. We also will study writers, such as Claude McKay and C.L.R. James, whose consciousness of the African diaspora problematized the national and regional identities to which literature contributed. Credit 3 units.  
**A&S** SD, TH

**AFAS 361. Culture and Environment**

*Same as Anthro 361.*  
**A&S** SS **FA** SSP

**AFAS 362. Mentors in Craft**

*Same as E Comp 3621.*  
 This fiction-writing workshop combines the critical study of African-American short fiction, elements of craft (Dialogue, Setting, Character, etc.), along with the practical engagement of writing short stories. Students will be asked to complete writing exercises, produce two original short stories and critique the work of their peers. Emphasis is on literary fiction (no genre writing). Readings may include short stories by Charles Chesnut, Langston Hughes, James Baldwin, Zora Neale Hurston, Jamaica Kincaid, Toni Cade Bambara, James Alan McPherson, Percival Everett, Thomas

Glave, and Edwidge Danticat. The focus of this course is the individual's development as a writer within a community of developing writers. This course is intended for those who wish to pursue fiction writing or study it intensively. Credit 3 units.

**A&S LA**

**AFAS 3651. Black Women Writers**

*Same as AMCS 3651, WGSS 3560, E Lit 3881.*

When someone says, black woman writer, you may well think of Nobel Prize winner Toni Morrison. But not long ago, to be a black woman writer meant to be considered an aberration. When Thomas Jefferson wrote that Phillis Wheatley's poems were "beneath the dignity of criticism," he could hardly have imagined entire Modern Language Association sessions built around her verse, but such is now the case. In this class, we will survey the range of Anglophone-African American women authors. Writers likely to be covered include Phillis Wheatley, Harriet Wilson, Nella Larsen, Lorraine Hansberry, Octavia Butler, and Rita Dove, among others. Be prepared to read, explore, discuss, and debate the specific impact of race and gender on American literature. Credit 3 units.

**A&S SD, TH**

**AFAS 368. Language and Society in Africa**

*Same as Anthro 3681, IAS 3681.*

A general introduction to the relationship between language and society in Africa with special focus on the general pattern of language use in densely multilingual African societies. The course explores the sociolinguistics factors that variously influence growth, spread, and recognition of languages, dialects, slang, and emerging varieties in language contact environments. Specific topics to be covered may include: multilingualism in sub-Saharan Africa; language policies in education; language use and variation; language attitudes; and the social roles of urban slang; Sheng, Tsotsitaal, Urban Wolof, and Indoubil. Credit 3 units.

**A&S SS**

**AFAS 369. Senegal: History, Politics, and Culture**

*Same as AFAS 509.*

This course will study the history of Senegal in the modern period, beginning with the formation by French traders and Lebou/Wolof women of the Four Communes. It will then explore Senegal's unique position as the founding place of two major Islamic brotherhoods and the legacy of French assimilation policy. As the course moves into the contemporary period, it will give some attention to the Senegalese Diaspora, particularly in large urban centers such as New York, Detroit, Paris, and Milan. It will explore themes of caste, colonialism, assimilation and identity, negritude, Islam, gender relations, the 1960s arts movement, and the cultural life of Dakar, a major center of Francophone-African culture. There will be an emphasis on the relationship between Islam and politics in contemporary society. This course is designed for students participating in the Dakar Summer Program in French and African Studies. Credit 3 units.

**A&S TH**

**AFAS 370. Youth, Generation, and Age in Africa**

It is estimated that children and youth constitute more than 60 percent of the population in Africa. In a context of economic decline associated with neoliberal policies of structural adjustment, many of these young people will face extreme difficulty in finding work, supporting families, and taking on the social responsibilities of adults. In recent years, disaffected African youth have been increasingly blamed for political and social instability. This course examines the condition of youth in contemporary Africa. The course begins with clas-

sic anthropological texts on generation, youth, and the life cycle in Africa. Readings will address the implications of colonialism, education, wage labor, and urbanization for relations between generations. The second half of the course will examine recent research concerning the position of African youth in a context of economic and cultural globalization. Credit 3 units.

**A&S CD, TH**

**AFAS 372C. Law in American Life: 1776 to Present**

*Same as History 372C.*

**A&S SD, TH FA SSP**

**AFAS 3752. Topics in Women's History: African-American Women**

*Same as WGSS 3754.*

**A&S SD, TH**

**AFAS 3766. Women, Men, and Gender in African Societies Since 1800**

*Same as History 38A8.*

**A&S CD, TH, WI**

**AFAS 3838. African-American Poetry From 1950–Present**

*Same as E Lit 3831.*

Beginning with the year in which Gwendolyn Brooks became the first African American to win the Pulitzer Prize, we will examine the tradition of African-American poetry and the ways in which that tradition is constantly revising itself and being revised from the outside. We will focus in particular on the pressures of expectation—in terms of such identity markers as race, gender, and sexuality—and how those pressures uniquely and increasingly affect African-American poetry today. Credit 3 units.

**A&S TH FA Lit**

**AFAS 387C. African-American Literature: Early Writers to the Harlem Renaissance**

*Same as E Lit 387.*

**A&S SD, TH**

**AFAS 388C. African-American Literature: African-American Writers Since the Harlem Renaissance**

*Same as E Lit 388C, E Lit 388, AFAS 387.*

This course will introduce students to major authors, movements, and themes in African-American literature from the 1920s to the 1970s. Exploring several crucial periods in African-American literary history, including the Harlem Renaissance, the Black Arts Movement, and the Black Feminist Movement, we will examine how black writers of the 20th century conceptualized the political and cultural dimensions of the African-American community. To investigate the formal diversity of the black literary tradition, we will read examples of the novel, autobiography, drama, poetry, and the essay. Authors covered will include Langston Hughes, Gwendolyn Brooks, and James Baldwin. Credit 3 units.

**A&S SD, TH FA Lit**

**AFAS 390C. Upon These Shores: African-American History, 1500–1864**

*Same as History 387C.*

**A&S SD, TH FA SSP**

**AFAS 391C. For Freedom's Sake: African-American History Since Emancipation**

*Same as History 388C.*

**A&S SD, TH FA SSP**

**AFAS 400. Independent Study**

Requires: permission of the Director of the African and African American Studies Program and an African American Studies instructor *prior* to registering. Credit variable, maximum 6 units.

**AFAS 401. Senior Seminar**

This capstone seminar is required for students who are majoring in African and African Ameri-

can Studies. Credit 3 units.

**A&S TH**

**AFAS 403. Advanced Swahili**

This course aims at helping students gain skills in reading and appreciating selected readings in Swahili literature. Although the course will focus primarily on plays, novels, and poetry, students also will be introduced to Swahili songs, comic books, and other forms of popular literature in an attempt to understand the growth and development of contemporary Swahili literature. Prerequisites: permission of instructor and successful completion of AFAS 103D, 104D, 203D, 204D or equivalent experience. Credit 3 units.

**A&S TH**

**AFAS 4031. Advanced Readings in Swahili Literature**

To be designed with instructor. Permission of instructor required. Credit 3 units.

**A&S TH**

**AFAS 4041. Beginning Graduate-Level Swahili**

A beginning language course for graduate students emphasizing acquisition of reading, writing, and conversational skills in Swahili language. Through video and other multimedia presentations, students also are introduced to the culture of Swahili-speaking communities living in more than a dozen African countries. Credit 3 units.

**A&S LA**

**AFAS 4042. Beginning Graduate-Level Swahili II**

Second-semester graduate-level Swahili language course emphasizing conversational competence and knowledge of Swahili-speaking cultures of East Africa. Introduction to elementary level Kenyan and Tanzanian Swahili texts, grade school readers, newspapers, and government educational material. Prerequisite: AFAS 4041. Credit 3 units.

**A&S LA**

**AFAS 4043. Intermediate Graduate-Level Swahili III**

Enhanced acquisition of language fundamentals acquired in first-year Graduate-Level Swahili through performance, reading, and writing. Students gain skills performing role-plays such as asking for directions, booking a bus ticket, ordering food in a restaurant, etc. Students read more authentic Swahili texts including plays, short stories, newspapers, and poems. Prerequisite: AFAS 4041, 4042, or permission of instructor. Credit 3 units.

**A&S LA**

**AFAS 409. Gender, Sexuality, and Change in Africa**

*Same as IAS 4090, WGSS 409, Anthro 4091.*

This course considers histories and social constructions of gender and sexuality in sub-Saharan Africa during the colonial and contemporary periods. We will examine gender and sexuality both as sets of identities and practices and as part of wider questions of work, domesticity, social control, resistance, and meaning. Course materials include ethnographic and historical materials and African novels and films. Prerequisite: for graduate students or undergraduates with previous AFAS or upper-level anthropology course. Credit 3 units.

**A&S SD, SS, WI FA SSP**

**AFAS 4134. The AIDS Epidemic: Inequalities, Ethnography, and Ethics**

*Same as Anthro 4134.*

**A&S SD, SS**

**AFAS 417. Topics in African History: Middle Passages: African Americans and South Africa**

*Same as History 417, IAS 417, IA 4017.*

This upper-division seminar explores the fascinating transnational relationship between African Americans and black South Africans during the

20th century. These two populations became intimately familiar with each other as African-American missionaries, sailors, musicians, educators and adventurers regularly entered South Africa while black South African students, religious personnel, political figures, writers, and entertainers found their way to America. This course will detail why these two populations gravitated toward each other, how they assisted each other in their respective struggles against racial segregation and apartheid, and how these shared histories influence their relationship today. Readings for this course will draw from key books, articles, and primary documents within this exciting new field of intellectual inquiry. Credit 3 units.

**A&S** CD, TH

**AFAS 424. Topics in American Literature: The Harlem Renaissance**

*Same as E Lit 423.*

**A&S** SD, TH **FA** Lit

**AFAS 426. Politics of the Civil Rights Movement**

*Same as Pol Sci 426.*

**A&S** SD, SS **FA** SSP

**AFAS 429. Texts and Contexts of the Harlem Renaissance**

*Same as E Lit 4244.*

**A&S** TH **FA** Lit

**AFAS 433. Culture, Language, and the Education of Black Students**

*Same as Educ 4315.*

**A&S** CD, SS **FA** SSP

**AFAS 434B. Seminar in Black Social Sciences**  
*Same as AMCS 434, Educ 4344, Educ 434B, Educ 4344.*

This seminar applies a deep reading to social science texts that examine the construction and experiences of black people in the United States from the point of view of black scholars. Readings include theoretical and empirical work. The seminar focuses on the influence of the disciplines of psychology, sociology, and anthropology on the policy and social practices that characterize dominant North American institutions. Advanced class level strongly advised. Credit 3 units.

**A&S** SD, SS **FA** SSP

**AFAS 435. Slavery and American Literary Imagination**

*Same as E Lit 4232.*

**A&S** TH **FA** Lit

**AFAS 448. Race Politics in 19th- and 20th-Century America**

*Same as History 4481, Pol Sci 4483.*

This course will explore the efforts of black Americans to use the political processes to claim civil rights and economic improvements in the 19th and 20th centuries. It will track the aims, ideals, and organizing strategies of African-American leaders and of grass-roots organizers. Readings and research will highlight the ways African Americans debated agendas, fought over strategies, and worked to mobilize voters. We will study the ways various groups of people—in rural and urban American—argued over priorities, set agendas for their communities, produced a political language, came together with neighbors to fight for civil rights and economic necessities, and, in short, established a dynamic and conflicted political culture. Credit 3 units.

**A&S** SS **FA** SSP

**AFAS 4483. Race and Politics**

*Same as Pol Sci 4241.*

**A&S** SS **FA** SSP

**AFAS 4511. Race, Ethnicity, and Culture:**

**Qualitative Inquiries into Urban Education I**

*Same as AMCS 4511, AMCS 452, URST 4511, Educ 4511.*

Drawing on traditional and recent advances in the field of qualitative studies, this course is the first in a series to examine ethnographic research at the interlocking domains of race, ethnicity, class, gender, and culture. The emphasis in this course is on how these concepts are constructed in urban educational institutions. The course includes a field component that involves local elementary and/or middle schools. Credit 3 units.

**A&S** SD, SS

**AFAS 4512. Race, Ethnicity, and Culture:**

**Qualitative Inquiries into Urban Education II**

*Same as Educ 4512.*

**A&S** SS, WI **FA** SSP

**AFAS 4606. American Culture: Tradition, Method, and Vision**

*Same as AMCS 475.*

**A&S** TH

**AFAS 4608. Education of Black Children and Youth in the United States**

*Same as Educ 4608.*

**A&S** SD, TH, WI **FA** SSP

**AFAS 461B. Construction and Experience of Black Adolescence**

*Same as Educ 461B, URST 461B, CFH 461B, AMCS 461B.*

This course examines the construct of black adolescence from the general perspectives of anthropology, sociology, and psychology. It begins by studying the construct of black adolescence as an “invention” of the social and behavioral sciences. The course then draws upon narrative data, autobiography, literature, and multimedia sources authored by black youth to recast black adolescence as a complex social, psychological, cultural, and political phenomenon. This course focuses on the meaning-making experiences of urban-dwelling black adolescents and highlights these relations within the contexts of class, gender, sexuality, and education. Credit 3 units.

**A&S** SS **FA** SSP

**AFAS 477. African Prehistory**

*Same as Anthro 477.*

**A&S** SS **FA** SSP

**AFAS 4893. Advanced Seminar. Antislavery:**

**The Legal Assault on Slavery in St. Louis**

*Same as History 4987.*

**A&S** SD, TH

**AFAS 4973. Advanced Seminar: Gender, Race, and Class in South Africa, 1880–Present**

*Same as History 4979.*

**A&S** SD, TH

**AFAS 498. Field Work in African American Studies**

A fieldwork project carried out under the direction of an instructor in the African and African American Studies program. Prerequisites: permission of instructor and the director of African and African American Studies prior to enrollment. Application forms available in program office. Credit variable, maximum 6 units.

**A&S** SS

**AFAS 499. Independent Work for Senior Honors: Research**

Prerequisites: permission of director and appropriate grade point average. Application forms available in program office. Credit 3 units.

**AFAS 4991. Independent Work for Senior Honors: Thesis**

Prerequisites: satisfactory standing as a candidate for senior honors and permission of the director of the African and African American Studies Program. Credit 3 units.

## American Culture Studies

American Culture Studies is a multidisciplinary program within Arts & Sciences. Washington University’s commitment to American Culture Studies grows from our awareness of two fundamental questions about American life. What does it mean to be American? How might we best study America?

Recognizing that America is a culture of cultures, that it is both one and many, our approach is inclusive, emphasizing the enormous diversity in the American peoples and their experiences. As students pursue their particular discipline and interests, they are encouraged to link those studies to other academic fields and a wider view of the United States in the world. To this end, the program coordinates American offerings across the curriculum and sponsors multidisciplinary courses that explore theoretical aspects of cultural studies as well as particular issues and events.

Students are encouraged, with faculty guidance, to explore their interests in American culture and society beyond any single discipline and to seek connections in unexpected places. In our classes and our research projects, we develop connections between and among Arts & Sciences and the University’s Schools of Law and Social Work and Colleges of Art and Architecture. We sponsor courses taught, sometimes team taught, by faculty from diverse disciplines, and require of our students that they engage in such multidisciplinary inquiry as a core component of the major and minor.

Through directed study, engaged research, and fieldwork opportunities, students are expected to identify issues for in-depth study on campus, in the St. Louis community, elsewhere in the United States, or even abroad that can enrich their understanding of America. With the guidance of faculty advisers, students are called upon to challenge themselves to learn outside the traditional classroom format and to forge relationships with faculty whose interests overlap with theirs.

Our faculty, like our students, come from a wide variety of disciplines, departments, programs, and schools. Their work for American Culture Studies is both to represent the methods and issues of their specific field of scholarship and to participate in a larger multidisciplinary discussion. In this way we are able to maintain the methodological rigor of the participating disciplines in a multidisciplinary setting and simultaneously to illustrate the collaborative spirit our program emphasizes. Faculty who collaborate are listed on our web site, [artsci.wustl.edu/~acsp/index.php](http://artsci.wustl.edu/~acsp/index.php).

American Culture Studies must be accompanied by another major. Advisers will work with students to develop specific fields of study given their other major and academic interests.

**Major** (27 units):

12 units in general courses cross-listed with AMCS

- Each course must be home-based in a different department (i.e., Political Science, Anthropology, Economics, Film & Media Studies, African and African American Studies, Education, Music, History, English, Women, Gender, and Sexuality Studies, etc.)
- Only 3 units of the 12 may count toward another major
- 6 units at the 300 level or above

6 units of multidisciplinary course work (Courses are identified each semester by AMCS and listed on our web site)

6 units of engaged research, fieldwork or directed study, which may include Senior Honors thesis.

3 units from the AMCS Capstone Course (as identified by AMCS)

**Minor** (15 units):

12 units in general courses cross-listed with AMCS

- Each course must be home-based in a different department (i.e., Political Science, Anthropology, Economics, Film & Media Studies, African and African American Studies, Education, Music, History, English, Women, Gender, and Sexuality Studies, etc.)
- Only 3 units of the 12 may count toward another major
- 6 units at the 300 level or above

3 units of multidisciplinary course work, which may include the AMCS capstone course.

**Undergraduate Courses****AMCS 100B. Introduction to Women's Studies**

*Same as WGSS 100B.*  
A&S SD, TH FA SSP

**AMCS 101B. American Politics**

*Same as Pol Sci 101B.*  
A&S SS FA SSP

**AMCS 1022. Popular Music in American Culture**

*Same as Music 1022.*  
A&S LA, SD FA AH

**AMCS 103B. Introduction to Political Economy: Microeconomics**

*Same as Econ 103B.*  
A&S QA, SS FA SSP

**AMCS 104B. Introduction to Political Economy: Macroeconomics**

*Same as Econ 104B.*  
A&S QA, SS FA SSP

**AMCS 105. History of Jazz**

*Same as Music 105.*  
A&S LA FA AH

**AMCS 1050. Introduction to Sexuality Studies**

*Same as WGSS 105.*  
A&S SD, SS

**AMCS 106. St. Louis 101: Life in a Global City**

*Same as Anthro 101.*  
A&S SS FA SSP

**AMCS 1060. Introduction to Political Theory: Classics of Social and Political Thought**

*Same as Pol Sci 106.*  
A&S SS

**AMCS 109. Ragtime**

*Same as Music 109.*  
A&S LA FA AH

**AMCS 1100. Intro to Environmental Studies**

*Same as EnSt 110.*  
A&S NS

**AMCS 111. Freshman Seminar: Race and Ethnicity on American Television**

*Same as Film 110.*  
A&S CD, SD, TH FA SSP

**AMCS 114. Studying the City: The Scholar and Community Engagement**

Early urban theorists argued the city is a refuge for lonely, individualistic people and that city life is chaotic, as everyone pursues their narrow self-interests. Others have suggested city residents form meaningful friendships and continuously engage with neighbors and strangers on the streets. Thus, city life is patterned and supports a strong sense of community. How we move along this continuum is an important issue that not only relates to our urban areas but also to the quality of our democracy as we carry out the social project of defining the good life. Why is this issue of concern? As scholars and citizens in a democracy, what should we do to address this issue? What can we do? What is the role of universities in addressing urban life? What are some of the tensions that arise when we try to take action either through policy or other direct efforts, such as engaged scholarship? How should we negotiate around these tensions, if at all? In this class, we explore these questions and call on students to think about their dual role as scholars and citizens. Credit 3 units.

A&S SS

**AMCS 116. Freshman Seminar: Cult TV: Critical Approaches to Fans and Fictions**

*Same as Film 116.*  
A&S TH

**AMCS 118A. Geology of National Parks**

*Same as EPSc 118A.*  
A&S NS FA NSM

**AMCS 120. Social Problems and Social Issues**

*Same as Lw St 120.*  
Survey of social problems and social issues in contemporary American society, such as racism, poverty, sexism, crime, and war. Credit 3 units.  
A&S SS

**AMCS 127. Popular Music in American Culture**

*Same as Music 1022.*  
A&S LA, SD FA AH

**AMCS 130. Freshman Seminar: Cahokia: Perspectives on a Mississippian Ritual Center**

*Same as Anthro 130.*  
A&S SS FA SSP

**AMCS 1311. Present Moral Problems**

*Same as Phil 131F.*  
A&S TH FA SSP

**AMCS 163. Introduction to the History of the United States**

*Same as History 163.*  
A&S TH FA SSP

**AMCS 165. Survey of Latin American Culture**

*Same as IAS 165C.*  
A&S CD, TH FA SSP

**AMCS 1680. Hurricane Katrina: A Case Study in Disaster and American Society**

*Same as Anthro 168.*  
A&S SS FA SSP

**AMCS 188. Self and Identity in African-American Literature**

*Same as AFAS 188.*  
A&S SD, TH FA Lit

**AMCS 200. Mentorship in American Culture Studies**

Credit 2 units.  
A&S TH

**AMCS 202. The Immigrant Experience**

*Same as Lw St 202, Pol Sci 226, URST 2020.*  
This course explores the history and politics of immigrant groups in the 19th- and 20th-century United States. Topics include legislation, patterns of migration, comparisons of different waves of immigration, and changing social attitudes. This course is a core requirement for the ethnic studies concentration in American Culture Studies. Credit 3 units.

A&S CD, SS FA SSP

**AMCS 2031. Crossing Borders II**

*Same as IAS 203.*  
A&S CD, TH

**AMCS 2050. Napster, AIDS, and Intellectual Property**

*Same as Econ 205.*  
A&S SS

**AMCS 206. 'Reading' Culture: The Cultural Life of Things**

It has been said that American culture is a culture obsessed with things—the “stuff” of everyday life, from the iPod and the Dasani bottle to the Harley Davidson motorcycle. In this course, we will explore things of many kinds, studying them closely and asking how they are imbued with cultural meanings. We also will ask how to go about “reading” these things—or artifacts—in relationship to culture, trying methods of describing, sketching, mapping, and exploring that allow us to know them better, and to generate creative, thought-provoking interpretations. Much of our time will be devoted to exploration and observation. Field trips will allow us to study local “public” artifacts, and to develop strategies for reading them in context. We will also study artifacts that were once someone’s possessions, including some preserved in museums and some in our own personal collections. Our reading will be informed by the approaches taken in a number of disciplines, including anthropology, literature, material culture, sociology, and museum studies. As we develop skills in reading artifacts, we will grapple not only with how to describe what we see, but how our own cultural assumptions and biases impact our readings of culture more generally. Credit 3 units.

A&S TH

**AMCS 207. Freshman Seminar: The Chinese-American Experience**

*Same as ANELL 208.*  
A&S SD, TH

**AMCS 208B. African-American Studies: An Introduction**

*Same as AFAS 208B.*  
A&S SD, TH FA SSP

**AMCS 209. America from the Civil War**

*Same as History 210.*  
A&S TH FA SSP

**AMCS 210. Freshman Seminar: Gender and Citizenship**

*Same as WGSS 210.*  
A&S SD, TH FA SSP

**AMCS 2101. The Linguistic Legacy of the African Slave Trade in Interdisciplinary Perspective**

*Same as AFAS 210.*  
A&S SD, SS

**AMCS 2151. Blacks in St. Louis Since the Civil War***Same as AFAS 2151.*

A&amp;S SD, TH

**AMCS 2152. The Theory and Practice of Justice: The American Historical Experience***Same as History 2152.*

A&amp;S SD, TH FA SSP

**AMCS 215C. Topics in American History***Same as History 215C.*

A&amp;S SD, TH FA SSP

**AMCS 220. Topics in American Culture Studies***Same as History 2202.*

Credit 3 units.

A&amp;S TH

**AMCS 221. Topics in Theater: Introduction to the American Musical Theater***Same as Drama 211.*

A&amp;S LA FA AH

**AMCS 222. Sophomore Research Project in American Culture Studies**

This course provides sophomores with an introductory experience in primary research. Credit variable, maximum 3 units.

A&amp;S TH

**AMCS 225. Topics in American Culture Studies**

Topics courses in American Culture Studies are offered routinely and examine aspects of our culture from various disciplines and often through multi-disciplinary approaches. Courses previously offered include: 19th-Century American Indian Literature; Hurricane Katrina: A Case Study in Disaster and Relief; The History of Popular Culture in the United States; Mark Twain: Humor and Politics in 19th Century; and American Presidential Rhetoric. Courses are sometimes team-taught or combine community service with learning. Faculty includes WU professors, visiting scholars, community leaders, or advanced graduate fellows in American Culture Studies. Credit 3 units.

A&amp;S TH FA SSP

**AMCS 226. Sociological Approaches to American Health**

The major objective of the course is to provide beginning students with the theoretical (conceptual) and empirical tools necessary to understand how health and illness and health care delivery in the United States are significantly influenced by the social structure in which they are embedded. Students will demonstrate this understanding through designing and implementing a research project grounded in sociological theory and sound methodological strategies for collecting and analyzing data. Working in teams, students will produce a research report suitable for a poster presentation or newsletter to a variety of audiences. Credit 3 units.

A&amp;S SS

**AMCS 233. Biomedical Ethics***Same as Phil 233F.*

A&amp;S TH FA SSP

**AMCS 235. Introduction to Environmental Ethics***Same as Phil 235F.*

A&amp;S TH FA SSP

**AMCS 239. Performance and Culture***Same as Drama 239.*

A&amp;S LA

**AMCS 245. Images of Disability: Portrayal in Film and Literature***Same as Ge St 249.***AMCS 246. Introduction to Film Studies***Same as Film 220.*

A&amp;S LA

**AMCS 248. Latino/a Experiences in the United States**

Identity is a term that begins to give humans a sense of understanding who we are. In terms of the Latino/a diaspora in the United States, issues of ethnicity, gender, nation, class, sexuality, and race are key theoretical categories that aid us in theoretical and practical understandings of identity. In this course, we will analyze and discuss the concept of order to understand the constructions and varied meanings of the term. There will be a special emphasis placed on anthropological, historical, and social science literatures of the Caribbean, Latin America, and the United States as they pertain to deeper understandings of identity. Prerequisite: membership in the Anika Rodriguez Program. Credit 2 units.

A&amp;S SS

**AMCS 260. Topics in Health and Community***Same as Anthro 260.*

A&amp;S SS

**AMCS 294. Introduction to Environmental Studies: Social Sciences***Same as EnSt 294.*

A&amp;S SS

**AMCS 294A. Freshman Seminar: Unequal Freedom: Race, Class, and Gender in Industrializing America***Same as History 294A.*

A&amp;S TH

**AMCS 2946. The Land of Plenty: Obesity and the History of the American Diet***Same as History 2946.*

A&amp;S TH

**AMCS 298. Directed Fieldwork in American Culture Studies**

Fieldwork under the direction of an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 299. The Study of Cities and Metropolitan America***Same as URST 299.*

A&amp;S SS

**AMCS 3000. Overseas Research in American Culture Studies**

Overseas research under the direction of an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 3002. Directed Study in Legal Culture**

Directed study with an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 3005. Research in Washington, D.C.: Directed Study in Politics and Political Culture**

Directed study under the direction of an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 3006. Local Archives: Directed Study in St. Louis**

Directed study with an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 3007. Writing-Intensive in Art History and Archaeology: Since 1960: Art, Criticism, and Theory****AMCS 300C. History of Biological Ideas: Leeches to Lasers: Medicine and Health in the United States***Same as History 358C.*

A&amp;S TH FA SSP

**AMCS 301C. The American School***Same as Educ 301C.*

A&amp;S SD, TH FA SSP

**AMCS 3020. Native American Musical Traditions of the Western United States***Same as Music 3022.*

A&amp;S CD, TH FA SSP

**AMCS 3023. Jazz in American Culture***Same as Music 3023.*

A&amp;S SD, TH FA AH

**AMCS 3030. Gay and Lesbian Theory***Same as WGSS 3031.*

A&amp;S SD, TH

**AMCS 3031. Gender and Education***Same as Educ 303.*

A&amp;S SD, SS FA SSP

**AMCS 3040. Documents and Documentary in Photography and Film***Same as Ari-Arch 3040.*

A&amp;S TH

**AMCS 3041. Sex, Gender, and Popular Culture***Same as AMCS 3401 and WGSS 304.*

A&amp;S SD, TH

**AMCS 3061. Literacy Education in the Context of Human Rights and Global Justice***Same as Educ 306.*

A&amp;S SS

**AMCS 3066. American City in the 19th and 20th Centuries***Same as History 3066.*

A&amp;S SD, TH FA SSP

**AMCS 3070. Politics and Policymaking in the American States***Same as Pol Sci 3070.*

A&amp;S SS

**AMCS 3072. Youth Identities and Urban Ecology***Same as URST 307.*

A&amp;S CD, SD, SS

**AMCS 308. Cracks in the Republic: Discontent, Dissent, and Protest in America During the 1960s and 1970s***Same as History 3072.*

A&amp;S SD, TH FA SSP

**AMCS 308C. History of Law in American Life I: English and Colonial Foundations to 1776***Same as History 307C.*

A&amp;S TH FA SSP

**AMCS 3090. Lesbian, Gay, Bisexual Identity Development***Same as Psych 3091.*

A&amp;S SD, SS FA SSP

**AMCS 3091. Poverty and Social Reform***Same as History 3091.*

A&amp;S SD, TH FA SSP

**AMCS 3092. Indigenous Peoples and Movements in Latin America***Same as Anthro 3092.*

A&amp;S CD, SD, SS

**AMCS 3093. Anthropology of Modern Latin America***Same as Anthro 3093.*

A&amp;S SS

**AMCS 309W. Microeconomics of Public Policy***Same as Econ 309W.***A&S** SS, WI**AMCS 310. Topics in Asian-American****Literature: Identity and Self-Image***Same as E Lit 308.***A&S** SD, TH **FA** Lit**AMCS 3100. Ancient Civilizations of the New World***Same as Anthro 310C.***A&S** CD, TH **FA** AH**AMCS 311. Women's Health in America***Same as WGSS 310.***A&S** SS, WI **FA** SSP**AMCS 3121. Topics in American Literature: Girls' Fiction from Little Goody Two-Shoes to Nancy Drew***Same as E Lit 312.***A&S** TH, WI **FA** Lit**AMCS 3130. Education, Childhood, and Society***Same as Educ 313B.***A&S** SS **FA** SSP**AMCS 3132. Topics in Composition: Exploring Cultural Identity in Writing***Same as E Comp 314.***A&S** LA, WI**AMCS 314. First Americans: Prehistory of North America***Same as Anthro 314B.***A&S** CD, SS **FA** SSP**AMCS 3142. Native Americans at Westward Expansion***Same as Anthro 3461.***A&S** CD, SS **FA** SSP**AMCS 3149. Introduction to Social Psychology***Same as Psych 315.***A&S** SS **FA** SSP**AMCS 3170. Economics of Sports***Same as Econ 3171.***A&S** SS**AMCS 3191. Contemporary American Women Poets***Same as E Lit 3191.***A&S** TH **FA** Lit**AMCS 3201. Gender, Culture, and Madness***Same as Anthro 3201.***A&S** SD, SS**AMCS 3222. Major American Writers: The Contemporary American Novel***Same as E Lit 3222.***A&S** TH **FA** Lit**AMCS 3223. American Literature to 1865***Same as E Lit 321.***A&S** TH **FA** Lit**AMCS 3254. African Americans and Children's Literature***Same as AFAS 3254.***A&S** SD, TH**AMCS 326. American Economic History***Same as Econ 326.***A&S** SS **FA** SSP**AMCS 3260. Latin American Politics***Same as Pol Sci 326B.***A&S** SS **FA** SSP**AMCS 327. Public Opinion and American Democracy***Same as Pol Sci 3211.***A&S** SS **FA** SSP**AMCS 3283. Introduction to Public Health***Same as Anthro 3283.***A&S** SS**AMCS 3292. Modern South Asian Politics***Same as Pol Sci 3293.*

This course will focus on the recent political history and development of South Asia. It will begin with a review of the British colonial period and the Independence movement. The remainder of the course will examine different political issues in India, Pakistan, Bangladesh, and Sri Lanka. Topics will include political mobilization, land reform, law and politics, social movements, religious and caste politics, the rise of religious nationalism, and political control of the economy. Course web site:

<http://arts.wustl.edu/~polisci/parikh/asian/>

Credit 3 units.

**A&S** SS**AMCS 3293. Religion and Society***Same as Anthro 3293.***A&S** SS**AMCS 330. Topics in American Culture Studies: Exploring America, 1957***Same as E Lit 3301, History 3311, Pol Sci 3301.*

In contrast with our conventional understanding of exploration as a geographical adventure, the movement in this course will be in time. Taking one year as the focal point for study, in this case, 1957, we will read newspapers books, and magazines, watch TV, listen to speeches and music, go to the movies, and, in general, examine the documents we can recover from that period in an effort both to better understand American culture and to discover how such a large and nebulous subject might be studied. The work for this course will involve collaboration, with a division of materials and regular reports to the class concerning individual (or small group) areas of responsibility. Continuous participation is a requirement rather than an option. Credit 3 units.

**A&S** TH **FA** SSP**AMCS 3301. History of American Cinema***Same as Film 330.***A&S** TH **FA** AH**AMCS 3312. Gender and American Politics***Same as Pol Sci 331B.***A&S** SD, SS **FA** SSP**AMCS 3321. Topics in Politics: Constitutionalism and Democracy***Same as Pol Sci 3321.***A&S** SS**AMCS 3322. Brave New Crops***Same as Anthro 3322.***A&S** SS **FA** NSM**AMCS 3325. Topics in Politics: Constitutional Politics in the United States***Same as Pol Sci 3325.***A&S** SS **FA** SSP**AMCS 332B. Environmental and Energy Issues***Same as Pol Sci 332B.***A&S** SS **FA** SSP**AMCS 333. Topics in Politics: Women and the Law***Same as Pol Sci 333.***A&S** SS **FA** SSP**AMCS 3351. The Ancient Maya: Archaeology and History***Same as Anthro 3351.***A&S** CD, SS**AMCS 336. Topics in American Culture Studies***Same as History 3362.*

Topics courses in American Culture Studies are offered routinely and examine aspects of our culture from various disciplines and often through

multidisciplinary approaches. Courses previously offered include: 19th-Century American Indian Literature; Hurricane Katrina: A Case Study in Disaster and Relief; The History of Popular Culture in the United States; Mark Twain: Humor and Politics in 19th Century; and American Presidential Rhetoric. Courses are sometimes team-taught or combine community service with learning. Faculty includes WU professors, visiting scholars, community leaders, or advanced graduate fellows in American Culture Studies. Credit 3 units.

**A&S** TH**AMCS 3381. Topics in Politics: National Security, Civil Liberties, and the Law***Same as Pol Sci 3381.***A&S** SS **FA** SSP**AMCS 3383. Cognition and Culture***Same as Anthro 3383.***A&S** SS **FA** SSP**AMCS 3391. Topics in 19th- and 20th-Century American Writing: American Short Fiction***Same as E Lit 3391.***A&S** TH**AMCS 3402. The American Novel: Split and Hybrid American Identities***Same as E Lit 340W.***A&S** TH, WI**AMCS 3403. Social and Political Philosophy***Same as Phil 340F.***A&S** TH **FA** SSP**AMCS 341. Understanding the Evidence: Provocative Topics of Contemporary Women's Health and Reproduction***Same as WGSS 343.***A&S** SS**AMCS 3410. The Jewish People in America***Same as JNE 341.***A&S** TH**AMCS 3415. Jewish-Gentile Relations in the United States, 1830-1970***Same as JNE 3415.***A&S** TH**AMCS 342. The American Presidency***Same as Pol Sci 342.***A&S** SS **FA** SSP**AMCS 344. Courts and Civil Liberties***Same as Pol Sci 344.***A&S** SS **FA** SSP**AMCS 3441. Defendant's Rights***Same as Pol Sci 3441.***A&S** SS **FA** SSP**AMCS 3451. Issues in Applied Ethics: Section 01 only: Wilderness Studies***Same as Phil 345F.***A&S** TH **FA** SSP**AMCS 3460. Philosophy of Law***Same as Phil 346.***A&S** TH **FA** SSP**AMCS 3470. Gender and Citizenship***Same as WGSS 347.***A&S** TH, WI**AMCS 3472. Federalism and the Economics of Public Policy***Same as Econ 347W.***A&S** SS, WI **FA** SSP**AMCS 3475. Fantastic Archaeology***Same as Anthro 3475.***A&S** SS**AMCS 3490. Media Cultures***Same as Film 349.***A&S** TH

**AMCS 3501. Political Economy***Same as Econ 3501.*

A&amp;S SS FA SSP

**AMCS 351. History of Electronic Media***Same as Film 350.*

A&amp;S TH

**AMCS 3510. Topics in American Politics: The Supreme Court***Same as Pol Sci 3510.*

A&amp;S SS FA SSP

**AMCS 3541. The History of the American West Since 1848***Same as History 3541.*

A&amp;S TH

**AMCS 3562. The Art of the Novel***Same as E Lit 356.*

A&amp;S TH FA Lit

**AMCS 3563. Television Culture and Cult TV: Critical Approaches to Fandom***Same as Film 356.*

A&amp;S TH

**AMCS 358. Law, Politics, and Society***Same as Pol Sci 358.*

A&amp;S SS FA SSP

**AMCS 3581. Scribbling Women: 19th-Century American Women Writers***Same as WGSS 358.*

A&amp;S TH, WI FA Lit

**AMCS 3590. The American Musical Film***Same as Film 359.*

A&amp;S LA

**AMCS 3611. Legislative Politics***Same as Pol Sci 3610.*

A&amp;S SS

**AMCS 3612. Culture and Environment***Same as Anthro 361.*

A&amp;S SS FA SSP

**AMCS 363. The American Frontier: 1776–1848***Same as History 3632.*

A&amp;S SD, TH FA SSP

**AMCS 3651. Black Women Writers***Same as AFAS 3651.*

A&amp;S SD, TH

**AMCS 366. Civil War and Reconstruction***Same as History 366.*

A&amp;S SD, TH FA SSP

**AMCS 367. Modern America, 1877–1929***Same as History 367.*

A&amp;S TH FA SSP

**AMCS 368. Modern America Since 1929***Same as History 368.*

A&amp;S TH FA SSP

**AMCS 3680. The Cold War, 1945–1991***Same as History 3680.*

A&amp;S TH FA SSP

**AMCS 369. American Horrors***Same as Film 370.*

A&amp;S TH

**AMCS 370. The American West: The Image in History***Same as Art-Arch 370.*

A&amp;S CD, TH FA AH

**AMCS 3700. U.S. Social History in the Modern Era***Same as History 3700.*

A&amp;S SD, TH

**AMCS 3711. The History of Popular Culture in the United States***Same as History 3711.*

This course surveys major developments in the

history of popular culture in America, stretching from the mid-19th century to the present. It explores topics such as literature, drama/theater, dance halls, movies, radio, advertising, television, music, and the internet; it covers different types of popular culture such as printing, performance, image, and audio; it looks at how popular culture has been depicted in terms of icons, myths, stereotypes, heroes, celebrities, and rituals; it addresses the rise of mass production and consumption; it examines the ways in which race, class, gender, ethnicity, and sexuality have been perceived and are portrayed in popular culture; and it illustrates how the content of popular culture shapes and reflects our personal, social, political, and intellectual beliefs and values. Credit 3 units.

A&amp;S TH

**AMCS 3712. Art and Culture in America's Gilded Age***Same as Art-Arch 3712.*

A&amp;S TH FA AH

**AMCS 372C. History of Law in American Life II: 1776 to the Present***Same as History 372C.*

A&amp;S SD, TH FA SSP

**AMCS 373. Making War***Same as Film 371.*

A&amp;S TH

**AMCS 3730. History of the United States: Foreign Relations to 1914***Same as History 373.*

A&amp;S TH FA SSP

**AMCS 3731. Introduction to GIS for Anthropologists***Same as Anthro 373.*

A&amp;S SS

**AMCS 3741. History of U.S. Foreign Relations Since 1950***Same as History 3741.*

A&amp;S TH FA SSP

**AMCS 3754. Women in American History***Same as History 3752.*

A&amp;S SD, TH FA SSP

**AMCS 3755. Disability, Quality of Life, and Community Responsibility***Same as Ge St 375.***AMCS 376. American Modernism, 1900–1940***Same as Art-Arch 376.*

A&amp;S TH, WI FA AH

**AMCS 379. Banned Books***Same as E Lit 381.*

A&amp;S TH FA Lit

**AMCS 3790. Meltdown: Archaeology and Climate Change***Same as Anthro 379.*

A&amp;S SS

**AMCS 3800. Topics in Religious Studies: North American Religious Experience***Same as Re St 380.*

A&amp;S TH FA SSP

**AMCS 3820. Latin American Disseminations: Identities in the 20th and 21st Centuries***Same as IAS 382.*

A&amp;S SD, TH

**AMCS 3871. African-American Literature: Early Writers to the Harlem Renaissance***Same as E Lit 387.*

A&amp;S SD, TH

**AMCS 3882. Psychological Anthropology***Same as Anthro 3882.*

A&amp;S SS

**AMCS 3901. Taboo: Boundary and Transgression in American Cinema***Same as Film 390.*

A&amp;S TH

**AMCS 391. Topics in Women's Studies: Violence Against Women***Same as WGSS 393.*

A&amp;S SD, SS FA SSP

**AMCS 3910. History of Political Thought I: Justice, Virtue, and the Soul***Same as Pol Sci 391.*

A&amp;S SS

**AMCS 3920. History of Political Thought II: Legitimacy, Equality, and the Social Contract***Same as Pol Sci 392.*

A&amp;S SS

**AMCS 394. Urban Development and the Global Economy***Same as Pol Sci 394, URST 394.*

This course is designed to familiarize students with the urban effects of economic globalization and to provide students with tools that will enable them to engage in scholarly and practical debates on economic growth and the city. Students will be exposed to a variety of theoretical statements comparative studies, and case-specific research focusing on cities and the global economy. Topics include: industrial reorganization and its connection to the urban form, the ability of “dead” cities to adapt to economic change, how economic innovation is encouraged or suppressed within cities, growth coalitions and urban politics, networks and culture in relation to capitalist commitment to urban space, and the role of the arts and entertainment in new development vs. production-based paradigms. Credit 3 units.

A&amp;S SS

**AMCS 397. Gender and Sexuality in 1950s America: Writing-Intensive Seminar***Same as History 39F8.*

A&amp;S SD, TH, WI

**AMCS 3991. American Society and Culture: 1945–1991***Same as History 39G9.*

A&amp;S TH, WI

**AMCS 4000. Urban Education in Multiracial Societies***Same as URST 400.*

A&amp;S SS, WI

**AMCS 4001. Directed Study in American Culture Studies**

Directed study with an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 4002. Directed Study in Legal Culture**

Directed study with an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 4003. Advanced Research in American Culture Studies**

Directed study with an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 4004. Senior Honors Seminar in American Culture Studies**

This course is required for students seeking college honors through American Culture Studies.

Students will discuss research methods and make regular research reports both to the instructor and other students. Prerequisites: satisfactory standing as a candidate for senior honors (3.5 cumulative GPA) and permission of thesis director. Credit variable, maximum 3 units.

**AMCS 4005. Senior Honors Seminar in American Culture Studies**

This course is required for students seeking college honors through American Culture Studies. Students will discuss research methods and make regular research reports both to the instructor and other students. Prerequisites: satisfactory standing as a candidate for senior honors (3.5 cumulative GPA) and permission of thesis director. Credit variable, maximum 3 units.

**AMCS 401. Race, Sex, and Sexuality: Concepts of Identity**

*Same as WGSS 403.*  
A&S SD, SS FA SSP

**AMCS 4010. Pluralism, Liberalism, and Education**

*Same as Pol Sci 4010.*  
A&S SS

**AMCS 4011. Independent Study**

Independent study with an AMCS-affiliated faculty. All proposals for study must be submitted for review and approved by the AMCS adviser. See the AMCS web site for the appropriate form. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**AMCS 4022. Topics in Political Thought: Democratic Theory**

*Same as Pol Sci 402.*

**AMCS 4023. Models of Social Science**

*Same as PNP 4023.*

What distinguishes the social sciences from the natural sciences? What goals and assumptions do they share? Does studying “humans” with free will pose any problems for applying the methods of the natural sciences to the study of society? How do various social sciences—in particular anthropology, economics, and political science—differ from one another? And where did the social sciences (both the disciplines and the conceptual issues) come from historically? These are the animating questions of this course. This class will explore these questions in historical and contemporary perspective, as they relate to the rise of the social sciences as a set of academic disciplines. We will set out the theoretical structure of the scientific method paying particularly close attention to the relationships between theory and evidence, inference and hypotheses. Next we consider four problems and methods of the social sciences. These include questions of i) treating human beings as “rational actors”; ii) attributing causal forces other than a person’s own will to human behavior; iii) empirical observations and inference; and iv) the role of interpretation. In all four cases, we will be interested in asking: toward what solutions have these problems lead social scientists, and what other sets of difficulties do their solutions raise? We also will pay particularly close attention to the role that concepts play in social analysis. Credit 3 units.

A&S SS

**AMCS 403. Culture and History of the Southwestern United States**

*Same as Anthro 403.*  
A&S CD, SS FA SSP

**AMCS 4030. Political Theory of Education**

*Same as Pol Sci 4030.*  
A&S SS

**AMCS 4050. Topics in Political Thought**

*Same as Pol Sci 405.*

A&S SS FA SSP

**AMCS 4051. Political Representation**

*Same as Pol Sci 4050.*

A&S SS

**AMCS 407. Democracy and the Rhetorical Society**

The growth of democracy around the world has placed renewed focus on the practice of democracy and the conditions under which democracy can work effectively as a method of cooperation and decision-making. In this seminar, we will step back and reflect on what it means to communicate, interact, and govern together in a democratic society. With special emphasis on the role of rhetoric in democratic practice, we will study a variety of classic and contemporary texts to see what is at stake in making democracy work in the 20th century. Credit 3 units.

A&S TH

**AMCS 408. Gender in Contemporary Art**

*Same as Art-Arch 408.*

A&S SD, TH

**AMCS 4080. Voting Rights**

*Same as Pol Sci 4080.*

A&S SS

**AMCS 4101. Metropolitan Finance**

*Same as URST 4101.*

A&S SS

**AMCS 4135. Tobacco: History, Anthropology, and Politics of a Global Epidemic**

*Same as Anthro 4135.*

A&S SS

**AMCS 416. Rediscovering the Child: Interdisciplinary Workshops in an Urban Elementary School**

*Same as URST 416.*

This service-learning experience allows students to bring their knowledge and passion about their fields of study to elementary students at the Adams School in the city of St. Louis. Students will spend the first half of the semester together in studio classes on campus to learn the creative process of synthesizing variables. They will discuss readings and attend guest faculty lectures that expand their base of knowledge for designing curricular workshops for the children. Guest lectures will include faculty from various disciplines throughout the University, as well as the principal of the Adams School. Each student will work with the professor individually and in their team to design problem-solving, interdisciplinary workshops for first and second grades. During the second half of the semester students move on-site to Adams School. This course seeks students from all disciplines and schools. Credit 3 units.

A&S SS

**AMCS 4181. Studying the City: Approaches to Social Research**

*Same as URST 418.*

A&S SS

**AMCS 4201. Topics in English and American Literature: Henry James and His Contemporary Legacy**

*Same as E Lit 420.*

A&S TH FA Lit

**AMCS 4210. A Tale of Two Cities: Urban Form and Society in Chicago and St. Louis**

*Same as History 4214, URST 4210, Arch 4211.*

This interdisciplinary course will explore the changing forms of urban life in Chicago and St. Louis from the early 19th century through the present. Drawing on methods and sources em-

ployed by historians, geographers, planners, and designers, we will trace the ways urban spaces were produced, used, adapted, destroyed, replaced, and invested with multiple meanings. We will map the dynamic relationship between social life and the built environment, considering thematic links between topics including labor and housing, manufacturing and gender, public space, and ethnic identity. Credit 3 units.

A&S TH

**AMCS 422. Plants and American People: Past and Present**

*Same as Anthro 4213.*

A&S SS FA SSP

**AMCS 4231. Topics in American Literature I: American Women Writers and Modernism**

*Same as E Lit 4231.*

A&S TH FA Lit

**AMCS 4232. Slavery and the American Imagination**

*Same as E Lit 4232.*

A&S TH FA Lit

**AMCS 4242. Social Movements**

*Same as Anthro 4242.*

A&S CD, SD, SS FA SSP

**AMCS 4244. Topics in African-American Literature: Texts and Contexts of the Harlem Renaissance**

*Same as E Lit 4244.*

A&S TH FA Lit

**AMCS 4261. Politics of the Civil Rights Movement**

*Same as Pol Sci 426.*

A&S SD, SS FA SSP

**AMCS 4262. Racialization, Engendering, and Articulation: Theories of Identity Formation**

*Same as Anthro 4262.*

A&S SS

**AMCS 4280. History of Urban Schooling in the United States**

*Same as Educ 4280.*

A&S TH

**AMCS 4288. Higher Education in American Culture**

*Same as Educ 4288.*

A&S TH FA SSP

**AMCS 4289. Neighborhoods, Schools, and Social Inequality**

*Same as Educ 4289.*

A&S SS

**AMCS 4291. The American Renaissance**

*Same as E Lit 426.*

A&S TH FA Lit

**AMCS 4293. History and Social Theory**

*Same as History 4293.*

A&S TH FA SSP

**AMCS 4301. American Literature from 1855–1921**

*Same as E Lit 429.*

A&S TH FA Lit

**AMCS 431. Modernism and Post Modernism in American Literature**

*Same as E Lit 428.*

A&S TH FA Lit

**AMCS 4315. Culture, Language, and the Education of Black Students**

*Same as Educ 4315.*

A&S CD, SS FA SSP

**AMCS 4363. Sex, Gender, and Power**

*Same as Anthro 4363.*

A&S SS

**AMCS 441. In the Field: Ethnographic and Qualitative Methods***Same as URST 4411, Anthro 4452.*

This course provides an introduction to ethnographic and qualitative research. Ethnography is the study of culture and social organization through participant observation and interviewing. Ethnographers carry out their research by becoming a participant/observer, to varying degrees, in the social setting they wish to study. Ethnographic research provides interpretative and descriptive analyses of the routine practices of everyday life. Conducting ethnographic research in familiar settings requires that we “make the familiar strange” or make visible what otherwise are implicit and taken for granted aspects of social life. Ethnographic accounts represent different ways people live and make sense of their experiences and describe the types of social organization (for example, gender relations, class systems, racial divisions, or national contexts) that, in part, serve to structure or pattern social behavior. Credit 3 units.  
**A&S SS**

**AMCS 444. Seminar: Reality Theater***Same as Drama 445.***A&S LA****AMCS 4501. American Drama***Same as Drama 453.***A&S TH FA Lit****AMCS 4510. American Television Genres***Same as Film 451.***A&S TH****AMCS 452. Race, Ethnicity, and Culture: Qualitative Inquiry in Urban Education***Same as AFAS 4511.***A&S SD, SS****AMCS 4520. Industrial Organization***Same as Econ 452.***A&S SS FA SSP****AMCS 4521. Immigration, Identity, and New Technology***Same as IAS 452.***A&S SD, SS****AMCS 4522. Topics in American Politics: The Voting, Campaigns, and Elections***Same as Pol Sci 4522.***A&S SS FA SSP****AMCS 454. Environmental Policy***Same as Econ 451.***A&S SS FA SSP****AMCS 4551. Seminar in Political Economy***Same as Pol Sci 4551.***A&S SS****AMCS 456. Topics in American Politics: Supreme Court***Same as Pol Sci 451.***A&S SS FA SSP****AMCS 4563. Business, Government, and the Public***Same as Econ 456.***A&S QA, SS FA SSP****AMCS 457. American Film Genres***Same as Film 450.***A&S TH FA Lit****AMCS 4581. Major Film Directors***Same as Film 458.***A&S TH****AMCS 4584. Contemporary American Fiction***Same as E Lit 4584.***A&S TH****AMCS 4591. Philosophies of Education***Same as Educ 459F.***A&S TH FA SSP****AMCS 460. Urban Economics***Same as Econ 460.***A&S SS FA SSP****AMCS 4608. Education of Black Children and Youth in the United States***Same as Educ 4608.***A&S SD, TH, WI FA SSP****AMCS 461B. The Construction and Experience of Black Adolescence***Same as AFAS 461B.***A&S SS FA SSP****AMCS 462. Politics of Education***Same as Educ 462.***A&S SS FA SSP****AMCS 4620. Topics in English Literature II: Travel and Colonization in the Early Modern Period***Same as E Lit 462.***A&S SD, TH FA Lit****AMCS 4621. The Political Economy of Urban Education***Same as Educ 4621.***A&S CD, SS****AMCS 4712. History of Modern Social Theory II***Same as History 4712.***A&S TH****AMCS 472. American Art and Culture, 1945–1960***Same as Art-Arch 4721.***A&S TH****AMCS 4735. Modeling the Second World War***Same as History 4735.***A&S TH****AMCS 474. Americans and Their Presidents***Same as Pol Sci 4740, History 4742.*

How have Americans understood what it means to be President of the United States? This seminar uses that question as a point of departure for a multidisciplinary cultural approach to the presidency in the United States, examining the shifting roles of the chief executive from George Washington through George W. Bush. In addition to a consideration of the President’s political and policy-making roles, this course will examine how the lived experiences of presidents have informed the ways Americans have conceived of public and private life within a broader political culture. In the process, this course will use the presidency as a means to explore topics ranging from electioneering to gender, foreign policy to popular media. Readings will be drawn from a broad range of fields. Credit 3 units.  
**A&S TH**

**AMCS 475. American Culture: Traditions, Methods, and Visions***Same as E Lit 463, History 4752, AFAS 4606, AMCS 475.*

This course offers an introduction to the multidisciplinary study of American culture. The course aims to explore the means of relating or integrating the historical, literary, art-historical, popular-culture, and social-scientific study of American life, and to explore the problems inherent in this project. The course takes the form of an intensive seminar, requiring commitment to weekly readings, informed discussion, and critical writing. Credit 3 units.  
**A&S TH**

**AMCS 476. The City in American Arts and Popular Culture***Same as Art-Arch 475.***A&S TH FA AH****AMCS 4785. Art and Culture in 1920s America***Same as Art-Arch 4785.***A&S TH****AMCS 479. On Location: Exploring America***Same as AMCS 4790, Anthro 4179.*

Credit 3 units.

**AMCS 4792. Globalization and National Politics***Same as Pol Sci 4792.***A&S SS FA SSP****AMCS 4803. Geographic Information Systems (GIS), Landscape, and Spatial Analysis in Archaeology***Same as Anthro 4803.***A&S SS****AMCS 481. History of Education in the United States***Same as Educ 481.***A&S TH FA SSP****AMCS 4834. Health, Healing, and Ethics: Comparative Perspectives on Sickness and Society***Same as Anthro 4834.***A&S SS****AMCS 4851. Topics in American Jewish Studies***Same as JNE 4851.***A&S TH****AMCS 486. American Family Drama—Section 01 Only***Same as Drama 487.***A&S TH, WI FA AH****AMCS 4899. Seminar: Pathways to Domestication***Same as Anthro 489.***A&S SS FA SSP****AMCS 4908. Advanced Seminar: Women in the History of Higher Education and Professions***Same as Educ 440.***A&S SD, TH FA SSP****AMCS 4946. ‘The Federalist’ Papers—Ideas and Politics in the Creation of the American Republic***Same as History 4946.***A&S TH FA SSP****AMCS 4987. Advanced Seminar: Antislavery: The Legal Assault on Slavery in St. Louis***Same as History 4987.***A&S SD, TH****AMCS 4995. The Dred Scot Case and Its Legacy after 150 Years***Same as History 4995.***A&S TH**

# Anthropology

## Chair

**T. R. Kidder, Professor**  
Ph.D., Harvard University

## Endowed Professors

**John Baugh**  
Margaret Bush Wilson Professor in Arts & Sciences  
(African and African American Studies)  
Ph.D., University of Pennsylvania

**John R. Bowen**  
Dunbar–Van Cleve Professor in Arts & Sciences  
Ph.D., University of Chicago

**Pascal R. Boyer**  
Henry Luce Professor of Collective and Individual Memory  
Ph.D., University of Paris–Nanterre

**Richard J. Smith**  
Ralph E. Morrow Distinguished University Professor  
Ph.D., Yale University

**Erik Trinkaus**  
Mary Tileston Hemenway Professor in Arts & Sciences  
Ph.D., University of Pennsylvania

**James V. Wertsch**  
Marshall S. Snow Professor in Arts & Sciences  
Ph.D., University of Chicago

## Professors

**Lois Beck**  
Ph.D., University of Chicago

**David L. Browman**  
Ph.D., Harvard University

**Robert L. Canfield**  
Ph.D., University of Michigan

**James M. Cheverud**  
Ph.D., University of Wisconsin–Madison

**Glenn C. Conroy**  
Ph.D., Yale University

**David Freidel**  
Ph.D., Harvard University

**Gayle J. Fritz**  
Ph.D., University of North Carolina–Chapel Hill

**Fiona Marshall**  
Ph.D., University of California–Berkeley

**Jane Phillips-Conroy**  
Ph.D., New York University

**D. Tab Rasmussen**  
Ph.D., Duke University

**Carolyn Sargent**  
Ph.D., Michigan State University

**Glenn D. Stone**  
Ph.D., University of Arizona

**Robert W. Sussman**  
Ph.D., Duke University

**L. Lewis Wall**  
D.Phil., Oxford University  
M.D., University of Kansas

## Associate Professors

**Geoff Childs**  
Ph.D., Indiana University

**Bradley P. Stoner**  
M.D., Ph.D., Indiana University

## Assistant Professors

**Peter Benson**  
Ph.D., Harvard University

**Michael Frachetti**  
Ph.D., University of Pennsylvania

**Bret D. Gustafson**  
Ph.D., Harvard University

**Rebecca J. Lester**  
Ph.D., University of California–San Diego

**Derek Pardue**  
Ph.D., University of Illinois at Urbana–Champaign

**Shanti A. Parikh**  
Ph.D., Yale University

**Herman Pontzer**  
Ph.D., Harvard University

## Adjunct Associate Professor

**M. Priscilla Stone**  
Ph.D., University of Arizona

## Adjunct Assistant Professor

**Carolyn Lesorogol**  
Ph.D., Washington University

**Luis E. Zayas**  
Ph.D., University of Chicago

## Senior Lecturer

**John Kelly**  
Ph.D., University of Wisconsin–Madison

## Lecturer

**Darla Dale**  
Ph.D., Washington University in St. Louis

## Professors Emeriti

**Pedro C. Cavalcanti**  
Ph.D., University of Warsaw

**Stephen Molnar**  
Ph.D., University of California–Santa Barbara

**G. Edward Montgomery**  
Ph.D., Columbia University

**Patty Jo Watson**  
Edward Mallinckrodt Distinguished University Professor Emerita  
Ph.D., University of Chicago

**Murray Wax**  
Ph.D., University of Chicago

Anthropology offers you the opportunity to study human existence in the present and the past and to explore how and why humans vary in their behaviors, cultures, and biology. You will explore these in four subfields: archaeology, biological anthropology, socio-cultural anthropology, and linguistics.

Students choose to study anthropology because they want to understand some of the most intriguing and troubling issues faced by

modern society: the origin and meaning of ethnic and gender differences; the role of institutions in social, political, and economic life; learned vs. innate behavior; the similarities and differences among human societies; and the meaning of religion, community, and family.

When you major in anthropology, you may take classes as part of a general liberal arts education or as part of pre-professional training leading to graduate work. As an anthropology major, you take a wide range of courses in the humanities and in the social, behavioral, and natural sciences. Advisers work with you to plan a program of study that best suits your individual interests.

Anthropology faculty members bring a variety of research interests and teaching styles into the classroom. Faculty research expertise in archaeology includes the origins of food production, the cultures of prehistoric North and South America, geoarchaeology, geographic information systems (GIS), and African prehistory. Our biological anthropology faculty focus on the evolution of humans and on the ecology, behavior, and evolution of nonhuman primates. Our socio-cultural faculty conduct research on a wide variety of topics, including states, societies and beliefs; family, kinship, and social change; political ecology and demography; culture and health; bodies, gender, and sexuality; and communication, media, and cognition.

Studying anthropology prepares you for an exciting professional life after college. Anthropology complements the study of economics, foreign languages, political science, psychology, and social work; it provides a solid foundation for postgraduate work in medicine and public health, business, international studies, and law. Archaeologists may work in state or federal government-supported archaeological projects or museums. Physical anthropology complements premedical and pre-dental studies and physical and occupational therapy; it provides experience for work with primates in zoos or conservation agencies. Cultural anthropologists pursue, in addition to academic careers, careers in business, public health, law, diplomatic services, and nonprofit institutions.

The faculty in the Anthropology Department are active in research and bring a diversity of experiences to their teaching. In recent years, they have conducted research in Afghanistan, Bolivia, Brazil, Central Asia, China, the Czech Republic, Egypt, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran, Kazakhstan, Kenya, Madagascar, Mexico, Namibia, Nigeria, Peru, Poland, Portugal, South Africa, South Asia, Tibet, and Uganda, along with many sites in the United States.

**The Major:** As a student majoring in anthropology, you take at least 28 units in anthropology courses, of which 18 must be at the 300 level or higher, including at least 9 at the 400 level. Three units of 400-level independent study or Honors work may be applied to the upper-level requirements. You are required to take Anthro 397 (a one-unit course), 3700, and three introductory courses: 150A, 160B, and 190B.

Many anthropology majors choose to spend a semester or their entire junior year abroad. The Department of Anthropology has an exchange program with University College–London. You also may elect to spend one or more summers at local or international field schools. Research opportunities in archaeology and biological anthropology laboratories are also available. As an anthropology major, you have the opportunity to join Lambda Alpha, an active national anthropology honors society.

**The Minor:** You may choose to minor in anthropology, for which 18 units of study in anthropology are required, with at least 6 units from the introductory courses, Anthro 150A, 160B, 190B, and at least 9 units at the advanced level.

**Senior Honors:** As an anthropology major, you are encouraged to work for Senior Honors. Acceptance into the program is based on your previous academic performance and a proposal to a faculty member who agrees to supervise your Honors research. Senior Honors are awarded on the basis of your academic record and evaluation of the Honors thesis by a three-member faculty committee. You receive credit for work on the thesis by completing Anthro 4951 and 4961.

**Capstone:** The Department of Anthropology offers several options for those students wishing to complete a capstone experience, including writing an Honors thesis, completion of one of the specified research courses, or an individualized capstone project, planned with an anthropology faculty member.

## Undergraduate Courses

**Anthro 101. St. Louis 101: Life in a Global City**  
*Same as AMCS 106.*

This course is for incoming freshmen in the January Program only. This seminar introduces students to St. Louis through exploration of various facets of city life. The course also introduces different ways of asking questions about and interpreting urban issues (from history, anthropology, architecture, political science, and economics). We will consider how we might “engage” the city as students, researchers, and citizens. The course includes lectures, discussion, readings, field trips, and visits with public figures and local experts. Topics include history, identity, education, popular culture, religion, immigration, sports, urban and regional development, and city-region politics. Credit 3 units.

**A&S SS FA SSP**

**Anthro 130. The Ritual Landscape of Cahokia: Perspectives on the Politics of Religion and Chieftly Power**

*Same as AMCS 130, ARC 130.*

The purpose of this class is to engage and challenge freshman students in an open discussion about the prehistoric Mississippian community of Cahokia. The focus of this course is two-fold. The first is to study the way in which the archaeological evidence has been interpreted. The second is to examine other perspectives on Cahokia, especially from the Native American descendants who consecrated this landscape nearly a millennium ago. An underlying tenet of this seminar in understanding Cahokia can also be achieved through the traditions and literature of Native Americans. In the end, we want to understand the basis for Cahokia’s organization as a prehistoric Native American community, and the role that ritual and reli-

gion played in the rather dramatic and dynamic history of this community and the surrounding region. Credit 3 units.

**A&S SS FA SSP**

**Anthro 135. Ethnicity, Culture, and Politics: The Case of Tibet**

Geographic and political isolation, awe-inspiring landscape, and an esoteric religion have contributed to Tibet’s image as a place of mystery. In the 1950s, Tibet made a dramatic entrance in the modern world when China reasserted a longstanding claim of dominion. Thousands of Tibetans were led by the Dalai Lama to exile in India and Nepal. Political chaos followed, with Tibetan exiles and the Chinese state making counter-claims in a global propaganda war. This course will use the case study of Tibet to provide students with a perspective on historical and current interethnic conflicts. Students will consider the ways in which race and ethnicity are not politically neutral concepts but can be used to justify completely different political arguments and actions. The course will be of interest to students who plan to take additional work in political science or anthropology, or who have an interest in concepts of ethnic identity or in the history, politics, and religions of Central Asia. Credit 3 units.

**A&S SS FA SSP**

**Anthro 141. Medicine and Society**

This course provides the basic foundation in medical anthropology and cultural anthropology for students enrolled in the Medicine and Society Program. The purpose of the course is to introduce students to the central themes and theoretical approaches employed by medical anthropologists to study health and illness in cross-cultural perspective. Topical areas include analyses of disease, illness, and sickness at micro and macro levels; impact of personal and interpersonal factors on health; health effects of social, political, and economic factors; relationship of anthropology to biological and social science approaches; ecology of health and development; and cross-cultural health studies of language, gender, and race/ethnicity. Note: Content for this course overlaps with and replaces Anthro 160 for students enrolled in the Medicine and Society Program. Open only to students enrolled in the Medicine and Society Program. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 142. Medicine and Society**

This course is the required second-semester sequence of the introduction to medical anthropology and cultural anthropology for students enrolled in the Medicine and Society Program. The course builds upon material introduced in Anthro 141, and provides greater ethnographic context for the cross-cultural study of health and illness. Topical areas include analyses of disease, illness and sickness at micro and macro levels; impact of personal and interpersonal factors on health; health effects of social, political, and economic factors; relationship of anthropology to biological and social sciences approaches; ecology of health and development; and cross-cultural health studies of language, gender, and race/ethnicity. Credit 3 units.

**A&S CD, SD, SS FA SSP**

**Anthro 150A. Introduction to Human Evolution**

*Same as Anthro 150I.*

A survey of the fossil evidence for human evolution. The course includes discussion of the genetics of human variation and evolution, the study of living nonhuman primates, and the fossil record and its interpretation. An evolutionary perspective is used in an attempt to understand modern humans from the naturalistic point of view. Credit 3 units.

**A&S NS FA NSM**

**Anthro 160B. Introduction to Cultural Anthropology**

The basic concepts and theoretical principles of sociocultural anthropology. Case material from Asia, Africa, Melanesia, Latin America, and North America. Credit 3 units.

**A&S CD, SD, SS FA SSP**

**Anthro 167. Global Population Issues**

The objective of this course is to provide students with a broad overview of global population growth and its sociocultural, political, and economic ramifications. Prerequisite: This course is open to January Scholars Program students only. Credit 3 units.

**A&S SS**

**Anthro 168. Hurricane Katrina: A Case Study in Disaster and American Society**

*Same as AMCS 1680.*

This course examines the historical, societal, cultural, environmental, and political issues raised by the Hurricane Katrina disaster. Through exploration of scholarship from multiple disciplines, the course seeks to understand the complex issues of the disaster itself, as well as ongoing relief and rebuilding in the affected area. Credit 3 units.

**A&S SS FA SSP**

**Anthro 170D. Introduction to Linguistics**

*Same as Ling 170D.*

**A&S LA**

**Anthro 190B. Introduction to Archaeology**

*Same as ARC 190B, Art-Arch 190B, Anthro 190B, Anthro 190.*

A survey of the history, theory, and methods of archaeology. An emphasis on important problems and discoveries in world prehistory. Credit 3 units.

**A&S SS FA AH**

**Anthro 204B. Anthropology and the Modern World**

*Same as Anthro 204.*

What cultural anthropologists are learning about major issues of our time: cultures facing destruction, communal societies, sex roles, poverty, political repression in the Third World—sharpening the study of our own culture. Credit 3 units.

**A&S CD, SD, SS FA SSP**

**Anthro 209C. World Archaeology**

*Same as ARC 200C.*

**A&S CD, TH FA SSP**

**Anthro 2101. The Linguistic Legacy of the African Slave Trade in Interdisciplinary Perspective**

*Same as AFAS 210 and AMCS 2101.*

**Anthro 2151. Language, Culture, and Society**

*Same as Anthro 215.*

This course explores the relationships between linguistic practice and other social and cultural processes. Among the topics to be discussed are language and social identity, language and thought, language and gender, multilingualism, and language shift as well as the connections between language and the identity of ethnically or nationally defined communities. The course format will alternate between “classic” theoretical readings and ethnographic case studies on the interplay between linguistic practice and ideology as well as cultural and social processes. Credit 3 units.

**A&S SS FA SSP**

**Anthro 260. Topics in Health and Community**  
*Same as AMCS 260, Anthro 260.*

A survey of current topics in community health and medicine, with an emphasis upon social science approaches to issues affecting medicine and medical care in contemporary U.S. society. Issues include ethical debates in health care delivery, social stratification and health, access to health services, and factors affecting community wellness at

local, national, and global levels. Presented as a weekly series of topical presentations by community health experts from the St. Louis area. Required for students enrolled in the Medicine and Society Program, and also open to other interested students. Credit 1 unit.

**A&S SS**

**Anthro 290. Independent Study**

Designed to give undergraduates research experience in the various subdisciplines of anthropology. May be taken more than once for credit. Prerequisite: consent of the faculty member under whom the research will be done. Credit variable, maximum 3 units.

**Anthro 300. Internships in Anthropology**

Anthropology majors may acquire professional experience outside the classroom by participating in a faculty-sponsored internship. Before work begins, the student and faculty sponsor must agree on a final written project, which is then approved by the Anthropology Academic Coordinator. Students will be evaluated by the faculty sponsor on the basis of the written project and input from the internship supervisor. Course may only be taken one time. Prerequisites: 9 hours of anthropology and permission of department. Credit 3 units.

**Anthro 3051. Anthropology of Tibet and the Himalayas**

*Same as IAS 3053, East Asia 3051.*

This course is an anthropological and historical examination of Tibetan societies inhabiting the Tibetan Plateau and the highlands of Nepal. In addition to providing basic ethnographic descriptions of Tibetan societies, the course will explore the changing nature of relations between Tibet and China, and between Tibet and the West. Guiding concepts include adaptation (both social and ecological), the politics of ethnicity and identity, and processes of culture change. Credit 3 units.

**A&S SS**

**Anthro 3053. Nomadic Strategies and Extreme Ecologies**

*Same as ARC 3053, JNE 3053, EnSt 3053.*

This course will explore the archaeology and anthropology of nomadic pastoral societies in light of their ecological, political, and cultural strategies and adaptation to extreme environments (deserts, mountains, the arctic). The aim of the course is to understand both the early development of pastoral ways of life, and how nomads have had an essential role in the formation and transfer of culture, language, and power from prehistoric time to the current era. Credit 3 units.

**A&S SS FA SSP**

**Anthro 305B. Greater Central Asia in Crisis**

*Same as Anthro 305, IAS 3050, JNE 505B, JNE 305B.*

This course will focus on contemporary issues in the ex-Soviet republics of Central Asia and Iran, Afghanistan, and Pakistan, but it will also include extensive reading on the social history of the region, in order to enable understanding of the social dynamics at work. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 306B. Africa: Peoples and Cultures**

*Same as EnSt 306B, AFAS 306B, IAS 306B, Anthro 306.*

An anthropological survey of Africa from the classic ethnographies to contemporary studies of development. Emphasis on the numerous social and economic changes African peoples have experienced from pre-Colonial times to the present. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 307A. Human Variation**

*Same as Anthro 307, Biol 307A.*

A survey of human biological diversity, considering its adaptive and taxonomic significance from the perspective of origins and distribution of traits

and adaptation. Prerequisite: Anthro 150A or introductory biology. Credit 3 units.

**A&S NS, QA, SD FA NSM**

**Anthro 3092. Indigenous Peoples and Movements in Latin America**

*Same as LatAm 3092, IAS 3092, AMCS 3092, Anthro 3092.*

An overview of Amerindian peoples, cultures, and contemporary sociopolitical movements in core indigenous regions of Latin America (the Maya highlands of Mexico and Guatemala, and the Andes, Chaco, and Amazon of South America). Expressions of indigenous cultural, linguistic, and social difference are considered in relation to histories of European colonialism and modern Latin American nation-building. Emphasis is placed on current dimensions of indigenous demands for territorial, political, and cultural rights in the context of global economic development, natural resource exploitation, military violence, and legal recognition of ethnic pluralism in some Latin American nation-states. Credit 3 units.

**A&S CD, SD, SS**

**Anthro 3093. Anthropology of Modern Latin America**

*Same as AMCS 3093, IAS 3093, LatAm 3093.*

A survey of current issues in the anthropological study of culture, politics, and change across contemporary Latin American and the Caribbean. Topics include machismo and feminismo, the drug war, race and mestizaje, yuppies and revolutionaries, ethnic movements, pop culture, violence, multinational business, and the cultural politics of U.S.-Latin American relations. Attention will be given to the ways that anthropology is used to understand complex cultural and social processes in a region thoroughly shaped by globalization. Credit 3 units.

**A&S SS**

**Anthro 310C. Ancient Civilizations of the New World**

*Same as Art-Arch 311C, LatAm 310C, ARC 310C, IAS 3101, AMCS 3100, Anthro 310C.*

An examination of the Inca empire in Peru, and the Maya and Aztec empires in Mexico through the inquiry into the roots, development, form, and evolutionary history of pre-Columbian civilization in each region from its earliest times to the rise of the classic kingdoms. Examples of respective artistic accomplishments will be presented and discussed. Credit 3 units.

**A&S CD, TH FA AH**

**Anthro 3122. From Country to Heavy Metal: Ancient Civilizations of the Old World**

*Same as JNE 5122, JNE 3122, ARC 3122.*

This course will explore the archaeology of Europe, the Near East, and Central Asia from approximately 10,000 years ago to classical times (ending before Ancient Greece). This prehistoric epoch saw major developments among various civilizations of the Old World, such as the introduction of agriculture, animal domestication, the growth of cities, and technological developments such as pottery, metallurgy, and horse-riding. A major focus will be the trajectory of cultural innovations of regional populations through time, and the complexity of their social, political, and ritual practices. We also will investigate the variation in human adaptive strategies to various environmental and social contexts, from hunter/gatherers to early Neolithic farmers, to the interactions between nomadic populations and larger scale, urban societies in the Bronze and Iron Ages. Credit 3 units.

**A&S SS**

**Anthro 3133. Topics in Anthropology: HIV/AIDS in Africa**

*Same as AFAS 313.*

**A&S SS**

**Anthro 314B. First Americans: Prehistory of North America**

*Same as ARC 314B, AMCS 314.*

The predecessors of the Eskimo, Northwest Coast Indians, Pueblo mound builders, and other North American Indians. Concentrates on deductions from archaeological data for cultural development. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 3154. Indian Barbie, Asian Tigers, and IT Dreams: Politics of Globalization and Development in South Asia**

*Same as IAS 315.*

**A&S CD, SD, SS**

**Anthro 318C. The Prehistory of Africa**

*Same as AFAS 319C, ARC 318C.*

An overview of cultural development in Africa from approximately 2 million years ago until about 1000 AD.; focus on research and interpretive problems in a case-study approach to periods ranging from the earliest archaeological traces to the spread of Bantu languages. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 3201. Gender, Culture, and Madness**

*Same as WGSS 3201, AMCS 3201.*

This course will explore the relationships among gender constructs, cultural values, and definitions of mental health and illness. Understanding of the proper roles, sensibilities, emotions, and dispositions of women and men are often culturally and morally loaded as indicators of the "proper" selves permitted in a given context. Across cultures, then, gender often becomes an expressive idiom for the relative health of the self. Gender identities or presentations that run counter to these conventions are frequently identified as disordered and in need of fixing. In this course, we will take up these issues through three fundamental themes: the social and cultural (re)production of gendered bodies and dispositions; the normalization of these productions and the subsequent location of "madness" in divergent or dissonant experiences of embodiment; and the situation of discourses of "madness" within debates of resistance and conformity, selfhood and agency. Prerequisite: junior standing or permission of instructor. Credit 3 units.

**A&S SD, SS**

**Anthro 3206. Global Gender Issues**

*Same as WGSS 3206.*

**A&S CD, SS**

**Anthro 3254. Vote for Pedro: A Critical Look at Youth and Popular Cultures**

*Same as IAS 3254, LatAm 3254, URST 3254.*

Over the past decade, anthropologists have become increasingly wary of the importance of youth and popular cultures as a powerful field where people not only express themselves but also influence some of the basic tenets of society. While "pop life" is not exclusive to youth groups in terms of production and distribution, young people are the majority of consumers. In this course, we will examine popular Christianity in Brazil, Mexican street art, Japanese manga comics, American teenage fascination with the extraterrestrial, U.S. college sports fandom, various "white" hip-hop movements, alternative "girl" rock, and drug "cultures." These vibrant forms and practices are not homogenous, they vary across time and space. This course considers "the popular" in its broadest sense, giving us an opportunity to turn an anthropological lens onto the everyday life of teenagers and the seemingly flavor-of-the-month styles of the popular, while simultaneously opening up the discipline of cultural anthropology to appreciate the fast-paced montages and purposefully distorted sounds of consumerism and youth energy. Credit 3 units.

**A&S SS FA SSP**

**Anthro 3260. Race, Class and Gender: Cultural Readings of Brazil and Its Cities***Same as IAS 3260.***A&S SS****Anthro 3282. Sexuality in Africa***Same as AFAS 3282.***A&S CD, SS FA SSP****Anthro 3283. Introduction to Public Health***Same as AMCS 3283, Anthro 3283.*

This course provides a general introduction to the multidisciplinary field of public health, which aims to study and improve population and individual health and well-being. We will examine the philosophy, history, organization, functions, activities, and results of public health research and practice. This involves case studies of infectious and chronic diseases, mental illness, substance abuse, reproductive health, food safety and nutrition, environmental health, and family and community health issues. Students will be encouraged to think critically about health care systems and problems, health inequities, relationships between public health and clinical medicine, and health care delivery to diverse and vulnerable populations.

Credit 3 units.

**A&S SS****Anthro 3293. Religion and Society***Same as Anthro 3293, AMCS 3293, IAS 3293, Re St 3293.*

We will take a broad and practice-oriented view of religion, including uttering spells, sacrificing to a god, healing through spirit possession, as well as praying and reciting scripture. We will consider religious practices in small-scale societies as well as those characteristic of forms of Judaism, Islam, Christianity, and other broadly based religions. We give special attention to the ways religions shape politics, law, and war as well as everyday life in modern societies. Credit 3 units.

**A&S SS****Anthro 3303. Hurricane Katrina: A Case Study in Disaster, Relief, and Political Issues**

Credit 3 units.

**A&S SS****Anthro 3304. Bones to Behavior: Undergraduate Research in the Lab and at the Zoo***Same as ARC 3304.*

We will undertake zooarchaeological study of equid skeletons in the zooarchaeology laboratory at Washington University, and in collaboration with the St. Louis Zoo, participate in a behavioral study of the courtship and breeding behavior of the ancestor of the domestic donkey, the African wild ass. The research questions that we focus on are how the biology and behavior of the African wild ass influenced the domestication of the donkey by prehistoric African herders or ancient Egyptians and how the behavior of the African wild ass continues to affect prospects for conservation of this highly endangered animal. During the first half of the semester, we will meet once a week for 2.5 hours in the zooarchaeology laboratory on Mondays from 9–11:30 a.m. After spring break, or earlier if weather is above 40°F, we will no longer meet in the lab, and each student will spend 9–11 a.m. on two mornings of their choice per week at the St. Louis Zoo conducting observations of the wild ass. Students may choose two days that fit their schedule. Saturdays or Sundays are included as a possible choice of days. Permission of instructor is required. Credit 3 units.

**A&S NS****Anthro 3313. Women and Islam***Same as Re St 3313, JNE 3313, JNE 5313, WGSS 3323, IAS 3313.*

An anthropological study of the position of

women in the contemporary Muslim world, with examples drawn primarily from the Middle East but also from Asia, Africa, Europe, and the United States. Students will examine ethnographic, historical, and literary works, including those written by Muslim women. Topics having a major impact on the construction of gender include Islamic belief and ritual, modest dress (veiling), notions of marriage and the family, modernization, nationalism and the nation-state, politics and protest, legal reform, formal education, work, and westernization. The course includes a visit to a St. Louis mosque, discussions with Muslim women, and films.

Credit 3 units.

**A&S CD, SS FA SSP****Anthro 3322. Brave New Crops***Same as AMCS 3322, IAS 3322, EnSt 3322.*

This course introduces students to the major issues surrounding the development and use in genetically modified (GM) crops. Its focus is international, but with particular focus on the developing world. A variety of experts, available locally or through the internet, will contribute perspectives. The course also includes field trips. For further information, see

artsci.wustl.edu/~anthro/courses/3322. Credit 3 units.

**A&S SS FA NSM****Anthro 3351. The Ancient Maya: Archaeology and History***Same as ARC 3351, AMCS 3351.*

This course focuses on the ancient Maya civilization because there are many exciting new breakthroughs in the study of the Maya. The Olmec civilization and the civilization of Teotihuacan in the Valley of Mexico will be considered as they related to the rise and development of the Maya civilization. The ancient Maya were the only Pre-Columbian civilization to leave us a written record that we can use to understand their politics, religion, and history. This course is about Maya ancient history and Maya glyphic texts, combined with the images of Maya life from their many forms of art. The combination of glyphic texts, art, and archaeology now can provide a uniquely detailed reconstruction of ancient history in a New World civilization. Credit 3 units.

**A&S CD, SS****Anthro 3369. Underwater Archaeology***Same as ARC 3369.***A&S TH FA SSP****Anthro 3383. Cognition and Culture***Same as AMCS 3383, PNP 3383.*

This course examines the influence of evolved cognitive dispositions (the way natural selection engineered the human mind) on the transmission of cultural knowledge. Dispositions present from early childhood make certain kinds of cultural knowledge particularly easy to acquire, and therefore, culturally stable. We also consider the evidence for differences in cognitive processes triggered by different social environments. Emphasis is on empirical studies and experimental methods in the study of cultural similarity and differences. Prerequisite: Psych 100B, Anthro 160B, or permission of instructor. Credit 3 units.

**A&S SS FA SSP****Anthro 3404. Topics on Africa: Globalizing Africa***Same as AFAS 340C.***A&S SS****Anthro 3431. Text, Memory, and Identity***Same as IAS 343.***A&S TH****Anthro 3461. Native Americans at Westward Expansion***Same as ARC 3461, AMCS 3142.*

Issues precipitated by Euro-American contact, col-

onization, and expansion between 1492 and 1810 across Eastern North America, the Plains, and the Rocky Mountains. Impacts of exploration and settlement and responses by native peoples: epidemics; population loss; breakdown of Southeastern chiefdoms; resistance; relocation; and shifts in economic strategies. Perspectives and policies of Native Americans as well as Europeans and non-Indian Americans, including Lewis and Clark. Credit 3 units.

**A&S CD, SS FA SSP****Anthro 3475. Fantastic Archaeology***Same as AMCS 3475, ARC 3475.*

American popular culture is saturated with fictionalized and pseudoscientific accounts of archaeological discoveries and interpretations. Even respected newspapers and journals favor coverage of finds touted as “the earliest” of their kind, along with other studies bordering on the sensational. How can students of the past distinguish between fraud, fantasy, hype, and valid archaeological research? What potential merit do films, TV-oriented documentaries, and historical fiction offer? This course looks at the popular culture of archaeology, providing tools for critical evaluation as well as lifetime enjoyment of the field as it is frequently sold to both the informed and the unwary public. Credit 3 units.

**A&S SS****Anthro 347B. Ancient Mound Builders of the Mississippi Valley***Same as ARC 347B, Anthro 347.*

Study of the peoples in North America who built mounds and other earthen structures beginning more than 4,000 years ago; why they erected earthworks; what the structures were used for; how they varied through time and across space; and what significance they had to members of society. Credit 3 units.

**A&S CD, SS FA SSP****Anthro 3581. Principles of Human Anatomy and Development**

This is a course in human anatomy and development for students interested in biological anthropology, biology, and/or medicine. The lecture material will include evolutionary, functional, and clinical approaches to understanding anatomy. Lecture topics emphasize organizational and developmental principles of the organ systems of the human body. Exams will test visual identification of structures and clinical application of concepts discussed in class. Lectures will make extensive use of visual materials, including photographs of anatomical dissections, X-rays, CTs, and MRIs. All lecture materials will be made available online. Credit 3 units.

**A&S NS****Anthro 361. Culture and Environment***Same as URST 361, EnSt 361, AFAS 361, IAS 361, AMCS 3612.*

An introduction to the ecology of human culture, especially how “traditional” cultural ecosystems are organized and how they change with population density. Topics include foragers, slash-and-burn farming, intensive farming, warfare, population regulation, and sexual division of labor. Credit 3 units.

**A&S SS FA SSP****Anthro 3611. Population and Environment**

An examination of the consequences of human global population growth, from both anthropological and demographic perspectives. Included will be consideration of debates concerning the impact of population growth (the Malthusians vs. the technological optimists), an anthropological perspective on population regulation and agricultural intensification in pre-industrial societies, and the protection of endangered habitats by the creation of national parks. Credit 3 units.

**A&S SS**

**Anthro 3612. Population and Society**

*Same as IAS 3612, Anthro 3612.*

This review of population processes and their social ramifications begins with an introduction to the basic terminology, concepts, and methods of population studies, followed by a survey of human population trends through history. The course then investigates biological and social dimensions of marriage and childbearing, critically examines family-planning policies, deals with the social impacts of epidemics and population aging, and looks at connections between population movements and sociocultural changes. The overall objective of the course is to understand how population processes are not just biological in nature, but are closely related to social, cultural, political, and economic factors. Credit 3 units.

**A&S SS**

**Anthro 362. The Biological Basis of Human Behavior**

*Same as PNP 362.*

Infidelity, marriage customs, inner-city violence, infanticide, intelligence... Are the behavioral patterns we see genetically fixed and racially variable? What is the evolutionary and biological basis of human behavior? This course offers a critical evaluation of these from an anthropological perspective. Credit 3 units.

**A&S CD, NS, SD FA NSM**

**Anthro 3620. Anthropological Perspectives on the Fetus**

Where do we come from? How do we get here? When does "life" begin? Is the fetus a "person" or something else? How could we decide? This course will integrate biological, medical, philosophical, and cross-cultural perspectives to examine how various societies (including our own) understand the nature of the human fetus. The course will examine basic human embryology, beliefs about conception and fetal development, ideas about the moral status of the fetus, controversies surrounding prenatal care and antenatal diagnostic testing (including sex selection and genetic screening tests), current controversies about fetal medicine and surgery, and the problem of abortion in cross-cultural perspective. Credit 3 units.

**A&S SS**

**Anthro 3621. Anthropology of Human Birth**

This course will examine the interaction between human biology and culture in relation to child-birth. Emphasis will be placed on understanding the cultural challenges posed by the physiology of human reproduction, the ways various cultures have attempted to meet those challenges, and the resultant consequences that this has had for women's lives. The course will draw on material from human anatomy and embryology, paleoanthropology, clinical obstetrics, public health, social anthropology, the history of medicine, and contemporary bioethics. Credit 3 units.

**A&S SS**

**Anthro 3625. The Female Life-Cycle in Cross-Cultural Perspective**

This course will examine the biology of the female reproductive cycle—menarche, menstruation, and the menopause—and its cultural interpretation around the world. Topics covered will include the embryology of human sexual differentiation, the biology of the menstrual cycle and how it influences or is influenced by various disease states, contraception, infertility, cultural taboos and beliefs about menstruation and menopause, etc. The course will utilize materials drawn from human biology, clinical gynecology, ethnography, social anthropology, and the history of medicine and will examine the interplay between female reproductive biology and culture around the world. Credit 3 units.

**A&S NS**

**Anthro 3661. Primate Biology**

*Same as PNP 3662.*

This course takes a multifaceted introductory approach to the primates, the closest relatives of human beings, by investigating anatomy, growth and development, reproduction, behavioral adaptations, ecology, geographic distribution, taxonomy and evolution. Emphasis will be placed not only on the apes and monkeys, but also on the lesser-known lemurs, lorises, bushbabies, tarsiers, and many others. The importance of primate biology to the discipline of anthropology will be discussed. Intended for students who have already taken Anthro 150A, and recommended for students who wish to take the more advanced 400-level courses on primates. Prerequisite: Anthro 150A or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

**Anthro 3662. Primate Conservation Biology**

This class will focus on the ecological diversity of primates and how these and other traits are related to their present-day abundance and distribution. In addition, the biological, abiotic, and anthropogenic factors related to extinction risk will be examined. It also will review the endangered species of primates, case histories of conservation programs, and management practices in Asia, Africa, South America, and Madagascar. Prerequisite: Anthro 150 or Biol 2970 or permission of instructor. Credit 3 units.

**A&S NS**

**Anthro 367. Paleoanthropology**

The prehistoric Pliocene and Pleistocene evidence for human emergence and evolution. The emphasis will be on the human fossil record and its interpretation in functional and behavioral terms. This will be placed in the context of the Paleolithic archaeological record and issues regarding the biological relationships between various human groups. Prerequisite: Anthro 150 or equivalent. Credit 3 units.

**A&S NS**

**Anthro 3681. Language and Society in Africa**

*Same as AFAS 368.*

**A&S SS**

**Anthro 3691. Kill Assessment: An Investigation into Death, Genocide, and Other Forms of Violence**

*Same as IAS 3691.*

Is violence best understood as a set of "random acts" marginal to society? Or, do societies need violence to make culture systematic and hierarchy functional? This course is not about the psychology of individual pathology; rather, we will think about violence as a potential category of culture. We will address two major issues throughout this course. First, we will discuss different types of violence: physical/material violence and symbolic violence. Second, we will become familiar with ways that social groups turn violence into an aesthetic object and an artistic project. To accomplish our task, we will take both an ethnographic and theoretical approach, so that we may better ground our understanding of violence in various people's everyday experiences as well as develop a broader, more complete idea of what violence entails. Specific readings include the following topics: U.S. and Brazilian hip-hop; Puerto Rican reggaeton; video games; contemporary Latin American plastic arts; U.S. hate crimes; rape; other forms of domestic violence; violence against "workers" in Latin America; genocides in Rwanda, Guatemala, and Armenia; drug lords in Rio de Janeiro, Los Angeles, and Mogadishu, Somalia; and the legality of lethal injections in capital punishment in the U.S. Credit 3 units.

**A&S SS**

**Anthro 3697. Culture and Aging**

*Same as Anthro 3697, Psych 3697.*

This course provides an anthropological perspective on cultural and societal responses to the worldwide increase in numbers and proportions of longer-living adults. It also examines the experience and meaning of growing older within various cultural contexts. We will consider the impact of culture on a number of aging-related areas including: the demography of global aging; conceptualizations of the life course; processes of human development as reflected in life histories of persons from diverse cultures; definitions of "successful aging"; biological anthropology and aging; family and intergenerational relationships; health beliefs and perceptions of health and frailty; health care systems; perceptions and treatment of late-life cognitive decline; gender differences; gerontechnology; globalization and aging; and end-of-life issues. Prerequisites: two cultural anthropology courses, one anthropology course, and one aging-related course, or instructor's written permission. Credit 3 units.

**A&S SS**

**Anthro 3700. The Works and Ideas of Great Anthropologists**

A survey of major theories and paradigms in anthropology; emphasis is on approaches taken by sociocultural anthropologists in analyzing and explaining features of societies and cultures, including evolutionary theories, comparative methods, interpretive approaches, and ecological accounts. Required of all majors. Students considering a junior year abroad should enroll sophomore year. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 372. Geoarchaeology**

*Same as ARC 372.*

Geoarchaeology involves the application of analytical techniques, concepts, and field methods from the earth sciences to help solve archaeological problems. Issues explored in this course include human and environmental processes involved in archaeological site formation, the sedimentary context of archaeological remains, soils and sediments relevant to archaeology, the relationship between past settlement and landscape evolution, paleoclimatic reconstruction, human impacts on the environment, geological sourcing of artifact proveniences, and remote sensing of the physical environment. Several field trips to local archaeological/geological sites provide an opportunity to understand how geoarchaeology is applied to specific research problems. Credit 3 units.

**A&S SS**

**Anthro 373. Introduction to GIS for Anthropologists**

*Same as ARC 373, AMCS 3731.*

Use of GIS is rapidly becoming standard practice in anthropological research. This course will introduce students to the basic theories and techniques of GIS. Topics will include the application of GIS in archaeological survey and ethnographic research, as well as marketing, transportation, demographics, and urban and regional planning. This course will enable students to become familiar not only with GIS software such as ArcGIS, but also the methodologies and tools used to collect and analyze spatial data. Credit 3 units.

**A&S SS**

**Anthro 379. Feast or Famine: Archaeology and Climate Change**

*Same as AMCS 3790, EnSt 379, ARC 379.*

This course examines the temporal, geographical, and environmental aspects of past climate changes, and by using specific examples, explores how climate changes may have affected the evolution of human culture and the course of human history. Archaeological and documentary exam-

ples from the Americas, Africa, Asia, Europe, and the Near East will be used to explore if or how significant events in human history have been influenced by changes in climate. Credit 3 units.  
**A&S SS**

**Anthro 3793. Mississippi River Basin: Past, Present, and Future**

*Same as ARC 3793, EnSt 3793.*

Interdisciplinary study of the past, present, and future of the Mississippi River Basin. Using lectures, guest presentations, and field trips, the course provides a broad overview of the important natural, historical, social, cultural, and environmental issues surrounding the Mississippi River and its tributaries. We encourage an understanding and appreciation of the river from a holistic perspective. An emphasis in the course is on experiential learning, or "out-of classroom" field trips, where students have the opportunity to see first-hand important issues related to the Mississippi River, its environment, culture, and the historic changes wrought upon the river, and their effects. The class meets once a week; classes will include some combination of lecture, presentations by guest speakers, or field trips. During spring break, we will take a field trip down the Mississippi River to the Gulf of Mexico (students will be charged an extra fee for this field trip). Credit 4 units.

**A&S SS**

**Anthro 3831. Reading the Scores: Understanding Brazilian Music through Social Categories**

*Same as IAS 383.*

**A&S SS, WI**

**Anthro 387. Medical Anthropology**

The comparative study of non-Western medical systems. The definitions of health and disease, the kinds of treatment and varieties of practitioners in other cultures, e.g., Navaho, India, China. Credit 3 units.

**A&S SS**

**Anthro 3873. Human Energetics and Physiology**

A survey of human physiology, with a focus on energetics. Introductory lectures will focus on the importance of energetics in biology and evolution. We then explore basic human physiology, including growth and development, neurophysiology, respiration, digestion, locomotion, and reproduction, investigating both how these processes work, and how they fit into the evolved human strategy for growth, survival, and reproduction. Prerequisite: Anthro 150A or permission of instructor. Credit 3 units.

**A&S NS**

**Anthro 3882. Psychological Anthropology**

*Same as AMCS 3882.*

The objective of this course is to introduce students to the central topics and methods of psychological anthropology. Psychological anthropology is concerned with the interplay of psychology and culture on both the individual and group levels. We will look cross-culturally at such topics as child and adolescent development, religious experience, illness and healing, self and identity, gender and sexuality, reasoning and symbolism, and psychopathology. This class draws upon a range of sources, including ethnographies, psychoanalytic theory, contemporary critical theory, and cross-cultural materials. Credit 3 units.

**A&S SS**

**Anthro 393. Introduction to Archaeological Field Techniques**

*Same as ARC 393, AMCS 493.*

Introduction to archaeological fieldwork. Includes a variety of techniques employed by archaeologists, the underlying purpose of excavations, and

the manner in which they are used to explore past societies. Field mapping and testing an archaeological site near Cahokia Mounds links this project to ongoing excavations with other institutions and relates it to the Redefining Cahokia project. Credit 6 units.

**A&S SS FA SSP**

**Anthro 3932. An Introduction to Archaeological Site Survey**

*Same as ARC 3932.*

The study and interpretation of the archaeological record begins in most instances with an archaeological survey. The purpose of this course is to provide students with an introductory level, hands-on experience to archaeological survey as practiced in eastern North America. This involves an introduction in the field to the various methods employed in the identification and mapping of archaeological sites. Students will spend Saturdays in the field mapping and recording archaeological sites including the mapping of monumental earthworks such as those at the prehistoric site of Cahokia or nearby mound centers. Credit 3 units.

**A&S SS FA SSP**

**Anthro 397. Proseminar: Issues and Research in Anthropology**

Designed to introduce the student to current issues in Anthropology and to research being carried out by faculty. Topics vary each year. Each departmental member addresses issues in his/her particular specialty. Required of all majors; may be taken before declaring major and may be taken by non-majors. Credit 1 unit.

**A&S SS FA SSP**

**Anthro 399. Undergraduate Teaching Assistant**

Open to advanced undergraduates only. Usual duties of teaching assistant in laboratory or other selected courses. Prerequisite: permission of instructor. Credit 3 units.

**Anthro 3999. Class Mentor**

Classroom instructional assistance through mentoring activities assigned by instructor. Limited to advanced undergraduates only. Permission of instructor required. Credit variable, maximum 3 units.

**FA SSP**

**Anthro 401. Evolution of Non-Human Primates**

Discussion and analysis of primate evolution with emphasis on comparative and functional anatomy and primate paleontology. Prerequisite: permission of instructor. Credit 3 units.

**A&S NS FA NSM**

**Anthro 4021. The Meaning of National Security in the 21st Century**

*Same as IAS 402.*

**A&S SS**

**Anthro 403. Culture History of the Southwestern United States**

*Same as ARC 403, AMCS 403.*

Origins and development of Zuni, Hopi, Navaho, and related peoples with reference to archaeological, ethnohistorical, and ethnographical data. Prerequisites: advanced undergraduate standing and Anthro 190BP or 310C, graduate standing, or permission of instructor. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 4041. Islam and Politics**

*Same as JNE 4041, IAS 4041.*

Blending history and ethnography, this course covers politics in the Islamic world in historical and contemporary times. Topics include history of Islam, uniformity and diversity in belief and practice (global patterns, local realities), revolution and social change, women and veiling, and the international dimensions of resurgent Islam. Geographical focus extends from Morocco to Indonesia; discussion of other Muslim communities is in-

cluded (Bosnia, Chechnya, sub-Saharan Africa, U.S.) Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 4042. Islam Across Cultures**

*Same as Re St 4042, JNE 404, IAS 4042.*

In this seminar, we examine the variety of historical and contemporary ways of interpreting and practicing Islam, with special attention to issues of ritual, law and the state, and gender. Cases are drawn from Asia, Europe, Africa, and the Middle East, and students engage in fieldwork or library research projects. Credit 3 units.

**A&S CD, SS FA SSP**

**Anthro 4044. The Politics of Secularism**

*Same as IAS 4044, History 4044.*

Secularism is broadly understood as the separation of religion and politics; the West is thought to be secular, the non-West (and especially the Muslim world) decidedly less so. This course asks what exactly secularism is by examining it both as a political doctrine and a practice of government. Some questions we will consider include: What are the conceptual origins of the doctrine of "separation of church and state" on which most Western liberal democracies are based? What notion of religion is necessary for secular governance? What is the relationship of the secular to particular discourses of citizenship and practices of political rule? What forms of moral and political inclusion and exclusion does secularism enact? To answer these questions, we will consider a series of historical and contemporary case studies, including the effects of colonial rule on religious and political life in South Asia; Jewish emancipation in Germany and France; secularism in France and the United States; and the recent emergence of and responses to Islamic movements in the Middle East and Europe. Credit 3 units.

**A&S SS**

**Anthro 406. Primate Ecology and Social Structure**

*Same as PNP 406.*

Survey of the ecology, individual and social behavior, adaptations, and interactions of the major groups of primates. Emphasis on studies designed to examine the relationships among ecology, morphophysiology, and behavior. Methods used in collecting data on primates in the field. Prerequisite: Anthro 150A or one 100-level biology course. Credit 3 units.

**A&S NS FA NSM**

**Anthro 4091. Sexuality, Gender, and Change in Africa**

*Same as AFAS 409.*

**A&S SD, SS, WI FA SSP**

**Anthro 4112. Body and Flesh: Theorizing Embodiment**

*Same as WGSS 4112.*

This seminar explores a wide range of readings on the body as a site of theoretical analysis in social scientific and humanistic inquiry. Issues include: How do we think about the body as simultaneously material (flesh and bone) and constructed in and through social and political discourse? How do we think about the relationship between these contingent bodies and subjective experiences of "self" in various contexts? The course focuses upon the different ways in which these questions have been posed and engaged, and the implications of these formulations for the theorizing of human experience. Prerequisite: Anthro 3201 or permission of instructor. Credit 3 units.

**A&S SS**

**Anthro 4113. Advanced Psychological Anthropology**

This seminar examines the intersection of psychological and anthropological theories and methods and their utility in the study of culture and human experience. This course is an in-depth exploration

of some of the key theorists and theoretical domains that have defined the field of psychological anthropology and beyond, including Bakhtin, Bateson, Chodorow, D'Andrade, Ewing, Freud, Goffman, Hallowsell, Holland, Irigaray, Kleinman, Kohut, Lacan, Lutz, Rosaldo, Strauss, Sapir, Scheper-Hughes, and Vygotsky, among others. By the end of the course, students will have a solid grounding in linguistic, psychoanalytic, cognitive, symbolic, developmental, interactionist, and critical approaches within psychological anthropology. Prerequisite: At least one of the following—Anthro 3201, Anthro 3882, graduate standing, or permission of instructor. Credit 3 units.

**A&S SS**

#### **Anthro 412. Sociolinguistics: Ethnography of Communications**

*Same as Ling 412.*

How language interaction conveys subtle information about social situations and how purposes, motivations, sentiments, and communication networks influence the structure of language and speech. Prerequisite: 3 units of social science. Credit 3 units.

**A&S SS FA SSP**

#### **Anthro 4123. Argumentation Through Ethnography**

Ethnography is the traditional mainstay of anthropological academic writing. Through ethnography, anthropologists do more than simply describe a culture or a group of people; rather, they organize and present their field materials in particular ways in order to make intellectual, theoretical, and sometimes even political arguments. This seminar will explore the different ways anthropologists have used ethnography to make intellectual claims and frame theoretical or practical arguments. The aim of the course is to help students develop critical reading skills for engaging ethnographic materials as well as to explore the ways in which ethnography, when done well, can be a persuasive and engaging means of academic argumentation. This course is intended as a sequel to Anthro 472. Prerequisite: Anthro 472 or permission of instructor. Credit 3 units.

**A&S SS**

#### **Anthro 4134. The AIDS Epidemic: Inequalities, Ethnography, and Ethics**

*Same as IAS 4134, AFAS 4134, WGSS 4134, URST 4134.*

In the year 2000, HIV became the world's leading infectious cause of adult death, and in the next 10 years, AIDS will kill more people than all wars of the 20th century combined. As the global epidemic rages on, our greatest enemy in combating HIV/AIDS is not knowledge or resources, but global inequalities and the conceptual frameworks with which we understand health, human interaction, and sexuality. This course emphasizes the ethnographic approach for cultural analysis of responses to HIV/AIDS. Students will explore the relationship between local communities and wider historical and economic processes, as well as theoretical approaches to disease, the body, ethnicity/race, gender, sexuality, risk, addiction, power, and culture. Other topics covered include the cultural construction of AIDS and risk, government responses to HIV/AIDS, origin and transmission debates, ethics and responsibilities, drug testing and marketing, the making of the AIDS industry and risk categories, prevention and education strategies, interaction between biomedicine and alternative healing systems, and medical advances and hopes. Credit 3 units.

**A&S SD, SS**

#### **Anthro 4135. Tobacco: History, Anthropology, and Politics of a Global Epidemic**

*Same as AMCS 4135.*

This course examines tobacco's important role in shaping the modern world over the course of the

past five centuries, from indigenous uses of tobacco in the New World to the politics of smoking in the 20th century. Through in-depth historical and anthropological case studies, tobacco provides a window onto broad trends in government, law, economy, and society, including changing social meanings of gender, race, individualism, risk, responsibility, and health in the United States and worldwide. No background in anthropology is required. Credit 3 units.

**A&S SS**

#### **Anthro 4179. On Location: Exploring America**

*Same as AMCS 479.*

#### **Anthro 4182. Field and Laboratory Methods in Primatology**

This seminar will focus on ethological, ecological and biological data collected on wild primate populations, the questions they address and their methods of analysis. The focus will be on primate behavioral and biological monitoring, emphasizing hands-on techniques and practical applications. Credit 3 units.

**A&S NS FA NSM**

#### **Anthro 419. Primate Behavior**

*Same as PNP 4190.*

Discussion and analysis of recent research on the social behavior of nonhuman primates. Data from both field and laboratory study. Prerequisite: Anthro 406 or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### **Anthro 4191. Primate Cognition**

*Same as PNP 4192.*

This course will investigate historical and current views regarding the cognitive capacities of non-human primates, and the extent to which these abilities are shared with humans. Topics for this class will include: social cognition, problem-solving, tool use, culture, communication, theory of mind, deception, self-recognition, imitation, and numerical cognition. The classes will involve discussion and critical evaluation of theory and methods in this challenging and exciting area of primate cognitive research. Credit 3 units.

**A&S NS**

#### **Anthro 4202. Evolutionary Genetics**

*Same as Biol 4202.*

This course will examine the principles of evolutionary genetics as applied to complex characters such as morphology, behavior, life history, and disease. Mathematical models of quantitative inheritance and evolution will be discussed. Special topics include kin selection, sexual dimorphism, and conservation genetics. Prerequisite: Anthro 150A or introductory biology. Credit 3 units.

**A&S NS FA NSM**

#### **Anthro 4211. Paleoethnobotany and Ethnobotany**

*Same as ARC 4211.*

Interrelationships between plants and people, especially in past societies. Recovery and analysis of plant remains from archaeological sites; interpreting subsistence and vegetation changes; medicinal, ritual, and technological uses of plants; plant domestication and agricultural intensification. Modern efforts to understand and preserve threatened traditional ethnobotanical practices. Prerequisite: Anthro 190BP or an introductory botany course or permission of instructor. Credit 3 units.

**A&S SS, WI FA SSP**

#### **Anthro 4212. Advanced Methods in Paleoethnobotany**

Advanced analytical techniques for the study of archaeological plant remains. Tools and methods for micromorphological recognition, including electron microscopy. Photomicroscopy at low magnification, management, tabulation, and reporting of data. Prerequisite: Anthro 4211 or permission of instructor. Credit 3 units.

**A&S SS FA SSP**

#### **Anthro 4213. Plants and American People: Past and Present**

*Same as AMCS 422, ARC 4213.*

This interdisciplinary course examines the relationship between plants and the American people. Topics include the natural diversity of plants used by Native Americans for food, fiber, and medicine; the significance of plants in the Columbian Exchange for the history of the U.S. and the economies of the Old World; Native American and Euro-American farming practices; modern agribusiness including transgenic crops; and the modern conservation movement in the United States. Several optional Saturday field trips are planned, in addition to a five-day field trip to the Southwest over spring break. Prerequisite: junior standing or above. Credit 3 units.

**A&S SS FA SSP**

#### **Anthro 4214. The Archaeology of Food and Drink**

*Same as ARC 4214.*

Studies of past human diets have moved beyond analyses of animal bones and seeds to encompass new theoretical goals and innovative analytical techniques. In this seminar-style course, students will explore methods of understanding food-related social interactions such as evidence including residues, ancient DNA, isotopes, and trace elements, along with more traditional artifacts and archaeobotanical and zooarchaeological remains. By examining case studies from around the world, we evaluate the current state of research attempting to integrate the biological and cultural aspects of eating and drinking. Credit 3 units.

**A&S SS**

#### **Anthro 4221. Biological Basis of Human Behavior**

Graduate-level equivalent of Anthro 221B. Students enrolled in Anthro 4221 will be required to write a term paper. Credit 3 units.

**A&S NS FA NSM**

#### **Anthro 4242. Social Movements**

*Same as IAS 4242, AMCS 4242.*

How do people change the world? They organize. Social movements mobilize to change (or defend) cultural meanings and political and economic relations. This course examines movements ranging from jihadists to anti-abortionists to inner-city activists to transnational environmentalists. We compare movement origins, strategies, and effects. We ask how power and meaning are intertwined in political action and in people's understandings of themselves, how violence and other tactics work as meaningful political instruments, and why social movements are challenging formal politics around the world today. Anthropological approaches to global disjunctions between democracy and violence are at the core of our course. Credit 3 units.

**A&S CD, SD, SS FA SSP**

#### **Anthro 4243. 'Terrorism' and 'The Clash of Civilizations'**

*Same as IA 4243, Anthro 4243, IAS 4243, JNE 4243.*

This course is about conflicts in which violent means are deployed and moralistic terms are invoked so as to give legitimacy to such means. The code words in the title are in quotes in order to emphasize they are used in public discourses rhetorically, for political effect. When particular social situations are disputed, each side deploys moralistic claims so as to clothe their actions and viewpoint with an aura of legitimacy and to enlist popular support. But when issues are contested, similar terms can be used by opposing sides with similar but contrary intents: one person's "terrorist" is another person's "freedom fighter"; and note that certain radical Islamist groups specifi-

cally embrace Huntington's notion of the "clash of civilizations" (formulated for Western audiences) as grounds for their anti-Western posture. Rhetorical formulae such as these are promoted or scorned, embraced or renounced, for essentially strategic reasons. In this course, we examine some notorious situations of conflict in order to identify the particular ways that disputing sides have deployed violence and moralistic forms in their own interest—as when popular movements arise and clash with state power (e.g., the Tiananmen Square incident in China) or when coalitions with radical social agendas take form and brutalize neighbors (as in Yugoslavia in 1992, Rwanda in 1994) or when widely supported public movements develop seemingly without coordination (the 2006 demonstrations against the King of Nepal), or when movements animated by a shared ambition to establish a non-statal political entity (such as Al Qaeda for the reinstatement of the caliphate) form across state boundaries with little coordinated leadership. Our emphasis will fall on the ways that human collectivities deploy cultural forms—linguistic and rhetorical, artistic and representational—to give particular "readings" to social issues and to clothe activities (often brutal) with an appearance of legitimacy. Credit 3 units.

**A&S** CD, SS

#### **Anthro 4253. Researching Fertility, Mortality, and Migration**

*Same as IAS 4253.*

Students will undertake research projects centering on the most fundamental demographic processes—fertility, mortality, and migration. The first section covers basic demographic methodology so that students understand how population data is generated and demographic statistics analyzed. Course readings will then include seminal theoretical insights by anthropologists on demographic processes. Meanwhile, students will work toward the completion of a term paper in which they are expected to undertake some original research on a topic of their choice (e.g., new reproductive technologies; cross-cultural adoption; ethnicity and migration). Each assignment in this course will be a component of the final term paper. Credit 3 units.

**A&S** SS, WI

#### **Anthro 4262. Racialization, Engendering, and Articulation: Theories of Identity Formation**

*Same as AMCS 4262, IAS 4262, URST 4262.*

This course is an opportunity for upper-level undergraduate and graduate students to explore theoretical and ethnographic texts, which focus on the social categories of race, class, and gender. The purpose of this course is to interrogate our understanding of the *meaning* of such human variables across time and space. As the course title implies, we will approach race, gender, and class as processes, and this requires that we focus on their historical and cultural peculiarities. This course asks students to move conceptually from the era of European colonialism and the invention of the modern conception of "race" to the U.S. Civil War period to the ascension of negritude as well as contemporary times. In a complementary fashion, to assert that, in fact, race, gender, and class do matter, requires students to investigate the diversity and complexity in various places, such as Brazil, Argentina, Martinique, South Africa, and the United States. Credit 3 units.

**A&S** SS

#### **Anthro 4282. Political Ecology**

*Same as IAS 4282.*

An exploration of how the interactions between culture and environment are mediated by local, national, and global politics. Topics include "overpopulation," agricultural intensification, Green Revolution, biotechnology, corporate agriculture,

green movements, and organic farming. Each student prepares an in-depth research paper that may be presented to the class. Prerequisite: graduate standing, Anthro 361, or permission of instructor. Credit 3 units.

**A&S** SS **FA** SSP

#### **Anthro 4321. History of Physical Anthropology**

The history of physical (or biological) anthropology traced from Darwin's time to the present. Factors that influenced major theories and subfields of physical anthropology discussed along with current directions. Credit 3 units.

**A&S** SS **FA** SSP

#### **Anthro 4322. Brave New Crops**

This is a graduate-level version of Anthro 3322. Credit 3 units.

**A&S** SS

#### **Anthro 434. Behavioral Research at the St. Louis Zoo**

Students conduct research at the St. Louis Zoo.

Training in designing of projects and analysis and interpretation of data. May be repeated for credit. Prerequisite: permission of instructor. Credit variable, maximum 6 units.

**A&S** NS, WI **FA** NSM

#### **Anthro 4362. Local Genders, Global Transformations**

*Same as WGSS 4362, IAS 4362.*

This course examines the dynamic relationship between gender and other social, economic, biological, and political processes. The course compares a variety of theoretical frameworks proposed by anthropologists, as well as Foucault, Butler, Carby, Laquer, and Engels. Using ethnographic and historical materials, students will explore how shifts in communities' notions of gender, femininity, and masculinity are connected to larger forces, including shifts in the marketplace, global cultural flows, reproductive and sexual technologies, social movements, racial and ethnic hierarchies, international declarations, and HIV/AIDS and STDs. The course also considers ways in which gender studies and feminism have influenced anthropology. Prerequisite: Anthro 160B or permission of instructor. Credit 3 units.

**A&S** SS **FA** SSP

#### **Anthro 4363. Sex, Gender, and Power**

*Same as AMCS 4363, WGSS 4363.*

This seminar explores various ways anthropologists have conceptualized the intersection of sex, gender, and power in their ethnographies. Key questions revolve around the processes through which biological categories of sex become socially significant, and interact with various regimes of power such as the state, family, religion, medicine, the market, and science in everyday life. We examine how the social processes and regulatory mechanisms associated with gender and sexuality create systems of hierarchy, domination, resistance, meaning, identity, and affection. Course materials are primarily ethnographies, but will be supplemented with articles. The aim of the course is to develop students' critical reading, discussion, and writing skills. Prerequisite: upper-level Anthropology or Women, Gender and Sexuality Studies courses or permission of instructor. Credit 3 units.

**A&S** SS

#### **Anthro 4451. Research Methods in Anthropology**

As a critical examination of the nature of evidence and explanation within anthropology, this course provides an introduction to a broad range of methods essential for collecting ethnographic data in a systematic manner. Interviewing skills are developed as a basis for using methodologies such as life histories, free listing, pile sorting, rank ordering, social mapping, and decision-tree modeling. Issues of qualitative data analysis are discussed in

conjunction with software packages designed for organizing ethnographic information. Credit 3 units.

**A&S** SS

#### **Anthro 4452. In the Field: Ethnographic and Qualitative Methods**

*Same as AMCS 441.*

**A&S** SS

#### **Anthro 4453. Studying the City: Approaches to Social Research**

*Same as URST 418.*

**A&S** SS

#### **Anthro 4481. Writing Culture**

Different ways of writing about people, culture, and society in past and present times. Readings include anthropological works as well as works of fiction that represent people and the times, places, and circumstances in which they live. Students conduct and write about their own ethnographical observations. Credit 3 units.

**A&S** SS, WI **FA** SSP

#### **Anthro 4517. Anthropology and Development**

*Same as LatAm 4517, IAS 4517.*

This course discusses anthropological theories and methods for studying processes of economic and political change and intervention lumped under the term development. Starting from historical consideration of anthropology's uncomfortable proximity to development as a neo-colonial or imperial project, we engage development through debates among neo-Marxist, discursive, applied, postcolonial, and postmodern perspectives. Case studies, theoretical discussions, and methodological exercises draw on historical treatments, primary sources of development practitioners, and ethnographic studies of development, its origins, and its effects drawn from Latin America, Asia Africa, and northern Europe. Credit 3 units.

**A&S** SS, WI

#### **Anthro 455. Archaeological Research Techniques**

*Same as ARC 455.*

Discussion of dating techniques (C-14, K-Ar, U-Th, ESR, PSL, TL, dendrochronology, etc.); lithic dating analysis; magnetic survey and dating; remote sensing; elemental and residue analyses; and other technical methods employed in archaeological field research. Prerequisite: 3 credits in archaeology or permission of instructor. Credit 3 units.

**A&S** SS **FA** SSP

#### **Anthro 4561. Ceramic Analysis**

Method, techniques, and models for analyzing prehistoric ceramics. Students will conduct hands-on analyses of collections from Cahokia Mounds and the St. Louis region. Prerequisite: Anthro 314, graduate standing, or permission of instructor. Credit 3 units.

**A&S** SS **FA** SSP

#### **Anthro 4564. Archaeobotanical Analysis**

*Same as ARC 4564.*

Advanced laboratory and analytical techniques. Prerequisite: Anthro 4211 or permission of instructor. Credit 3 units.

**A&S** SS **FA** SSP

#### **Anthro 4581. Principles of Human Anatomy and Development**

*Same as Biol 4580, Bio 4580.*

This course is designed for both undergraduate and graduate students in the anthropological, biological, and/or premedical sciences who wish to learn about human anatomy from various evolutionary, functional, developmental, and clinical perspectives. Lectures will emphasize the organizational and developmental principles of various organ systems of the human body. The course also will make use of our extensive anatomy museum of labeled dissected human specimens as well as

our cast collections of numerous specimens from the human fossil record where appropriate. Frequent use of X-rays, CT, and MRI scans also will be used to help students visualize human anatomy from a number of different imaging modalities. Prerequisite: undergraduate or graduate students in the anthropological, biological, and/or premedical sciences who have had at least one course in physical anthropology and/or biology, or consent of instructor. Credit 3 units.

**A&S NS FA NSM**

#### **Anthro 459. Human Osteology**

Analysis of skeletal material recovered in human paleontological and archaeological excavations. The development of bone and major diseases that affect skeletal structure. Prerequisite: permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### **Anthro 4591. Human Functional Morphology**

A detailed consideration of the biological basis for variation in recent and past human skeletal anatomy as a framework for the interpretation of prehistoric human skeletal and fossil remains. Emphasis is placed on the structure, development and degeneration of bones and joints, the soft tissues that impinge upon individual bones, and the biomechanical patterns relating to bone and joint structures. Prerequisite: Anthro 3661, 459 or permission of instructor. Credit 3 units.

**A&S NS**

#### **Anthro 4593. The Living Machine: Biomechanics in Terrestrial Animals**

A survey of how animals—particularly humans and other primates—interact with their physical world. How do terrestrial animals move, see, breathe, and hear? We will examine the anatomy and mechanics involved in these and other behaviors, and will investigate their evolution. Prerequisite: Anthro 150A or permission of instructor. Credit 3 units.

**A&S NS**

#### **Anthro 4594. Experimental Methods in Animal Biomechanics**

The first portion of this lab-based course will cover basic concepts in biomechanics and training in the equipment and non-invasive experimental techniques used to investigate locomotion, energetics, and other biomechanics questions in terrestrial animals, including humans. In the second portion, students conduct their own research projects, developing questions and hypotheses, collecting and analyzing data, and using results to test predictions. Prerequisite: Anthro 4593 or permission of instructor. Credit 3 units.

**A&S NS**

#### **Anthro 4661. Historical Archaeology**

*Same as ARC 4661.*

This course focuses upon the methods and techniques employed in historical archaeology. We will include method of integration of written records through contextual studies, discussion of specific artifact type identification techniques, and seminar type treatments of other aspects of the field. The class will include some hands-on lab work, working primarily with materials from the first American fort west of the Mississippi (Fort Belle Fontaine) and two Civil War period mansions. Prerequisite: 3 credits of archaeology or permission of instructor. Credit 3 units.

**A&S CD, TH, WI FA SSP**

#### **Anthro 4682. Ethnoarchaeology**

*Same as ARC 4682.*

Theories, methods, and techniques applied by archaeologists to contemporary societies and materials to aid their understanding of extinct societies. Analysis of ethnographic research in both the Old

and New Worlds. Participation with Professors Watson, Browman, and Fritz will be included in relevant topics. Prerequisites: Anthro 160B or 190BP and permission of instructor. Credit 3 units.

**A&S CD, TH FA SSP**

#### **Anthro 472. Social Theory and Anthropology**

*Same as MLA 472, IA 4721, Lw St 472.*

A seminar on social theory and its ethnographic implications. Course combines major works of modern social theory, including Marx, Weber, and Durkheim, with current work by contemporary anthropologists, such as Clifford Geertz, Eric Wolf, Marshall Sahlins, and Fredrik Barth, and ethnographers from related disciplines, such as Pierre Bourdieu and Paul Willis. Prerequisite: previous anthropology course work or permission of instructor. Credit 3 units.

**A&S SS FA SSP**

#### **Anthro 4761. The Pleistocene Peopling of Eurasia**

*Same as ARC 4761.*

The paleolithic archaeology, human paleobiology, and paleoecology of the geographical expansions and adaptations of Eurasian humans through the Pleistocene. Prerequisite: Anthro 150A or 190B. Credit 3 units.

**A&S SS FA SSP**

#### **Anthro 4762. The Neandertal Legacy**

A detailed consideration of the Middle and Late Pleistocene patterns of human biological evolution relating to the origins and evolution of late archaic humans (including the Neandertals) and the emergence of modern humans. Prerequisite: Anthro 367 or permission of instructor. Credit 3 units.

**A&S NS, WI FA NSM**

#### **Anthro 477. African Prehistory**

*Same as ARC 477, AFAS 477.*

Pathways to food production in Africa: Late hunter-gatherers and early pastoralists, their interactions and intersections with complex societies of the Nile. A survey designed for juniors and seniors in a seminar setting. Credit 3 units.

**A&S SS FA SSP**

#### **Anthro 4771. Out of the Wild: Domestication and Socioeconomic Diversity in Africa**

*Same as ARC 4771.*

The reason for the beginnings and spread of food production during the early Holocene in so many parts of the world is one of the most interesting questions in archaeology. It now seems likely that there are many different pathways to domestication. In Africa, there is a record of up to several million years of human existence as hunter-gatherers before some human populations adopted food production. Domestication of plants and animals about 10,000 years ago resulted in fundamental changes in human societies. It provided the basis for the increase in settlement densities, specialization and social stratification, and general decrease in mobility and dietary diversity characteristic of non-hunter-gatherer societies in the modern world. In this seminar, the class will explore the phenomenon of domestication, and the spread of food production, surveying the evidence for manipulation and domestication of plant and animal species by prehistoric peoples in Africa. We will focus on how and why domestication occurred and factors that influenced its spread; interactions between late hunter-gatherers and early pastoralists; and intersections with complex societies of the Nile. We also will look at the contributions of Africa to understanding pathways to food production world wide. Credit 3 units.

**A&S SS, WI**

#### **Anthro 479. Climate, Culture, and Human History**

*Same as ARC 479, EnSt 479.*

Using a seminar format, this course examines the temporal, geographical, and environmental aspects of past climate changes and, by using specific examples, explores how climate changes may have affected the evolution of human culture and the course of human history. Archaeological and historical examples from the Americas, Africa, Asia, Europe, and the Near East will be used to explore if or how significant events in human history have been influenced by changes in climate. Credit 3 units.

**A&S NS**

#### **Anthro 4791. Archaeological Study of Social Complexity**

*Same as ARC 4791.*

A hallmark of anthropological theory is the idea that human societies evolve toward greater complexity or higher levels of organization through time. Yet accurately defining complexity or organization is such a difficult and frustrating undertaking that many people give up and fall back on an intuitive understanding, similar to Supreme Court Justice Potter Stewart's famous definition of pornography: "I know it when I see it." But what exactly does it mean to be socially complex? How does complexity in human societies emerge and how is it perpetuated? How can we infer social complexity from the archaeological record? In this seminar, we will examine theoretical and methodological aspects of social complexity as investigated by archaeologists. By means of case studies drawn from around the globe and ranging from the earliest humans to the recent past, we will seek to define, describe, and understand the concept of social complexity and its manifestations in diverse societies at different times. Credit 3 units.

**A&S SS**

#### **Anthro 4802. Theories and Practice of Landscape Archaeology**

*Same as ARC 4802.*

The study of "landscapes" as a particular framework for understanding the archaeological record has become increasingly widespread in the discipline today. Yet the theoretical background for defining landscapes is commonly disconnected with the actual practical application of "landscape archaeology." What exactly do we mean by landscape archaeology, what is its utility, and how do contemporary methods of analysis and interpretation change the way we consider archaeology through this conceptual paradigm? This course will explore the theoretical basis and current archaeological approaches to "landscape" and address its distinction to, and overlap with, other prevalent concepts such as environment, ecology, place, and space. The course also will place focus on concrete methodological and practical approaches that differentiate "landscape archaeology" from other approaches—as well as illustrate their points of convergence. Credit 3 units.

**A&S SS**

#### **Anthro 4803. Geographic Information Systems (GIS), Landscape, and Spatial Analysis in Archaeology**

*Same as AMCS 4803, ARC 4803.*

The aim of this course is to learn to analyze archaeological data in terms of its spatial layout, geography, ecology, and temporal dynamics, using Geographic Information Systems and associated computer modeling techniques. A focus is placed on the relationship between natural environments, cultural geography, and the mapping of archaeological landscapes, and on the archaeologist's ability to recover, reconstruct, and analyze accurately this relationship in a virtual environment. Credit 3 units.

**A&S SS**

**Anthro 481. Zooarchaeology***Same as ARC 481.*

Methods and techniques of analysis of faunal remains recovered in archaeological context, including aging, sexing, and the study of cultural modification of archaeological faunas. Prerequisite: any advanced course in archaeology and permission of instructor. Credit 3 units.

**A&S SS FA SSP****Anthro 4834. Health, Healing, and Ethics: Comparative Perspectives on Sickness and Society***Same as AMCS 4834.*

A cross-cultural exploration of cultures and social organizations of medical systems, the global exportation of biomedicine, and ethical dilemmas associated with medical technologies and global disparities in health. Credit 3 units.

**A&S SS****Anthro 4881. Medicine and Anthropology**

Explores the fundamental relationship of anthropology to the art and science of medicine. Emphasis on the impact of anthropology on current modes of biomedical research; alternative systems of health and healing; role of anthropologists in biomedicine and public health; critical medical anthropology; and anthropology and epidemiology. Prerequisite: junior standing. Credit 3 units.

**A&S SS FA SSP****Anthro 4882. Anthropology and Public Health***Same as IAS 4882.*

Anthropological approaches to public health practice and research; role of anthropology in public health systems; cross-cultural public health research; community vs. institutional bases of public health advocacy. Credit 3 units.

**A&S SS FA SSP****Anthro 4883. The Political Economy of Health***Same as URST 4883, IAS 4883, IA 4883.*

This course reviews social science contributions to understanding health as a function of political and economics influences. Considers the ways in which personal health is affected by macrosocial processes. Examines effects of globalization, international development and political instability on the health of individuals. Examples drawn from the U.S. and international contexts. Prerequisite: junior standing or above. Credit 3 units.

**A&S SS FA SSP****Anthro 489. Seminar: Pathways to Domestication***Same as AMCS 4899, ARC 489.*

Survey of the evidence of the domestication of plants and animals, focusing on processes leading to domestication, and on the recognition of pristine features of domestication in the archaeological record. Prerequisite: one 300- or 400-level course in archaeology. Credit 3 units.

**A&S SS FA SSP****Anthro 4892. Hunter-Gatherer Socioeconomic Variation***Same as ARC 4892.*

This class will explore the nature and extent of variation in hunter-gatherer socioeconomic systems as documented in the literature on recent hunter-gatherers, and in the archaeological record of the past 20,000 years. We will discuss Woodburn's concept of delayed return hunter-gatherers, Testart's writing on hunter-gatherer socioeconomic organization, and archaeological concepts of simple and complex hunter-gatherers. We will examine case studies of both delayed and immediate return hunter-gatherers from the Americas, Asia, Africa, and Australia, and emphasize understanding underlying reasons for differences between groups and implications of differences for patterns of cultural change, including the adoption of food production. Credit 3 units.

**A&S SS FA SSP****Anthro 4893. Pastoral Nomads of the Past***Same as ARC 4893.*

The archaeology of nomadic herders or pastoralists of Africa, Asia, and South America is the focus of this seminar. Cattle herders of Africa, horse and camel-based nomads of Asia, and llama herders of the Andes are famous for their mobility, effective use of arid and mountainous lands, and distinctive and varied social organization and material culture. Nomads are known in many regions for long-distance trade and warfare and as agents of widespread political and religious change. We will examine issues such as the ecological background to mobility; nomads as early food producers; the environmental impact of nomadic societies; nomads and resilience; factors that pattern settlement structure and material culture of nomads; rock art; archaeological recovery; ancient nomadic states; and gender issues in recent pastoral societies. Credit 3 units.

**A&S SS****Anthro 490. Anthropological Research**

Designed to give undergraduates research experience in various subdisciplines of Anthropology. May be taken more than once for credit. Prerequisite: permission of faculty member under whom the research will be done. Credit variable, maximum 3 units.

**A&S SS FA SSP****Anthro 491. Advanced Anthropological Research**

Limited to those students who have successfully completed Anthro 490 and have a qualifying continuing research project. Prerequisites: Anthro 490 and permission of the faculty member who will supervise the continuing research project. Credit variable, maximum 3 units.

**A&S SS FA SSP****Anthro 4951. Senior Honors Research**

Limited to students who have qualified for the Anthropology honors program, and who are conducting research for an honors thesis. Prerequisites: permission of the Anthropology faculty member supervising the honors research and concurrent filing of notification with the Anthropology senior honors coordinator. Credit variable, maximum 3 units.

**FA SSP****Anthro 4961. Senior Honors Thesis**

Limited to students who have qualified for the Anthropology honors program and who are actively engaged in writing a senior honors thesis. Prerequisite: permission of the Anthropology senior honors coordinator. Credit variable, maximum 3 units.

**FA SSP****Anthro 4999. Capstone Experience**

The Department of Anthropology offers several options for completing a capstone experience, which is recommended by the College of Arts & Sciences. One option is for students in any 400-level course in the department, to secure permission of the instructor to simultaneously enroll in Anthro 4999. The instructor and student will develop an individualized plan for expanding the normal content of the selected 400-level course into a capstone experience. Prerequisite: junior or senior standing. Enrollment requires permission of the department and the instructor. Credit 1 unit.

# Applied Statistics and Computation

**Director, Professor of Political Science****Jeff Gill**

(Political Science)

Ph.D., American University

**Professors****Steven M. Fazzari**

(Economics)

Ph.D., Stanford University

**Andrew D. Martin**

(Political Science and Law)

Ph.D., Washington University

**Robert Parks**

(Economics)

Ph.D., Purdue University

**Richard J. Smith**

(Dean of Graduate Studies)

Ph.D. Yale University

**Edward L. Spitznagel**

(Mathematics)

Ph.D., University of Chicago

**Michael J. Strube**

(Psychology)

Ph.D., University of Utah

**William F. Tate**

(Chair, Education)

Ph.D., University of Maryland, College Park

**Joseph S. Ullian**

(Philosophy)

Ph.D., Harvard University

**Associate Professor****Katherine Barnes**

(Law)

Ph.D., University of Minnesota

J.D. University of Michigan

**Assistant Professors****Donald Nichols**

(Economics)

Ph.D. Stanford University

**Robert W. Walker**

(Political Science)

Ph.D., Rochester University

**Carol M. Woods**

(Psychology)

Ph.D., University of North Carolina-

Chapel Hill

Over the past 20 to 30 years, many areas of social science and biology have become increasingly dependent on quantitative methods and the statistical analysis of data. Using real-world data to answer complex questions in the social sciences requires the integration of many skills.

The Center for Applied Statistics is designed to meet the needs of undergraduate and graduate students desiring an intensive exposure to statistical methods and inference with an emphasis on application. Social sci-

ence data are often described as “messy.” The challenges of producing a result accepted by scientists often involve judgments about how to quantify variables that are not inherently quantitative. Social scientists must also frequently contend with missing data, and with data that violate the mathematical assumptions of statistical methods commonly presented in introductory courses. Courses in the Program in Applied Statistics will emphasize the analysis of data in the context of such problems. Most courses will involve the use of statistical software. Courses in the program are designed to provide students with sophisticated statistical tools without calculus or matrix algebra prerequisites.

**Course Designations:** Many of the courses offered by the Program in Applied Statistics and Computation are cross-listings from other departments. Some courses are offered by more than one department and, in that case, are designated with a letter suffix. For example, 330A, 330B, and 330C are cross-listings from three different departments, any one of which would fulfill the first semester requirement for the Applied Statistics Minor. **The Minor:** Most students interested in completing the minor will be considering a career in social science or biological research. The minor in Applied Statistics and Computation requires 15 credits (five courses), plus a research project (which normally will be completed in the student’s major department). For more information about the minor, consult the program web site: [stats.wustl.edu](http://stats.wustl.edu).

## Undergraduate Courses

### ASTAT 2200. Elementary Probability and Statistics

*Same as Math 2200.*  
**A&S** NS, QA

### ASTAT 321G. Philosophy of Science

*Same as Phil 321G.*  
**A&S** TH **FA** SSP

### ASTAT 330C. Introduction to Applied Statistics

**ASTAT 350D. Intermediate Applied Statistics: Linear Models**  
*Same as Pol Sci 581.*

### ASTAT 363. Quantitative Political Methodology

*Same as Pol Sci 363.*  
**A&S** QA, SS **FA** SSP

### ASTAT 364. Intermediate Applied Statistics: Linear Models

This course provides a detailed introduction to linear statistical models, the workhorse of applied statistics. Building on foundations in basic probability theory and central limit theorems, linear statistical models can be built from first principles to describe data and/or formalize statistical inference. The remainder of the course will evaluate the robustness to deviations from the basic assumptions and thus generalize the core principles of the linear regression model. (*Formerly L55 350E.*) Prerequisites: ASTAT 330 or ASTAT 363. Credit 3 units.

### ASTAT 413. Introduction to Econometrics

*Same as Econ 413.*  
**A&S** SS **FA** SSP

### ASTAT 420. Categorical Data Analysis

This course represents an introduction to methods for analyzing categorical data. Methods covered include those for contingency-table data (i.e., all variables are nominal or ordinal), as well as regression models for nominal and ordinal outcome variables. Although distribution theory and maximum likelihood are introduced as needed, the emphasis is on learning when and how to apply the methods, and how to interpret the results. Computations will be done either by hand or with the SAS computer program. Previous experience with SAS is useful, but not assumed. Prerequisite: ASTAT 350 or 364 or 3067 or 413 or Psych 5066 or equivalent. Credit 3 units.

**A&S** SS **FA** NSM

### ASTAT 430. Multilevel Modeling

*Same as Pol Sci 430I.*

Multilevel models (also called hierarchical, random-effects, and mixed-effects models) are an increasingly important statistical tool in many social sciences. Examples include education (data on students within schools), economics (panel data), political science (data characterized by states and years), law (police stops categorized by date, location, and ethnic group), medicine (meta-analysis), public health (small-area estimation), social work (studies of individuals within housing areas), and many other areas. This course covers setup, inference, and checking the fit of multilevel models. Computation using the software packages R and Bugs and applications in social science and elsewhere. By the end of the course, you should be able to understand multilevel models and apply them creatively to your data-analysis problems. Prerequisite: ASTAT 350 or 3067 or 364 or equivalent. Credit 3 units.

**A&S** NS **FA** NSM

### ASTAT 440. Factor Analysis and Related Methods

*Same as Psych 417I.*

In factor analysis, a factor represents an unobservable construct hypothesized to give rise to observed variables (e.g., responses to questionnaire items). This course introduces popular factor-analytic models and methods for fitting them to data, in both exploratory and confirmatory contexts. Models for (approximately) continuous observed data are covered, as well as those for categorical observed data, including a few models and methods of item response theory. Application and interpretation are emphasized, with statistical theory introduced as needed. Use of one or more computer programs will be required (prior experience with factor-analytic software is useful but not assumed). Prerequisite: ASTAT 350 or 3067 or 364 or equivalent. Credit 3 units.

**A&S** NS **FA** NSM

### ASTAT 450. Panel Data

This course examines the significant statistical issues related to the analysis of panel data. Panel data can be generically described as containing multiple units observed at multiple points in time. Because panel data require attention to both heterogeneity and dynamics, we will cover both topics individually, in summary form, before considering their interaction and developing intuitions for situations that require greater attention to one than the other. Though a host of other topics will receive attention, we will focus on the following issues: (1) Can individual time series be pooled and under what conditions? (2) Deterministic vs. random sources of variation arising from units or time points; and (3) What issues arise in translating techniques for panel data to censoring, truncation, and other pathologies that result in limited dependent variables? Prerequisites: ASTAT 330/513 or 350/515 or 363/563 or 2200/5200 or 3067/5067 or 364/564, or the equivalent, or permission of the instructor. Credit 3 units.

**A&S** SS **FA** NSM

### ASTAT 5067. Quantitative Methods II

*Same as Psych 5067.*

### ASTAT 560. Visiting Scholar Statistical Research Seminar in Applied Statistics

This course brings distinguished academic statisticians to Washington University as part of an organized research seminar. Lacking a statistics department or Ph.D. program in statistics, the campus community can substantially benefit from internationally recognized scholars in the field who are willing to spend substantial time at the university. Selected statisticians will come to campus twice during the course. First, they will spend two days at the beginning of the semester to introduce a research topic in statistics and to assign a reading list of eight to 12 technical papers, including some of their own authorship. Second, they will return to campus toward the end of semester for four days for: two two-hour seminars, a scholarly talk in the Center for Applied Statistics, and individual meeting time with seminar participants and other members of the university community. Between these two visits, a faculty member in the Center for Applied Statistics will lecture and lead a discussion on each of these assigned papers as part of the weekly seminar meeting. The objective is to provide deep understanding of a complex technical topic through the use of experts in the field. Prerequisites: Math 439, Pol Sci 581, Biostat 439, or Econ 413, or approved equivalent. Credit 3 units.

### ASTAT 581. Quantitative Political Methodology I

*Same as Pol Sci 581.*

# Archaeology

## Chair

**David L. Browman**, Professor  
(Anthropology)  
Ph.D., Harvard University

## Endowed Professor

### Susan Rotroff

Jarvis Thurston and Mona Van Duyn  
Professor in the Humanities  
(Classics)  
Ph.D., Princeton University

## Professors

### David Freidel

(Anthropology)  
Ph.D., Harvard University

### Gayle J. Fritz

(Anthropology)  
Ph.D., University of North Carolina–Chapel Hill

### T. R. Kidder

(Anthropology)  
Ph.D., Harvard University

### Fiona Marshall

(Anthropology)  
Ph.D., University of California–Berkeley

### Sarantis Symeonoglou

(Art History and Archaeology)  
Ph.D., Columbia University

## Assistant Professors

### Gwen Bennett

(Art History and Archaeology)  
Ph.D., University of California–Los Angeles

### Michael Frachetti

(Anthropology)  
Ph.D., University of Pennsylvania

### Jennifer Smith

(Earth and Planetary Sciences)  
Ph.D., University of Pennsylvania

## Senior Lecturer

### John Kelly

(Anthropology)  
Ph.D., University of Wisconsin–Madison

## Professor Emerita

### Patty Jo Watson

Edward Mallinckrodt Distinguished  
University Professor Emerita  
Ph.D., University of Chicago

Archaeology provides the opportunity to investigate the material remains of past societies and cultures and the methods by which they are recovered, analyzed, interpreted, and reconstructed.

Archaeologists investigate the entire human past from the first evidence of tool use 2.5 million years ago to historic studies of the late 19th and early 20th centuries. To provide you with a comprehensive understanding of archaeology, we emphasize two approaches at Washington University: the humanistic, which is represented by classical archaeology, and the social scientific, which

is represented by anthropological archaeology.

As an archaeology student, you will encounter a range of specialties within the field, such as historical archaeology, Greek and Roman archaeology, ethnoarchaeology, zooarchaeology, paleoethnobotany, geoarchaeology, geographic information systems (GIS), and radiometric dating. The anthropological archaeology option focuses on biologically based studies (paleoethnobotany and zooarchaeology) to study such questions as the origins of food production. The classical archaeological program capitalizes on ancient documents in investigating the more recent human past.

While acquiring basic training in archaeology, you may choose to concentrate on a specific region, such as the eastern woodlands of the United States, the Andes, Mesoamerica, Africa, Central Asia, China, or the Mediterranean world. Ancient and/or modern languages, as well as history and art, are essential for some fields of study. A specialized set of courses can be designed in conjunction with your adviser.

The hands-on experience of archaeological fieldwork is particularly attractive to many students. As an undergraduate major in archaeology, you will complete at least one supervised field project, which is selected to best meet your long-term goals. Most research projects are small, which allows you to work closely with faculty and staff. Recently, students have worked at excavations in such diverse areas as Ireland, France, Kazakhstan, Greece, Israel, China, Japan, Bolivia, the U.S. Southwest, and Cahokia, Illinois.

You also may participate in an exchange program with the University College–London, work with funded research programs on campus, or intern at a private firm to gain off-campus experience in contract archaeology.

Archaeology faculty members are involved in research projects in many regions, such as China, Central Asia, Africa, Greece, Egypt, Peru, Guatemala, New Mexico, and Louisiana. Undergraduate participation in research is encouraged for students working on Senior Honors theses.

With a degree in archaeology, you can work in academia, private consulting firms, government compliance agencies, and museums. Academic and museum positions generally require graduate-level training.

**The Major:** Archaeology majors must complete Anthro 190B and ARC 200C, plus 21 advanced units at the 300 level or above, with no more than 6 units of independent study courses. The 21 advanced units must be distributed such that no more than 15 units toward the major come from one department. Students also must complete eight weeks or the equivalent of supervised archaeological fieldwork.

**The Minor:** To minor in archaeology, you must complete 15 units, of which at least 12 must be in courses at the 300 level or above.

To major or minor in archaeology, you may select from the archaeology, anthropology, classics, and art history courses listed

below, plus any additional courses approved by the department staff.

**Senior Honors:** As an archaeology major, you are encouraged to work for Senior Honors, for which you may apply in your junior or senior year. Acceptance into the program is based on your previous academic performance and a proposal to a faculty member who agrees to supervise your Honors research. You must complete Honors thesis research (ARC 492–493) and an Honors thesis, which is evaluated by a three-member faculty committee.

## Undergraduate Courses

### ARC 130. Freshman Seminar

*Same as Anthro 130.*  
A&S SS FA SSP

### ARC 190B. Introduction to Archaeology

*Same as Anthro 190B.*  
A&S SS FA AH

### ARC 200C. World Archaeology

*Same as Art-Arch 200C, Classics 200C, Anthro 209C, Anthro 209.*

A course designed to introduce students to the most important archaeological sites of the world that have been excavated in the past 250 years. There will be many guest lecturers, all working archaeologists from the St. Louis community and occasionally from the outside as well. In some cases, we will prefer to hear from lecturers who are currently excavating who can show us work in progress. No prerequisites. Credit 3 units.

A&S CD, TH FA SSP

### ARC 300. Internship in Archaeology

Internship with an archaeological project or organization in which the primary objective is to obtain professional experience outside of the classroom. Student must have a faculty sponsor and a site or project supervisor. Prerequisite: Open only to Archaeology majors with junior standing, and permission of department. Credit variable, maximum 3 units.

FA SSP

### ARC 3053. Nomadic Strategies and Extreme Ecologies

*Same as Anthro 3053.*  
A&S SS FA SSP

### ARC 310C. Ancient Civilizations of the New World

*Same as Anthro 310C.*  
A&S CD, TH FA AH

### ARC 3122. From Country to Heavy Metal: Ancient Civilizations of the Old World

*Same as Anthro 3122.*  
A&S SS

### ARC 314B. Prehistory of North America

*Same as Anthro 314B.*  
A&S CD, SS FA SSP

### ARC 318C. Prehistory of Africa

*Same as Anthro 318C.*  
A&S CD, SS FA SSP

### ARC 3211. Art in the Egypt of the Pharaohs

*Same as Art-Arch 3211.*  
A&S CD, TH FA AH

### ARC 3301. Homeric Archaeology

*Same as Art-Arch 3301.*  
A&S CD, TH FA AH

### ARC 3304. Bones to Behavior: Undergraduate Research in the Lab and at the Zoo

*Same as Anthro 3304.*  
A&S NS

**ARC 331. Greek Art and Archaeology***Same as Art-Arch 331.***A&S TH FA AH****ARC 3333. The Art and Archaeology of Japan and Korea***Same as Art-Arch 3333.***A&S TH****ARC 334. Roman Art and Archaeology***Same as Art-Arch 334.***A&S TH FA AH****ARC 3351. The Ancient Maya: Archaeology and History***Same as Anthro 3351.***A&S CD, SS****ARC 336. Ancient Sanctuaries: The Archaeology of Sacred Space in the Ancient Mediterranean***Same as Art-Arch 336.***A&S CD, TH FA AH****ARC 3369. Underwater Archaeology***Same as Classics 3369, Anthro 3369.*

Survey of the history, techniques, and results of underwater excavation worldwide, with emphasis on the ancient Mediterranean. Prerequisite: Archaeology 190 or 200, or permission of instructor. Credit 3 units.

**A&S TH FA SSP****ARC 3401. Chinese Art and Culture***Same as Art-Arch 3401.***A&S CD, TH FA AH****ARC 3420. Archaeology of Ancient China***Same as Art-Arch 3420.***A&S TH FA AH****ARC 3452. The Archaeology of Death****ARC 345E. The Art and Archaeology of Ancient China***Same as Art-Arch 345E(Q). Credit 3 units.***A&S TH FA SSP****ARC 3461. Native Americans at Westward Expansion***Same as Anthro 3461.***A&S CD, SS FA SSP****ARC 3475. Fantastic Archaeology***Same as Anthro 3475.***A&S SS****ARC 347B. Ancient Mound Builders of the Mississippi Valley***Same as Anthro 347B.***A&S CD, SS FA SSP****ARC 3580. Chinese Art and Culture****ARC 372. Geoarchaeology***Same as Anthro 372.***A&S SS****ARC 373. Introduction to GIS for Anthropologists***Same as Anthro 373.***A&S SS****ARC 379. Feast or Famine: Archaeology and Climate Change***Same as Anthro 379.***A&S SS****ARC 3793. Mississippi River Basin: Past, Present, and Future***Same as Anthro 3793.***A&S SS****ARC 393. Introduction to Archaeological Field Techniques***Same as Anthro 393.***A&S SS FA SSP****ARC 3932. Introduction to Archaeological Field Survey***Same as Anthro 3932.***A&S SS FA SSP****ARC 397. Proseminar: Issues and Research in Anthropology****ARC 400. Stone, Bone, Clay, and Fiber: A Hands-on Course in Materials and Pre-Modern Production Techniques***Same as Art-Arch 400.***A&S TH FA AH****ARC 4020. Jerusalem, the Holy City***Same as JNE 4020.***A&S CD, SD, TH****ARC 403. Culture History of the Southwestern United States***Same as Anthro 403.***A&S CD, SS FA SSP****ARC 4032. Lithic Analysis***Same as Art-Arch 4032.***A&S SS****ARC 421. Minoan and Mycenaean Archaeology***Same as Art-Arch 421. Credit 3 units.***A&S CD, TH FA SSP****ARC 4211. Paleoethnobotany and Ethnobotany***Same as Anthro 4211.***A&S SS, WI FA SSP****ARC 4212. Advanced Methods in Paleoethnobotany****ARC 4213. Plants and American People: Past and Present***Same as Anthro 4213.***A&S SS FA SSP****ARC 4214. The Archaeology of Food and Drink***Same as Anthro 4214.***A&S SS****ARC 426. Ancient Athens***Same as Classics 426.***A&S CD, TH FA AH****ARC 427. Athenian Vase Painting***Same as Art-Arch 427.***A&S TH****ARC 4321. Ancient Coins***Same as Art-Arch 4321.***A&S TH FA AH****ARC 437. Greek Sculpture***Same as Art-Arch 437.***A&S TH FA AH****ARC 4371. Greek and Roman Pottery***Same as Art-Arch 4371.***A&S TH FA AH****ARC 4493. When Materials Become Media: Bronze, Silk, and Porcelain and the Production of East Asian Art***Same as Art-Arch 4493.***A&S TH****ARC 455. Archaeological Research Techniques***Same as Anthro 455.***A&S SS FA SSP****ARC 4564. Archaeobotanical Analysis***Same as Anthro 4564.***A&S SS FA SSP****ARC 4661. Historical Archaeology***Same as Anthro 4661.***A&S CD, TH, WI FA SSP****ARC 4682. Ethnoarchaeology***Same as Anthro 4682.***A&S CD, TH FA SSP****ARC 4761. Pleistocene Peopling of Eurasia***Same as Anthro 4761.***A&S SS FA SSP****ARC 477. African Prehistory***Same as Anthro 477.***A&S SS FA SSP****ARC 4771. Out of the Wild: Domestication and Socioeconomic Diversity in Africa***Same as Anthro 4771.***A&S SS, WI****ARC 479. Climate, Culture, and Human History***Same as Anthro 479.***A&S NS****ARC 4791. Archaeological Study of Social Complexity***Same as Anthro 4791.***A&S SS****ARC 4802. Theories and Practice of Landscape Archaeology***Same as Anthro 4802.***A&S SS****ARC 4803. Geographic Information Systems (GIS), Landscape, and Spatial Analysis in Archaeology***Same as Anthro 4803.***A&S SS****ARC 481. Zooarchaeology***Same as Anthro 481.***A&S SS FA SSP****ARC 482. Experimental Zooarchaeology***Same as Anthro 482. Credit 3 units.***A&S SS FA SSP****ARC 484. Paleoenvironmental Reconstruction***Same as EPSc 484.***A&S NS****ARC 489. Pathways to Domestication***Same as Anthro 489.***A&S SS FA SSP****ARC 4892. Hunter-Gatherer Socio-Economic Variation***Same as Anthro 4892.***A&S SS FA SSP****ARC 4893. Pastoral Nomads of the Past***Same as Anthro 4893.***A&S SS****ARC 491. Archaeological Research**

Undergraduate research experience sponsored by one of the archaeology staff. May be taken more than once for credit. Prerequisite: permission of the faculty member under whom the research will be done. Credit variable, maximum 3 units.

**A&S SS FA SSP**

**ARC 492. Independent Studies**

Supervised independent research. For advanced undergraduates only. Prerequisite: permission of the faculty member under whom the work will be done. Credit variable, maximum 3 units.

FA SSP

**ARC 493. Honors Thesis**

Limited to students accepted into the honors program. Prerequisite: permission of department. Credit 3 units.

A&S SS FA SSP

**ARC 497. Senior Project**

Designed for majors in Archaeology who have not satisfied their college capstone experience in another manner, or who are not satisfying this requirement through ARC 493 Honors Thesis. This course involves a structured research assignment, internship, fieldwork, or independent project under the supervision of one of the department's faculty. Limited to students in the junior level and above. Permission of instructor who will supervise the work is required. Credit variable, maximum 3 units.

A&S SS FA SSP

**ARC 498. Intensive Writing Course:****Archaeology**

Designed for majors who have not satisfied their college writing requirement in another fashion. This course ordinarily will be taken in tandem with another 300- or 400-level course in Archaeology, with the required permission to enroll granted by the instructor in that course. The student will prepare a portfolio of papers, which will undergo revision and rewriting, as assigned by that course instructor. In some cases, this writing intensive course may be taken as an independent study course with one of the Archaeology professors. This latter option will require permission of both the department and the instructor. When the course is integrated with another 300- or 400-level course, credit will be limited to 1 unit. If taken as an independent study course, credit will be no more than 3 units. Permission of instructor required; limited to juniors and seniors. Credit variable, maximum 3 units.

A&S SS, WI FA SSP

## Art History and Archaeology

**Chair**

**Elizabeth C. Childs**

Associate Professor  
Ph.D., Columbia University

**Endowed Professors**

**Susan Rotroff**

Jarvis Thurston and Mona Van Duyn Professor in the Humanities (Classics)

Ph.D., Princeton University

**William E. Wallace**

Barbara Murphy Bryant Distinguished Professor of Art History  
Ph.D., Columbia University

**Professors**

**Angela Miller**

Ph.D., Yale University

**Sarantis Symeonoglou**

Ph.D., Columbia University

**Associate Professor**

**John Klein**

Ph.D., Columbia University

**Assistant Professors**

**Gwen Bennett**

Ph.D., University of California–Los Angeles

**Rebecca DeRoo**

Ph.D., University of Chicago

**Alicia Walker**

Ph.D., Harvard University

**Affiliated Faculty**

**Paula Lupkin**

Ph.D., University of Pennsylvania  
(College of Architecture, Sam Fox School of Design & Visual Arts)

**Eric Mumford**

Ph.D., Princeton University  
(College of Architecture, Sam Fox School of Design & Visual Arts)

**Professors Emeriti**

**Karen Brock**

Ph.D., Princeton University

**Robert Thorp**

Ph.D., University of Kansas

**Mark S. Weil**

E. Desmond Lee Professor Emeritus  
Ph.D., Columbia University

**Affiliated Curators, Mildred Lane**

**Kemper Art Museum**

**Sabine Eckmann**

Director and Chief Curator  
Ph.D., University of Erlangen–Nürnberg

**Meredith Malone**

Assistant Curator  
Ph.D., University of Pennsylvania

### Affiliated Curators and Directors, Saint Louis Art Museum and Pulitzer Foundation

**Brent Benjamin**

M.A., Williams College

**David Conradsen**

M.A., University of Delaware

**Charlotte Eyerman**

Ph.D., University of California–Berkeley

**Sidney M. Goldstein**

Ph.D., Harvard University

**Michael Gunn**

Ph.D., University of Otago, New Zealand

**Francesca Herndon-Consagra**

Ph.D., Johns Hopkins University

**Phillip Hu**

M.A., Institute of Fine Arts, New York University

**Eric Lutz**

Ph.D., University of California–Santa Barbara

**Judith Mann**

Ph.D., Washington University

**Andrew Walker**

Ph.D., University of Pennsylvania

**Matthias Waschek**

Ph.D., University of Bonn

Art history provides the opportunity to explore visual culture, as well as the social, aesthetic, and personal values that help shape it.

Students are introduced to the study of art history and archaeology through general introductory courses that focus on European, Asian, and American art, and world archaeology. In more advanced courses, students enjoy studying original works of art owned by the Washington University Mildred Lane Kemper Art Museum, the Saint Louis Art Museum, the Pulitzer Foundation, and local private collectors. Students also are invited on annual field trips organized by faculty to visit cities with major museum collections.

A variety of career paths are available to you when you major in art history and archaeology. Many graduates earn advanced degrees in both related and unrelated fields and work in museums or academia or for art publishers, commercial art galleries, auction houses, nonprofit organizations, and other arts-related organizations.

**The Major:** When you major in art history and archaeology, you must take two introductory courses (Art-Arch 111 and 112, each of which is three hours), which serve as prerequisites for all 300- and 400-level offerings. The major consists of 24 additional hours of art history at the 300, 400,

and 500 levels, including courses from three of the following four areas of the discipline: (1) Ancient and Medieval, (2) Asian art and archaeology, (3) Renaissance and Baroque, (4) Modern European and American art. At least two courses must be 400- or 500-level seminars.

As an art history and archaeology major, you are encouraged to acquire a good reading knowledge of French, Italian, or German. If you choose a concentration in ancient Mediterranean art and archaeology, ancient Greek, Latin, or both will be useful. Similarly, Chinese or Japanese will be useful if you choose a concentration in Asian art. You also are encouraged to take studio courses in art and/or architecture in the Sam Fox School of Design & Visual Arts.

**The Minor:** To minor in art history and archaeology requires a total of 18 hours. You must take two introductory courses (Art-Arch 111, 112) and four courses at an advanced level, chosen from at least two of the four areas listed above.

**Internships:** Internships in the curatorial and education departments of the Saint Louis Art Museum or the Washington University Mildred Lane Kemper Art Museum or in one of the St. Louis area commercial galleries are available to you as an undergraduate art history and archaeology major. You may devote up to 3 credit hours to a voluntary internship, or secure a paid internship for no credit. Such internships provide invaluable experience and may help lead to employment opportunities after graduation.

**Study Abroad:** Students are encouraged to participate in a variety of international programs available in a number of overseas locations. Foreign language ability is not a barrier; programs based in English also are available. You may work with your adviser or the department's Study Abroad adviser to find the program that best meets your particular interests and needs.

**Senior Honors:** Exceptional students are invited by the faculty to work toward Honors. Honors are awarded for completing the major with at least a 3.5 GPA and a 3.3 GPA in the College, and writing an Honors paper (after enrolling in Art-Arch 499), which is read by at least two faculty members. An alternative process allows motivated students to attain honors by completing four seminars in the department, and producing exceptional work in two of them.

## Undergraduate Courses

### Art-Arch 106. Freshman Seminar: Van Gogh and the Avant-Garde

This freshman seminar focuses on the art and career of Vincent Van Gogh, and his relationship to artists of the 1880s in France. We explore his art in connection to the movements of Impressionism, Japonism, and Symbolism. We examine the avant-garde world of Paris, and Van Gogh's relationship to such figures as Gauguin, Bernard, and Toulouse-Lautrec. The larger current of fin-de-siècle nostalgia for the countryside informs our study

of his work in the south of France. Van Gogh's life and the critical reception of his art offer an excellent opportunity to study how the legends of modern art are formed. Visits to the St. Louis Art Museum will complement our study. Readings include the artist's letters, critical studies, and biographies of Van Gogh and key figures in his circle. No prerequisite, but either Art-Arch 112 or co-enrollment with Art-Arch 211 is recommended. Credit 3 units.

A&S LA SB: HUM FA AH

### Art-Arch 107. Freshman Seminar: Public Art/Art and its Publics in St. Louis

The course will consider the history and functions of public art, with special attention to public art in St. Louis. Part of our investigation will be to inquire into the conditions that seem to be necessary for visual art to be considered public. So we'll consider not only the obvious forms of public art in urban sculpture and murals, but also less traditional intersections of art and public in such sites as video and the internet. We'll also examine the operations of institutions—national and local arts agencies, international exhibitions, nonprofit centers, and the like—that foster a public engagement with contemporary art. After studying aspects of the history of public art, we'll proceed to selected case studies today, many of them in St. Louis, including projects for Arts in Transit (MetroLink), the Regional Arts Commission, Grand Center, and Missouri SOS (Save Outdoor Sculpture). This will lead us, finally, to theorize the function of public art in a variety of contemporary forms. Local field trips to study important public art; visiting speakers from arts agencies; student projects proposing a work of public art in St. Louis, which will acquaint students with procedures in arts administration. Credit 3 units.

A&S TH

### Art-Arch 111. Introduction to Asian Art

*Same as East Asia 111, Art-Arch 111.* Selected topics in the arts of South and East Asia from earliest times to the present. Emphasis on the cultural setting and roles of the arts in Asian societies. Attention to cross-cultural comparisons and to media and technique. Classroom lectures; smaller, biweekly discussion sections. No prerequisite. Credit 3 units.

A&S CD, LA

A&S Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity  
LA = Languages and the Arts  
NS = Natural Sciences and Mathematics  
QA = Quantitative Analysis  
SD = Social Differentiation  
SS = Social Sciences  
TH = Textual and Historical Studies  
WI = Writing-Intensive Course

FA Requirements for School of Art students (for more information, see page 305).

AH = Art History  
Comp = English Composition  
Lit = Literature  
NSM = Natural Sciences or Mathematics  
SSP = Social Sciences or Philosophy

### Art-Arch 112. Introduction to Western Art

A discussion of painting, sculpture, and architecture of the Western world from ancient Egypt to the present with emphasis on the relationship of art to society and to political and cultural events. Classroom lectures; smaller biweekly discussion sessions. Credit 3 units.

A&S LA

### Art-Arch 190B. Introduction to Archaeology

*Same as Anthro 190B.*

A&S SS FA AH

### Art-Arch 200C. World Archaeology

*Same as ARC 200C.*

A&S CD, TH FA SSP

### Art-Arch 211. Introduction to Modern Art

A survey of major developments in European and American art from the late 19th century to present. Focus will be on both the aesthetics of modernism and its evolving cultural and political context. Major movements to be discussed include Impressionism, Symbolism, Cubism, Fauvism, Surrealism, Abstract Expressionism, Pop Art, Minimalism, Post-Modernism, Conceptual Art, and issues in Contemporary Art. Classroom lectures; smaller biweekly discussion sessions. No prerequisite. Credit 3 units.

A&S LA FA AH

### Art-Arch 220. Introduction to Film Studies

*Same as Film 220.*

A&S LA

### Art-Arch 225. Matisse and Picasso

These artists will be considered individually, and in relation to such artistic movements as Cubism, Fauvism, and Surrealism. Examines work in all media (painting, sculpture, decorative arts, theater, and printmaking). Explores response to the political environment of modern France, including the two World Wars. Weekly class meetings plus several required visits to local museums. Class limited to 10. Prerequisite: Art-Arch 112E or 211E or permission of instructor. Credit 3 units.

A&S TH FA AH

### Art-Arch 232. Myths and Monuments of Antiquity

An introduction to the ancient world (circa 3500 BC to AD 400) based on masterpieces of art and architecture from Mesopotamia, Egypt, Greece, and the Roman Empire. The monuments are accompanied by a selection of myths and documents representing the cultural life of these ancient societies and constituting their legacy to our modern world. Credit 3 units.

A&S CD, LA

### Art-Arch 2662. Semester Abroad Program Seminar

This course will prepare students participating in the Semester Abroad Program in Florence, Italy. The seminar will meet eight times over the course of the semester. Attendance is required. Prerequisite: students selected for the Art History Semester Abroad Program only. Art students should register for F20 Art 2662. Credit 1 unit.

### Art-Arch 299. Internship in the Art Community

Prerequisite: a major or minor in Art History, permission of the undergraduate adviser requested in advance, and a letter from the sponsoring institution stating the nature of the internship. Credit variable, maximum 3 units.

FA AH

**Art-Arch 3001. Writing-Intensive in Art History and Archaeology: Selected Topics in Art History and Archaeology.**

Writing-Intensive course—topics will vary. See current semester listings. Prerequisite: permission of the instructor. Credit 3 units.

A&S TH, WI

**Art-Arch 3010. Topics in Art History**

Same as WGSS 3010, Art-Arch 3010. Credit 3 units.

A&S TH

**Art-Arch 3040. Documents and Documentary in Photography and Film**

Same as AMCS 3040, Film 3040.

How do photographs, films, and contemporary media appear to portray cultures, events, or history with objectivity? What are the roles of ethics and aesthetics in this process? We will consider a range of images from the 19th century to the present that explore and challenge concepts of documentary, including ethnographic records, WPA reportage, photomontage, surrealist film, and artists' autobiographic web sites. Readings will balance historical sources with contemporary theory from photography and film studies, including texts by Roland Barthes, Allan Sekula, W.J.T. Mitchell, Annette Michelson, Dziga Vertov, and Marianne Hirsch. Prerequisite: Art-Arch 112 or permission of instructor. Credit 3 units.

A&S TH

**Art-Arch 307. Northern Renaissance Art**

A survey of the major artistic developments in Northern Europe, c. 1400–1575. The course looks at the production of painting, sculpture, printmaking, drawing, manuscript illumination, and architecture in social, political, and religious contexts. The major artists to be covered include Jan van Eyck, Rogier van der Weyden, Albrecht Durer, Hans Holbein, Hieronymus Bosch, and Pieter Bruegel the Elder. Credit 3 units.

A&S TH FA AH

**Art-Arch 311C. Ancient Civilizations of the New World**

Same as Anthro 310C.

A&S CD, TH FA AH

**Art-Arch 3161. History and Practice of Printmaking**

This course focuses on the history and creation of prints. We will examine the specificities of the medium, historically and in the present, that contribute to its particular meaning, and that render it distinct from other forms of visual culture. Ideas of expression, interpretation, and ideological investment are seen on the continuum that ranges from the highly personal relationship of a print to its maker, to the commodification of the print within popular culture. Weekly lectures on the history of prints will complement the studio sessions, as will field trips to studios of St. Louis artists, and visits to local museums. We will look at prints in their historical role as reproductions in a pre-photographic age, as representations of shared religious and social values, and as vehicles of social or political critique. Artists to be discussed include Dürer, Rembrandt, Daumier, De-gas, Gauguin, Kirchner, Kollwitz, Warhol, Spero, Rauschenberg, Gonzales-Torres, and Kiki Smith. All students will make prints, and all will write critical and historical analyses. Prerequisite: Introduction to Western Art (Art-Arch 112). Credit 3 units.

A&S TH FA AH

**Art-Arch 3211. Art in the Egypt of the Pharaohs**

Same as ARC 3211.

A penetrating study of the artistic achievements in ancient Egypt during the Old, Middle, and New Kingdom (c. 3000–1100 BC). The great monuments of Egypt will be considered both for their aesthetic importance and as expressions of the superior culture developing, flourishing, and declining in the pristine valley of the Nile. Prerequisite: sophomore standing or permission of the department. Credit 3 units.

A&S CD, TH FA AH

**Art-Arch 3301. Homeric Archaeology**

Same as Art-Arch 3301, ARC 3301, Classics 3301.

The art and culture of prehistoric Greece as reflected in *The Iliad* and *The Odyssey* of Homer. The course will examine, analyze, and research the Minoan/Mycenaean civilization and its legacy that resulted in the renaissance of the 8th century BC. Topics will range from the 20th to the 8th centuries BC and will focus on major sites such as Knossos, Phaistos, and Mycenae, as well as burial customs, trade, warfare, and the emergence of the Greek city-state. No prerequisite. Credit 3 units.

A&S CD, TH FA AH

**Art-Arch 331. Greek Art and Archaeology**

Same as Classics 350, ARC 331.

A survey of the artistic achievements and material culture of the Greeks from ca. 1000 BC through the Hellenistic period. Development of architecture, sculpture, and painting, as well as minor arts and utilitarian objects, with emphasis on the insight they offer into Greek society. Credit 3 units.

A&S TH FA AH

**Art-Arch 3333. The Art and Archaeology of Japan and Korea**

Same as Art-Arch 3333, IAS 3333, ARC 3333, East Asia 3333.

Northern East Asia, in particular Japan and Korea, is now the location of several distinct national cultures. This course will provide an overview of the cultural developments of Japan and Korea by introducing the art and archaeology of their major periods of development. Both regional interaction and the indigenous developments that formed the cultural heritage of this region will be looked at through an examination of artifacts, architecture, and monuments, all set within their social and historical contexts. Credit 3 units.

A&S TH

**Art-Arch 334. Roman Art and Archaeology**

Same as Classics 334, ARC 334, Art-Arch 334.

The art and archaeology of the Romans, with emphasis on the late Republic and the Imperial period. Major monuments of sculpture and architecture, as well as town planning, domestic architecture, and the minor arts will be used as evidence for reconstructing ancient life. Credit 3 units.

A&S TH FA AH

**Art-Arch 336. Ancient Sanctuaries: The Archaeology of Sacred Space in the Ancient Mediterranean**

Same as ARC 336, Classics 3361.

Like the Vatican today, ancient sanctuaries were both the focus of religious activities and repositories for artistic treasures. Marked off from the secular world by physical boundaries, the sanctuary provided a common ground where gods and humans came together through sacrifice, shared meals, and other rituals. Shrines were often spectacularly sited and adorned with splendid architec-

ture with both temples for the divinities and treasuries for the gifts they received. The course will focus on the great shrines of ancient Greece: Eleusis, the setting of the mysteries of Demeter; Olympia, home of the Olympic games. Credit 3 units.

A&S CD, TH FA AH

**Art-Arch 338A. Aesthetics: The Aesthetics of the Interface/Media and the Arts as Windows onto the World**

Same as Comp Lit 438.

A&S TH FA AH, SSP

**Art-Arch 3401. Chinese Art and Culture**

Same as East Asia 3401, ANECC 3401, ARC 3401, IAS 3401.

Chinese art and culture from prehistory (c. 5000 BCE) through the Tang dynasty (9th century CE). Using new archaeological findings and new interpretive strategies, we will “re-write” the long-term history of the arts within Chinese culture. Particular attention to changing configurations of society and economy and to the role of ideology. Prerequisite: Art-Arch 111 or permission of instructor. Credit 3 units.

A&S CD, TH FA AH

**Art-Arch 3420. The Archaeology of Ancient China**

Same as East Asia 3420, IAS 3420, ARC 3420, ANECC 3420.

This course will examine the development of Chinese civilization from its beginnings in the many regional village-level societies that developed around the country early in the Neolithic period to the emergence of politically unified states in the Bronze Age. The archaeological evidence for this transition, including the evidence for regional interaction and conflict, technological innovation, urbanization, ceremony and ritual will be examined. Various theoretical perspectives also will be introduced to give students a framework for interpreting this evidence. No prerequisites for this course, and students from all backgrounds are welcomed for the diversity of perspectives they will be able to provide. Readings used for this class will be in English and will consist of materials from a variety of disciplines (primarily archaeology, anthropology, art history, and history). Credit 3 units.

A&S TH FA AH

**Art-Arch 3421. The Art and Archaeology of Northern East Asia in Prehistory**

The vast region of Northern East Asia (northern China, Japan, Korea, and the maritime region of Russia), now the location of many distinct national cultures, is the home of prehistoric societies that has many shared cultural roots. This course will provide an overview of the cultural developments in this region during the period before written records (differing by region) by introducing the art and archaeology of its major periods of development. Both the regional interaction and the indigenous developments that formed the cultural heritage of this region will be examined through the region's artifacts, architecture, and monuments, all set within their social and historical contexts. There are no prerequisites for this course, and students of all backgrounds are welcome. Readings used for this class will be in English and will consist of materials from a variety of disciplines (primarily archaeology, art history, anthropology, and history). Credit 3 units.

A&S TH FA AH

**Art-Arch 3423. From Ancient Worlds to Contemporary Practice**

Same as MLA 4423, Art-Arch 3423, IAS 3423, ANECC 3423, East Asia 3423.

Asian art enjoys a rich and diverse history. Many of the art forms practiced today have inextricable ties to cultures and societies that formed centuries ago. This course will introduce traditional art forms and their cultural underpinnings through the unique opportunity of interacting with visiting artists from East Asia—from a painter from Taiwan to a potter from Japan, along with Asian-American artists in the St. Louis community. Credit 3 units.

A&S TH

**Art-Arch 3512. Introduction to Medieval Islamic Art: The Fatimids**

The first section of this course introduces medieval Islamic art and architecture from the emergence of Muhammad and the rise of Islam in the early 7th century, through the caliphate of the Syrian Umayyads, to the dissolution of the Abbasid Empire in the 10th century. Special attention is paid to issues of particular importance to Islamic art, including aniconism, the role of calligraphy as an expressive art form, and the relation of early Islamic art to the traditions of other late antique cultures, especially Byzantium, and the Sasanian Empire. The remainder of the semester focuses on the art and architecture of the Fatimid dynasty, which ruled an extensive empire across North Africa and the Near East from the 10th to the 12th centuries. The course pays particular attention to the social and historical contexts in which objects and monuments were created and used. Credit 3 units.

A&S CD, TH

**Art-Arch 3525. Introduction to Medieval Art and Architecture of Europe and the Mediterranean: 300–1500**

Same as Art-Arch 3525.

This course surveys the artistic achievements of diverse cultures in the medieval Mediterranean world, including western Europe, Byzantium, Islam, and Judaism. A broad geographic and chronological span—from England to the Near East; from the establishment of Constantinople in the 330s to the late 15th-century paintings of Western Europe—allows for full exposure to the rich variety of objects and monuments that fall under the rubric of “medieval” art. The course provides a solid foundation from which to pursue advanced study of art from specific medieval cultures and serves as a valuable complement to medieval courses in other disciplines. Credit 3 units.

A&S CD, LA

**Art-Arch 3527. Art, Architecture, and Ideology in Medieval France: The Reign of Louis IX**

Louis IX (r. 1226–70) was not only one of the most famous medieval European rulers but also a renowned patron of the arts. During his rule, France—and especially its capital, Paris—claimed status as one of the great artistic centers of the world. Extant buildings and objects allow us to trace these achievements, while ample textual documentation from the era helps illuminate the contexts in which these works of art and architecture were used and through which they conveyed meaning. Credit 3 units.

A&S CD, TH

**Art-Arch 3528. Introduction to Early Medieval Art and Architecture**

Same as Re St 3528.

This course surveys the artistic achievements of the medieval era in western Europe from the 4th to the 9th centuries and in the eastern Mediterranean from the 4th to the 13th century. In addition

to early Christian art of the late Roman, Carolingian, Ottonian, Anglo-Saxon, and Byzantine worlds, we also consider works of art and architecture from the medieval Islamic and Jewish spheres as well as arts of the Migration Period. A broad geographic and chronological span—from England to the Near East and Constantinople to Spain; from the establishment of Constantinople in the 330s to cross-cultural exchange of the Crusader era—allows for full exposure to the rich variety of objects and monuments that fall under the rubric of early medieval art. Credit 3 units.

A&S CD, TH

**Art-Arch 3529. Medieval Icons: Painting before the Renaissance**

Same as Re St 3529.

Portable painting is commonly perceived as an art form of the Renaissance, when artists to an unprecedented degree utilized the surface of canvas or wood panels to create virtual windows onto the world. But Renaissance painting developed in large part from medieval icons, which functioned as objects of religious devotion and veneration. This course traces the evolution of Christian portable paintings from their origins in the late antique and Byzantine worlds to the earliest decades of the European Renaissance. Special attention is paid to the impact of eastern icons on western devotional images in the 12th to 13th centuries. We will be concerned with the function of paintings as much as their aesthetics, examining how the emphasis on their cultic vs. artistic value shifted for the medieval to Renaissance periods. Cross-cultural interaction in the Mediterranean world is of particular importance to our discussion, with historical phenomena such as the Crusades and the proselytizing efforts of European Mendicant Orders receiving special attention. Credit 3 units.

A&S TH

**Art-Arch 3541. Byzantine Icons in Byzantine Life**

Same as Re St 3541.

The contemporary eye commonly sees the Byzantine icon as a static and unreal image of foreboding religiosity. But Byzantines saw their icons as full of life and believed these objects provided access to the divine figures pictured there within. Produced before the modern phenomenon of the “display object,” Byzantine icons were touched, kissed, held, and even eaten, all in an effort to gain assistance from the holy persons they represented. This course introduces the history of Byzantine icons, addressing their function in religious and secular life of the private and the public realms. It focuses on the “anthropology” of the icon, examining ways in which these objects were used in personal and public rituals and how these works of art reflected shifts in Byzantine religious doctrine and social ideology. Beginning with the emergence of icons in the first centuries of Christianity, we follow their zenith in popularity through pilgrimage and monastic cults of the 6th and 7th centuries. We then consider the period of Iconoclasm (720s–840s), and its effects on the production, alteration, and function of images in Byzantium. The post-Iconoclastic reintroduction of religious imagery is examined with particular attention to the role of miraculous icons in the promotion of imperial and civic authority and the function of monumental and portable images in the middle Byzantine liturgy. Tracing the trajectory of Byzantine icons into the late Byzantine and modern eras, we address parallels and differences in the use and ideology of images in Byzantium and western medieval Europe; the contribution of Byzantine icons and image theory to the development of Renaissance art; and the possible

impact of the Byzantine icon on modern artists, including the Impressionists, the Bloomsbury Group, and Andy Warhol. Credit 3 units.

A&S TH

**Art-Arch 3580. Chinese Art and Culture**

Same as IAS 3581.

Chinese art and culture from prehistory (c. 5000 BCE) through the Tang dynasty (9th century CE). Using new archaeological findings and new interpretive strategies, we will “re-write” the long-term history of the arts within Chinese culture. Particular attention to changing configurations of society and economy, and the role of ideology. Prerequisite: Art-Arch 111 or permission of the instructor. Credit 3 units.

A&S TH

**Art-Arch 359. Dutch 17th-Century Painting**

Same as MLA 459, Art-Arch 359.

This course surveys the major developments in history, portrait, landscape, still-life, and genre painting in the Northern Netherlands in the 17th century. A variety of interpretive strategies and methods of inquiry will be employed. The major artists to be discussed include Frans Hals, Rembrandt, and Vermeer. Credit 3 units.

A&S TH FA AH

**Art-Arch 360. Renaissance Architecture**

Same as Art-Arch 360.

The modern concept of the architect as creator and genius began with Filippo Brunelleschi, the great innovator of 15th-century Florentine art. The course explores the spread of architecture and architectural theory as it begins in the hands of the innovator and is expressed and changed by other men of genius such as Leon Battista Alberti, Donato Bramante, Michelangelo Buonarroti, and Andrea Palladio. Credit 3 units.

A&S TH FA AH

**Art-Arch 362. High Renaissance Art**

Same as Art-Arch 362.

A general survey focusing on such outstanding figures of the period as Botticelli, Leonardo da Vinci, Michelangelo, Bellini, Giorgione, and Titian. Credit 3 units.

A&S TH FA AH

**Art-Arch 3620. Mannerism in Italy**

This course surveys the various embodiments of Mannerism, “maniera,” or what has been called the “stylish style,” in Italian art following in the wake of the High Renaissance. The nature of this self-conscious response to the achievements of Raphael, Michelangelo, and the revival of the antique has resisted easy classification both in contemporary writings and modern scholarship. The works of the “maniera” have been framed both in terms of decadence and refinement. The period was also a time of great social and religious upheaval, leading some to define Mannerism as a style of crisis. On the other hand, the deliberate elegance and grace that characterizes so many works responded to the tastes of court society. The course will address the conflicting definitions of Mannerism by analyzing the works of art themselves and placing them in their social and cultural contexts. Credit 3 units.

A&S TH FA AH

**Art-Arch 3623. Since 1960: Art, Criticism, and Theory**

Same as Art-Arch 3623.

This course considers recent movements in European and American Art, including Pop, Minimalism, Conceptualism, Performance, Postmodernism, and Installation Art, in their social and historical contexts. We will examine the dialogue between visual works and critical and theoretical texts by Michael Fried, Michel Foucault, Lucy

Lippard, Jean Baudrillard, and Kobena Mercer, among others. Prerequisite: Art-Arch 112 or permission of instructor. Credit 3 units.

**A&S TH**

**Art-Arch 362B. High Renaissance Art**

A general survey focusing on such outstanding figures of the period as Botticelli, Leonardo da Vinci, Michelangelo, Bellini, Giorgione, and Titian. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 3638. 19th-Century Art: Classicism and Romanticism**  
Credit 3 units.

**Art-Arch 365. Baroque Art**

*Same as Art-Arch 365, MLA 475.*

A survey of the development of painting and sculpture in 17th-century Europe. Emphasis on the works of Caravaggio, Bernini, Poussin, Rubens, Rembrandt, and Velazquez. Prerequisite: Art-Arch 112 or permission of the department. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 3671. Michelangelo: Painter, Sculptor, Architect**

*Same as MLA 4671, Art-Arch 367A.*

An examination of Michelangelo's life, work, and time. A consideration of the artist's painting, sculpture, and architecture in relation to his contemporaries and to the broad historical, political, and artistic currents of his day. Prerequisite: Art-Arch 112. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 370. The American West: The Image in History**

*Same as AMCS 370, Art-Arch 374.*

Examines representations of the American West and of the frontier encounter between Euro- and Native American cultures, from the early 19th to the early 20th centuries. We will consider travel accounts, fiction painting, ledger drawings, photography, and film in order to analyze the ways in which historical circumstances have shaped artistic and literary representations. At the same time, we will look at how images and texts have shaped formative myths about the West that in turn leave their impact on history. Credit 3 units.

**A&S CD, TH**

**FA AH**

**Art-Arch 3701. Illustrated Entertainment: Pictorial Graphic Culture from Early Printing to Television**

*Same as F20 Art 3701.*

This course will address the production, distribution, aesthetics, and cultural significance of illustrated entertainment in Europe and especially the United States. The course will serve as a typological survey; that is, it will address important practitioners in significant categories of a very broad field. Subject coverage will include early printing, caricature and the art of the gazette, the development of comics, 20th-century American magazine illustration, early animation, the animated TV series, and, if time permits, online animation. Topics of consideration will include: the interplay of art, entertainment, and communication; the role of the individual creator vs. the corporate concern; the impact of the editor and art director, the self-image of the creator, the social context of the work, and the role of technological change. Credit 3 units.

**A&S TH**

**Art-Arch 3712. Art and Culture in America's Gilded Age**

*Same as History 3712, AMCS 3712.*

Developments in American culture from the end

of the Civil War to the turn of the century: novels, buildings, images, public and private spaces of this transitional period—a time of new class formation, of unparalleled social diversity, and of new urban forms. The connections between art, literature, and social experience. Representative figures include Henry James, Henry Adams, Louis Sullivan, Stanford White, Thomas Eakins, and Louis Tiffany. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 372. American Art to 1960**

*Same as Art-Arch 372.*

From the beginnings of modernism in the visual arts of the United States, around 1900, to Abstract Expressionism and the Beat aesthetic. Focus on the cultural reception and spread of modernism, native currents of modernist expression, from organicism to machine imagery, the mural movement and the art of the WPA, the creation of a usable past, abstraction and figuration, regionalism and internationalism, photography and advertising. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 376. American Modernism, 1900–1940**

*Same as AMCS 376, Art-Arch 376.*

American modernism: what is it? What is the nature of its encounter with mass culture? What happened to modernism as it migrated from its "high" European origins to its "middlebrow" version in America between the turn of the century and the eve of World War II? What was the rhetoric of modernism in everyday life—its impact on design, photography, advertising? In addition to the fine arts, we'll look at popular media, film, and photography. Lecture/discussion. Prerequisite: Art-Arch 211 Introduction to Modern Art or permission of the instructor. Credit 3 units.

**A&S TH, WI FA AH**

**Art-Arch 3782. Modern Art 1905–1960**

This course investigates topics in European painting, sculpture, architecture, photography, and film. Lectures and readings will address major artistic developments, including Cubism, De Stijl, Futurism, Expressionism, Dadaism, Constructivism, Surrealism, the Bauhaus, and Art Brut. Special attention will be given to debates on abstraction vs. figuration in different social and historical contexts, and to the roles of technology, mechanical reproduction, and engineering in the modern age. Prerequisite: Art-Arch 211 or permission of instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 3831. Art in the Age of Revolution: 1789–1848**

*Same as IAS 3831.*

European painting, sculpture, and printmaking from the French Revolution to the mid-19th century; French, English, German, and Spanish artists discussed in social and aesthetic context, with a focus on links between art and ideology in times of political turmoil. The styles of Classicism and Romanticism, the rise of history painting, and the development of realism in both landscape and genre painting. Prerequisite: Art-Arch 112 or permission of instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 3833. Realism and Impressionism**

*Same as Art-Arch 3833, IAS 3833, EuSt 3833.*

An examination of the development of European art from approximately 1848 to the mid-1880s, with a focus on the development of Realism and Impressionism in England and France. Issues to be explored include the breakdown of academic art, the rise of landscape and naturalist themes, the emergence of alternative exhibition spaces and

new dealer systems, and the relationship between gender and avant-garde practice. Prerequisite, Art-Arch 112 or Art-Arch 211, or permission of instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 3835. The Art Museum: History, Theory, and Design**

The course will study the conceptual basis of the institution of the art museum in the United States and Europe, including its history, theoretical foundations, design, and cultural function. We will begin with the origins of the modern museum in the 18th century and earlier; trace the development in the 19th century of the earliest national art museums in the U.S. and Europe; consider the opportunities and problems of museums of modern and contemporary art in the 20th century; address the question of appropriate architectural strategies for art museums of the past and the present; and consider a variety of developments in the art museum today. We will study and visit art museums in St. Louis and will take a field trip to selected art museums out of town. Prerequisite: Art-Arch 211 Introduction to Modern Art or Arch 4284 Architectural History II, or permission of instructor. Credit 3 units.

**A&S TH**

**Art-Arch 3838. Modern Art in Fin-de-Siècle Europe, 1880–1907**

*Same as IAS 3838, EuSt 3838.*

This course examines artistic production at the turn of the century in France, Belgium, England, and Scandinavia. Beginning with the reevaluation of Impressionism and Naturalism in France, we examine Neo-Impressionism (Seurat and Signac) and Symbolism (Moreau, Van Gogh, Gauguin, the Nabis, Rodin, Munch), as well as later careers of Impressionists (Cassatt, Monet, Degas, Renoir). Considers cross-national currents of Symbolism in Belgium and Scandinavia; the Aesthetic Movement in Britain; the rise of Expressionist painting in French art (particularly with the Fauvism of Matisse and Derain), and the juncture of modernist primitivism and abstraction in early Cubism (Picasso). Prerequisite: Art-Arch 112 or permission of the instructor. Credit 3 units.

**A&S TH**

**Art-Arch 3871. European Art Between the World Wars**

An examination of European art within its social and political context from 1914 to 1945. Lectures

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NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

and readings will address major artistic developments such as Cubism, Expressionism, Dadaism, and Surrealism, as well as cultural production under totalitarian regimes. Prerequisite: Art-Arch 211 Introduction to Modern Art or permission of instructor. Credit 3 units.

A&S TH  
FA AH

#### Art-Arch 3892. Modern Sculpture: Canova to Koons

Same as IAS 3892, EuSt 3892.

This course will survey sculpture in Europe and the United States from about 1800 to the present, with an emphasis on the period 1890–1980. A rapid traverse of Neoclassicism, Realism, and the rage for statuary in the later 19th century will take us to the work of Rodin and a more systematic exploration of developments in sculpture of the 20th century. Particular emphasis will also be given to the work of Brancusi, Picasso, Matisse, Duchamp, Giacometti, Oppenheim, David Smith, Serra, Morris, Judd, Hesse, and Bourgeois. An important theme running through the course as a whole, from an age of nationalism and manufacturing to our own time of networks and information, is the changing definition of sculpture itself within its social and political context. We also will explore various new artistic practices—video, performance, installations and body art, for instance—and interrogate their relationship to sculptural tradition and innovation. Prerequisite: Art-Arch 112 Introduction to Western Art, Art-Arch 211 Introduction to Modern Art, or permission of instructor. Credit 3 units.

A&S TH

#### Art-Arch 392. History of Book Illustration

Same as F20 Art 445.

#### Art-Arch 400. Stone, Bone, Clay, and Fiber: A Hands-on Course in Materials and Pre-modern Production Techniques

Same as ARC 400.

Often, archaeologists and art historians have little opportunity in the course of their academic trainings to obtain hands-on experience with materials forming the basis of their study. This class is designed to provide several opportunities for students to do just so. We will work with stone, bone, wood, and shell to recreate tools and ornaments; clay to make pottery; pounded earth to make walls; and fibers to make textiles and cordage. The instructor will include any other areas of student interest where facilities/resources can be arranged. Students will produce several experiments using different materials, document their experimental productions in written reports, and present their projects to the class. Credit 3 units.

A&S TH FA AH

#### Art-Arch 4000. Rethinking Matisse

An intensive study of work in all media by this influential modern artist. Henri Matisse (1869–1954) is best known for his painting and sculpture, the traditional media of the French beaux arts, often overshadowing significant work in book design, tapestry, ceramic murals, stained glass, and even architecture and fashion design. To reconsider Matisse's place in the history of art in the 20th century, we will place special emphasis on the artist's contribution to modern trends in domestic and institutional decoration. His long career spanned the political schisms of the Dreyfus era in the 1890s to the efforts by France in the 1950s to recover its position in culture and politics after the Second World War, and we also will consider his relationship to the momentous political and economic changes in his time. Related topics to be addressed: the role of his writings within contemporary artistic discourse; the critical reception of Matisse's art in his changing place in it;

the market for avant-garde art in 20th century; Matisse's relationship to other artists, such as the Fauves, Picasso, and other Cubists; and the conservative artists of the "return to order" in the 1920s. Prerequisites: Art-Arch 211 or any 300-level art history course or permission of the instructor. Credit 3 units.

A&S TH

#### Art-Arch 4002. The Decorative Aesthetic in Modernism, 1860–1960

In the criticism of modern art, decoration and decorative have often been used as pejorative terms, designating art that has no intellectual basis but is merely pleasing, intended to fill space and delight the eye. But in the late 19th century, these terms carried important cultural value, and opened the door to significant experiments in abstraction. Moreover, the decoration of a public space or surface may have political implications. This course will investigate decoration and theories of "the decorative" in modern art in Europe and the United States, with special attention to the evolution of ideas of modernism in both 2-dimensional and 3-dimensional environments. We also will consider some of the political meanings that may be borne by both public mural painting and domestic decoration, as well as easel painting that aspires to conditions of the decorative. Key figures include Puvis de Chavannes, Morris, the Nabis, Van de Velde, Monet, Matisse, the Mexican muralists, Pollock, and Shapiro. Prerequisite: Art-Arch 211 Introduction to Modern Art any 300-level course in Art History, or permission of instructor. Credit 3 units.

A&S TH

#### Art-Arch 4032. Lithic Analysis

Same as ARC 4032.

This seminar will provide graduate and undergraduate archaeologists and other interested students with an introduction to various aspects of lithic analysis. Stone tools and lithic debitage found at prehistoric settlement and activity sites can provide insights into the lives of past peoples that are both complementary and contrastive to findings from other material remains, and are thus a major area of archaeological interest. Topics to be covered will include a historical review of the various developments in lithic analysis, hands-on application of analytical techniques using flaked stone tools, ground stone tools, and lithic debitage, lithic illustration, and flaked and ground stone tool replication. Prerequisite: ARC 190B Introduction to Archaeology. Credit 3 units.

A&S SS

#### Art-Arch 408. Gender in Contemporary Art

Same as WGSS 408, AMCS 408.

We will study artists from 1960 to the present whose work thematizes gender, including Carl Andre, Robert Morris, Cindy Sherman, Lorna Simpson, and Mona Hatoum, and discuss how their work raises questions about representation of the body, spectatorship, and notions of identity. This course is intended to help students develop and refine their writing and will require at least three papers. As we write and revise, we will consider how gender theory has encouraged art historians to rethink writing and research methods: the topics we choose, the structure of our arguments, our relation to our subjects, and the audience we address. Prerequisites: at least one art history course at the 300 level or permission of instructor. Credit 3 units.

A&S SD, TH

#### Art-Arch 409. Logics of the Art Museum

Same as F20 Art 409.

This seminar will explore the inside and inner logics of the art museum. Readings and discussions will concentrate on how the art museum deter-

mines what art is, how it stages artistic subjectivity, and how museums and art interpenetrate and reflect each other. What does it mean to collect art? Why is an artwork worth preserving? What happens to the museum when art leaves it through new media such as the Internet, the public domain, and the realm of politics? Alternating with theoretical reading are case studies that focus on the practices of New York's MoMA, and temporary shows such as Documenta. We will ourselves become critics and professionals as we examine displays at the Saint Louis Art Museum and the Pulitzer Foundation of the Arts and conceive of possibilities to curate the permanent collection of the Mildred Lane Kemper Art Museum on campus. Prerequisites: Art-Arch 211 Introduction to Modern Art or permission of the instructor. Credit 3 units.

A&S TH FA AH

#### Art-Arch 414. Contemporary German Art

The seminar will explore the specific nature of art made in Germany since the fall of the Berlin Wall in November 1989. It will inquire how the visual arts have directly and indirectly dealt with the effects of unification, bringing into focus the interdependency between art and the social, economic, and political worlds. The creation of the new Germany in 1990 affected decisive transformations that shaped new and often conflicting self-images of Germany. We will consider how German artists engage with the make-up of the new Germany and discuss artworks that address Germany's relationship to its past and present. The memory of the Third Reich and the investigation of the East and West German pasts play roles as important as Germany's role within globalization. We will concentrate on artworks executed during the 1990s and thereafter that challenge a new relation between art and the everyday, art and "reality," or art and non-art. In order to implicate the everyday into the aesthetic domain and vice-versa, the artists employ mass and popular culture, integrate the viewer into the creation of aesthetic experience, and create spaces that compete with social environments, for example. Embracing all forms of visual media including painting, sculpture, installation art, photography, film, and video art, the course will focus on a new generation of German artists who grew up in either part of the divided Germany such as Franz Ackermann, Rudolf Herz, Sabine Hornig, Christian Jankowski, Via Lewandowsky, Michael Majerus, Jonathan Meese, and Neo Rauch. Prerequisite: at least one art history class at the 300 level or permission of the instructor. Credit 3 units.

A&S TH

#### Art-Arch 415. Feminist Art and Theory 1970 to Present

Same as WGSS 4151.

How have feminist artists and theorists challenged the conventions of art history? This course begins with the feminist art world activism that arose in the 1970s in the context of the women's liberation movement. During this time, feminist artists sought to establish new forms of art education, venues for exhibition, and creative working methods to provide alternatives to traditional art world institutions (which were often seen as ill-suited or unreceptive). We will examine how current artists, building on this recent history, continue to develop feminist aesthetics and politics in a variety of contemporary practices, including installation art, body art, performance art, and video. We will read texts by Griselda Pollock, Linda Nochlin, Lucy Lippard, Carolee Schneemann, Helene Cixous, Laura Mulvey, Lisa Tickner, Judith Butler, Adrian Piper, and Helen Moelsworth, among others, and discuss the relationship between feminist theory and artistic creativity. Prerequisites: 300-level

class in art history or 300-level class in gender studies or permission of the instructor. Credit 3 units.

**A&S TH**

**Art-Arch 421. Minoan and Mycenaean Archaeology**

A study of the Minoan civilization and late Bronze Age Greece. Relations of the two civilizations to each other and to the Near East. Examination of archaeological evidence and its varied interpretations by scholars in relation to solving chronological and historical problems. Prerequisite: Art-Arch 331 or permission of instructor. Credit 3 units.

**A&S CD, TH FA AH**

**Art-Arch 4212. Contemporary Art in Exhibition: Museums and Beyond**

How does the collection and display of artwork create meanings beyond the individual art object? During the 20th century, enormous shifts occurred in exhibition design as artwork projected from the walls of the museum, moved outdoors to the space of the street, and eventually went online. We will study an array of 20th-century exhibition practices and sites in their social and historical contexts, including the temporary exhibition, "the white cube," museum installations, and web sites. During the seminar, we will examine how issues such as patronage, avant-gardism, nationalism, and identity politics have progressively brought museums and other exhibition spaces into question. Prerequisites: 300-level course in 20th-century art and permission of the instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 426. Ancient Athens**

*Same as Classics 426.*

**A&S CD, TH FA AH**

**Art-Arch 427. Athenian Vase Painting**

*Same as Classics 427, ARC 427.*

From the late 7th to the late 4th century BCE, Athenian artisans produced pottery of high quality that was particularly outstanding for its figured decoration. This seminar will investigate the technology and history of this craft, with particular emphasis on the iconography of the figured scenes. Topics to be discussed include the relationship of form, decoration, and function; the relationship between figured decoration and the textual sources; the role of pottery as an export; and genre scenes as a basis for investigating ancient Athenian society. Prerequisite: Art-Arch 331/Arch 331/Classics 350 Greek Art and Archaeology or permission of the instructor. Credit 3 units.

**A&S TH**

**Art-Arch 430. Topics in Northern Renaissance Art**

Credit 3 units.

**A&S TH**

**Art-Arch 4321. Ancient Coins**

*Same as Classics 4321, ARC 4321.*

The seminar is designed to research the rich world of Greek and Roman coinage by using the university's own resource, the J.M. Wulfinck collection of coins. Emphasis on coin typology, works of art or buildings illustrated on our coins, and the history of coinage. We will be using actual coins in the gallery. Prerequisite: due to the delicate nature of the material, the course is by permission of the instructor only. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 433. Greek Vase Painting**

*Same as Classics 433.*

This seminar will examine vase painting from the geometric period (ca. 800 BC) to the end of the red-figure style (ca. 350 BC), but the majority of class time will be spent looking at Attic vase-painting of the 6th and 5th centuries BC. The

iconography of Greek vases, particularly Attic black-figure and red-figure, provides an extraordinary view into the culture and beliefs of contemporary society. Some vases are clearly made as grave offerings, others as votive offerings at sanctuaries, and still others for use at home. The focus of this seminar will be the relationship of a vase's images to the context of its use. How much does the intended use and audience for the vase determine the images on it? These important questions have not received much attention by scholars, and class papers may possibly result in publications. Enthusiastic class participation required. Occasional responsibility for presentation of weekly readings. Class paper and presentation. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 435. The Parthenon**

*Same as Classics 435.*

A study of the architectural design, aesthetic principles, engineering and construction of the greatest Greek building. Its architecture will be considered in conjunction with its immense sculptural program that revolutionized European art. We will penetrate deeply into the background of this remarkable work of art and try to understand it by placing it in its proper context and comparing it with other similar efforts in Classical Greece. Prerequisite: senior standing or permission of instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 437. Greek Sculpture**

*Same as ARC 437, Classics 437.*

The development of Greek sculpture from its earliest beginnings (circa 800 BC) through the time of Alexander. Early influences from Egypt and the Near East. Sculpture's relation to changing artistic concepts and the changing character of Greek society. Prerequisites: Art-Arch 331 and permission of instructor required. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 4371. Greek and Roman Pottery**

*Same as Classics 4371, ARC 4371.*

Pottery is the most commonly found artifact on virtually all Classical sites. It therefore serves as an essential tool for the dating and interpretation of monuments and features in excavation. It also offers evidence for trade, diet, lifestyle, and many other aspects of ancient life. The course will examine the typology and chronology of the major pottery types produced from the 6th century BCE to the 4th century CE, as well as the ways in which pottery has been used to throw light on the culture and society of the ancient Greeks and Romans. Prerequisite: permission of instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 438. Ancient Painting**

*Same as Art-Arch 438, Classics 4381.*

A study of the rich world of painting in Greco-Roman art from the first renderings of mythological scenes, Classical frescoes, panel paintings known from texts, to the diverse styles of Roman frescoes and the masterful ancient mosaics. We will emphasize Pompeii and will attempt to recognize famous paintings. Prerequisites: at least one art history course at the 300 level or permission of the instructor. Credit 3 units.

**A&S TH FA AH**

**Art-Arch 4471. From Village to State in Ancient China**

China is home to one of the world's oldest and longest surviving civilizations. This course will examine the development of Chinese civilization from its beginnings in the early Neolithic period when many diverse regional village-level societies developed around the country: throughout the pe-

riod when these local societies gradually coalesced into numerous regionally related traditions; and ending in the Bronze Age with the emergence of politically unified states that controlled large territories. The archaeological evidence for this transition, including the evidence for regional interaction and conflict, urbanization, ceremony and ritual, and technological innovations will be examined. Various theoretical perspectives also will be introduced to give students a framework for interpreting this evidence. There are no prerequisites for this course, and students from all backgrounds are welcomed for the diversity of perspectives they will be able to provide in the seminar class format. Readings used for this class will be in English and will consist of materials from a variety of disciplines (primarily archaeology, art history, anthropology, and history). Credit 3 units.

**A&S TH FA AH**

**Art-Arch 4492. Production Systems in East Asia**

Bronze, sil, and porcelain have been used in the making of some of East Asia's most important art. But what is involved in the production of the materials themselves, as well as in the objects made from them? This course will look at the archaeological and historical evidence for the origins of these various industries, and trace their development by examining them (as well as other materials such as iron and salt) in terms of the processes involved in their extraction, production, and consumption. Along with examining the roles that products made from these materials played in society, we also will look at the economic and other factors that influenced modes of manufacture. Requirements: summaries of weekly readings, final presentation, and final paper. Credit 3 units.

**A&S TH**

**Art-Arch 4493. When Materials Become Media: Bronze, Silk, and Porcelain and the Production of East Asian Art**

*Same as East Asia 4493, ARC 4493, IAS 4494.* Bronze, silk, and porcelain are used to make some of the most spectacular works of East Asian art. This course will look at art of various media from its origins to its final realization, by examining the archaeological evidence for the processing of the metal ores, clay, or other materials from which the art is made, the sequence and process of its manufacture, and the roles that the final products played in temple, palace, or greater society. We also will explore the social factors surrounding the production of these objects and the consequences of their creation and use. Prerequisite: permission of instructor. Credit 3 units.

**A&S TH**

**Art-Arch 4512. Kings, Caliphs, and Emperors: Images of Authority in the Era of the Crusades**  
*Same as JNE 4512.*

This course investigates how notions of political and social authority were conveyed through the visual and material cultures of Byzantium, the Islamic world, and western Christendom when these groups experienced an unprecedented degree of cross-cultural exposure as a result of Crusader incursions in the eastern Mediterranean. Particular attention is paid to the production of hybrid monuments and objects, which interwove artistic styles and visual languages from multiple cultural sources. Credit 3 units.

**A&S TH**

**Art-Arch 4562. Medieval Renaissance: Art and Antiquity in the Middle Ages**

It is commonly assumed that the Middle Ages mark a break in the continuum of classical tradition between antiquity and the Renaissance. Dur-

ing the medieval era, however, there were a variety of survivals and revivals of antique styles, narratives, and ideologies. This course considers various moments of “classical renaissance” during the Middle Ages in both the secular and sacred spheres, in a variety of media and across a broad geographic expanse. Credit 3 units.

A&S CD, TH

**Art-Arch 458. Vermeer**

*Same as MLA 4588.*

This course examines the life and work of one of the most admired—and traditionally enigmatic—artists of the 17th century. Vermeer’s extant oeuvre of 35 paintings will be studied in light of recent developments in the study of his technique, iconography, and artistic and social milieu. Permission of instructor required. Credit 3 units.

A&S TH FA AH

**Art-Arch 4613. Renaissance Patronage**

A seminar on patrons and patronage of Renaissance Italy, France, and Spain focusing on major families such as the Medici, Sforza, Este, and Gonzaga and on such prominent figures as Cosimo and Lorenzo de’ Medici, Isabella d’Este, Francis I, and Philip II. Credit 3 units.

A&S TH FA AH

**Art-Arch 4615. Caricature: The Culture and Politics of Satire**

*Same as IAS 4615, EuSt 4615.*

This course examines the golden age of caricature. Beginning with the prints of William Hogarth, we will look at the caricatural traditions in France and England from the late 18th century through the early 20th century. Special emphasis will be placed on visual satire as a vehicle for social and political critique, on theories of humor (particularly Baudelaire and Bakhtin), and the development of a mass market for this imagery. Other figures to be discussed include Rowlandson, Cruickshank, Daumier, Gavarni, Philipon, and Gil. Students may also propose report topics in 20th-century material. We will take advantage of a major collection of French caricature at the Kemper Art Museum at Washington University, as well as collections available for study in Olin Library and at the Saint Louis Art Museum. Reading knowledge of French not necessary, but desirable. Prerequisite: art history courses Art-Arch 112 or Art-Arch 211, or a 300-level course in modern European history or literature, or permission of the instructor. Credit 3 units.

A&S TH

**Art-Arch 462. Topics in Renaissance Art and Architecture II**

*Same as E Lit 461.*

A&S TH FA Lit

**Art-Arch 4624. Michelangelo**

An examination of the life and works of Michelangelo. The most important developments in his architecture, painting, and sculpture; with special attention to his assistants, friends, family, and contemporaries. Prerequisite: permission of instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 4625. Venice**

*Same as MLA 4625, Art-Arch 4265.*

A seminar focusing on the art of Venice, in particular on Bellini, Giorgione, and Titian. Special attention to the international reputations of these three artists and to problems of patronage, connoisseurship, and interpretation. Prerequisite: Art-Arch 361 or 362, or permission of the instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 4642. Interpretive Strategies in Renaissance and Baroque Imagery**

This course will investigate interpretive strategies in the understanding of Renaissance and Baroque pictorial imagery. Readings will examine the commonplace and the esoteric in iconology, symbolism, allegory, and the role of experience and association in the making and reception of works of art. Artists will include Van Eyck, Donatello, Botticelli, Leonardo, Raphael, Michelangelo, Dürer, Bosch, Brueghel, Caravaggio, Bernini, Rubens, Poussin, Rembrandt, and Vermeer, among others. Prerequisite: permission of the instructor. Credit 3 units.

A&S TH

**Art-Arch 4661. Mannerism**

Italian and Italianate art after the High Renaissance (circa 1510–90), including consideration of style, historical events, cultural context, and artistic personality and biography. Artists include Michelangelo, Pontorno, Bronzino, Cellini, and Parmigianino. Prerequisite: Art-Arch 361, 362, or 3621, or permission of instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 4662. Michelangelo the Architect**

When, why, and how did the great Renaissance sculptor, painter, and poet Michelangelo Buonarroti become an architect? This seminar will survey Michelangelo’s built and unbuilt architecture, his methods and extant drawings, and the process and influence of his creations. Credit 3 units.

A&S TH FA AH

**Art-Arch 4669. Rembrandt van Rijn**

This seminar explores the connections between the life and work of Rembrandt. The biography of the artist will serve as a foundation to explore the breadth of Rembrandt’s activity as a painter, printmaker, and draftsman. Special attention will be paid to original works in St. Louis collections. Prerequisite: permission of instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 4721. American Art and Culture, 1945–1960**

*Same as AMCS 472, Art-Arch 4721.*

The rise and “triumph” of Abstract Expressionism has long dominated the story of American art following World War II. This new seminar will put Abstract Expressionism into context with parallel developments in the arts, photography, and film. Among the topics we will consider: the conversation between émigré artists and American culture during and after the war; the emergence of a “noir” aesthetic in film and literature; the early work of Jasper Johns and Robert Rauschenberg and the so-called “aesthetic of indifference” in relation to Abstract Expressionism; artistic collaborations at Black Mountain College; New York school photography and photojournalism; and the cultural impact of the A-bomb. Prerequisite: a 300-level course on 20th-century art, photography, or history, or permission of the instructor. Credit 3 units.

A&S TH

**Art-Arch 473. Art and Culture in Fin-de-Siècle America**

The particular climate of the fin-de-siècle and its expression in art, architecture, and letters. Concurrent development in Vienna, Paris, and London as basis for comparison. Themes include new theories of mind and perception, the fate of rationalism, the “crisis in bourgeois values,” and redefinitions of gender. Prerequisite: permission of instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 474. Topics in American Art**

Credit 3 units.

A&S TH FA AH

**Art-Arch 4743. Imagining the West**

*Same as History 4743.*

The historical, visual, literary, and scientific encounter of Europeans and European-Americans with the North American frontier. Examines how the West as myth and reality was assimilated into, and imaginatively colonized by, both Europe and America from the pre-discovery period through the end of the 19th century. Images of the first encounter, cultural dynamics of the colonization process, cultural resistance of Native Americans. Field trips, guest lectures. Prerequisite: 100-, 200- or 300-level courses in art history, 300-level courses in European or American 19th-century comparative literature or history, or permission of instructors. Credit 3 units.

A&S TH FA AH

**Art-Arch 475. The City in American Arts and Popular Culture: 1910–1940**

*Same as AMCS 476.*

Using visual media—painting, prints and illustration, film and animation—along with studies of vaudeville and other forms of popular and mass entertainment, this seminar will analyze the presence of the city as a theme that registers a range of cultural attitudes toward the modern. Through close readings of visual and verbal texts, we will consider such issues as the relationship between work and leisure and between high culture and popular arts. We’ll look at critiques and celebrations as well as at how the popular arts help the ordinary man and woman to negotiate the challenges of the new mechanized and overscaled urban environment. Prerequisite: 300-level course in American 20th-century cultural history, or American art or literature, or permission of instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 4771. Gender in 19th-Century Art**

*Same as WGSS 4771.*

An examination of the representation of gender, i.e. the construction of male and female identities through images, and the role of gender in artistic practice. Readings and class discussion will focus on American, French, and English art. Prerequisite: survey of modern art; any 300-level course in 19th-century American/European art or culture; or permission of instructor. Credit 3 units.

A&S SD, TH FA AH

**Art-Arch 4776. Art and Culture in 1930s America**

An interdisciplinary look at the production of culture in the United States during the Depression years between the stock market crash and the nation’s entry into World War II. Focus on the evolving dialogue between aesthetic concerns and political commitment. We will consider the role of the state as an agent of culture; the relationship between leftist politics and modernism; regionalism and internationalism; debates over the nature of documentary photography; and attitudes toward the past in New Deal art, among other topics. Prerequisite: 300-level course in European or American 20th-century art or cultural history, concurrent enrollment in Art-Arch 372, or permission of the instructor. Credit 3 units.

A&S TH FA AH

**Art-Arch 4782. Modern Architecture in St. Louis**

*Same as Arch 4782.*

Credit 3 units.

A&S TH

**Art-Arch 4785. Art and Culture in 1920s America***Same as AMCS 4785.*

This interdisciplinary seminar examines the relationship between art and 1920s culture in the United States: how artists and critics thought about the nature of our cultural heritage—its rich possibilities and its limitations; the potential of technology and urbanization as well as the threats they pose to older cultural values; the nature of a multicultural society and the contributions of minority traditions to the evolution of American culture; the lure of the Southwest; early criticism of popular media; and the conversation between popular culture and high art. Prerequisite: Art-Arch 112 or permission of instructor. Credit 3 units.

A&amp;S TH

**Art-Arch 481. Topics in Modern Art**

The sources, styles, influences, and content of the art of such artists as Gauguin and Cézanne examined in the context of contemporary movements in art and literature. Prerequisite: art history major or permission of instructor. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 4816. Art and Culture in Fin-de-Siècle Europe***Same as EuSt 4816, IAS 4816.*

An examination of painting, photography and the decorative arts in France during the period between the two World's Fairs of 1889 and 1900. Artistic movements include Symbolism (Van Gogh, Gauguin, Redon), later Impressionism (Monet and Morisot), Neo-Impressionism (Seurat and Signac) and Art Nouveau. Thematics include urban leisure and cafe culture, the agrarian ideal, the promises and threats of science and technology, the lure of the primitive, and the impact of nationalism and feminism on the arts. Prerequisite: Art-Arch 211, any 300-level course in 19th-century art, literature or history, or permission of instructor. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 4840. Architecture in the Americas****Art-Arch 4855. Contemporary Art in France**  
*Same as French 4855.*

This course will cover artistic styles and movements from 1945 to the present, including art informel, art brut, new realism, the Situationist International, and new wave film. Artworks will be studied in the context of cultural debates on topics such as post-WW II reconstruction, decolonization, consumerism, the 1968 revolution, the influence of the mass media, and changing conceptions of national, ethnic, and gender identity. Reading knowledge of French is helpful. Prerequisite: permission of instructor. Credit 3 units.

A&amp;S TH

**Art-Arch 4861. Paul Gauguin in Context***Same as MLA 4861.*

An examination of the art and career of Paul Gauguin (1848–1903) and the artistic, social, and political milieu in which he worked in France and Polynesia. Readings will include the artist's writings, studies of avant-garde culture and primitivism in fin-de-siècle France, and the many new publications issued in 2003–04 in America, Tahiti, and France in recognition of the centenary (the century since Gauguin's death in 1903). Prerequisite: Art-Arch 211 or any 300-level course in art history, or permission of instructor. Reading knowledge of French useful, but not required. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 4863. The Photographic Muse: The Modern Artist and the Camera**

An examination of the interplay of photography with painting and sculpture in European art from 1850 to World War I, with an emphasis on the fin-de-siècle. Readings address the history of the medium; the critical debates (starting with Baude-laire ) over photography as a tool of science or of art; the rise of ethnographic photography; the Symbolist ambivalence toward technology; and the development of Pictorialism at the turn of the century. Artists to be studied include Nadar, Moreau, Degas, Rodin, Steichen, Gauguin, Munch, the Nabis, Brancusi and Picasso. Prerequisite: graduate standing. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 4864. Exoticism and Primitivism in Modern Art***Same as EuSt 4864, IAS 4864.*

An interdisciplinary investigation of the development of exoticism and primitivism in Europe from the Enlightenment to the Second World War. Topics include exoticist representations of non-Western cultures; the links between colonialism and orientalism; the intersection of discourses on race and gender with exoticism; and the anti-Modernist impulse of fin-de-siècle primitivism. Sample artists and authors include Chateaubriand, Delacroix, Flaubert, Gauguin, Picasso, and Ma-tisse. Prerequisites: any 300-level course in art history and permission of the instructor. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 4877. Critical Studies in Portraiture, Ancient to Contemporary**

To study portraiture is to confront the complexity of human identity. The central theoretical question of this course is how identity can be expressed in a portrait. Following consideration of theories of portraiture, identity, and artistic representation, we will treat specific historical and cultural instances of portrait-making, from ancient Greece to the present. Non-Western cultural examples will broaden the scope beyond the conventional conceptions of portraiture. We will conclude by trying to understand the continuing allure of the portrait today as digital media challenge our conventional ideas of visuality and perhaps even the urgency of portraiture in the post-human age. Credit 3 units.

A&amp;S TH

**Art-Arch 4889. Reframing Feminist Art of the 1970s***Same as WGSS 4889.*

Many feminist artists of the 1970s created collaborative projects exhibition spaces, and discussion groups as central parts of their aesthetic and political practice. This course will examine how these activities sought to give gendered meanings to the languages of art provide access to art world institutions and rethink the tenets of art history. We will read texts ranging from documents of the period to recent art historical accounts, in order to develop new, art historical methods for studying the diverse collaborations, networks, and alternative exhibition sites that were fundamental to the feminist artwork of this decade. Prerequisite: permission of the instructor. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 4921. Theory for Art History: Modernism/Modernity/Postmodernism**

This course will introduce key modern theories. Considering diverse thinkers such as Marx, Freud, Nietzsche, Adorno, Benjamin, Kracauer, Horkheimer, Barthes, Foucault, Lyotard, Derrida, Kristeva, Butler, and Merleau-Ponty, this seminar will focus on concepts that have framed and re-framed the study and interpretation of aesthetic Modernism and Postmodernism over the past century. We will read and discuss primary theories and probe their application through close visual readings of individual works of art. Discussions will seek a better understanding of the role and meaning of the aesthetic object within a variety of theoretical contexts, extending from an investment in the universalist modern artistic subject, to the shifting role of the contingent viewer within modernity to an expansion of the traditional boundaries of the discipline of Art History into Visual Studies. The goal of this seminar is to explore theory as means to create, examine and to question social, political, and ideological frameworks in which we position the aesthetic object. Prerequisites: graduate or advanced undergraduate standing and permission of the instructor. Credit 3 units.

A&amp;S TH

**Art-Arch 4976. The American Trauma: Representing the Civil War in Art, Literature, and Politics***Same as History 4976.*

A&amp;S TH

**Art-Arch 499. Honors Art and Archaeology**

A major research paper acceptable to the department. Prerequisite: permission of the department. Credit 3 units.

A&amp;S TH FA AH

**Art-Arch 500. Independent Study**

Prerequisites: senior standing and permission of the department. Credit variable, maximum 6 units.

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

## Asian and Near Eastern Languages and Literatures

### Chair

**Fatemeh Keshavarz**  
Professor  
Ph.D., University of London

### Endowed Professor

**Robert E. Hegel**  
Liselotte Dieckmann Professor of  
Comparative Literature  
Ph.D., Columbia University

### Professors

**Rebecca Copeland**  
Ph.D., Columbia University

**Beata Grant**  
Ph.D., Stanford University

### Associate Professors

**Pamela Barmash**  
Ph.D., Harvard University

**Nancy E. Berg**  
Ph.D., University of Pennsylvania

**Lingchei Letty Chen**  
Ph.D., Columbia University

**Martin Jacobs**  
Ph.D., Habilitation Free University of Berlin

**Marvin H. Marcus**  
Ph.D., University of Michigan

**Mohamed-Salah Omri**  
Ph.D., Washington University in St. Louis

### Assistant Professors

**Asad Ahmed**  
Ph.D. Princeton

**Pauline Chen Lee**  
Ph.D., Stanford University

**Jamie Newhard**  
Ph.D., Columbia University

### Senior Lecturers

**Giore Etzion**  
M.A., University of Michigan

**Xia Liang**  
M.A., Beijing Normal University

**Virginia S. Marcus**  
M.A., University of Michigan  
M.A., New York University

**Judy Zhijun Mu**  
Ph.D., University of Illinois at  
Urbana-Champaign

**Rami J. Pinsberg**  
M.Ed., University of Missouri–St. Louis

**Fengtao Wu**  
M.A., Indiana University–Bloomington

### Lecturers

**Hiroo Aridome**  
M.A., University of Minnesota

**Housni Bennis**  
M.A., Washington University

**Wenhui Chen**  
M.A., Taiwan Normal University

**Fariba Fayaz**  
M.S., Adelphi University

**Shino Hayashi**  
M.A., University of Wisconsin  
M.A., University of Minnesota

**Mijeong Mimi Kim**  
Ed.D., University of San Francisco

**Chun-ying Lin**  
M.A., National Taiwan Normal University

**Kaori Nakata**  
M.A., The Ohio State University

**Younasse Tarbouni**  
M.A., Carson-Newman College

**Wei Wang**  
M.A., University of Minnesota  
M.A., Beijing Language and  
Culture University

**Mohammad J. Warsi**  
Ph.D., Aligarh Muslim University (India)

### Professors Emeriti

**Tamie Kamiyama**  
Ph.D., Saint Louis University

**Viola Liu**  
M.A., Seton Hall University

**Robert E. Morrell**  
Ph.D., Stanford University

**James C. Shih**  
Ph.D., University of California–Berkeley

**Richard H. Yang**  
Ph.D., New School for Social Research

**Betty Pei-shan Yue**  
M.A., Washington University

The department offers programs in the study of Asian and Near Eastern languages, literatures, and cultures, including both the traditional and modern periods of their development. A major in Asian and Near Eastern Languages and Literatures offers a solid preparation for graduate study in these areas. It also opens up career opportunities in diplomacy, business, law, journalism, and higher education.

Majors and minors are offered in Chinese, Japanese, Arabic, and Hebrew, and Persian; a minor is offered in Korean and Hindi (South Asian Language and Civilization). The majors typically require completion of 27 units, 18 of which must be at the 300-level or above. Specific requirements usually include one 200-level foundational course, the equivalent of four years of modern language study, one course in the classical language, and two or more courses in the relevant literary tradition. In addition, all majors (except those who are writing a Senior Honors thesis, or who are fulfilling a capstone requirement in a second major) are required to take the ANELL Senior Seminar.

The minors require the completion of 18

units, 9 of which must be at the 300-level or above. Specific requirements normally include the equivalent of two years of modern language study and one or more courses in the relevant literary tradition: three of these courses must be at the 300-level or above. Students who are double majoring must keep in mind that no more than 6 units of the 27 units required for the major and 3 units of the required 18 units for the minor may be courses that are also used to satisfy the requirements of the other major.

### Asian Languages and Literatures

As a major in one of the Asian languages and literatures (Chinese or Japanese), a student can expect to gain proficiency in one or more of these languages, study the area's literary and cultural landmarks, and gain familiarity with Asian history and civilizations.

**The Majors:** To major in Chinese or Japanese language and literature, students must complete a minimum of 27 upper-level units, no more than 12 of which may be language courses.

All students majoring in Chinese or Japanese normally must complete the fourth-level modern language course or its equivalent. They must also complete a prerequisite 200-level foundational course, at least one semester of relevant classical literary language, the historical survey of the relevant literature, and the ANELL Senior Seminar. The department strongly encourages overseas study during students' junior year. As a major, students are expected to maintain a B average in all departmental courses. Each student's progress toward her or his goal is monitored on a regular basis and by a variety of means.

As a prerequisite to the major, students must complete first- and second-level language study or its equivalent: Chinese 101D-102D and 211-212 or Japan 103D-104D and 213-214. In addition, Chinese and Japanese majors are required to complete one lower-level foundational course, normally ANECC 227 (Chinese Civilization) or ANECC 226 (Japanese Civilization) respectively. Required upper-level courses for the major Core courses include language courses at the third-year or higher levels (to be chosen from and are to be selected from among Chinese 360, 361, or Japan 412, 413; Chinese 427, 428, or Japan 458, 459). Chinese majors are also required to take Chinese 410 or 411 (Classical Chinese); Japanese majors are required to take Japanese 460 (Classical Japanese).

Majors also are required to take a historical survey of the chosen literature: for Chinese majors, 341 and 342; for Japanese majors, 332 and 333. These courses must be taken in residence. Under special circumstances and with the approval of their adviser, students may substitute another upper-level literature course for one of these. Stu-

dents may also select electives from upper-level courses in this and other departments to complement his or her literature studies. In addition, unless a student is writing an Honors thesis or fulfilling a capstone requirement for a second major, he or she is also required to take the ANELL Senior Seminar during the senior year.

**The Minors:** To minor in Chinese, Japanese, or Korean, students must take a minimum of two years of language and at least 9 units of upper-level (300 level or above) literature or culture courses, chosen in consultation with his or her minor adviser. Normally these courses include the historical surveys of the relevant literature. (For Chinese: 341 and 342; for Japanese: 332 and 333; for Korean: 352 and 355.) If a student places out of language courses, he or she is required to take a total of 15 units of literature or culture courses.

**Language Placement:** Placement tests are required for all students entering our language programs, with the exception of those students who have had no previous knowledge of the language and are planning to enroll in the first semester of the first year of instruction. Students who test into second-year Chinese or Japanese and satisfactorily complete (with a grade of B- or better) at least one semester of language study may petition for 3 units of retroactive credit; students who test into third year or above and satisfactorily complete (with a grade of B- or better) at least one semester of language study may petition for 6 units of retroactive credit. Credit is limited to 3 units for testing into second year and 6 units for testing into third year or above. Please note that students with native language proficiency as determined by the individual language section, as well as students who enroll in a course below their placement level, are ineligible for retroactive credit units. Students who misrepresent the extent of their background so as to gain entrance to a course at the elementary or intermediate level will be dropped from that course.

**Teacher Accreditation:** Various states offer foreign language accreditation in Chinese and Japanese, as well as dual accreditation in language and social studies. Students intending to teach in primary or secondary schools should indicate this to the department as early as possible so appropriate arrangements can be made with the University's Department of Education.

**Study Abroad:** Students are strongly encouraged to participate in study abroad programs, usually during the junior year, and after a minimum of one year of language study. In Chinese, overseas study is available through the Duke Study in China Program, located in the People's Republic of China. In Japanese, a two-semester overseas program is available at the Kyoto Consortium for Japanese Studies and at Waseda University, Tokyo. In Korean, overseas study is available at Yonsei

University in Seoul. Students who participate in Washington University-sponsored and/or -approved overseas programs are normally able to apply most or all of these units to their undergraduate degree although normally no more than 9 upper-level units may be applied to the major. However, all transfer of credit is subject to review and approval by the department and the Study Abroad Office. **Transfer Credit:** Normally no more than 6 units of credit earned at an institution other than Washington University (this does not include Washington University-approved study-abroad programs) may be applied to the major.

**Senior Honors:** Qualified majors are encouraged to apply for Senior Honors before the end of the junior year. Students wishing to pursue this option need to meet the minimum Honors requirements stated in this *Bulletin*, have outstanding performance in language work, and satisfactorily complete, during the senior year, Chinese/Japanese 486 (fall) and, if possible, Chinese/Japanese 487 (spring), to be taken in addition to all other departmental requirements. Honors work will be supervised by a three-member departmental Honors Committee composed of a primary adviser and two additional faculty, which plans with each student special language work as needed and an independent Honors research paper in the student's area of academic interest.

## Undergraduate Courses

### ANELL 200. Asian and Near Eastern Languages and Literatures

*Same as East Asia 200, Chinese 200, Japan 200, Comp Lit 200, Pers 200, Arab 200, Korean 200, Hindi 200, MHBR 200, JNE 2001, WGSS 200.*

A team-taught comparative introduction to the literatures and cultures of Asia and the Near East. Topics and approaches will vary from year to year. Credit 3 units.

**A&S** CD, TH

### ANELL 205. Literature and Film from Asia and the Near East

*Same as JNE 2051, ANECC 205.*

A general introduction to fiction, plays, and films from Asia and the Near East. Each text will be introduced by a faculty specialist in that language and culture, but most of our time will be devoted to discussions of the texts. Our purpose will be to explore ways that the study of literature and performance can illuminate cultures in general and several non-European cultures more specifically. And through comparisons between samples from any one culture and between our several cultures, we will examine the richness of the traditions, and the modern experience, of writing and cinematic art from areas such as Egypt, Israel, Iran, India, China (including Taiwan and Hong Kong), Korea, and Japan. No prerequisites; all interested students are welcome. All readings available in English translation; all films will be subtitled. Credit 3 units.

**A&S** CD, TH

### ANELL 208. Freshman Seminar

*Same as East Asia 2081, Chinese 208, Comp Lit 2081, AMCS 207.*

Credit 3 units.

**A&S** SD, TH

### ANELL 2111. World Literature: Crossing Lines

*Same as Comp Lit 211.*

**A&S** TH **FA** Lit

### ANELL 400. Asian and Near Eastern Languages and Literatures Senior Seminar

*Same as IAS 4002, JNE 400B, MHBR 400, Hindi 400, Korean 400, Arab 400, Pers 400, BHBR 4001, Japan 400, Chinese 400, East Asia 4001.*

Prerequisites: this course fills the senior capstone requirement for majors in Asian and Near Eastern Languages and Literatures; it will also be open to juniors majoring in ANELL and other students by permission of the instructor. Credit 3 units.

**A&S** CD, TH

### ANECC 205. Literature and Film from Asia and the Near East

*Same as ANELL 205.*

**A&S** CD, TH

### ANECC 210C. Islamic Civilization

*Same as JNE 210C.*

**A&S** CD, TH **FA** SSP

### ANECC 221. Topics in Japanese Literature and Culture

*Same as Japan 221.*

**A&S** TH

### ANECC 223. Korean Civilization

*Same as East Asia 223C, Korean 223C, IAS 223.*

A comprehensive introduction to the study of Korea. Following a historical survey, the course will examine key cultural themes and social institutions and explore aspects of Korea's relationship with its East Asian neighbors. Attention will also be paid to contemporary issues, social problems, and cultural trends. Credit 3 units.

**A&S** CD, SD, TH

### ANECC 226. Japanese Civilization

*Same as IAS 226C, Japan 226C, East Asia 226C.*

The development of Japanese culture from antiquity to the present: an overview of Japanese cultural history, focusing on the interplay of crucial aspects of contemporary Japanese society and Japanese social psychology. Credit 3 units.

**A&S** CD, SD, TH **FA** SSP

### ANECC 227. Chinese Civilization

*Same as East Asia 227C, Chinese 227C, IAS 227C, Chinese 227.*

An introduction to Chinese culture through selected topics that link various periods in China's past with the present. Ongoing concerns will be social stratification, political organization, and the arts, gender relationships and the rationales for individual behavior, and the conceptions through which Chinese have identified their cultural heritage. Our readings will include literary, philosophical, and historical documents as well as cultural histories; there will be two examinations and several short writing assignments. Credit 3 units.

**A&S** CD, SD, TH

### ANECC 293C. Freshman Seminar

*Same as Japan 293C, East Asia 293C.*

Credit 3 units.

**ANECC 294. Images of East Asia**

*Same as East Asia 294, Japan 294, WGSS 293.*  
A variety of topics offered individually that reflect the images of East Asian cultures. Credit 3 units.  
**A&S** CD, TH

**ANECC 303. The Taoist Tradition**

*Same as Re St 303.*  
**A&S** CD, TH

**ANECC 309. Chinese Thought**

*Same as Re St 309.*  
**A&S** CD, TH, WI

**ANECC 3091. Confucian Thought**

*Same as Re St 3091.*  
**A&S** TH

**ANECC 311. Buddhist Traditions**

*Same as Re St 311.*

**ANECC 312. South Asian Traditions**

*Same as Re St. 312.*

**ANECC 3162. Early Modern China: 1350–1890**

*Same as History 3162.*  
**A&S** CD, TH **FA** SSP

**ANECC 320. An Introduction to Literature and Visual Culture in the Arab World**

*Same as IAS 3200, Arab 320.*

The course aims to provide a framework within which the literary and image cultures of the Arabic-speaking peoples have developed. This is done through a combination of contextual analysis and close reading of seminal texts and films. Our starting points are foundational sources such as the Qur'an and classical prose and poetry. From the later period, emphasis will be put on fiction and cinema. The other arts are acknowledged particularly through presentations by students. For this reason, an integral part of the course will be student-led projects on aspects of the culture such as architecture, music and calligraphy. The course consists of short background lectures, guided class discussions, and close reading of texts and films. All material will be in English translation or subtitled in English. No knowledge of Arabic is necessary. Credit 3 units.  
**A&S** TH

**ANECC 322. Contemporary East Asian Cinema**

*Same as Film 322.*  
**A&S** CD, TH

**ANECC 330. Topics in South Asian Literature and Culture**

*Same as Hindi 330.*  
**A&S** TH

**ANECC 3401. Chinese Art and Culture**

*Same as Art-Arch 3401.*  
**A&S** CD, TH **FA** AH

**ANECC 3420. The Archaeology of Ancient China**

*Same as Art-Arch 3420.*  
**A&S** TH **FA** AH

**ANECC 3423. Seminar in Asian Art: From Ancient Worlds to Contemporary Practice**

*Same as Art-Arch 3423.*  
**A&S** TH **FA** AH

**ANECC 355. Topics in Korean Literature and Culture**

*Same as Korean 355.*  
**A&S** CD, SD, TH

**ANECC 388. The Chinese Diaspora**

*Same as History 39B8.*  
**A&S** CD, TH, WI

**ANECC 418. Gender and Sexuality in East Asian Religions**

*Same as Re St 418.*  
**A&S** CD, SD, TH

**ANECC 484. Core Seminar in East Asian Studies**

*Same as East Asia 484.*  
**A&S** CD, TH  
**FA** SSP

**ANECC 4842. The Japanese Empire in Asia, 1874–1945**

*Same as History 4842.*  
**A&S** CD, TH

**ANECC 4911. The Nativist Dimension in Modern Japanese Culture**

*Same as East Asia 4911.*  
**A&S** TH

**ANECC 4982. Topics in Chinese History: Women and Confucian Culture in Early Modern East Asia**

*Same as History 4982.*  
**A&S** TH

**Chinese****Chinese 101D. First-Level Modern Chinese I**

Introduction to the modern spoken and written national language of China. Five regular hours and additional drill or laboratory sessions as assigned by instructor. Students with some previous Chinese language background must take placement examination. Credit 5 units.  
**A&S** LA

**Chinese 102D. First-Level Modern Chinese II**

Continuation of Chinese 101D. Prerequisite: Grade of B– or better in 101D, or placement by examination. Five regular hours and additional drill or laboratory sessions as assigned by instructor. Credit 5 units.  
**A&S** LA

**Chinese 106. Beginning Chinese for Heritage Speakers I**

This course is designed for students who have basic speaking and listening skills and some background in writing or reading. Three class hours plus one additional hour are required. Prerequisite: placement by examination. Credit 3 units.  
**A&S** LA

**Chinese 107. Beginning Chinese for Heritage Speakers II**

Continuation of Chinese 106. Emphasis on improving basic reading and writing skills. Three class hours plus one additional hour are required. Prerequisite: grade of B– or better in Chinese 106, or placement by examination. Credit 3 units.  
**A&S** LA

**Chinese 110. Basic Principles and Practice of Chinese/Japanese Calligraphy**

*Same as East Asia 110, Japan 110.*  
Elementary approach to brush-and-ink writing of traditional Chinese/Japanese characters. Prerequisite: Chinese 101DQ-102DQ/Japan 103DQ-104DQ or concurrent registration, or permission of instructor. Two hours a week. Credit 1 unit.  
**A&S** LA

**Chinese 200. Topics in Asian and Near Eastern Languages and Literatures**

*Same as ANELL 200.*  
**A&S** CD, TH

**Chinese 208. Freshman Seminar**

*Same as ANELL 208.*  
**A&S** SD, TH

**Chinese 211. Second-Level Modern Chinese I**

The standard second-year level of instruction in modern Chinese. Students learn both long and short forms of characters. Prerequisite: grade of B– or better in Chinese 102D, or placement by examination. Five hours a week, plus drill and laboratory sessions as required by instructor. Credit 5 units.  
**A&S** LA

**Chinese 211S. Chinese Language Study Abroad (Second-Year level)**

Not the same as Washington University courses Chinese 211, 212. Students must receive a grade of B– or better in order to earn any credit, and those wishing to continue language study at Washington University must take a placement test before enrolling in Chinese 360, 361 (Third-Level Modern Chinese I, II). Credit variable, maximum 4 units.

**Chinese 212. Second-Level Modern Chinese II**

The standard second-year level of instruction in modern Chinese. Students learn both long and short forms of characters. Prerequisite: grade of B– or better in Chinese 211, or placement by examination. Five hours a week, plus drill and laboratory sessions as required by instructor. Credit 5 units.  
**A&S** LA

**Chinese 212S. Chinese Language Study Abroad (Second-Year level)**

Not the same as Washington University courses Chinese 211, 212. Students must receive a grade of B– or better in order to earn any credit, and those wishing to continue language study at Washington University must take a placement test before enrolling in Chinese 360, 361 (Third-Level Modern Chinese I, II). Credit variable, maximum 4 units.

**Chinese 227C. Chinese Civilization**

*Same as ANECC 227.*  
**A&S** CD, SD, TH

**Chinese 298. An Internship for Liberal Arts Students**

*Same as Ge St 2991.*

**Chinese 330. Topics in Chinese Literature and Culture**

*Same as East Asia 3301, Comp Lit 3301, URST 3301, IAS 3301.*  
Credit 3 units.  
**A&S** CD, TH

**Chinese 341. Literature of Early and Imperial China**

*Same as IAS 3410, East Asia 3411.*  
An introduction to important genres and themes of Chinese literature through the study of major writers. Brief lectures on the writers' personal, social, intellectual, and historical contexts; most class time will be devoted to student discussions of masterworks as an avenue for understanding Chinese culture during selected historical periods. Required for all Chinese majors, and recommended for all Japanese and East Asian Studies majors. No prerequisites; all readings available in English translation. Credit 3 units.  
**A&S** CD, SD, TH **FA** Lit

**Chinese 342. Literature of Modern and Contemporary China**

*Same as East Asia 3421, IAS 342.*  
An introduction to the major writers and works of Chinese literature from the turn of the 20th century to the present, including fiction, poetry and film. We will look at these works in their relevant literary, sociopolitical, and cultural contexts (in-

cluding Western influences). Required for all Chinese majors, and recommended for all Japanese and East Asian Studies majors. No prerequisites; all readings in English translation. Credit 3 units.  
**A&S** CD, SD, TH **FA** Lit

**Chinese 360. Third-Level Modern Chinese I**  
 Emphasis on improving speaking, listening, reading, and writing skills. Texts include Chinese newspapers and modern literary texts. Open to undergraduates only. Prerequisite: grade of B– or better in Chinese 212, or placement by examination. Credit 5 units.

**A&S** LA

**Chinese 360S. Chinese Language Study Abroad (Third-Year Level)**

Not the same as Washington University courses Chinese 360, 361. Students must receive a grade of B– or better in order to earn any credit, and those wishing to continue language study at Washington University must take a placement test before enrolling in Chinese 427, 428 (Fourth-Level Modern Chinese I, II). Credit variable, maximum 4 units.

**Chinese 361. Third-Level Modern Chinese II**  
 Continuation of advanced work in reading Chinese newspapers and modern literary texts. Open to undergraduates only. Prerequisite: grade of B– or better in Chinese 360, or placement by examination. Credit 5 units.

**A&S** LA

**Chinese 361S. Chinese Language Study Abroad (Third-Year Level)**

Not the same as Washington University courses Chinese 360, 361. Students must receive a grade of B– or better in order to earn any credit, and those wishing to continue language study at Washington University must take a placement test before enrolling in Chinese 427, 428 (Fourth-Level Modern Chinese I, II). Credit variable, maximum 4 units.

**Chinese 382. Writing Women of Imperial China**

*Same as WGSS 3820, East Asia 382.*

Women writers can be found throughout most of China's imperial history, and from the 16th century on, there was an extraordinary number of women writing and publishing their poetry collections. Despite this fact, only a very few writings by women were included in the traditional literary canon and until recently, they were not considered

worthy of scholarly attention. Fortunately, there is now a growing body of critical studies on, and translations of, these women writers. In this course, we will explore the writings of Chinese women from the 1st through to the early 20th centuries, and discuss the changing historical and social contexts within which these women wrote and the obstacles of both genre and gender that had to be overcome in order to ensure that their voices were heard. Prerequisite: at least one course in Chinese literature or culture, or instructor's permission. Credit 3 units.

**A&S** TH

**Chinese 399. Undergraduate Independent Study**

Prerequisite: permission of instructor and section head. No more than 6 units may be earned by a student. Credit variable, maximum 6 units.

**Chinese 400. Asian and Near Eastern Languages and Literatures Senior Seminar**  
*Same as ANELL 400.*

**A&S** CD, TH

**Chinese 406. Advanced Conversation and Composition (in China)**

Credit variable, maximum 5 units.

**A&S** LA

**Chinese 407. Advanced Conversation and Composition (in China)**

Credit variable, maximum 5 units.

**A&S** LA

**Chinese 408. Advanced Readings in Chinese (in China)**

Credit variable, maximum 6 units.

**A&S** LA

**Chinese 410. Introduction to Traditional Literary Chinese I**

Selected readings in premodern Chinese texts. Required of all majors in Chinese and students in fields of specialization in which knowledge of literary Chinese is normally expected. Prerequisite: grade of B– or better in Chinese 427, or instructor's permission. Credit 3 units.

**A&S** LA **FA** Lit

**Chinese 411. Introduction to Literary Chinese II**

Selected readings in premodern Chinese texts. Required of all majors in Chinese and students in fields of specialization in which knowledge of literary Chinese is normally expected. Prerequisite: grade of B– or better in Chinese 410, or instructor's permission. Credit 3 units.

**A&S** LA **FA** Lit

**Chinese 412. Advanced Conversation in Mandarin I**

A course particularly designed to improve pronunciation in Mandarin and conversational skills. Limited to students who have substantial proficiency in Chinese character reading and composition. Prerequisite: grade of B– or better in Chinese 428, or instructor's permission. Credit 3 units.

**A&S** LA

**Chinese 413. Advanced Composition in Chinese**

This course is designed for students wishing to improve their ability to write letters, essays, reports, and other types of compositions in Chinese. There will be assigned readings both on the art of writing Chinese and of writing models, as well as regular take-home writing assignments. This course will be conducted entirely in Chinese. Prerequisite: grade of B– or better in Chinese 428 or instructor's permission. Credit 3 units.

**A&S** LA

**Chinese 414. Readings in Classical Chinese Philosophy**

*Same as East Asia 4141, Re St 414, IAS 4140.*

In this course we will study Chinese philosophical texts from the classical period (ca. 6th–3rd centuries BCE). We will read selections from the Analects, the Mengzi, the Xunzi, the Zhuangzi, the Daojing, and the Hanfeizi, in addition to commentaries on these primary texts. The readings will be in classical Chinese with occasional supplemental readings in English and modern Chinese. The aim of the course is to familiarize students with the language and grammar of Chinese philosophical texts, introduce students to the tradition of scholarly commentary, and explore a set of influential Chinese texts in the original language. Prerequisite: Chinese 411 or instructor's permission. Credit 3 units.

**A&S** CD, TH

**Chinese 427. Fourth-Level Modern Chinese I**

Readings in advanced texts covering a wide variety of fields in social sciences and humanities. Prerequisite: grade of B– or better in Chinese 361 or 421, or placement by examination. Credit 3 units.

**A&S** LA

**Chinese 427S. Chinese Language Study Abroad (Fourth-Year Level)**

Not the same as Washington University courses Chinese 427, 428. Students must receive a grade of B– or better in order to earn any credit, and those wishing to continue language study at Washington University must take a placement test before enrolling in any advanced language class. Credit variable, maximum 4 units.

**Chinese 428. Fourth-Level Modern Chinese II**

Readings in advanced texts covering a wide variety of fields in social sciences and humanities. Required of all students desiring subsequent tutorial assistance from the department. Prerequisite: grade of B– or better in Chinese 427, or placement by examination. Credit 3 units.

**A&S** LA

**Chinese 428S. Chinese Language Study Abroad (Fourth-Year Level)**

Not the same as Washington University courses Chinese 427, 428. Students must receive a grade of B– or better in order to earn any credit, and those wishing to continue language study at Washington University must take a placement test before enrolling in any advanced language class. Credit variable, maximum 4 units.

**Chinese 460. Fifth-Level Modern Chinese I**

This course is designed for advanced students wishing to improve their skills in conversation, reading and writing of letters, essays, reports, and other types of compositions in Chinese. The reading material will be composed of a variety of authentic texts, including newspapers, short stories, and essays. This course is conducted entirely in Chinese. Required of all students desiring subsequent tutorial assistance from the department. Prerequisite: grade of B– or better in Chinese 428 or 411, by result of the placement examination, or by instructor's permission. Credit 3 units.

**A&S** LA

**Chinese 461. Fifth-Level Modern Chinese II**

This course is designed for advanced students wishing to improve their skills in conversation, reading and writing of letters, essays, reports, and other types of compositions in Chinese. The reading material will be composed of a variety of authentic texts, including newspapers, short stories, and essays. This course is conducted entirely in

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

Chinese. Prerequisite: grade of B– or better in Chinese 428 or 411, by result of the placement examination, or by instructor’s permission. Credit 3 units.

**A&S LA**

**Chinese 463. Legal and Business Chinese**

An intensive exposure to legal and business texts in Chinese, with the aim of developing reading and speaking fluency in these areas and mastering the requisite specialized vocabulary. Of particular interest to students in the joint J.D./M.A. and dual M.B.A./M.A. programs, but open to all students with advanced proficiency in written and spoken Chinese. Prerequisite: Chinese 428 or instructor’s permission. Credit 3 units.

**A&S LA**

SB:> IS

**Chinese 467. The Chinese Theater**

*Same as East Asia 467, Drama 465, IAS 467.*

Survey of the performance and literary traditions of the Chinese theater from their pre-Tang origins to the present. The course focuses on three forms: 14th-century zaju plays, 16th- and 17th-century chuanqi plays, and recent films from China, Taiwan, and Hong Kong. Background in either China studies or theater in other cultures recommended. Credit 3 units.

**A&S CD, SD, TH FA AH**

**Chinese 470. Readings in Chinese Literature**

*Same as IAS 4700, WGSS 4701, East Asia 470.*

Selected literary masterpieces in Chinese, including examples of poetry and prose. All readings and discussion in Chinese. Open to both graduate and undergraduate students. Prerequisite: permission of instructor. Credit 3 units.

**A&S TH FA Lit**

**Chinese 4711. Topics in Religious Studies: Gender and Religion in China**

*Same as Re St 4711.*

**A&S TH FA SSP**

**Chinese 476. Reading Seminar in Chinese Traditional Fiction**

*Same as East Asia 476, IAS 476.*

Extensive readings in major critical works in Chinese and English concerning fiction of imperial China, with emphasis on vernacular fiction of the Ming and Qing periods. Weekly discussions and short reading reports. Knowledge of Chinese language and literature normally required, but arrangements can be made for graduate students in such programs as East Asian Studies and Comparative Literature. Credit 3 units.

**A&S TH FA Lit**

**Chinese 477. Reading Seminar in Chinese Traditional Poetry**

Credit 3 units.

**A&S TH FA Lit**

**Chinese 478. Reading Seminar in Chinese Traditional Theater and Drama**

Credit 3 units.

**A&S TH FA Lit**

**Chinese 479. Reading Seminar in Modern Chinese Literature**

*Same as IAS 479, East Asia 479.*

Credit 3 units.

**A&S CD, TH FA Lit**

**Chinese 480. Reading Seminar in Popular Literature and Culture**

*Same as East Asia 4801, IAS 4801.*

Credit 3 units.

**A&S TH FA Lit**

**Chinese 481. Reading Seminar in Religion and Chinese Literature**

*Same as IAS 481, Re St 4811, East Asia 4811.*

Credit 3 units.

**A&S TH FA Lit**

**Chinese 482. Reading Seminar in Gender and Chinese Literature**

*Same as East Asia 482, WGSS 482, IAS 482.*

Prerequisite: Chinese 341 or instructor’s permission. Credit 3 units.

**A&S TH FA Lit**

**Chinese 486. Independent Work for Senior Honors**

This course to be taken in the fall semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

**Chinese 487. Independent Work for Senior Honors**

This course to be taken in the spring semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

**Chinese 489. Topics in Modern Chinese Literature**

*Same as IAS 489, East Asia 4891.*

Prerequisite: permission of instructor. Credit 3 units.

**A&S TH FA Lit**

**Chinese 4891. Topics in Chinese Literature and Culture**

*Same as East Asia 4892.*

Credit 3 units.

**A&S SS**

**Chinese 490. Topics in Chinese Literature and History**

*Same as East Asia 490.*

Prerequisite: permission of the Department. Credit variable, maximum 3 units.

**A&S TH FA Lit, SSP**

**Chinese 498. Guided Readings in Chinese**

*Same as East Asia 498.*

Prerequisites: graduate standing and permission of the instructor and the graduate adviser. Course normally taken after successful completion of Chinese 428. May be repeated once for credit. Credit variable, maximum 3 units.

**A&S LA**

## Hindi

**Hindi 111D. Beginning Hindi I**

*Same as JNE 111D.*

An introduction to the most widely spoken language of South Asia. Along with an understanding of grammar, the course offers practice in all four skills: listening, speaking, reading, and writing.

The Hindi (Devanagari) script is used for reading and writing. Note: students with some previous Hindi language background must take a placement examination. Credit 5 units.

**A&S LA**

**Hindi 112D. Beginning Hindi II**

*Same as JNE 112D.*

Continuation of 101D, devoted to the further development of basic skills—listening, speaking, reading, and writing—with a particular emphasis on the acquisition of speaking proficiency. Prerequisite: Hindi 111D or placement by examination. Credit 5 units.

**A&S LA**

**Hindi 151D. Advanced Beginning Hindi I**

Designed for the student with some background in Hindi. Emphasis on review of grammar, increased fluency, and vocabulary enrichment. Prerequisite: placement by examination or instructor’s permission. Credit 3 units.

**A&S LA**

**Hindi 200. Topics in Asian and Near Eastern Languages and Literatures**

*Same as ANELL 200.*

**A&S CD, TH**

**Hindi 201. Intermediate Hindi I**

*Same as JNE 2011.*

Continuing practice in listening, speaking, and grammatical understanding. The Hindi (Devanagari) script will be used for reading and writing. Prerequisite: grade of B– or better in Hindi 112D, or placement by examination. Credit 5 units.

**A&S LA**

**Hindi 202. Intermediate Hindi II**

*Same as JNE 2021.*

Continuation of Hindi 201. Prerequisite: grade of B– or better in Hindi 201 or placement by examination. Credit 5 units.

**A&S LA**

**Hindi 299. Undergraduate Independent Study**

Prerequisites: Hindi 202 and permission of the instructor and the department chair. Credit variable, maximum 6 units.

**Hindi 301. Advanced Hindi I**

This course is designed to help students gain advanced proficiency in the oral and written use of Hindi through reading and discussion of short stories, newspaper articles, and other selected materials. Prerequisite: grade of B– or better in Hindi 202 or placement by examination. Credit 3 units.

**A&S LA**

**Hindi 330. Topics in South Asian Literature and Culture**

*Same as ANECC 330.*

An introduction to major texts of South Asian literature, both traditional and modern, in their cultural context. Specific topics, texts, and themes may vary from year to year. The course assumes no previous acquaintance with the material. All readings will be in English or English translation. Credit 3 units.

**A&S TH**

**Hindi 350. Introduction to South Asian Literature in Translation**

*Same as Comp Lit 3508.*

Credit 3 units.

**A&S CD, TH**

**Hindi 399. Independent Study**

Prerequisites: permission of instructor and the department. Credit variable, maximum 6 units.

**Hindi 400. Asian and Near Eastern Languages and Literatures Senior Seminar**

*Same as ANELL 400.*

**A&S CD, TH**

**Hindi 499. Independent Study**

Prerequisites: permission of instructor and the department. Credit variable, maximum 6 units.

## Japanese

**Japan 103D. First-Level Modern Japanese I**

An introduction to spoken Japanese following a systematic study of grammatical structures presented in context. Emphasis is on developing skills in oral communication through performance. Students with some previous Japanese language background must take the placement examination. Credit 5 units.

**A&S LA**

**Japan 104D. First-Level Modern Japanese II**  
Continuation of Japan 103D. An introduction to spoken Japanese following a systematic study of grammatical structures presented in context. Emphasis is on developing skills in oral communication through performance. Prerequisite: grade of B– or better in Japan 103DQ. Credit 5 units.  
A&S LA

**Japan 110. Basic Principles and Practice of Chinese/Japanese Calligraphy**  
*Same as Chinese 110.*  
A&S LA

**Japan 200. Topics in Asian and Near Eastern Languages and Literatures**  
*Same as ANELL 200.*  
A&S CD, TH

**Japan 213. Second-Level Modern Japanese I**  
Continued development of communication skills with special emphasis on speaking. Students develop reading/writing skills with an additional 300 kanji during the year. Prerequisite: grade of B– or better in 104DQ, or placement by examination. Credit 5 units.  
A&S LA

**Japan 214. Second-Level Modern Japanese II**  
Continuation of Japan 213. Continued development of communication skills with special emphasis on speaking. Students develop reading/writing skills with an additional 300 kanji during the year. Prerequisite: grade of B– or better in Japan 213 or placement by examination. Credit 5 units.  
A&S LA

**Japan 221. Topics in Japanese Literature and Culture**  
*Same as East Asia 2210, ANECC 221, EnSt 222.*  
Credit 3 units.  
A&S TH

**Japan 225. Topics in Pre-Modern Japanese Literature**  
Credit 3 units.  
A&S TH

**Japan 226C. Japanese Civilization**  
*Same as ANECC 226.*  
A&S CD, SD, TH FA SSP

**Japan 293C. Freshman Seminar**  
*Same as ANECC 293C.*

**Japan 294. Images of East Asia**  
*Same as ANECC 294.*  
A&S CD, TH

**Japan 298. An Internship for Liberal Arts Students**  
*Same as Ge St 2991.*

**Japan 299. Independent Study**  
Prerequisite: Japan 213 and permission of the department. Credit variable, maximum 6 units.

**Japan 324. A User's Guide to Japanese Poetry**  
*Same as IAS 3243, East Asia 324.*  
This course will introduce the art and craft of Japanese poetry, one of the world's great literary traditions. Exploring the many styles of traditional verse—the poetic diary, linked verse, haiku, and others—and their historical contexts, we will gain insights into Japanese aesthetics and study the unique conventions of Japanese poetic production that have evolved over a span of some 1500 years. The course will also incorporate a “haiku workshop,” in which we will engage in group-centered poetry writing and critiquing. No prior knowledge of Japanese is required. Credit 3 units.  
A&S LA

**Japan 332C. The Classical Voice in Japanese Literature**

*Same as East Asia 332C, IAS 3323.*  
This survey of Japanese literature covers antiquity to the 17th century. Emphasis on the ideological and cultural contexts for the emergence of a variety of traditions, including poetry, diaries, narrative, and theater. Required of all Japanese majors and recommended for all Chinese majors. No knowledge of Japanese language is required. Sophomore standing and above recommended. Credit 3 units.  
A&S CD, TH FA Lit

**Japan 333C. The Modern Voice in Japanese Literature**

*Same as Japan 333, IAS 3331, East Asia 333C.*  
This survey explores the emerging modern voice in Japanese literature, with emphasis on prose fiction. After a brief introduction to earlier centuries, we will focus on the short stories and novels of the 20th century. Among the authors considered will be Natsume Soseki, Nagai Kafu, Tanizaki Jun'ichiro, and Nobel laureates Kawabata Yasunari and Oe Kenzaburo. Discussions will center on issues of modernity, gender, and literary self-representation. Required of all Japanese majors and recommended for all Chinese majors. No knowledge of Japanese language required. Credit 3 units.  
A&S CD, TH FA Lit

**Japan 336. The Floating World in Japanese Literature**

*Same as East Asia 3361, IAS 3360.*  
This survey of Japanese literature covers the 17th to the 19th centuries. Primary focus will be on the Genroku era (1688–1703), which witnessed the growth of lively urban centers and the emergence of a robust literary voice. Emphasis on the ideological and cultural contexts for the development of a variety of new innovations in the genres of poetry (haiku), theater (kabuki and bunraku) and prose (kana zoshi). Recommended for both Japanese and Chinese majors. No knowledge of Japanese language is required. Sophomore standing and above recommended. Credit 3 units.  
A&S CD, SD, TH FA Lit

**Japan 351. Japanese Political Institutions (in Japan)**  
Credit 3 units.  
A&S SS FA SSP

**Japan 352. Japanese Economic Institutions (in Japan)**  
Credit 3 units.  
A&S SS FA SSP

**Japan 353. Japanese Social Institutions (in Japan)**  
Credit 3 units.  
A&S SS FA SSP

**Japan 354. Japanese Business Institutions (in Japan)**  
Credit 3 units.  
A&S SS FA SSP

**Japan 400. Asian and Near Eastern Languages and Literatures Senior Seminar**  
*Same as ANELL 400.*  
A&S CD, TH

**Japan 412. Third-Level Modern Japanese I**  
Emphasis on further development of speaking, listening, reading, and writing skills. Prerequisite: grade of B– or better in Japan 214, or placement by examination. Credit 4 units for undergraduates, 3 units for graduate students. Credit variable, maximum 4 units.  
A&S LA

**Japan 413. Third-Level Modern Japanese II**  
Continuation of Japan 412. Emphasis on further development of speaking, listening, reading, and writing skills. Prerequisite: minimum grade of B– in Japan 412 or placement by examination. Credit 4 units for undergraduates, 3 units for graduate students. Credit variable, maximum 4 units.  
A&S LA

**Japan 445. Japanese Fiction**  
*Same as IAS 4450, WGSS 445, East Asia 445.*  
A study of the themes, styles, and genres of Japanese fiction as revealed in representative works of major authors such as Soseki, Tanizaki, and Kawabata. Topics include the question of the Japanese literary canon, the varieties of Japanese literary selfhood, literature by and about women, and tradition vs. modernity. All works read in English translation. Prerequisites: junior standing and 6 units of literature. Credit 3 units.  
A&S CD, TH, WI FA Lit

**Japan 446. The Japanese Theater**  
*Same as East Asia 446, IAS 446.*

An investigation, using English materials, of the major developments and forms of the Japanese theater, from Noh and its antecedents to the rise of a modern drama. In this course, we will be less concerned with the performative aspects of theatrical arts (though these will be introduced via videos) than with the ways in which dramatic texts influenced and borrowed from the literary tradition. Readings from major theatrical texts, secondary studies on Japanese theater, and literary sources. Prerequisite: junior standing or permission of instructor. Credit 3 units.  
A&S CD, SD, TH FA Lit

**Japan 447. Japanese Film**

*Same as IAS 4470, East Asia 4471.*  
An overview of Japanese film as art form and cultural medium. A survey of the history, genres, and themes of Japanese film. Detailed exploration of films by Kurosawa, Mizoguchi, Ozu, and others to explore the range of “classical” Japanese cinematic styles. Focus on the manner in which literary works have been adapted to film. Coverage of the satiric films of Itami Juzo and Morita Yoshimitsu. Readings in film theory and history. Prerequisite: one course in Japanese or film history or theory, or permission of instructor. Credit 3 units.  
A&S TH FA Lit

**Japan 448. Japanese Poetry**

*Same as East Asia 4483, IAS 448.*  
A comprehensive survey of Japanese poetry from the 8th century to the present. Topics include the development of the great tradition of court poetry in the Heian period (ca. 800–1200) and its full flowering during the medieval period (ca. 1200–1600), the influence of the Zen aesthetic, the emergence of linked verse and haiku, and the transformation of the classical tradition with the advent of the modern era. All works will be read in English translation, although knowledge of Japanese will be useful. Graduate students and Japanese majors will be expected to read original materials extensively. Prerequisite: junior standing and 6 units of literature course work. Credit 3 units.  
A&S TH FA Lit

**Japan 449. Modern Japanese Women Writers: Madame Butterfly's Delinquent Daughters**

*Same as IAS 4490, WGSS 4494, East Asia 4492.*  
Japanese women have been scripted by Western (male) imagination as gentle, self-effacing creatures. From their (re)emergence in the late 19th century to their dominance in the late 20th, Japanese women writers have presented an image of their countrywomen as anything but demure.

Struggling to define their voices against ever-shifting expectations and social contexts, the women they create in their fiction are valiant, if not at times violent. This course will examine the various manifestations of the female image in female-authored modern Japanese fiction. Writers to be considered are Higuchi Ichiyo, Hirabayashi Taiko, Uno Chiyo, Enchi Fumiko, Yamada Eimi, and others. A selection of novels and shorter fiction will be available in English translation, and students need not be familiar with Japanese. Prerequisites: 6 units of literature/women's studies and junior standing, or permission of the instructor. Credit 3 units.

**A&S** CD, SD, TH, WI

**Japan 458. Fourth-Level Modern Japanese I**  
Mastery of more sophisticated skills in both spoken and written Japanese. Newspaper articles, editorials, essays, short stories, etc., are selected for readings and discussions in accordance with the interests and needs of participating students. Prerequisite: grade of B- or better in Japan 413, or placement by examination. Credit 4 units for undergraduates, 3 units for graduate students. Credit variable, maximum 4 units.

**A&S** LA

**Japan 459. Fourth-Level Modern Japanese II**  
Continuation of Japan 458. Mastery of more sophisticated skills in both spoken and written Japanese. Newspaper articles, editorials, essays, short stories, etc., are selected for readings and discussions in accordance with the interests and needs of participating students. Required of all students desiring subsequent tutorial assistance from the department. Prerequisite: grade of B- or better in Japan 458, or placement by examination. Credit 4 units for undergraduates, 3 units for graduate students. Credit variable, maximum 4 units.

**A&S** LA

**Japan 460. Pre-Modern Japanese I**  
Readings in classical literary texts using materials from standard modern annotated editions. Kambun introduced in second semester. Prerequisite: Japan 412-413, or concurrent registration. Credit 3 units.

**A&S** LA

**Japan 461. Pre-Modern Japanese II**  
A continuation of Japan 460. Readings in classical literary texts using materials from standard modern annotated editions as well as the introduction of skills necessary for reading original texts, including kambun and hentaigana. Prerequisite: Japan 413 or concurrent registration, Japan 460 or equivalent. Credit 3 units.

**A&S** LA

**Japan 462. Fifth-Level Modern Japanese I**  
A course intended for students with advanced proficiency in written and spoken Japanese who have had extensive study experience in Japan. The course objectives are: to achieve mastery of communication skills, to deepen understanding of Japanese structural patterns, and to expand vocabulary and control of idiomatic expressions. Emphasis on readings in contemporary texts and extensive practice with different styles of oral discourse. Class to be conducted exclusively in Japanese. Required of all students who wish to do subsequent independent study or guided readings in Japanese. Prerequisite: successful completion of Japan 459 (minimum grade of B-), or placement by written and oral examinations. Credit 3 units.

**A&S** LA

**Japan 463. Fifth-Level Modern Japanese II**  
A course intended for students with advanced proficiency in Japanese who have had extensive study

experience in Japan. Emphasis on improving skills in both written and spoken Japanese acquired in Japan 462. Class to be conducted exclusively in Japanese. Prerequisite: grade of B- or better in Japan 462 or placement test in written and spoken Japanese. Credit 3 units.

**A&S** LA

**Japan 464. Japanese Textual Analysis**

*Same as East Asia 4641, IAS 4641.*

This course introduces the advanced student of Japanese to a variety of prose narratives in the modern language. Readings, which will include literary texts and topical essays on aspects of Japanese society and culture, will reflect the needs and interests of the enrolled students. Focus will be on close reading and syntactic analysis of the selected texts. Regular translation exercises will gauge the mastery of grammar, syntax, and idiomatic usages. All readings will be in Japanese, with class discussion conducted predominantly in English. A final translation project, to be chosen by the student in consultation with the instructor, will be required. Prerequisite: Japan 458 or instructor's permission. Credit 3 units.

**A&S** LA

**Japan 466. Legal and Business Japanese**

An intensive exposure to legal and business texts in Japanese, with the aim of developing reading fluency in these areas and mastering the requisite specialized vocabulary. Of particular interest to students in the joint J.D./M.A. and dual M.B.A./M.A. programs, but open to all students with advanced proficiency in written and spoken Japanese. Prerequisite: Japan 459 or permission of instructor based on placement examination. Credit 3 units.

**A&S** LA

**Japan 471. Topics in Japanese Culture**

*Same as East Asia 471.*

**A&S** TH **FA** SSP

**Japan 486. Independent Work for Senior Honors**

This course to be taken in the fall semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

**Japan 487. Independent Work for Senior Honors**

This course to be taken in the spring semester. Prerequisites: senior standing, eligibility for honors, and permission of the Department. Credit 3 units.

**Japan 4911. The Nativist Dimension in Modern Japanese Culture**

*Same as East Asia 4911.*

**A&S** TH

**Japan 499. Guided Readings in Japanese**

*Same as East Asia 499, IAS 499.*

Prerequisites: senior standing and permission of the instructor and the department chair. Course usually taken after successful completion of Japan 459. May be repeated once. Credit variable, maximum 3 units.

**A&S** LA

**Korean**

**Korean 117D. First-Level Modern Korean I**

Introduction to the modern spoken and written language of Korea. Acquisition of the fundamentals of grammar, morphology, and oral communication skills. Note: students with some previous Korean language background must take the placement examination. Credit 5 units.

**A&S** LA

**Korean 118D. First-Level Modern Korean II**

Emphasis is placed upon the understanding, speaking, reading, and writing of Korean. Continuation of the acquisition of the fundamentals of grammar and morphology. Prerequisite: grade of B- or better in Korean 117D or placement by examination. Credit 5 units.

**A&S** LA

**Korean 1ABR. Korean Course work Completed Abroad**

Credit 3 units.

**Korean 200. Topics in Asian and Near Eastern Languages and Literatures**

*Same as ANELL 200.*

**A&S** CD, TH

**Korean 217. Second-Level Modern Korean I**

Second-year course in standard modern Korean. Emphasis is placed upon speaking, reading, and writing of modern Korean. Prerequisite: grade of B- or better in Korean 118D, or placement by examination. Credit 5 units.

**A&S** LA

**Korean 218. Second-Level Modern Korean II**

Continuation of second-year course in standard modern Korean. Prerequisite: grade of B- or better in Korean 217, or placement by examination. Credit 5 units.

**A&S** LA

**Korean 223C. Korean Civilization**

*Same as ANECC 223.*

**A&S** CD, SD, TH

**Korean 299. Independent Study**

Prerequisite: permission of the instructor and the department chair. Credit variable, maximum 6 units.

**Korean 3060. East Asia Since 1500**

**Korean 3091. Confucian Thought**

*Same as Re St 3091.*

**A&S** TH

**Korean 346. Topics in East Asian Religion**

*Same as Re St 346.*

**A&S** TH

**Korean 352. Literature of Modern and Contemporary Korea**

*Same as East Asia 352, L97 IAS 3520.*

This undergraduate course surveys the major writers and works of 20th-century Korean literature. During the 20th century, Korea went through a radical process of modernization. From its colonization by Japan, to its suffering of a civil war within the cold war order, to its growth into a cultural and economic powerhouse, Korea's historical experience is at once unique and typical of that of a third-world nation. By immersing ourselves in the most distinctive literary voices from Korea, we will examine how the Korean experience of modernization was filtered through its cultural production. In class discussion, we will pay special attention to the writer's construction of the self and the nation. How do social categories such as ethnicity, class, gender, and race figure in the varying images of the self? And how do these images relate to the literary vision of the nation? Along the way, we will observe the prominent ideas, themes, and genres of Korean literature. This class will combine discussion and lecture with students strongly encouraged to participate. All literary texts are in English translation and no previous knowledge of Korean is required. Credit 3 units.

**A&S** CD, SD, TH

**Korean 355. Topics in Korean Literature and Culture**

Same as IAS 3550, WGSS 3551, Film 355, ANECC 355, East Asia 355.

Credit 3 units.

**A&S** CD, SD, TH

**Korean 3891. East Asia Since 1945: From Empire to Cold War**

Same as History 3891.

**A&S** CD, TH

**Korean 3ABR. Korean Course work Completed Abroad**

Credit variable, maximum 12 units.

**Korean 400. Asian and Near Eastern Languages and Literatures Senior Seminar**

Same as ANELL 400.

**A&S** CD, TH

**Korean 417. Third-Level Modern Korean I**

Third-year course in standard modern Korean. Emphasis is placed upon reading and writing of modern Korean. Prerequisite: grade of B- or better in Korean 218, or placement by examination. Credit 3 units.

**A&S** LA

**Korean 418. Third-Level Modern Korean II**

Continuation of third-year course in standard modern Korean. Emphasis is placed upon reading and writing. Prerequisite: grade of B- or better in Korean 417 or placement by examination. Credit 3 units.

**A&S** LA

**Korean 4181. Gender and Sexuality in East Asian Religions**

Same as Re St 418.

**A&S** CD, SD, TH

**Korean 427. Fourth-Level Modern Korean I**

Fourth-year course in standard modern Korean (advanced level). Emphasis will be placed on developing proficiency in all four areas of language skills (speaking, listening, reading, and writing) beyond the intermediate level. Prerequisite: grade of B- or better in Korean 418 or placement by examination. Credit 3 units.

**A&S** LA

**Korean 428. Fourth-Level Modern Korean II**

Continuation of the fourth-year course in Standard Modern Korean. Emphasis is placed upon the further development of speaking, listening, reading, and writing, beyond the intermediate level. Prerequisite: grade of B- or better in Korean 427 or placement by examination. Credit 3 units.

**A&S** LA

**Korean 437. Contemporary Korean I: Topics in Korean Literature and Culture**

Same as IAS 4372.

Advanced to high advanced-level Korean course in standard modern Korean. Emphasis will be placed upon developing an advanced level of reading proficiency in Korean and writing ability in Korean for an academic or professional purpose. Prerequisite: grade of B- or better in Korean 418 or placement by examination with instructor's permission. Credit 3 units.

**A&S** LA

**Korean 438. Contemporary Korean II: Topics in Korean Literature and Culture**

Same as IAS 4380.

Continuation of Korean 437. Advanced to high advanced-level Korean course in standard modern Korean. Emphasis will be placed upon developing an advanced level of reading proficiency in Korean and writing ability in Korean for an academic

or professional purpose. Prerequisite: grade of B- or higher in Korean 437 or placement by examination with instructor's permission. Credit 3 units.

**A&S** LA

**Korean 497. Guided Readings in Korean**

Same as IAS 4970, East Asia 4971.

This course will normally be taken after successful completion of Korean 418 or by instructor's permission. May be repeated once. Prerequisite: instructor's permission. Credit variable, maximum 3 units.

**A&S** LA

**Near Eastern Languages and Literatures**

As a major in one of the Near Eastern languages and literatures, students can expect to gain proficiency in one or more Near Eastern languages, study the area's literary and cultural landmarks, and gain familiarity with Near Eastern history and civilizations.

**The Majors:** Near Eastern Languages and Literature majors are available in Arabic, Hebrew, and Persian. To major in Arabic, Hebrew, or Persian language and literature, students must complete a minimum of 27 upper-level units, no more than 12 of which may be language courses. As a major, students are expected to maintain a B average in all departmental courses. Each student's progress toward his or her goal will be monitored on a regular basis and by a variety of means.

The prerequisites for majors in Arabic, Hebrew, and Persian include successful completion of the first two levels of language study or its equivalent and one lower-level foundational course: JNE 210 (Introduction to Islamic Civilization) for Arabic and Persian majors and JNE 208 (Introduction to Jewish Civilization) for Hebrew majors.

Required upper-level courses for the major include language courses at the third-year or higher levels. Students normally complete four years of a single Near Eastern language (for the Hebrew or Arabic major), or three years of study in one language and one year in a second (for the Arabic or Persian major). Hebrew majors must take at least two semesters of fourth-level Modern Hebrew (MHBR 4101, 402, 420, or 421), as well as a minimum of one semester of classical Hebrew (BHBR 384, 385, or 440). All students are expected to maintain a minimum grade of B- in language classes.

In addition, majors in Arabic, Hebrew, and Persian must complete 15 units of relevant upper-level literature, culture and civilization courses, chosen in consultation with their adviser. (Please note that many courses in Near Eastern literatures and cultures can be found under Religious Studies, Comparative Literature, or Jewish, Islamic, and Near Eastern Studies.) Unless a student is writing an Honors thesis or fulfilling a capstone requirement for a second major, he or she is also required to take the ANELL Senior Seminar during the senior year.

**The Minors:** Near Eastern Languages and Literature minors are available in Hebrew, Arabic, Persian, and Hindi (South Asian Language and Civilization). Minors must successfully complete a minimum of two years of language study and at least 9 units of upper-level literature or culture courses, chosen in consultation with his or her minor adviser. Students who place out of language courses must take a total of 15 units in literature/culture courses. All minors must take at least one course in the literature of their language area.

**Language Placement:** Placement tests are required for all students entering our language programs. Students who test into Intermediate Arabic, Hebrew, or Persian and satisfactorily complete (with a grade of B- or better) at least one semester of language study may petition for 3 units of retroactive credit; students who test into third year or above and satisfactorily complete (with a grade of B- or better) at least one semester of language study may petition for 6 units of retroactive credit. Credit is limited to 3 units for testing into intermediate and 6 units for testing into third year or above. Please note that students with native language proficiency as determined by the individual language section, as well as students who enroll in a course below their placement level, are ineligible for retroactive credit units. Students who misrepresent the extent of their background to gain entrance to a course at the elementary or intermediate level will be dropped from that course.

**Teacher Accreditation:** Various states offer foreign language accreditation in Arabic and Hebrew, as well as dual accreditation in language and social studies. Students intending to teach in primary or secondary schools should indicate this to the department as early as possible so appropriate arrangements can be made with the University's Department of Education.

**Study Abroad:** Students are strongly encouraged to participate in Washington University-approved study abroad programs in Israel, Egypt, and other countries of the Middle East. Study abroad is usually during the junior year and after a minimum of one year of language study at Washington University. Students who participate in Washington University-sponsored and/or -approved overseas programs are normally able to apply most or all of these units to their undergraduate degree although no more than 9 upper-level units may be applied to the major. However, all transfer of credit is subject to review and approval by the department and the Study Abroad Office.

**Transfer Credit:** Normally no more than 6 units of credit earned at an institution other than Washington University (this does not include Washington University-approved study-abroad programs) may be applied to the major.

**Senior Honors:** Qualified majors are encouraged to apply for Senior Honors before

the end of the junior year. Students wishing to pursue this option need to meet the minimum Honors requirements stated in this *Bulletin*, have outstanding performance in language work, and satisfactorily complete, during the senior year, Arabic/Hebrew/Persian 488 (fall) and, if possible, Arabic/Hebrew/Persian 489 (spring), to be taken in addition to all other departmental requirements. Honors work will be supervised by a three-member departmental Honors Committee composed of a primary adviser and two additional faculty, which plans with each student special language work as needed and an independent Honors research paper in the student's area of academic interest.

## Arabic

### Arab 107D. Beginning Arabic I

*Same as JNE 107D.*

Introduction to modern Arabic; concentrates on rapidly developing basic skills in reading, writing, speaking, and understanding. Five class hours, including one culture hour, and additional drill or laboratory hours. Students with previous Arabic language background must take a placement examination. Credit 5 units.

**A&S** LA

### Arab 108D. Beginning Arabic II

*Same as JNE 108D.*

Continuation of Arab 107D. Emphasis on enhancing skills in reading, writing, speaking, and aural comprehension of modern Arabic. Prerequisite: grade of B– or better in Arab 107DQ or placement by examination. Five class hours a week with additional drill or laboratory hours arranged by instructor. Credit 5 units.

**A&S** LA

### Arab 200. Topics in Asian and Near Eastern Languages and Literatures

*Same as ANELL 200.*

**A&S** CD, TH

### Arab 207D. Intermediate Arabic I

*Same as JNE 207D, Arab 207.*

Study of grammar of literary Arabic and reading of annotated classical and modern prose texts; elementary composition; practice in speaking and comprehending modern Arabic. Prerequisite: grade of B– or better in Arab 108DQ or placement by examination. Five class hours a week with additional drill or laboratory hours set by instructor. Credit 5 units.

**A&S** LA

### Arab 208D. Intermediate Arabic II

*Same as Arab 208, JNE 208D.*

Continuation of Arab 207D. Study of grammar of literary Arabic and reading of annotated classical and modern prose texts; elementary composition; practice in speaking and comprehending modern Arabic. Prerequisite: grade of B– or better in Arab 207D or placement by examination. Five class hours a week with additional drill or laboratory hours arranged by instructor. Credit 5 units.

**A&S** LA

### Arab 307D. Advanced Arabic I: Media Arabic

*Same as JNE 307D.*

Continuation of Arabic 208D. Competence in reading, writing, speaking, listening and culture is developed through intensive exposure to classical and modern standard Arabic in its written and audiovisual forms. Prerequisite: grade of B– or bet-

ter in Arab 208D or placement by examination. Three class hours a week with one additional laboratory hour as assigned by instructor. Credit 4 units.

**A&S** LA

### Arab 308D. Advanced Arabic II

*Same as JNE 308D.*

A continuation of Arabic 307D. Continued integration of language development through reading, writing, speaking, and listening activities centered around advanced authentic material. This semester will prove critical for making the transition from Modern Arabic to Classical Arabic, including Qur'anic Arabic. Continued development of colloquial Arabic. Prerequisite: Arabic 307D or equivalent. Credit 3 units.

**A&S** LA

### Arab 320. An Introduction to Literature and Visual Culture in the Arab World

*Same as ANECC 320.*

**A&S** TH

### Arab 355C. The Flowering of Islamic Literature, 500–1200

*Same as Comp Lit 355C.*

**A&S** CD, TH **FA** Lit

### Arab 400. Asian and Near Eastern Languages and Literatures Senior Seminar

*Same as ANELL 400.*

**A&S** CD, TH

### Arab 405. Colloquial Arabic

*Same as JNE 405I, Arab 405, IA 505I.*

The aim of this course is to introduce the students to colloquial Arabic through their knowledge of Modern Standard Arabic (MSA). We will focus on the main differences between colloquial and MSA so that the students can use the colloquial form for practical purposes in everyday life. Prerequisite: Arab 208D or instructor's permission. Credit 3 units.

**A&S** LA

### Arab 407. Fourth-Level Arabic I

*Same as JNE 407.*

Focused reading and discussion of classical and modern texts centered around selected topics in Arabic literature, poetry, and media. Continued development of oral, aural, and writing skills. Students' interests will be taken into consideration before finalizing the selection of texts. Practice in writing and grammar. Prerequisite: grade of B– or better in Arab 308D or placement by examination. Credit 3 units.

**A&S** LA **FA** Lit

### Arab 408. Fourth-Level Arabic II

*Same as JNE 408I.*

Readings and discussion in Arabic of selected classical texts. Students' interests will be taken into consideration before finalizing the selection of texts. Practice in writing and grammar. Continued development of colloquial Arabic. Credit 3 units.

**A&S** LA **FA** Lit

### Arab 450. Topics in Classical Arabic Literature and Culture

Exploration of medieval Arabic Belles-Lettres (Adab). All texts read in Arabic. Prerequisite: senior standing. Credit 3 units.

**A&S** TH **FA** Lit

### Arab 470. Topics in Classical Arabic Literature in Translation

Various themes in Arabic religious literature and Belles-Lettres (Adab), e.g., the intertwining of religion and politics, court culture and fashions, so-

cial critiques, gender roles, etc., will be read in English. Credit 3 units.

**FA** Lit

### Arab 471. Topics in Modern Arabic Literature in Translation

*Same as Comp Lit 471, IAS 4710, JNE 471.*

Modern Arabic narratives read in English translation foregrounding themes such as the conflict between tradition and modernity, civil war, poverty, alienation, religion and politics, and changing gender roles. Credit 3 units.

**A&S** TH **FA** Lit

### Arab 488. Independent Work for Senior Honors

This course to be taken in the fall semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

### Arab 489. Independent Work for Senior Honors

This course to be taken in the spring semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

### Arab 497. Guided Readings in Arabic

*Same as JNE 497.*

Prerequisites: senior standing and permission of instructor and department chair. Credit variable, maximum 5 units.

**A&S** LA

### Arab 498. Guided Readings in Arabic

*Same as JNE 498.*

Prerequisites: senior standing and permission of the instructor and the department chair. Credit 3 units.

**A&S** LA

## Biblical Hebrew

### BHBR 300. Introduction to the Hebrew Bible/Old Testament

*Same as Re St 300.*

**A&S** TH **FA** SSP

### BHBR 301C. The Jews in the Ancient World

*Same as JNE 301C.*

**A&S** CD, TH **FA** SSP

### BHBR 302. Introduction to the History and Culture of Ancient Mesopotamia

*Same as JNE 302.*

**A&S** TH

### BHBR 348. Medieval Jewish Travelogues, Chronicles, and Biographies

*Same as JNE 348.*

Medieval Hebrew literature includes a wide range of narratives, many of which are commonly classified as chronicles, travelogues, biographies, or diaries. In this course, we will explore a variety of authors and narratives from the 9th to the 17th centuries, originating from Muslim and Christian lands, the Middle East and Europe. We will ask to what extent these texts mirror the personal experiences of their authors and to what extent they must be regarded as literary fictions. In addition, we will discuss the question of how premodern Jewish writers reflected on history. All texts will be read in English translation. Prerequisite: JNE 208F or instructor's permission. Credit 3 units.

**A&S** TH

### BHBR 375. How the World Began: Creation Myths of the Ancient World

*Same as Re St 375.*

**A&S** CD, TH, WI **FA** SSP

**BHBR 384. Introduction to Biblical Hebrew***Same as JNE 384I.*

This course will enable students to read the Bible in the original Hebrew. Review of Hebrew grammar. Intended for students with a foundation in modern Hebrew. Prerequisite: MHBR 214D or instructor's permission. Credit 3 units.

A&amp;S LA

**BHBR 385D. Topics in Biblical Hebrew Texts***Same as Re St 385D, JNE 385D.*

Prerequisite: BHBR 384 or instructor's permission. Credit 3 units.

A&amp;S TH

**BHBR 400. Guided Readings in Northwest Semitic Inscriptions**

Prerequisites: permission of the instructor and the department chair. Credit variable, maximum 6 units.

A&amp;S LA

**BHBR 4001. Asian and Near Eastern Languages and Literatures Senior Seminar***Same as ANELL 400.*

A&amp;S CD, TH

**BHBR 4020. Jerusalem, the Holy City***Same as JNE 4020.*

A&amp;S CD, SD, TH

**BHBR 440. Topics in Rabbinic Texts***Same as Re St 4401, JNE 440.*

The course aims to introduce students to independent reading of selected rabbinic texts in the original language. We will focus on a number of topics representing the range of rabbinic discussion, including legal, narrative, and ethical issues. At the same time, we will study the necessary linguistic tools for understanding rabbinic texts. Prerequisite: BHBR 385 or MHBR 401 or instructor's permission. Credit 3 units.

A&amp;S TH

**BHBR 488. Independent Work for Senior Honors**

Senior standing. Credit 3 units.

A&amp;S LA

**BHBR 4983. Guided Readings in Akkadian***Same as JNE 4987.*

Prerequisites: permission of the instructor and the department chair. Credit variable, maximum 6 units.

A&amp;S LA

**BHBR 4984. Guided Readings in Aramaic***Same as JNE 4984.*

Prerequisites: permission of the instructor and the department chair. Credit variable, maximum 6 units.

A&amp;S TH

**BHBR 4985. Guided Readings in Biblical Hebrew***Same as JNE 4985.*

Prerequisites: permission of the instructor and the department chair. Credit variable, maximum 6 units.

A&amp;S LA

**Modern Hebrew****MHBR 105D. Beginning Modern Hebrew I***Same as JNE 105D.*

For the student with no knowledge of Hebrew. Students with background in Hebrew are required to take the placement exam and encouraged to consider MHBR 151D. Foundation for modern conversational Hebrew. Skills for writing and

speaking introduced. Five class hours a week plus laboratory work. Limit: 15 students per section. Credit 5 units.

A&amp;S LA

**MHBR 106D. Beginning Modern Hebrew II***Same as JNE 106D.*

Foundation for modern conversational Hebrew. Skills for writing and speaking introduced. Five class hours a week plus laboratory work. Limit: 15 students per section. Credit 5 units.

A&amp;S LA

**MHBR 151D. Advanced Beginning Modern Hebrew I***Same as JNE 151D.*

Designed for the student with some background in Hebrew. Emphasis will be on review of grammar, increased fluency and vocabulary enrichment. This course prepares students for MHBR 106D. Limit 15 students. Credit 3 units.

A&amp;S LA

**MHBR 200. Topics in Asian and Near Eastern Languages and Literatures***Same as ANELL 200.*

A&amp;S CD, TH

**MHBR 213D. Intermediate Modern Hebrew I***Same as JNE 213D.*

Reading and discussion on the intermediate level of selected topics pertaining to contemporary Israel. Review and further study of grammar and development of conversational skills. Prerequisite: grade of B- or better in MHBR 106D or placement by examination. Credit 5 units.

A&amp;S LA

**MHBR 214D. Intermediate Modern Hebrew II***Same as JNE 214D.*

Intermediate modern Hebrew reading and discussion of modern Hebrew fiction. Development of language skills in special drill sessions. Conducted in Hebrew. Prerequisite: grade of B- or better in MHBR 213D or placement by examination. Credit 5 units.

A&amp;S LA

**MHBR 306. Modern Jewish Writers***Same as Comp Lit 306.*

A&amp;S TH

**MHBR 320D. Third-Level Modern Hebrew I***Same as JNE 520, JNE 320D.*

Improves proficiency in the oral and written use of modern Hebrew through reading and discussion of short stories, Israeli newspaper articles, and other selected materials. Students discuss, in Hebrew, current events and public issues related to contemporary Israeli society. Prerequisite: grade of B- or better in MHBR 214D or placement by examination. Credit 3 units.

A&amp;S LA

**MHBR 322D. Third-Level Modern Hebrew II***Same as JNE 322D.*

Designed to develop communication skills, this course provides opportunities for students to practice the art of speaking and writing correctly, clearly, and effectively. Includes reading and discussion of selected short stories from modern Hebrew literature as well as articles from current Hebrew newspapers. Class discussions deal with literary topics as well as contemporary social and political issues related to life and institutions in Israel. Prerequisite: grade of B- or better in MHBR 320D or placements by examination. Credit 3 units.

A&amp;S LA

**MHBR 324. Hebrew of the Media***Same as JNE 324I.*

Reading and discussion of newspaper articles. Viewing and analysis of television news programs and films. Prepares students to become familiar with the language and typical issues of the Israeli media and to discuss in writing and speech the issues in the news. Prerequisite: MHBR 322 or by departmental approval. Credit 3 units.

A&amp;S LA

**MHBR 340. Israeli Women Writers***Same as JNE 340, WGSS 340.*

Study of selected novels and shorter fiction by women. Attention to the texts as women's writing and as products of Israeli literature. No knowledge of Hebrew necessary; all readings in English translation. Credit 3 units.

A&amp;S CD, SD, TH, WI FA Lit

**MHBR 350. Israeli Culture and Society***Same as JNE 350.*

A&amp;S CD, SD, TH FA SSP

**MHBR 387C. Topics in Hebrew Literature***Same as JNE 387C.*

Hebrew works read in English translation. Prerequisite: sophomore standing; previous courses in literature recommended. Credit 3 units.

A&amp;S TH FA Lit

**MHBR 400. Asian and Near Eastern Languages and Literatures Senior Seminar***Same as ANELL 400.*

A&amp;S CD, TH

**MHBR 4010. Fourth-Level Modern Hebrew I***Same as JNE 4010.*

Introduction to modern Israeli literature and literary analysis for the advanced student of Hebrew. Topics include selected genres, influential writers, and the relationship between literature and society. Conducted in Hebrew. Prerequisite: grade of B- or better in MHBR 321D, or permission of instructor. Credit 3 units.

A&amp;S LA, WI

**MHBR 402. Fourth-Level Modern Hebrew II***Same as JNE 402.*

Students with advanced proficiency maintain and develop reading, speaking, and writing skills. Class conducted in Hebrew. Readings focus on key works of Hebrew poetry and fiction from earlier in this century and from contemporary Israel; additional reading and discussion of essays and editorials from current Israeli press, viewing of films and current news broadcasts produced in Israel. Prerequisite: MHBR 4010. Credit 3 units.

A&amp;S LA

**MHBR 420. Topics in Modern Hebrew Literature***Same as JNE 420.*

Various themes in Hebrew belles lettres, e.g., the intertwining of politics and literature, the survival of rabbinic metaphors. Credit 3 units.

A&amp;S LA FA Lit

**MHBR 421. Study of Selected Texts in Modern Hebrew Literature**

Major works in Hebrew belles lettres by writers such as Bialik and Agnon studied in detail and depth. Credit 3 units.

A&amp;S TH FA Lit

**MHBR 488. Independent Work for Senior Honors**

This course to be taken in the fall semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

**MHBR 489. Independent Work for Senior Honors**

This course to be taken in the spring semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

**MHBR 4973. Guided Readings in Hebrew**

*Same as JNE 4973.*

Prerequisites: senior standing and permission of the instructor and the department chair. Credit variable, maximum 5 units.

**A&S** LA

**MHBR 4983. Guided Readings in Hebrew**

*Same as JNE 4983.*

Prerequisites: senior standing and permission of the instructor and the department chair. Credit variable, maximum 5 units.

**A&S** LA

**Persian****Pers 116D. Beginning Persian I**

*Same as JNE 116D.*

Introduction to modern Persian; concentrates on rapidly developing basic skills in speaking, reading, writing, and understanding modern Persian. Five class hours a week and additional drill or laboratory hours as assigned by instructor. Credit 5 units.

**A&S** LA

**Pers 117D. Beginning Persian II**

*Same as JNE 117D.*

Introduction to modern Persian; concentrates on rapidly developing basic skills in speaking, reading, writing, and understanding modern Persian. Five class hours a week and additional drill or laboratory hours as assigned by instructor. Credit 5 units.

**A&S** LA

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

**Pers 200. Topics in Asian and Near Eastern Languages and Literatures**

*Same as ANELL 200.*

**A&S** CD, TH

**Pers 216D. Intermediate Persian I**

*Same as JNE 216D.*

Rapid development of skills in speaking, reading, writing, and understanding modern Persian. Reading of annotated, classical, and modern texts; elementary composition. Prerequisite: Persian 117D or equivalent. Credit 5 units.

**A&S** LA

**Pers 217D. Intermediate Persian II**

*Same as JNE 217D.*

A continuation of Persian 216D. Emphasis on enhancing skills in speaking, reading, writing, and understanding modern Persian. Reading of annotated classical and modern texts; elementary composition. Prerequisite: Persian 216D or equivalent. Five class hours a week with additional drill or laboratory hours as assigned. Credit 5 units.

**A&S** LA

**Pers 316. Advanced Persian I**

*Same as JNE 316.*

Selected readings from classical Persian prose and poetry. Prose readings from historical, mystical, and ethical literature by such authors as Bayhaghi, 'Attar and Sa'di. Poetry from significant lyrical genres, such as qasida and ghazal, as well as examples from heroic and romantic epics. Continued emphasis on developing skills in writing, speaking, and understanding Persian. Frequent use of traditional music, slides, and videos to enhance cultural awareness. Prerequisite: Pers 217D or equivalent. Credit 3 units.

**A&S** LA

**Pers 317. Advanced Persian II: Readings from Modern Literature**

Selected readings from modern Persian prose and poetry. The section on prose includes readings from key 19th- and 20th-century texts carrying the debate on social and literary reform. Examples from novels, short stories, and plays by such authors as Hedayat and Sa'di studied. Poetry selections include works of traditional figures, such as Iraj Mirza. Focus on reformists such as Nima, Shamlu, and Forough. Class discussion emphasized and the use of music, slides, and videos continued. Emphasis on developing skills in writing, speaking, and understanding Persian. Prerequisite: Persian 316 or equivalent. Credit 3 units.

**A&S** LA **FA** Lit

**Pers 390. Lyrics of Mystical Love, East and West**

*Same as Comp Lit 390.*

**A&S** CD, TH, WI **FA** Lit

**Pers 400. Asian and Near Eastern Languages and Literatures Senior Seminar**

*Same as ANELL 400.*

**A&S** CD, TH

**Pers 456. Topics in Classical Persian Literature and Culture**

An in-depth study of literary/cultural concepts, generic patterns, or intellectual currents in Persian literature from the 10th to 18th centuries. Persian primary sources will comprise the bulk of the reading. Each semester, a certain genre, time period, literary/intellectual figure, or text will form the main focus. Advanced reading knowledge of Persian required. Prerequisite: senior standing. Credit 3 units.

**A&S** TH **FA** Lit

**Pers 457. Topics in Modern Persian Literature and Culture**

An in-depth study of the modern developments in literary/cultural concepts, generic patterns, or intellectual currents in Persian literature from the 18th century to the present. Persian primary sources will comprise the bulk of the reading. Each semester, a certain genre, time period, literary/intellectual figure, or text will form the main focus. Advanced reading knowledge of Persian required. Prerequisite: senior standing. Credit 3 units.

**A&S** TH **FA** Lit

**Pers 488. Independent Work for Senior Honors**

Prerequisite: senior standing. Credit 3 units.

**Pers 489. Independent Work for Senior Honors**

This course to be taken in the spring semester. Prerequisites: senior standing, eligibility for honors, and permission of the department. Credit 3 units.

**Pers 4972. Guided Readings in Persian**

*Same as JNE 4972.*

Prerequisites: senior standing and permission of the instructor and the department chair. Credit variable, maximum 3 units.

**A&S** LA

**Pers 4982. Guided Readings in Persian**

*Same as JNE 4982.*

Prerequisites: senior standing and permission of the instructor and the department chair. Credit variable, maximum 3 units.

**A&S** LA

## Biology

### Chair

**Kathryn G. Miller**  
Ph.D., Johns Hopkins University

### Endowed Professors

**Robert E. Blankenship**  
Lucille P. Markey Distinguished Professor  
in Arts & Sciences  
Ph.D., University of California–Berkeley

**Sarah C.R. Elgin**  
Viktor Hamburger Professor in Arts &  
Sciences  
Ph.D., California Institute of Technology

**Himadri B. Pakrasi**  
George William and Irene Koechig Freiberg  
Professor of Biology  
Ph.D., University of Missouri–Columbia

**Ralph S. Quatrano**  
Spencer T. Olin Professor and Dean of Arts  
& Sciences  
Ph.D., Yale University

**Peter H. Raven**  
Engelmann Professor of Botany  
Ph.D., University of California–Los Angeles

**Barbara A. Schaal**  
Spencer T. Olin Professor in Arts &  
Sciences  
Ph.D., Yale University

**Alan R. Templeton**  
Charles Rebstock Professor  
Ph.D., University of Michigan

### Professors

**Garland E. Allen**  
Ph.D., Harvard University

**Roger N. Beachy**  
Ph.D., Michigan State University

**Ian Duncan**  
Ph.D., University of Washington

**Ursula W. Goodenough**  
Ph.D., Harvard University

**Tuan-hua David Ho**  
Ph.D., Michigan State University

**Robert G. Kranz**  
Ph.D., University of Illinois

**Allan Larson**  
Ph.D., University of California–Berkeley

**Philip A. Osdoby**  
Ph.D., Case Western Reserve University

**Craig S. Pikaard**  
Ph.D., Purdue University

**Paul S. G. Stein**  
Ph.D., Stanford University

**Robert E. Thach**  
Ph.D., Harvard University

### Associate Professors

**Douglas L. Chalker**  
Ph.D., University of California–Irvine

**Jonathan M. Chase**  
Ph.D., University of Chicago

**Erik D. Herzog**  
Ph.D., Syracuse University

**Barbara Kunkel**  
Ph.D., Harvard University

**Petra A. Levin**  
Ph.D., Harvard University

### Assistant Professors

**Yehuda Ben-Shahar**  
Ph.D., University of Illinois

**Bruce A. Carlson**  
Ph.D., Cornell University

**Ellen I. Damschen**  
Ph.D., North Carolina State University

**Ram Dixit**  
Ph.D., Cornell University

**Elizabeth S. Haswell**  
Ph.D., University of California–San Francisco

**Tiffany Knight**  
Ph.D., University of Pittsburgh

**Kenneth M. Olsen**  
Ph.D., Washington University

**John L. Orrock**  
Ph.D., Iowa State University

### Joint Professors

**James Cheverud**  
(Anatomy and Neurobiology, WUSM)  
Ph.D., University of Wisconsin–Madison

**Gayle J. Fritz**  
(Anthropology)  
Ph.D., University of North Carolina–Chapel Hill

### Professors Emeriti

**George B. Johnson**  
Ph.D., Stanford University

**David L. Kirk**  
Ph.D., University of Wisconsin

**Daniel H. Kohl**  
Ph.D., Washington University

**Marilyn Krukowski**  
Ph.D., New York University

**Rita Levi-Montalcini**  
M.D., University of Toronto

**Walter H. Lewis**  
Ph.D., University of Virginia

**Barbara Pickard**  
Ph.D., Harvard University

**Owen J. Sexton**  
Ph.D., University of Michigan

**Nobuo Suga**  
Ph.D., Tokyo Metropolitan University

Biology is an exciting, diverse field ranging from the molecular biology of individual cells to interactions among entire populations of organisms. Members of the biology faculty are recognized internationally for their research and bring a variety of strengths and teaching styles into the classroom. The major in biology provides a thorough education in the history of scientific discovery in biology, the logical and statistical procedures used to formulate and to test biological hypotheses, and technical skills needed for conducting contemporary biolog-

ical research. The biology major emphasizes the hierarchical nature of biological complexity and the major structures and functions that emerge at the molecular, cellular, organismal, populational, and ecosystem levels. Each student masters at least one dimension of contemporary research in sufficient detail to describe the major hypotheses currently being tested and to demonstrate techniques used to test those hypotheses. Mastery of this material is evident in a student's ability to critique published data, identifying ambiguities and uncertainties in conclusions drawn from those data, and to evaluate the societal importance of the research. A biology major is prepared to make creative contributions to biology.

The biology major provides a wide range of research opportunities. Because more than 400 faculty members conduct research in biology and biomedical sciences at Washington University, it is easy to find a project that suits a student's main interests. Many students complete their research projects at the Washington University School of Medicine, one of the top-ranked medical schools in the country. Summer research fellowship programs are available, funded by sources including the Howard Hughes Medical Institute, Children's Discovery Institute, National Science Foundation, and the Washington University Office of Undergraduate Research. See

<http://www.nslc.wustl.edu/courses/Bio500/bio500.html> for detailed information on finding a research mentor. The biology department publishes a handbook that describes relevant careers in the biotechnology industries, agriculture, science communication, academic research and teaching, and health-related areas such as medicine, veterinary medicine, dentistry, and genetic epidemiology (see <http://www.nslc.wustl.edu/handbook/handbook.html>).

**The Major:** Majors ordinarily begin work in biology with Biol 2960 in spring of freshman year. After completing Chem 111A–112A and the accompanying laboratory courses Chem 151–152, also taken during the first year, students proceed to Biol 2970 and then upper-level classes in the sophomore year. Biol 2960 and Biol 2970 are required for majors and appropriate in sequence for premedical and pre dental students with other majors.

In addition to Chem 111A–112A and Chem 151–152, requirements include Chem 251, 257 and either 252 or 401; Physics 117A–118A (or Physics 197–198); Math 131 (Calculus I) and Math 132 (Calculus II). Courses taken in University College, Washington University's evening school, do not meet these requirements. Students who plan to take physical chemistry must take Math 233 (Calculus III). Math 2200 (Elementary Probability and Statistics; required for tracks in Ecology and Evolution and in Genomics and Computational Biology) and Math 322 (Biostatistics) are valuable, particularly for students interested in research. Students who have taken Math 233 may take Math 3200 rather than Math 2200 for a more advanced

treatment of statistics.

At least 18 units in advanced Biology courses (numbered 300 or above) are required. These 18 units may not include Biol 303A, 307A, 387, 388, 393, 487, 488, 4930, cross-listed courses originating in other departments (except Biol 360, 4202, 4580, 4810 and 4820, which count as biology major credit despite external origins), or more than three units of history-of-science courses. Majors are required to take at least one course from each of these three areas:

*Area A:* Biol 3041, 3191, 324, 334, 3371, 337W, 349, 4028, 424, 4810, 4820

*Area B:* Biol 3151, 328, 3411, 4023, 4580

*Area C:* Biol 3501, 372, 381, 4170, 4181, 4182, 4183, 419, 4202

Majors also must take an advanced laboratory course from the following list: Biol 3110, 3491, 3492, 360, 4024, 404, 4191, 4193, 4342, 434W, 437.

All courses required for a major in biology should be taken for a letter grade if a letter grade is offered. A grade of C– or better must be earned in all of these courses.

Research opportunities are available in your first or second year through Biol 200; such opportunities are available in the third and fourth years through Biol 500.

In special cases, students may earn credit for graduate courses offered by the Division of Biology and Biomedical Sciences.

**Biology Major Tracks:** A biology major may choose one of four tracks within the major if the student's interests lie primarily within one of these subfields of biology. A track provides strong training for graduate study in its subfield. *All tracks require completion of the biology major requirements as stated above but provide concentrated study in one of the four subfields.* Optional for each track is a research emphasis, which requires 2 semesters of Bio 500 research and a written thesis.

**Ecology and Evolution** — Additional requirements include Math 2200 or 3200. Students whose main interest is ecology must take at least two ecology electives and one evolution elective; students whose main interest is evolution must take at least two evolution electives and one ecology elective (ecology electives: Biol 372, 381, 4170, 419, evolution electives: Biol 347, 3501, 4181, 4182, 4183, 4202). Also required are one elective in analytical methodology (CSE 126, CSE 424 or Math 322) and one elective in earth and planetary science (EPSc 201, 323 or 418). The course used to fulfill the advanced laboratory requirement for the major must be Biol 4193, 437, 4342 or 434W.

**Genomics and Computational Biology** — Additional requirements include Biol 3371 or 337W, Math 2200 or 320, and an outside elective (CSE 131 or 241). The course used to fulfill the advanced laboratory requirement for the major must be Biol 3492, 4024, 4342, 434W, or 437. Biology courses recommended for students in this track include Biol 3191, 324, 334, 349, 3491, 437, 4028, 4181, 4183, 4202, and 4810. Also recommended as electives are CSE 132, CSE 447T, Math 217 and Math 309.

**Molecular Biology and Biochemistry** — Additional requirements include Biol 4810 and 4820, Biol 334, 3371/337W, or 349, Chem 401 and 402, and one of the following: Math 2200, Math 233, or Math 3200. The advanced laboratory course used to fulfill major requirements must be one of the following: Biol 4024, 3492, 4342/434W, and 437. Additional biology courses recommended for students in this track include Biol 3041, 3191, 3491, 4023, 4183, and 437.

**Neuroscience** — Biology major requirements must be met with the following courses: Bio 3058, area A (Biol 334 or 4810), area B (Biol 3411), area C (Biol 372, 3501 or 4183), and advanced laboratory (Biol 404). Students must select at least one biology elective (Biol 3110, 3151, 3191, 3371, 337W, 437, or 4580) and one outside elective either in physics (Physics 350 or 355) or in psychology (Psych 330, 360, 3604 or 4604). Math 2200 (or 3200) is recommended.

See related majors in Biomedical Engineering, Environmental Studies, and Philosophy–Neuroscience–Psychology (PNP).

**The Minor:** The minor in biology requires Biol 2960, 2970, Chem 111A–112A, Chem 251 and at least 10 upper-level credits in biology selected from among the courses that may be counted toward the biology major. Other minors related to biology include those in applied statistics, bioinformatics, biomedical physics, environmental studies, history and philosophy of science, and PNP (philosophy–neuroscience–psychology).

**Senior Honors:** Biology majors are encouraged to work for senior honors, which requires a 3.3 average in biology, a 3.3 average in nonbiological sciences (mathematics, chemistry, and physics courses) and a 3.5 overall course average at the time of graduation. Also required are 6 units of Biol 500 research and an approved thesis from this work. Students interested in senior honors should begin Biol 500 no later than spring of the junior year.

The biology department awards the Marian Smith Spector Prize to an undergraduate who has an excellent academic record and submits an outstanding honors thesis. It also awards the Harrison D. Stalker Prize to a graduating senior whose college career is distinguished by scholarship, service, and breadth of interest.

## Undergraduate Courses

### Biol 1100. Introduction to Environmental Studies

*Same as EnSt 110.*

**A&S NS**

### Biol 112. Freshman Seminar: Introduction to Problem-based Learning in Biology

Small groups of students take responsibility for their own active learning in their team with guidance from an instructor. Each group in rotation considers four problems of biological importance such as rainforest destruction, coral reefs, laboratory diagnoses, sleep, high altitude, deafness, infertility, modern epidemics, clinical cases, genetic engineering, and cloned animals. Students find the background information by library searches and integrate this knowledge in group discussions. Enrollment limited. Intended for but not limited to

prospective biology majors. Prerequisite: high school Biology, preferably an AP class. Credit 3 units.

**A&S NS FA NSM**

### Biol 181. Freshman Seminar in Biology

A lecture course intended for first-year students that focuses on the practice and culture of biomedical research. Active researchers describe the biological context of their research, the specific questions formulated, the means by which they pursue the answers, and their data and conclusions. The focus is on process: how biologists pursue their profession in a research setting. Additional topics of clinical and contemporary interest are often included. Students are expected to attend all lectures. Must be taken Credit/no credit. Credit 1 unit.

**A&S NS FA NSM**

### Biol 1810. Freshman Seminar in Imaging Sciences

An introduction to the breadth and depth of imaging sciences across Arts & Sciences, Medicine, and Engineering on topics from radiology to cell biology. Seminars are presented by experts in these fields to acquaint undergraduate students with advances in imaging sciences and research opportunities in these areas. This seminar is the preferred entry point for freshman and sophomores for the Imaging Sciences Pathway (<http://imagingpathways.wustl.edu/>). No prerequisites, primarily for freshmen and sophomores, but open to all students. Credit 1 unit.

**A&S NS**

### Biol 191. Phage Hunters

*Same as Focus 1910.*

**A&S NS**

### Biol 192. Phage Bioinformatics

*Same as Focus 1920.*

**A&S NS**

### Biol 200. Introduction to Research

An introduction to laboratory and field research in biology for first- and second-year students. Students work under the supervision of a mentor in a setting of established, ongoing research. Prerequisites: less than 60 units completed, permission of sponsor and the department. For detailed information on the Biology Department's expectations and guidance in finding a mentor, see [www.nslc.wustl.edu](http://www.nslc.wustl.edu). Credit/no credit only. Credit variable, maximum 3 units.

**A&S NS FA NSM**

### Biol 210A. Epic of Evolution: Life, Earth, and Cosmos

*Same as EPSc 210A.*

**A&S NS FA NSM**

### Biol 265. Experience in the Life Sciences

Provides an opportunity to earn credit for non-classroom learning in the life sciences. A wide variety of activities qualify. For example, students might accompany a physician on rounds and prepare a paper on a specific organ system or disease, participate in a field or ecological study and report on the findings, help create a summer biology curriculum for children and report on its effectiveness, etc. Participants must arrange to work with a supervisor with whom they will meet on a regular basis, and commit themselves to at least 140 hours over two semesters. A work plan must be approved prior to registration. Progress report due at the end of one semester, and a final paper due after two semesters. Does not count toward upper-division credits required for the major. Credit: 1.5 units per semester, contingent on completion of two semesters. For more details, see [www.nslc.wustl.edu/research.html](http://www.nslc.wustl.edu/research.html). Credit/no credit only. Credit 1.5 units.

**Biol 2651. Med Prep Program—Experience in Life Sciences**

The Med Prep Program is a unique course designed specifically for students considering a career in medicine. Students shadow physicians in the Emergency and Trauma Center of Barnes-Jewish Hospital three hours every other week to see firsthand how emergency physicians treat both routine medical problems and life-threatening emergencies. Students also see how resident physicians are trained in one of the nation's finest academic teaching hospitals. Through a weekly two-hour lecture, students receive detailed information regarding every step of the medical education process, from applying to medical school to becoming a board-certified physician. Members of the WUSM Admissions Committee provide direct information regarding the dos and don'ts of the application and interview process. Q&A sessions are also offered with resident physicians from multiple specialties who discuss the pros and cons of their particular specialty, the training time involved, and the lifestyle both during and after residency. Important topics such as the growing medical malpractice crisis, the problems with universal health care and the physician's approach to death and dying also are covered. The course ends with a "pizza rounds" session with current medical students from the WUSM who give strategies for success in medical school. Credit/no credit only. Credit 2 units (lecture and physician shadowing) or 1 unit (lecture only). Credit 2 units.

**Biol 2652. Pediatric Emergency Medicine Research Associates Program—Experiences in Life Sciences**

The Pediatric Emergency Medicine Research Associates Program (PEMRAP) offers undergraduate premedical students an opportunity to participate in clinical, patient-oriented research projects in a hospital setting. Students work in the St. Louis Children's Hospital Emergency Department, a nationally recognized pediatric emergency medicine and trauma care facility. A number of research projects are currently under way in various areas of pediatric emergency medicine. Topic areas include procedural pain and sedation, neonatal sepsis, fracture healing, fever, appendicitis, and antibiotic-resistant staph infections. Research associates are expected to work two four-hour shifts per week and to attend a weekly two-hour meeting on Tuesdays from 1:30 p.m. to 3:30 p.m. at St. Louis Children's Hospital. The weekly meeting includes lectures given by Emergency Department faculty members. This program offers students the unique opportunity to be a vital part of the ED research team. In addition, the research associates' experience in the ED may help students determine if medicine is truly the career path they wish to choose. Credit/no credit only. Credit 3 units.

**Biol 2653. Course for Associates of Research in Emergency Medicine (CAREm)**

CAREm is a unique program designed specifically for students considering a career in medicine and/or research. In this course, students are introduced to clinical research work in the Emergency and Trauma Center of Barnes-Jewish Hospital at Washington University School of Medicine. Students assist investigators on various research studies, including traumatic brain injury, diabetes, influenza, pneumonia, radiology, and more. CAREm is limited to 12 students per semester. Spots in the course are given to the first 12 students who have submitted a completed registration packet and fulfilled the requirements of the Barnes-Jewish Hospital Volunteer Program. Students are contacted individually prior to the first week of class to ensure that the mandatory requirements are met. Each student is required to dedicate eight hours per week as a research assistant (RA) for clinical research trials. As a research assistant, students'

screen patients in the Emergency Department, consent eligible patients, complete various documentation, and perform other research-related activities. Through a weekly two-hour lecture, students are educated on the importance of ethical research and the different types of research conducted. In addition, students are introduced to methodological concepts of the various clinical research projects. Weekly lectures include presentations given by faculty members and the course masters. The lecture series includes topics such as basics of clinical research, types of clinical research, study design and methodology, and basic statistics. Prerequisite: sophomore, junior, and senior level only. Credit/no credit only. Credit 3 units.

**Biol 2655. Surgery Pedagogy and Practice**

Surgery Pedagogy and Practice is an advanced course for undergraduate students with an interest in medicine and surgery. It expounds on the comprehensive information gained from either of its prerequisite courses Biol 2651 Med Prep or Biol 2652 PEMRAP. This course offers undergraduate students a unique view of medicine and surgery through a combination of lectures, small group sessions, mentoring sessions, problem-based learning, independent study, compilation of material for a research paper, and presentation of the paper. This course gives context to undergraduate-level material required of medical-school applicants as well as material necessary for success in medical school not covered by medical school prerequisite requirements. This course is designed to give undergraduate students a basic introduction to the field of surgery and surgical research, from which students are expected to choose a specific area of interest for more individualized mentored and independent study. Student time is divided between Socratic sessions, small group experiences, independent study, and mentor shadowing. It is expected that concepts taught and relationships fostered during the course will continue and grow long after the conclusion of the course. Logistics: All nonclinical activities are held in the Farrell Learning and Teaching Center of the Washington University School of Medicine. Clinical activities are at Barnes-Jewish Hospital and require students to schedule independent shadowing sessions, at least three of which start at 5 a.m. Students are required to participate in all activities; at the discretion of the course master, failure to attend ANY class or scheduled event results in automatic failure of this class. Credit/no credit only. Credit 2 units.

**Biol 280. DNA Science: A Hands-on Workshop**

Gain an understanding of the molecular basis of life through this introduction to DNA, genetics, and the human genome. You will learn about your genetic identity, why we are all mutants, and how we can use (and abuse) our understanding of the genetic makeup of living organisms to engineer life and to diagnose disease. For nonbiology majors. Prerequisites: high school course in biology and in chemistry. This course is an entry point for the Bioinformatics minor for physical science/math/engineering students. Three-hour lecture plus two-hour lab each week. Ordinarily a student who has completed Biol 2960 may not take Biol 280 for credit (see instructor). Credit 4 units.

A&amp;S NS

**Biol 295. Introduction to Environmental Studies: Biology**

Same as EnSt 295.

A&amp;S NS

**Biol 2960. Principles of Biology I**

Same as Biol 2960.

The course provides an introduction to cellular, molecular, and developmental biology. An under-

standing of cellular architecture and the properties of biological macromolecules is integrated with discussion of the flow of genetic information within cells. The final section of the course covers investigation and manipulation of genetic information by molecular genetic technologies, as well as developmental strategies employed by multicellular eukaryotes. Weekly labs reinforce concepts from lecture and explore common laboratory techniques and computer-based resources. Prerequisites: Chem 111 and Chem 112 (concurrently). Three hours of lecture and two hours of lab per week. Credit 4 units.

A&amp;S NS

**Biol 2970. Principles of Biology II**

A broad overview of genetics, including Mendelian assortment, linkage, chromosomal aberrations, variations in chromosome number, mutation, developmental genetics, quantitative genetics, population genetics, mechanisms of evolution, and phylogenetics. Three lectures and one laboratory period each week. Prerequisite: Biol 2960, or permission of instructor. Credit 4 units.

A&amp;S NS

**Biol 303A. Human Biology**

An overview of the basic biological processes in the human body. After a brief introduction to chemistry and cell biology, we examine healthy function and disease of all the major systems of the human body. These include: the nervous, cardiovascular, renal, digestive, immune, and reproductive systems. This course is designed for students who do not plan to major in science, and no science background is expected. Prerequisite: sophomore standing. A student may not receive credit for both Biol 303A and Biol 2960, 2970, or UCollege B120, B1201, B121, B1211. Credit 3 units.

A&amp;S NS FA NSM

**Biol 3041. Plant Biology and Genetic Engineering**

A lecture course that provides an introduction to plant development, genetics, physiology, and biochemistry with emphasis on processes that can be manipulated or better understood through genetic engineering. The second half of the course emphasizes gene structure, expression, and cloning as well as methods for introducing foreign DNA into plant cells and regenerating fertile plants in tissue culture. Examples of genetically engineered traits discussed include: engineered herbicide resistance; virus and insect resistance; delayed fruit ripening; the use of plants for production of industrial and pharmaceutical compounds. Prerequisite: Biol 2960 and Biol 2970. Credit 3 units.

A&amp;S NS FA NSM

**Biol 3050. Principles of Biology III: Biochemistry and Physiology**

Biochemical processes with emphasis on cell biology, genomics, and molecular diseases; systems physiology with emphasis on human physiology. There are three hours of lectures and one hour of discussion per week for the entire semester. For the first half of the course, there are two hours of computer lab per week. Prerequisites: Biol 2970 and Chem 251. Credit 4 units.

A&amp;S NS

**Biol 3058. Physiological Control Systems**

Systems physiology with emphasis on human physiology. Two hours of lectures per week. Prerequisites: Biol 2960 and Chem 112A. Credit 2 units.

A&amp;S NS

**Biol 307A. Human Variation**

Same as Anthro 307A.

A&amp;S NS, QA, SD FA NSM

**Biol 3110. Vertebrate Structure Laboratory**

A lecture/laboratory course designed to provide an

integrative framework for how vertebrate form and function evolved. Weekly lectures emphasize development and the relationship between the structural and functional design of organ systems, the importance of these relationships in maintaining homeostasis while providing opportunity for adaptation, and examples of how vertebrate organ systems communicate to accomplish functional and physiological integration. Includes 1.5-hour lecture and five hrs lab each week. Prerequisite: Biol 2970. Credit 4 units.

**A&S NS**

#### **Biol 3151. Endocrinology**

An overview of mammalian endocrine systems with an emphasis on human physiology and development. The interplay between systemic, local cell, and tissue interactions as well as the cell and molecular events associated with hormone action are discussed. Examples of endocrine evolution and pathological conditions related to endocrine imbalances are included. Prerequisite: Biol 2970. Credit 3 units.

**A&S NS FA NSM**

#### **Biol 3182. History of the Life Sciences in the 20th Century**

This course explores the vast changes that the life sciences underwent between 1890 and 2000, from a largely descriptive and qualitative, to a highly experimental and quantitative science. Topics include the rejection of Haeckelian morphology, the rise of experimental embryology, the rediscovery of Mendel and development of the Mendelian-chromosome theory, the new "ecology" of the Chicago school, the introduction of feedback and control systems in physiology, the synthesis of Mendelism and Darwinism, the rise of biochemistry and molecular biology, and the genomic revolution. In each topic, biological ideas are placed in their historical and social contexts. Prerequisites: At least a high school or preferably, college-level introductory course in biology and/or permission of the instructor. Credit 3 units.

**A&S NS**

#### **Biol 3191. Molecular Mechanisms in Development**

One of the most exciting areas of modern biology is the study of embryonic development. The use of genetic engineering/recombinant DNA technology has revolutionized the way in which questions are asked and answered in this rapidly advancing field. Recent studies in model systems such as *Drosophila*, nematode, and *Xenopus* (among others) have provided new insights into the molecular mechanisms utilized to establish cellular identities and to generate the pattern of differentiation critical to multicellular organisms. Information being gained and experimental tools being developed in these model systems are leading to important advances in our understanding of developmental mechanisms used in all organisms, including mammals. This course provides an up-to-date and in-depth view of ongoing research in selected areas of developmental biology. Topics are introduced by lectures, but substantial class time is devoted to discussion. Reading assignments from the current scientific literature highlight the experimental approaches being used. How information from model systems is being applied to mammalian embryos is discussed. Enrollment limited to encourage discussion. Prerequisite: Biol 2970. Credit 3 units.

**A&S NS, WI FA NSM**

#### **Biol 324. Human Genetics**

Broad coverage of the role of genetics in medicine, with a focus on the application of genomic technologies to the understanding of human disease. Areas covered include the identification of human disease genes, modern cytogenetics, risk assessment in pedigrees, biochemical genetics, imprinting, mitochondrial genetics, gene therapy,

complex inheritance, assisted reproduction, prenatal diagnosis, immunity, cancer, and pharmacogenetics. The profound ethical and legal considerations raised by modern genetic technologies are also discussed. Credit 3 units.

**A&S NS**

#### **Biol 328. Principles in Human Physiology**

This course is designed to provide students with an understanding of the function, regulation, and integration of the major organ systems of the body. Course content includes basic cellular function, control of neural and hormonal homeostatic mechanisms, and study of the circulatory, respiratory, digestive, urinary, musculoskeletal, nervous, endocrine, and reproductive organ systems. Prerequisite: Biol 3058 or equivalent. Credit 4 units.

**A&S NS FA NSM**

#### **Biol 334. Cell Biology**

Eukaryotic cell structure and function viewed from the perspective of modern cell biology. Lectures stress the control of the cell cycle; the role of membranes in such processes as secretion, transport, and hormone action; and the role of cytoskeleton in coordinating cellular responsiveness. Prerequisite: Biol 2970. Credit 3 units.

**A&S NS FA NSM**

#### **Biol 3371. Eukaryotic Genomes**

An advanced exploration of the structure and function of DNA within the eukaryotic nucleus. Lecture and discussion cover topics of chromatin and chromosome structure, control of gene transcription, RNA processing, and DNA replication and repair. The relevance of these topics to the genetic basis of human disease is discussed. Throughout, the experimental data that shape our current understanding are emphasized. Course grades based on exams, problem sets, and short papers. Lecture three hours per week plus required discussion section meeting every other week. Prerequisites: Biol 2970 and Chem 251 (may be taken concurrently). Credit 4 units.

**A&S NS**

#### **Biol 337W. Eukaryotic Genomes (Writing-Intensive)**

An advanced exploration of the structure and function of DNA within the eukaryotic nucleus. Lectures and discussion cover topics of chromatin and chromosome structure, control of gene transcription, RNA processing, and DNA replication and repair. The relevance of these topics to the genetic basis of human disease is discussed. Throughout, the experimental data that shape our current understanding are emphasized. The course grade is derived from two in-term exams and from short to medium-length papers (two to 10 pages) on topics related to the lecture material. Drafts of papers are required before the final paper submission. Enrollment limited to 15 students. Prerequisites: Biol 2970 and Chem 251 (may be taken concurrently). Credit 4 units.

**A&S NS, WI**

#### **Biol 3411. Principles of the Nervous System** *Same as Psych 344, PNP 3411.*

The basic anatomical, physiological, and chemical organization of the nervous system; how nerve cells communicate with each other, the ionic basis of nerve signals, the function and properties of chemical agents in the nervous system, the development of neural circuitry, and how neurons interact to produce behavior. Prerequisites: Biol 2960 or Psych 340 and permission of instructor; Biol 3058 recommended. Credit 3 units.

**A&S NS FA NSM**

#### **Biol 345A. Scientific Revolution**

*Same as History 345A.*  
Focus on the so-called "Scientific Revolution," 1500–1700, with emphasis on the work of Copernicus, Kepler, Galileo, and Newton in the astronomical revolution and the revolution in biology

associated with William Harvey and Robert Hooke. Using Thomas Kuhn's thesis about scientific revolution and the critique of science and technology of Karl Marx and Friedrich Engels, the course examines the nature of scientific change and the relationship between scientific and social/economic change in the 16th and 17th centuries. Readings from both primary and secondary sources. A one-hour discussion section every other week. Does not count toward the biology major. Credit 3 units.

**A&S NS FA NSM**

#### **Biol 346A. The Darwinian Revolution**

Examines the scientific, economic, social and political background to the development of evolutionary theory in Europe and the United States from 1750 through the end of the 20th century. How were naturalistic theories of the origin of species crafted out of economic and social metaphors? Why has Darwin's work generated such controversy for 150 years? What is the consensus on Darwinian theory today? The first part of the course focuses on the historical and philosophical development of ideas about evolution, natural selection, and heredity, including the strong arguments mounted against Darwinian theory through the first two decades of the 20th century. The second part of the course deals with the development of evolutionary theory as it was integrated with Mendelian genetics (as population genetics), ecology, and eventually molecular biology in the period after 1930. The course concludes with an examination of several controversies that have greatly affected the course of evolutionary theory: the conflict between evolution and Christian fundamentalism, the concept of punctuated equilibrium, sociobiology, mass extinctions and the extinction of dinosaurs, and the origin of life. Emphasis is on understanding the process of science as practiced in evolutionary biology. No prerequisites. Credit 3 units.

**A&S NS FA NSM**

#### **Biol 347. Darwin and Evolutionary Controversies**

*Same as History 347.*

Focus is on controversies in evolutionary biology from Darwin's day to the present. Most of the controversies concern scientific issues such as Kelvin's estimate of age of the earth, Jenkin's argument against blending inheritance, neutral variations, effects of isolation on the role of selection, mass extinction and "nemesis," but some address social issues such as evolutionary ethics and "scientific creationism." Emphasis in the readings is on primary sources, including Darwin's *Origin of Species*. Credit 3 units.

**A&S NS, WI FA NSM**

#### **Biol 349. Microbiology**

This lecture course focuses on the molecular biology of bacteria, archaea, and viruses. Topics include: the bacterial cell cycle, gene regulation, stress response, cell-cell communication, viral and bacterial pathogenesis, microbial ecology, and metabolic diversity. Friday tutorials stress analysis of primary literature with an emphasis on current research related to material covered in lecture. Prerequisites: Biology 2960 and 2970, or permission of instructor. Credit 4 units.

**A&S NS FA NSM**

#### **Biol 3491. Microbiology Laboratory**

After introducing students to the basics of bacterial growth and maintenance, this laboratory class employs genomics and cell biology to explore various aspects of bacterial physiology. Prerequisite or co-requisite: Biol 349. One-hour lecture and five hours laboratory per week. Fulfills the upper-level laboratory requirement for the Biology major. Credit 3 units.

**A&S NS FA NSM**

**Biol 3492. Laboratory Experiments with Eukaryotic Microbes**

This research-intensive course provides an introduction to diverse molecular and cell biology techniques used in model experimental organisms to explore fundamental biological questions. Experiments are performed using selected fungi and protozoans commonly used in major research efforts. Emphasis is placed on choosing the appropriate organism for the question posed using the most current technologies. Each semester, one cellular process is studied in detail and original research is conducted. Prerequisites: Biol 2960 and 2970 and permission of instructor—contact early to ensure enrollment. One hour lecture and six hours laboratory a week. Fulfills the upper-level laboratory requirement for the Biology major. Enrollment limited to 12. Credit 3 units.

A&amp;S NS

**Biol 3501. Evolution**

Same as Biol 4501.

A general survey of organic evolution covering both micro and macroevolution. Topics include natural selection, adaptation, evolution of pathogens, formation of species, and phylogeny. Prerequisite: Biol 2970. Credit 4 units.

A&amp;S NS FA NSM

**Biol 360. Biophysics Laboratory**

Same as Physics 360.

A&amp;S NS

**Biol 372. Behavioral Ecology**

Same as EnSt 372.

This course examines animal behavior from an evolutionary perspective and explores the relationships between animal behavior, ecology, and evolution. Topics include foraging behavior, mating systems, sexual selection, predator-prey relationships, cooperation and altruism, competition and parental care. Prerequisite: Biol 2970 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Biol 381. Introduction to Ecology**

Same as EnSt 381.

This course explores basic ecological models and principles. Examples and original research from a wide array of taxa and ecosystems are examined. Format includes lecture, discussion, and weekly small-group quantitative exercises. Analytical examination of data and application of quantitative models are a major component of this course. Credit 3 units.

A&amp;S NS

**Biol 387. Undergraduate Teaching**

Exceptional undergraduates serve as teaching assistants for laboratory and/or discussion sections in departmental courses. Normally 2 or 3 units are given per semester, subject to the approval of the instructor and the department. Credit may not be counted toward fulfilling the biology major; application form in Department of Biology Student Affairs office. Prerequisite: permission of instructor. Credit/no credit only. Credit variable, maximum 3 units.

A&amp;S NS FA NSM

**Biol 393. Practical Skills in Environmental Biology Research**

Same as EnSt 393.

A&amp;S NS

**Biol 4023. How Plants Work: Physiology, Growth, and Metabolism**

Same as Biol 4023.

This course introduces students to the fundamentals of how plants grow, metabolize, and respond to their environment. Topics to be covered include the conversion of light energy into chemical energy through photosynthesis and carbon fixation, nitrogen assimilation, water and mineral uptake and transport, source-sink relationships and long-

distance transport of carbon and nitrogen, cell growth and expansion, hormone physiology, and physiological responses to a changing environment. Prerequisite: Biol 2970 or permission of instructors. Credit 3 units.

A&amp;S NS

**Biol 4024. Plant Cells and Proteins Laboratory**

This course focuses on methods for the biochemical analysis and imaging of plant proteins. Topics include measurement of protein concentrations, affinity purification of recombinant proteins, assessment of protein purity by SDS polyacrylamide gel electrophoresis, analysis of complex protein mixtures by two-dimensional gel electrophoresis, protein identification using mass spectroscopy, protein crystallization, and an introduction to protein structural analysis. Students also transform plant cells in tissue culture in order to express recombinant fluorescent proteins that are visualized within living cells using fluorescence microscopy. The course is designed for students contemplating a research career. Enrollment is limited to eight students. Prerequisites: Biol 2970, Chem 252, and permission of Dr. Pikaard. Credit 3 units.

A&amp;S NS

**Biol 4028. From Seed to Senescence: The Genetics, Development, and Cell Biology of Plants**

This course introduces students to the unique features of plant cells, plant genomes, and plant development, and examines the many significant ways in which plants differ from animals. Major topics include how plant stem cells continuously give rise to leaves and flowers (unlike animals, where organs are pre-formed during embryogenesis), and how plants reproduce without a dedicated germline (animals set aside germ cells early in development). We discuss a number of mutants that are defective in important developmental transitions, some of which are the basis for familiar fruit and vegetable crops. Also covered are the genetic and genomic methods used to generate and to analyze plant mutants, and recent technical advances that have furthered our understanding of plant growth and development. Reading of primary literature and computer-based exploration of online genomics tools are parts of the course. Prerequisite: Biol 2970 or permission of Dr. Haswell. Credit 3 units.

A&amp;S NS

**Biol 404. Laboratory of Neurophysiology**

Same as PNP 404.

Neurophysiology is the study of living neurons. Students record electrical activity of cells to learn principles of the nervous system including sensory transduction and coding, intercellular communication, and motor control. The course meets for eight hours each week. Students may leave the lab for up to two hours. Prerequisites: Biol 3411 or Psych 4411 and permission of instructor. Biol 3411 may be taken concurrently. Credit 4 units.

A&amp;S NS, WI FA NSM

**Biol 4170. Population Ecology**

Same as EnSt 4170.

This course examines the ecological factors that cause fluctuation and regulation of natural populations and emphasizes the utility of mathematical models to assess the dynamics of populations. The course includes lecture, discussions, and computer labs using the programming language MATLAB. Emphasis is placed on principles as applied to conservation and management. Topics include assessing extinction risk of rare species, invasion dynamics of exotic species, demographic and environmental stochasticity, metapopulation dynamics, structured populations, the role of species interactions, and microevolutionary processes. Prerequisites: Calculus (Math 131 and 132), and at least one of the following: Biol 2970, EnSt 295. Credit 3 units.

A&amp;S NS

**Biol 4181. Population Genetics**

An introduction to the basic principles of population and ecological genetics. Mechanisms of microevolutionary processes; integrated ecological and genetic approach to study the adaptive nature of the evolutionary process. Prerequisite: Biol 2970. Credit 3 units.

A&amp;S NS FA NSM

**Biol 4182. Macroevolution**

An advanced introduction to the study of macroevolutionary patterns and processes with emphasis on the systematic methodology employed. Topics: theories of classification, phylogenetic reconstruction, testing of historical hypotheses, hierarchy theory, adaptation, extinction, speciation, developmental mechanisms of organismal evolution, biogeography. Prerequisite: permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Biol 4183. Molecular Evolution**

A rigorous introduction to the study of evolution at the molecular level. Topics include the origin, amount, distribution and significance of molecular genetic variation within species, and use of molecular data in systematics and in testing macroevolutionary hypotheses. Prerequisite: Biol 2970 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Biol 419. Community Ecology**

Same as EnSt 419.

Basic principles of community ecology, including species interactions, spatial and temporal patterns of biodiversity, and ecosystem functioning. Analytical theory, statistical patterns, and experimental approaches are emphasized. Intended for students wanting a rigorous overview of ecological principles. Prerequisite: at least one of the following courses: Biol 3501, 372, 381, 4170, 4193, EnSt 370 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Biol 4191. Biology Field Course in Ecology**

An introduction to the study of organisms in relation to their environment, this field course focuses on the application of methods and techniques commonly used in ecological studies. Lectures focus on taxonomy, natural history, wildlife-habitat relations, hypothesis testing, experimental design, and research techniques. Field trips to local sites are made to conduct ecological studies at the level of organisms, populations, and communities. Lab time is used to process samples, collate, and analyze data. Prerequisite: Biol 381 or a comparable course with permission of the instructor. Credit 2 units.

A&amp;S NS FA NSM

**Biol 4193. Experimental Ecology Laboratory**

Same as EnSt 4193.

Design and interpretation of ecological experiments, with an emphasis on hypothesis testing, sampling methodology, and data analyses. Sessions address fundamental ecological questions and include field, greenhouse, and laboratory (microcosm) studies on a variety of taxa and ecosystems. Generally work is done before dark (5–6 p.m.), although occasionally goes later (7 p.m.). Includes occasional required Saturday field trips to local sites (e.g., forests, wetlands, prairies, streams) for in-depth study. Assignments are primarily several written assignments, including final projects and in-class participation. Fulfills the upper-level laboratory requirement for the Biology major. One hour of lecture and four hours of laboratory per week. Prerequisites: permission of instructor and at least one of the following: Biol 381 (Introduction to Ecology), Biol 372 (Behavioral Ecology), EnSt 370 (Biological Conservation), Biol 4170 (Population Ecology), Biol 419 (Population and Community Ecology), or Biol 3501 (Evolution). Credit will not be awarded for

both Biol 4191 and 4193. Enrollment is limited to 15 students. Credit 4 units.

**A&S** NS, WI

**Biol 4202. Evolutionary Genetics**

*Same as Anthro 4202.*

**A&S** NS **FA** NSM

**Biol 424. Immunology**

The basic molecular and cellular aspects of the vertebrate immune system, emphasizing specificity of immune reactions, structural and genetic bases of diversity, cellular mechanisms in antigen recognition, and effector mechanisms in immunity. Other topics: regulation of immunity, allergy, autoimmunity, tissue transplantation. Prerequisites: Biol 2970 or permission of instructor, and Chem 252 (may be taken concurrently). Credit 3 units.

**A&S** NS

**Biol 427. Problem-Based Learning in Biomedical Sciences**

Groups of five to eight students are presented with medical case studies that are then researched and discussed under faculty guidance. Students take major responsibility for their own learning within their teams. Limit: 30 students. Prerequisites: Biol 2970 and permission of instructor. Credit 3 units.

**A&S** NS, WI **FA** NSM

**Biol 4342. Research Explorations in Genomics**

A collaborative laboratory investigation of a problem in genomics, involving wet-lab generation of a large data set (either genomic sequence or microarray analysis of gene expression) and computer analysis of the data. In spring 08 the research problem involves sequencing a region of the *Drosophila mojavensis* genome and analyzing by comparison to *Drosophila melanogaster* data to examine patterns of genome organization and gene regulation. Class meets at the WU Genome Center during the first half of the semester, and in the Biology Department the second half of the semester. Prerequisites: Biol 2970, Chemistry 111/112, Chem 151/152, Biol 3371 or Biol 437, and some familiarity with computers would be advantageous but not required. Permission of the instructor is required. Fulfills the upper-level laboratory requirement for the Biology major. Credit 4 units.

**A&S** NS

**Biol 434W. Research Explorations in Genomics (Writing-Intensive)**

Students electing the writing option are required to revise each of three papers (on finishing of their fosmid, gene finding in a human/chip comparison, and annotating their fosmid) at least once. Course content is otherwise equivalent to Biol 4341. Credit 4 units.

**A&S** NS, WI

**Biol 437. Laboratory on DNA Manipulation**

*Same as Biol 437.*

An introduction to laboratory techniques for experimental manipulation of DNA (and RNA) molecules, including construction, isolation, and analysis of plasmids, RNA, PCR products and sequencing. Molecular cloning experiments, RNA isolation, RT-PCR, Southern analysis, and plant transformation are performed as class projects. Prerequisites: Biol 2970 and Chem 152. One hour of lecture and eight hours of laboratory each week. This course fulfills the upper-level laboratory requirement for the Biology major. Enrollment is limited to 12. Credit 4 units.

**A&S** NS **FA** NSM

**Biol 450W. Topics in the History of Eugenics**

*Same as History 450B.*

This is a research-based seminar that explores the history of eugenics both in the United States and abroad, roughly in the period 1890–1960. The

seminar begins with reading of some of the seminal works in the history of eugenics coupled with a discussion of historiographical problems associated with this topic. The second part of the seminar is devoted to reading primary sources on various topics (race-crossing, family pedigrees, inheritance of specific traits such as criminality, feeble-mindedness, manic depression, pauperism, etc.). The third part of the course examines the transformation of eugenics in the population control movement of the 1950s and 1960s. Students give class reports on various readings and prepare four short papers (5 to 7 pages) as part of the writing-intensive requirement. Emphasis is on both the biological content and social/economic/political context of eugenics work in the first half of the 20th century. Credit 3 units.

**A&S** NS, WI

**Biol 451. General Biochemistry**

*Same as Biol 451.*

A study of structure-function relationships as applied to carbohydrates, proteins, and lipids; intermediary metabolism of principal cellular components; and general aspects of regulation. Prerequisites: Biol 2970 and Chem 252 and permission of department. Recommended for students who have achieved grades of B or better in the prerequisites. Students may not receive credit for both Biol 4801 and Biol 451. Small class. Credit 4 units.

**A&S** NS **FA** NSM

**Biol 4580. Principles of Human Anatomy and Development**

*Same as Anthro 4581.*

**A&S** NS **FA** NSM

**Biol 4810. General Biochemistry I**

*Same as Chem 481.*

**A&S** NS

**Biol 4820. General Biochemistry II**

*Same as Chem 482.*

**A&S** NS

**Biol 487. Undergraduate Teaching**

Exceptional undergraduates serve as teaching assistants for laboratory and/or discussion sections in departmental courses. Normally 2 or 3 units are given per semester, subject to the approval of the instructor and the department. Credit may not be counted toward fulfilling the biology major; application form in Department of Biology Student Affairs office. Prerequisite: permission of instructor. Credit /No Credit only. Credit variable, maximum 3 units.

**A&S** NS **FA** NSM

**Biol 493. Seminar in Advanced Biology**

*Same as Biol 493.*

In special cases, credit may be given for individual study. Topics and credit must be arranged with a faculty sponsor and approved by the department. Credit variable, maximum 4 units.

**A&S** NS **FA** NSM

**Biol 4930. Seminar in Advanced Biology, Life Science Education**

Preparation for and analysis of results of a research study in life science education. An experimental plan must be developed and approved by faculty in Biology and by faculty in Education. Participants must make arrangements to perform the research project working with an appropriate supervisor at a school, informal science institution, or other educational establishment. Research plan due at the end of one semester, and a final paper due at the end of the second semester. Prerequisites: Biol 2970 and permission of the instructors. Intended for students in the B.A./M.A.T. program. Five to 10 hours work per week under faculty/mentor supervision. Credit variable, 1.5 to

3 units per semester depending on time commitment, maximum 3 units.

**A&S** NS

**Biol 500. Independent Work**

Students work under the supervision of a mentor in a setting of established ongoing research. Prerequisites: 60 units or greater completed and permission of sponsor and the department. Credit/no credit only. Credit to be determined in each case. Maximum of 6 units may be applied toward upper-level credits required for the major. Students expecting to do Honors begin Biol 500 no later than spring of the junior year. Credit variable, maximum 6 units.

# The Center for the Humanities

## Director

**Gerald Early**, Merle Kling Professor of Modern Letters  
(English, African and African American Studies)

## Participating Faculty

**Ken Botnick**, Associate Professor  
(College of Art)

B.B.S., University of Wisconsin–Madison

**Lynnea Brumbaugh-Walter**, Lecturer  
(School of Business; Women, Gender, and Sexuality Studies)

Ph.D., Washington University

**D. B. Dowd**, Professor

Rotary International Postgraduate Scholar, the Nova Scotia College of Art and Design, Halifax, NS

(College of Art)

M.F.A., University of Nebraska

**Garrett Duncan**, Associate Professor  
(African and African American Studies, American Culture Studies, Education)

Ph.D., The Claremont Graduate School

**Mary Ann Dzuback**, Associate Professor  
(Education, History)

Ph.D., Columbia University

**Jyostna Kapur**, Associate Professor

(Film Studies, Southern Illinois University)

Ph.D., Northwestern University

**Connie Levy**, Poet and Teacher

M.A., Washington University

**Erin McGlothlin**, Assistant Professor

(Germanic Languages and Literatures; Women, Gender, and Sexuality Studies)

Ph.D., University of Virginia

**Patricia McKissack**, Author

M.A., Webster University

**Shanti Parikh**, Assistant Professor

(African and African American Studies; American Culture Studies; Anthropology; Women, Gender, and Sexuality Studies)

Ph.D., Yale University

**Amy Pawl**, Lecturer

(English)

Ph.D., University of California–Berkeley

**Laura Ann Rosenbury**, Associate Professor

(School of Law)

J.D. Harvard University

**Keith Sawyer**, Associate Professor

(Education, Philosophy–Neuroscience–Psychology, Psychology)

Ph.D., University of Chicago

**Meghan Sinton**, Postdoctoral Research Scholar

(Department of Psychiatry)

Ph.D., Pennsylvania State University

**Joseph Thompson**, Assistant Professor  
(African and African American Studies, American Culture Studies, English)

Ph.D., Yale University

**Rebecca Treiman**, Burke & Elizabeth High Baker Professor of Child Developmental Psychology in Arts & Sciences  
(Philosophy–Neuroscience–Psychology, Psychology)

Ph.D., University of Pennsylvania

**Desiree White**, Associate Professor

(Philosophy–Neuroscience–Psychology, Psychology)

Ph.D., Washington University

The Center for the Humanities offers the Minor in Children’s Studies. In the Children’s Studies minor, you will learn about children and childhood while drawing on the expertise of the departments of Education, Psychology, English, and History, and the programs in African and African American Studies and American Culture Studies. You will develop a sophisticated interdisciplinary understanding of childhood and the issues surrounding the treatment and status of children throughout history.

A minor in Children’s Studies will expose students to an interconnected set of ideas about children as objects and subjects in a variety of essential disciplines. This minor would be especially attractive to students in Education, Psychology, English, History, and American Culture Studies.

Students who minor in Children’s Studies will receive special invitations to symposia, lectures, and other events related to the minor sponsored by the Center for the Humanities.

The Children’s Studies minor will:

- supplement students’ majors
- enhance the standard liberal arts education with interdisciplinary instruction in the theory, research, and practices of children and childhood
- facilitate the exploration of professional careers related to children
- promote research collaboration for faculty and students to strengthen the academic study of children.

The minor combines largely quantitative social sciences courses that measure and analyze how children mature with courses in the humanities that examine art, literature, and film dealing with children. Also, you will learn about the effects institutions have had on children, both institutions specifically designed for children and those that aren’t but with which children have important interaction.

Courses will explore childhood as a form of creative memory for adults in the production of children’s literature, a major market in the Western world. Courses also will look at the history of the idea of childhood and how that concept and childrearing practices generally have changed over time in the Western world.

Students will consider how, since the rise of industrialism in the West, various political factions have used childhood and children to further political causes—from banning pornography to banning steroids. Finally, the impact of childhood and youth on the formation of popular culture will be examined.

**The Minor:** Course Requirements: 15 units  
**Required courses:**

*Introduction to Children’s Studies* (3 credits)

**Core Requirements: (minimum of two courses from this list):**

*Introduction to Psychology*

*Education, Childhood, and Society*

*History of the Golden Age of Children’s Literature*

*Developmental Psychology*

**Remaining credits are to be selected from following list:**

*The American School*

*Children and Censorship: What We Permit*

*Children to Read and Why*

*African Americans and Children’s Literature*

*Homunculus: History of Childhood*

*Black Adolescence*

*Writing for Children and Young Adults*

*History of Education in the United States*

*History of Urban Schooling in the United States*

*Psychology of Adolescence*

## Undergraduate Courses

**CFH 100B. Introduction to Psychology**

*Same as Psych 100B.*

A&S SS FA SSP

**CFH 200. Interdisciplinary Introduction to Children’s Studies Minor**

This course is designed to introduce students to the Children’s Studies minor. Faculty members from various disciplines, including Psychology, Medicine, English, Education, Art History, and History—will give one-hour lectures on their particular disciplinary approach to the study of childhood or children, giving students a broad, rich survey of how children and childhood are dealt with as subjects in the curriculum and how these approaches have impacted the greater society. Credit 3 units.

A&S SS

**CFH 301C. The American School**

*Same as Educ 301C.*

Credit 3 units.

A&S SD, TH FA SSP

**CFH 312. Topics in English and American Literature**

*Same as E Lit 312.*

Credit 3 units.

A&S TH, WI FA Lit

**CFH 313. Topics in English and American Literature**

*Same as E Lit 313.*

A&S TH FA Lit

**CFH 313A. Education Childhood and Society**

*Same as Educ 313B.*

Credit 3 units.

A&S SS FA SSP

**CFH 321. Developmental Psychology**

*Same as Psych 321.*

Credit 3 units.

A&S SS FA SSP

**CFH 325. Psychology of Adolescence**

*Same as Psych 325.*

Credit 3 units.

A&S SS FA SSP

**CFH 325A. African Americans and Children’s Literature**

*Same as AFAS 325A.*

Credit 3 units.

A&S SD, TH

**CFH 3331. Topics in Holocaust Studies: Children in the Shadow of the Swastika***Same as Ger 331.*

Credit 3 units.

A&amp;S TH FA Lit, SSP

**CFH 334. History of Golden Age of Children's Literature***Same as E Lit 334.*

Credit 3 units.

A&amp;S TH FA Lit

**CFH 401. Writing for Children and Young Adults***Same as E Comp 401.*

A&amp;S LA

**CFH 4280. History of Urban Schooling in the United States***Same as Educ 4280.*

Credit 3 units.

A&amp;S TH

**CFH 461B. The Construction and Experience of Black Adolescence***Same as AFAS 461B.*

Credit 3 units.

A&amp;S SS FA SSP

**CFH 481. History of Education in the United States***Same as Educ 481.*

Credit 3 units.

A&amp;S TH FA SSP

## Chemistry

### Chair

**Joseph J. H. Ackerman**William Greenleaf Eliot Professor  
Ph.D., Colorado State University

### Endowed Professors

**Robert E. Blankenship**Lucille P. Markey Distinguished Professor of  
Arts & Sciences  
Ph.D., University of California–Berkeley**William E. Buhro**George E. Pake Professor of  
Arts & Sciences  
Ph.D., University of California–Los Angeles**Edward S. Macias**Barbara and David Thomas Distinguished  
Professor in Arts & Sciences  
Provost and Executive Vice Chancellor for  
Academic Affairs  
Ph.D., Massachusetts Institute of Technology**Jacob Schaefer**Charles Allen Thomas Professor  
Ph.D., University of Minnesota**Karen L. Wooley**James S. McDonnell Distinguished  
University Professor in Arts & Sciences  
Ph.D., Cornell University

### Professors

**Peter P. Gaspar**

Ph.D., Yale University

**Michael L. Gross**

Ph.D., University of Minnesota

**J. Dewey Holten**

Ph.D., University of Washington

**T. Tom Lin**

Ph.D., University of Pennsylvania

**Ronald A. Lovett**

Ph.D., University of Rochester

**Kevin D. Moeller**Ph.D., University of California–Santa Bar-  
bara**Demetrios G. Sarantites**

Ph.D., Massachusetts Institute of Technology

**Lee G. Sobotka**

Ph.D., University of California–Berkeley

**John S. Taylor**

Ph.D., Columbia University

**Mark S. Wrighton**, Chancellor

Ph.D., California Institute of Technology

### Associate Professors

**John R. Bleeke**

Ph.D., Cornell University

**Lev Gelb**Ph.D., University of Cambridge,  
Cambridge, UK**Sophia E. Hayes**Ph.D., University of California–Santa Bar-  
bara**Richard A. Loomis**

Ph.D., University of Pennsylvania

### Assistant Professors

**Vladimir B. Birman**

Ph.D., University of Chicago

**Richard Mabbs**Ph.D., University of Nottingham  
Nottingham, UK**Joshua A. Maurer**

Ph.D., California Institute of Technology

**Liviu M. Mirica**

Ph.D., Stanford University

**Amy Walker**Ph.D., University of Cambridge,  
Cambridge, UK

### Joint Professors

**Carolyn A. Anderson**

(Radiology)

Ph.D., Florida State University

**Richard W. Gross**

(Internal Medicine)

Ph.D., Washington University in St. Louis

**Michael Welch**

(Radiology)

Ph.D., University of London

**Younan Xia**

(Biomedical Engineering)

Ph.D., Harvard

If you are interested in discovering insights into nature and exploring new ways to meet the needs of our technological society and new methods for creating novel compounds and useful materials, chemistry is an excellent major to pursue.

Chemistry is a multifaceted science that extends into biology, medicine, physics, mathematics, business, and commerce. Studying chemistry provides the opportunity to explore the structure and constitution of the microworlds of atoms and molecules, the chemical and physical transformations that occur, and the principles that govern these changes.

Our program provides a strong foundation in the core areas of chemistry: organic, physical, inorganic, nuclear, theoretical. Special emphases in the department include such emerging interdisciplinary fields as organometallic, bioorganic, biophysical, macromolecular, polymer, environmental, and materials chemistry. The department has close research ties with the departments of Physics, Earth and Planetary Sciences, Biology, and Biomedical; Energy, Environmental and Chemical; Mechanical, Aerospace, and Structural Engineering, and with departments at the Washington University School of Medicine.

As an undergraduate major in chemistry, you study chemistry with renowned scientists, who are teacher-scholars dedicated to your learning experience. The department is small, and it has world-class instruments and facilities, which allow you to receive individualized instruction and to participate in cutting-edge science. You work closely with a faculty member to design and carry out an original research project. You also may participate in interdisciplinary research at the

School of Medicine or the School of Engineering. Research internships at local companies also can be arranged.

A variety of creative and productive careers are available to you with a degree in chemistry. You may pursue a career in chemistry or such related professions as biochemistry, medicine, and chemical engineering. Most students continue in graduate or medical school, and some go on to business or law school. Positions in government, industry, and education are available.

**The Major:** To prepare for a major in chemistry, you will take Chem 111A, 112A, 151, 152, 251, 252, and 257; Physics 117A and 118A or Physics 197 and 198; and Math 131, 132, and 233. Physics 217 and additional mathematics courses are recommended. Chem 181, a seminar to introduce first-year students to research activities in the department, is optional. A working knowledge of computer programming and a foreign language, such as German or Russian, is encouraged but not required.

To major in chemistry, you must take a minimum of 18 units in advanced courses in chemistry or biochemistry, among which must be included Chem 401, 402, and 461, plus 9 units in chemistry at the 300 level or above (not all in the same chemistry subdiscipline and not including Chem 490 or 495). At least 3 of these 9 advanced units must be in a laboratory course, chosen from Chem 358, 435, 445, or 470.

You have the advantage of planning your course program with your adviser in accordance with your interests. Some graduate courses also are available to you as a senior. **Senior Honors:** To qualify for Honors, you must complete a minimum of 21 units in advanced courses in chemistry or biochemistry, among which must be included Chem 401, 402, 461, two additional advanced courses in chemistry, and two additional laboratories: one synthetic laboratory course (either Chem 358 or 470) and one physical chemistry laboratory course (Chem 435 or 445). Neither Chem 490 nor 495 can be used to satisfy the advanced laboratory requirements but Chem 495 can be used to satisfy an elective.

**The Major with Concentration in Biochemistry:** As a chemistry major with a concentration in biochemistry, you should add Biol 296A and 297A as prerequisites to the major and specify a minimum of 18 units in advanced courses in biology and chemistry, among which must be included Biol 334 or 349; Chem 481; Chem 401, 402, and 461; and at least one advanced lab chosen from Chem 358, 435, 445, or 470 or Biol 437 or 4522.

**Senior Honors:** To qualify for Honors, you must complete a minimum of 21 units in advanced courses and have one laboratory course in advanced chemistry or biology chosen from Chem 358, 435, 445, or 470 or Biology 437 or 4522, and both biochemistry courses, Chem 481 and 482.

## Undergraduate Courses

### Chem 111A. General Chemistry I

*Same as Chem 111A.*

Systematic treatment of fundamental chemical

principles and their applications. Particular reference to the concept of energy and its uses, gas laws, kinetic molecular theory, atomic and molecular structure, chemical bonding, and the periodic classification of the elements. Prerequisites: two years of high school algebra and one of high school chemistry, or permission of instructor. Credit 3 units.

**A&S NS, QA FA NSM**

### Chem 112A. General Chemistry II

Introduction to the principles of chemical equilibrium and to ionic solutions. Topics: ionic equilibria, galvanic cells, elementary chemical thermodynamics and kinetics, and molecular structure of coordination compounds. Three lecture hours and a problem-solving subsection hour. Sign-up for subsections will be conducted during the first two weeks of the semester. Prerequisite: Chem 111A or permission of instructor. Credit 3 units.

**A&S NS, QA FA NSM**

### Chem 151. General Chemistry Laboratory I

*Same as Chem 151A.*

This course provides an introduction to basic laboratory techniques, the experimental method, and the presentation of scientific data, as well as direct experience with chemical principles and the properties and reactions of substances. The topics and experiments in this course complement the material covered in the Chem 111A lecture course. Students attend one four-hour laboratory session and a one-hour laboratory lecture every other week. Prerequisite: concurrent enrollment in Chem 111A or permission of the instructor. Credit 2 units.

**A&S NS FA NSM**

### Chem 152. General Chemistry Laboratory II

This course provides an introduction to basic laboratory techniques, the experimental method, and the presentation of scientific data as well as direct experience with chemical principles and the properties and reactions of substances. The topics and experiments in this course complement the material covered in the Chem 112A lecture course. Students attend one four-hour laboratory session and a one-hour laboratory lecture every other week. Prerequisite: concurrent enrollment in Chem 112A or permission of the instructor. Credit 2 units.

**A&S NS FA NSM**

### Chem 181. Freshman Seminar in Chemistry

A weekly lecture by a chemistry faculty member, or other scientist from academia or industry, on their current research activities. The goal is to provide students with a sampling of current research activities dealing with fundamental and applied problems in science and society that are being approached from a chemical point of view. Students will see how fundamental chemical principles can be obtained from experiment and theory and used to both better understand and make better the world we live in. Each week a different scientist presents a lecture or offers an additional activity. Intended primarily for freshman who anticipate majoring in science, but interested upperclass students should also find the lectures interesting and stimulating. Students are expected to attend all lectures and associated activities during the semester. Enrollment is limited. Credit/no credit only. Credit 1 unit.

**A&S NS FA NSM**

### Chem 251. Organic Chemistry I

The first part of a two-semester survey of organic chemistry. An introduction to organic structures, reactions, and reaction mechanisms. Prerequisite: Chem 112A. Credit 3 units.

**A&S NS FA NSM**

### Chem 252. Organic Chemistry II

Covers certain areas of organic chemistry in more detail than the prerequisite course, with special

emphasis on the mechanisms and synthesis applications of organic reactions and on the organic chemistry of biological compounds. Prerequisite: Chem 251. Credit 3 units.

**A&S NS FA NSM**

### Chem 257. Organic Chemistry Lab I

Introduction to laboratory methods in organic chemistry, with emphasis on methods of separation and purification of organic compounds as well as their syntheses. Prerequisites: Chem 112A, 152, and 251. One hour of lecture and five hours of laboratory a week. Credit 2 units.

**A&S NS FA NSM**

### Chem 275. Chemical Analysis Methods in Chemical Engineering

*Same as CHE 375.*

### Chem 290. Freshman and Sophomore Research

Introduction to laboratory research for first- and second-year students. Students work under supervision of a faculty sponsor. Prerequisites: permission of the sponsor and the Department of Chemistry. Credit/no credit only. Credit variable, maximum 3 units.

**A&S NS FA NSM**

### Chem 358. Organic Chemistry Laboratory II

Introduction to the methods of qualitative organic analysis, including the use of chromatographic and spectroscopic techniques. One hour of lecture and six laboratory hours a week. An additional three to six hours a week usually are needed to complete laboratory work. Prerequisites: Chem 251, 252, and 257. Credit 4 units.

**A&S NS, WI FA NSM**

### Chem 400. Physical Science in 12 Problems

*Same as Physics 400.*

Exercises related to general chemistry, classical mechanics, quantum mechanics, statistical mechanics, thermodynamics, and kinetics, will be solved with numerical software. Each exercise will be accompanied by a lecture, a software template solving a problem and a related take-home problem. The software will allow us to focus on, and treat in a transparent fashion, physical problems without the unworlly idealizations and contrivances found in textbooks. Prerequisites: General Chemistry (Chem 111A and 112A), concurrent with Chem 401 and prior or concurrent enrollment in General Physics (Physics 117A or 118A). Credit 1 unit.

**A&S NS**

### Chem 401. Physical Chemistry I

Introduction to quantum chemistry (with applications to elementary spectroscopy) and kinetics. Prerequisites: Chem 111A-112A, Math 233; prior completion of Physics 117A and 118A is strongly encouraged (but concurrent enrollment in Physics 117A will be accepted); or permission of instructor. Required course for all Chemistry majors. Credit 3 units.

**A&S NS FA NSM**

### Chem 402. Physical Chemistry II

Introduction to chemical thermodynamics, statistical mechanics, and transport phenomena. Required course for all Chemistry majors. Prerequisites: Chem 111A-112A, Chem 401, Math 233, prior completion of Physics 117 and 118 is strongly encouraged (but prior completion of Physics 117 and concurrent enrollment in Physics 118 will be accepted); or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

### Chem 405. Spectroscopic Analysis

This course is an overview of instrumentation and techniques that are found in modern chemistry laboratories. We shall cover the design of experiments, including basic electronics, signal-to-noise considerations, and signal handling. We shall also discuss the applications of a wide variety of spectroscopies, including laser spectroscopies, vibra-

tional spectroscopies, imaging techniques, surface analytical techniques, mass spectrometry, and NMR. Credit 3 units.

**A&S NS**

#### **Chem 435. Nuclear and Radiochemistry Lab**

Application of radiochemical techniques to problems in chemistry, physics, and nuclear medicine. Prerequisites: 3 units of physical chemistry and permission of instructor. One lecture hour and five hours of laboratory a week. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 436. Radioactivity and Its Applications**

Introduction to the production and decay of radioactive nuclides, the structure and properties of nuclei, and the applications of nuclear and radiochemical techniques to current scientific problems. Prerequisites: one year each of chemistry, mathematics, and physics. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 437. Radioactivity and Radiation Safety**

The following topics are discussed: (a) general properties of nuclei, (b) laws of radioactive decay, (c) interaction of radiation with matter, (d) radiation detectors, (e) radiation dosimetry, (f) biological effects of radiation exposure, (g) radiation safety, safety test, regulations, (h) basics of radioisotope production. Credit 1 unit.

**A&S NS**

#### **Chem 445. Instrumental Methods: Physical Chemistry**

A course providing direct hands-on experience with the principles of physical chemistry (thermodynamics, quantum, kinetics) and associated experimental methods and instrumentation, including optical, infrared, and nuclear and electron spin resonance, electrochemistry, calorimetry, laser kinetics, and basic electronics. Prerequisite: Chem 401 or concurrent enrollment in Chem 402. Credit 3 units.

**A&S NS, WI FA NSM**

#### **Chem 451. Organic Chemistry III**

A lecture course that builds on the material in Chem 251-252, covering in more detail certain topics in those courses while also introducing new topics. A transition to graduate-level study in organic chemistry; recommended for chemistry, biochemistry, and biology majors. Prerequisite: Chem 252. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 452. Synthetic Polymer Chemistry**

A course that describes various methods for the synthesis and characterization of polymers. Copolymers, control of architecture, polymer reactivity, polymer properties, structure/property relationships, and applications of polymers will be discussed. Current topics of interest from the recent literature will also be covered. Prerequisite: Chem 252 or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 453. Bioorganic Chemistry**

Concepts of organic chemistry are used to explore structure and reactivity of proteins, nucleic acids, oligosaccharides, biological membranes, and the molecular basis of drug action. Offered in alternate years. Prerequisite: Chem 252. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 458. Chemical Reaction Mechanism Journal Club**

This seminar meets for one hour each week. During the meetings, student participants are responsible for presenting topics from the current literature. The format of the presentation varies from informal talks to student-authored problem sets. Attendance at meetings is strongly recommended for all students who are currently taking the organic

cumulative examinations. Prerequisite: Chem 252. Credit 1 unit.

**A&S NS FA NSM**

#### **Chem 459. Organometallic Chemistry**

Survey of organometallic compounds with discussion of their synthesis, structure, spectroscopy, and reactivity. Prerequisite: Chem 252. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 461. Inorganic Chemistry**

Introduction to modern inorganic chemistry; emphasis on relation of structure and bonding to the chemical and physical properties of compounds. Prerequisite: Chem 401, or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 464. Inorganic Biochemistry**

A class in biological chemistry that emphasizes the role of metals in electron transfer and enzymatic catalysis. After a brief survey of essential concepts from biology, coordination chemistry, and spectroscopy, topics will include: electron transfer systems; oxygen transport and activation; metal ion acquisition, transport, and homeostasis; enzymes catalyzing atom transfer reactions and radical-mediated processes. Prerequisite: Chem 252; Chem 461 recommended but not required. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 465. Solid-State and Materials Chemistry**

The course begins with basic crystallography and common inorganic structure types. With the aid of computer modeling, students learn to analyze, index, and refine X-ray powder-diffraction data. Students are then taught to use phase diagrams to assess the compositions and microstructures of materials produced by various synthetic or processing methods. Crystal nucleation and growth, defects, and ion-conduction mechanisms also are introduced. The course concludes with an analysis of the mechanical properties of materials from a chemistry perspective. What makes some materials strong, stiff, and resistant to fracture? Prerequisites: Chem 111A-112A. Credit 3 units.

**A&S NS FA NSM**

#### **Chem 470. Inorganic Chemistry Laboratory**

A laboratory course emphasizing both the synthesis of inorganic compounds and the study of their physical properties. Laboratory exercises will introduce novel synthetic techniques such as high-temperature synthesis and vacuum line manipulations. Compounds will be spectroscopically characterized by UV-visible, gas-phase infrared, and multinuclear and dynamic NMR spectroscopy. Measurements of electrochemical behavior, magnetic susceptibility, and electrical conductivity will be performed. Prerequisite: Chem 461 or consent of the instructor. Credit 3 units.

**A&S NS, WI**

#### **Chem 475. Chemical Biology**

This course will be a survey of modern chemical biology focusing on the application of organic chemistry to biological problems. A variety of topics from the synthetic construction of DNA, proteins, and post-translation modifications to computational biology will be discussed. Course assignments will consist of two homework assignments and an original research proposal. A mandatory discussion section will accompany the course. The discussion section will be used to review current and classic literature in the field. Credit 3 units.

**A&S NS**

#### **Chem 481. General Biochemistry I**

*Same as Biol 4810.*

Topics include the properties and structures of biomolecules, including amino acids, nucleotides, lipids, carbohydrates, proteins, and nucleic acids.

Additional topics include enzyme kinetics and mechanisms, membrane structure and properties, protein folding, an introduction to metabolism, oxidative phosphorylation, and photosynthesis. This course is the first semester of an integrated two-semester sequence. The second course is Chem 482. Prerequisites: Biol 2970, Chem 252. Credit 3 units.

**A&S NS**

#### **Chem 482. General Biochemistry II**

*Same as Biol 4820.*

Continuation of General Biochemistry I. Topics include carbohydrate, lipid, and amino acid metabolism; signal transduction, transport across membranes; DNA replication and repair; transcription and translation; molecular motors; mechanisms of drug action; and natural products biosynthesis. Prerequisite: Chem 481 or Biol 481. Credit 3 units.

**A&S NS**

#### **Chem 490. Introduction to Research**

Advanced laboratory work on a selected topic in chemistry. Prerequisite: permission of the department. Credit/no credit only. If this course is to be submitted for Honors, the student must file the Honors form available at the chemistry department office before the end of junior year. Arrangements for registration should be completed during the preregistration period. Credit variable, maximum 6 units.

**A&S NS FA NSM**

#### **Chem 495. Advanced Undergraduate Research in Chemistry**

The student will conduct research supervised by a Chemistry Department faculty member. At the end of the semester, the Chemistry supervisor will chair a faculty committee to evaluate an oral public presentation and/or a concise written report, and a letter grade will be assigned. The committee members and completion requirements must be approved by the supervisor prior to registration. This course may provide a capstone experience but does not fulfill the writing-intensive requirement. The units earned may be applied as elective advanced credits toward a Chemistry major with Latin honors eligibility. Course may be taken only once for credit. Prerequisite: Chem 490 and/or other advanced electives or research experience specified by the supervisor. Credit 3 units.

**A&S NS**

#### **Chem 500. Independent Work**

A detailed literature search on a specific topic of current interest. Prerequisites: senior standing and permission of the chair of the department. Credit variable, maximum 6 units.

#### **Chem 5147. Contrast Agents for Biological Imaging**

*Same as Biol 5147.*

#### **Chem 515. Biological Chemistry Seminar**

This course is required for all graduate students following the biological chemistry track. The course will consist of tutorials for first-year graduate students and research presentations by second-year students. Prerequisite: enrollment in the biological chemistry track or permission of the instructor. Credit 1 unit.

#### **Chem 520. Nucleic Acid Chemistry**

Structure, synthesis, properties, and interactions of nucleic acids, and the design and synthesis of nucleic acid-based and/or targeted drugs, probes, and tools. Topics: primary, secondary, and tertiary structure; topological and thermodynamic properties; biological and chemical synthesis; DNA chips; PCR; site-directed natural and unnatural mutagenesis; chemical evolution (SELEX); ribozymes; phage display; carcinogen, drug and protein interactions; affinity cleaving; ultraviolet light and ionizing radiation damage, DNA repair

of mutagenesis; design and synthesis of anti-sense and anti-gene probes and drugs. Extensive use is also made of molecular modeling and the protein databank of nucleic acid structures. Prerequisites: Chem 251 and Chem 252 or equivalent). Credit 3 units.

#### **Chem 540. Inorganic/Organometallic Chemistry Seminar**

Students present informal seminars on topics of current interest from the chemical literature or from their own dissertation research. Credit 1 unit.

#### **Chem 541. Advanced Inorganic Chemistry**

Study of physical inorganic concepts with an emphasis on modern experimental methods applied to inorganic and bioinorganic systems. The spectral and magnetic properties of inorganic and bioinorganic compounds will be discussed. Topics in group theory will be covered, including symmetry of molecules and ions, the application of group theory in molecular structure determination, chemical bond theory and spectroscopy for inorganic materials as molecular species and in crystal lattices. Prerequisite: Chem 461 or consent of instructor. Credit 3 units.

#### **Chem 542. Special Topics in Inorganic Chemistry**

This course focuses on an important current topic in inorganic chemistry. Open to undergraduates with permission of the instructor. Chem 461 recommended. Credit 3 units.

#### **Chem 550. Mass Spectrometry**

This course covers the fundamentals of instrumentation, ionization, and gas-phase ion chemistry. Magnet sector, quadrupole, time-of-flight, ion trap, and Fourier transform instruments are considered. Ionization methods include the venerable electron ionization, chemical ionization, and fast atom bombardment, plus the newer electrospray and matrix-assisted laser desorption methods. Mechanisms of gas-phase ion decomposition reactions, rates, and thermodynamics of gas-phase ion processes, and ion-molecule reactions are discussed particularly in terms of their intrinsic interest and for interpreting spectra. Combined or hyphenated methods such as GC/MS, LC/MS, and tandem mass spectrometry are also discussed. A second major focus includes applications in a variety of areas: structure determination of synthetic, natural product, and biomolecules, exact mass measurements (high-resolution MS, peptide and protein sequencing, trace analysis, sensitive detection, and mixture analysis). Prerequisite: Chem 252 or permission of instructor. Credit 3 units.

#### **Chem 5511. Mechanistic Organic Chemistry**

The first half of a sequence of two semesters, followed by Chem 556 in the spring, encompassing three important topics in physical organic chemistry. The first nine-week segment is devoted to the fundamental concepts of mechanistic organic chemistry including qualitative descriptions of bonding and pericyclic reactions. The major classes of reaction mechanisms are surveyed. The last four weeks of Chem 5511 are devoted to computational chemistry and molecular modeling, with an emphasis on the background, practice, and applications of electronic structure theory. This segment is continued in the first four weeks of Chem 556 and is followed by a segment on chemical kinetics as a tool in mechanistic investigations. Prerequisite: Chem. 252 or permission of the instructor. Credit 3 units.

#### **Chem 554. Molecular Orbital Theory**

Lectures will cover the background, practice, and applications of computational chemistry to the modeling of the structures and chemical reactions of organic molecules. Different levels of calculation will be presented, from molecular mechanics calculations and Hockel molecular orbital theory, through semi-empirical and ab initio self-consis-

tent field calculations with correlation energy corrections, and density functional theory. Hands-on experience performing calculations is an important element in this course. Credit 3 units.

#### **Chem 555. Special Topics in Organic Chemistry**

The courses focuses on an important current topic in organic chemistry. Open to undergraduates with the permission of the instructor. Credit 3 units.

#### **Chem 556. Kinetics and Mechanism**

A course in the application of chemical kinetics to the elucidation of mechanisms of chemical reactions. Prerequisite: Chem 5511 or permission of instructor. Credit 3 units.

#### **Chem 557. Advanced Organic Synthesis**

A course focusing on newer synthetic strategies used in the construction of complex organic molecules, particularly in the natural products area. Included are in-depth analyses of advances in several areas of synthetic methodology bearing on the development of strategies for control of chemo-, regio-, enantio-, and diastereo-selectivity. Prerequisite: Chem 451 or permission of the instructor. Credit 3 units.

#### **Chem 558. Spectral Methods in Organic Chemistry**

A detailed treatment of the structure and stereochemistry of organic compounds with particular emphasis on ultraviolet, visible, infrared, nuclear magnetic resonance, and mass spectroscopic techniques for structure determination. Credit 3 units.

#### **Chem 559. Organic Chemistry Seminar**

The organic chemistry graduate students enrolled will each present one seminar on a topic of current interest in the literature. Credit 1 unit.

#### **Chem 562. Statistical Thermodynamics**

Statistical mechanical methods will be used to characterize equilibrium and non-equilibrium thermodynamic systems. Computer programming assignments are given. An initial familiarity with ideal equilibrium systems will be assumed. Prerequisite: Chem 401 or its equivalent or permission of the instructor. Credit 3 units.

#### **Chem 571. Quantum Chemistry and Spectra**

This course covers the development and application of quantum mechanics as applied to molecular structure and properties. Material to be discussed will include the fundamentals of quantum mechanics; representations; matrix formalisms; applications to model systems; perturbation theory; variational methods; many-electron wave functions; Hartree-Fock theory and post-Hartree Fock methods; density functional theory; additional topics and applications. Prerequisite: Chem 401. Credit 3 units.

#### **Chem 5721. Quantum Chemistry in Practice**

A spectrum of modern computational tools—from semiempirical, self-consistent field theory, and density functional theory one-electron pictures to perturbative and simulation many-electron pictures—will be used to determine potential energy surfaces, spectroscopic cross-sections, and oxidation-reduction energetics. Credit 3 units.

#### **Chem 576. Magnetic Resonance**

*Same as Physics 534.*

Quantum mechanical and classical aspects of paramagnetism and of nuclear and electronic magnetic resonance. Phenomenological equations of motion, spin intractions, spin temperature, thermal relaxation, dynamic polarization, multiple resonance phenomena. Credit 3 units.

#### **Chem 5762. Electron Spin Resonance**

Principles of magnetic resonance of paramagnetic species, structure and dynamics of organic free radicals and transition metal ions in the condensed phase. Detection of transient paramagnetic species

generated in photochemical reactions and photo physical processes. Prerequisite: Chem 401. Credit 3 units.

#### **Chem 578. Nuclear Magnetic Resonance Spectroscopy**

A course dealing with the quantum and classical description of the nuclear magnetic resonance of an isolated system of two spin-1/2 nuclei. The design of pulsed NMR spectrometers and the Fourier analysis of time-dependent observable magnetization in 1 and 2 dimensions are treated in detail; NMR relaxation in liquids and solids is included phenomenologically. Prerequisite: Physical Chemistry (Chem 401-402) or permission of the instructor. Credit 3 units.

#### **Chem 580. Special Topics in Physical Chemistry**

This course focuses on an important current topic in physical chemistry. Open to undergraduates with permission of the instructor. Credit 3 units.

#### **Chem 581. Advanced Quantum Chemistry**

A study of the theory and methods of quantum mechanics, with applications to problems of chemical interest. Prerequisite: Chem 571 or permission of the instructor. Credit 3 units.

#### **Chem 582. Group Theory**

The course will develop applications of group theory to MO theory for inorganic compounds, ligand-field theory, spectral transition probabilities, molecular vibrations, and vibronic coupling. Credit 3 units.

#### **Chem 584. Molecular Spectroscopy**

Principles of molecular spectroscopy, molecular rotations, vibrations, and electronic transitions. Structural and dynamic aspects of molecules in the condensed phase. Recent topics in experimental spectroscopy. Prerequisite: Chem 571. Credit 3 units.

#### **Chem 585. Molecular Reaction Dynamics**

This course addresses the question, "What happens in a chemical reaction?" at the atomic/molecular level. Topics: Nonreactive and reactive molecular collisions, scattering and resonances; unimolecular and bimolecular reactions; potential energy surfaces; reaction rate calculations and models; state to state experiments and stereodynamics; energy transfer mechanisms; time-resolved and frequency-resolved dynamics; condensed phase dynamics; control of chemical reactions. Prerequisites: Chem 401 and prior completion or concurrent registration in Chem 402 is required. However, equivalent courses will be considered at the discretion of the instructor. Credit 3 units.

# Classics

## Chair

### Susan I. Rotroff

Jarvis Thurston and Mona Van Duyn Professor in the Humanities  
Ph.D., Princeton University

## Professors

### Judith Evans-Grubbs

Ph.D., Stanford University

### Robert D. Lamberton

Ph.D., Yale University

### George M. Pepe

Ph.D., Princeton University

## Associate Professor

### Catherine Keane

Ph.D., University of Pennsylvania

## Assistant Professor

### William S. Bubelis

Ph.D., University of Chicago

## Professors Emeriti

### Carl W. Conrad

Ph.D., Harvard University

### Kevin Herbert

Ph.D., Harvard University

### Merritt Sale

Ph.D., Cornell University

Classics means Greece and Rome, but the study of Greek and Roman culture extends beyond language and literature and even beyond antiquity to a deeper understanding of later Western culture. In pursuit of this goal, graduate and undergraduate students at Washington University are able to use the Classics Study Center and its specialized collections. Computer-readable databases make possible rapid searches of Greek and Latin texts and provide access to a wealth of information on all aspects of ancient Greek and Roman societies. The center also has a small reference library. Housed elsewhere are the Wulffing Coin Collection and collections of Greek papyri and art.

**The Major:** The major in Classics requires a minimum of 18 units in advanced courses. You must complete at least 6 units at the 400 level in Greek or Latin. Competence in both ancient languages, though essential for those anticipating graduate study, is not required.

The department also offers a major in Ancient Studies for students who want to explore the whole spectrum of the classical world with little or no work in the ancient languages. The student and adviser create a program of study that comprises at least 24 units drawn from courses in the Department of Classics and those in related departments, of which 18 units must be at the advanced level, six of them at the 400 level. Greek and Latin courses at the 102 level or above may be used in partial fulfillment of this requirement. In this major you are encouraged to develop a certain depth in one special

field of interest (e.g., literature, art, history, or philosophy). Therefore, at least 9 of the 24 advanced units of the major should be taken in one such specific area. For further information, consult the department chair by the middle of the sophomore year.

Certain courses in related departments may be used in partial fulfillment of the requirements for a major in classics or ancient studies, including:

**Art–Arch 331. Greek Art and Archaeology**

**Art–Arch 334. Roman Art and Archaeology**

**Art–Arch 437. Greek Sculpture**

**Phil 451. Plato**

**Phil 452. Aristotle**

**The Minor:** In addition to major programs, the department offers minor concentrations in both programs: the minor in Classics, emphasizing the reading of Greek or Latin literature in the original language; and the minor in Ancient Studies, emphasizing ancient history and culture, but requiring no study of the ancient languages. For information, consult the chair of the department.

**Study Abroad:** Study abroad for a semester in Rome or Athens is an option many classics majors select. Interested students should consult the coordinator of Overseas Study.

**Senior Honors:** If you are planning to pursue graduate work, you should enter the Honors program. To apply, you must have junior standing, an average of A– or better in courses numbered 300 or above in Greek and/or Latin (for Classics majors) or in Classics (for Ancient Studies majors), and permission of the chair. A thesis of substantial nature and length is prepared and written under the direction of a member of the department, beginning in the fall semester of your senior year. A final draft is submitted to the director no later than February 1, a final copy to the full thesis committee before March break. Credit of 6 units is awarded upon presentation of an acceptable thesis.

## Undergraduate Courses

### Classics 200C. World Archaeology

*Same as ARC 200C.*

**A&S** CD, TH **FA** SSP

### Classics 225D. Latin and Greek in Current English

*Same as Ling 225D.*

An intensive survey of Greek and Latin words and roots found in English, both technical and non-technical. The course strengthens the student's English vocabulary and complements advanced courses in English composition. Does not count toward a major or minor in Classics. Credit 3 units.

**A&S** LA

### Classics 228. Theater Culture Studies I:

#### Antiquity to Medieval

*Same as Drama 228C.*

**A&S** TH **FA** AH

### Classics 235C. The Greek Imagination

An introduction to Greek culture with emphasis on Archaic and Classical ideas about man, the gods, and the cosmos. Considerable attention also is given to the Athenian democracy, its institutions, festivals, and arts. The course is designed to

offer a broad and interdisciplinary view of the most memorable Greek achievements in literature, the visual arts, and social thought and practice. Credit 3 units.

**A&S** CD, TH **FA** SSP

### Classics 236C. The Roman World

An introduction to the society and culture of the ancient Roman Republic and Empire, including national identity, moral and political thought, family, religion, and entertainment. Emphasis on primary texts. Credit 3 units.

**A&S** CD, TH **FA** AH, Lit

### Classics 240. Not Members of This Club:

#### Women and Slaves in the Greco-Roman World

*Same as WGSS 240.*

Both the Athenian Democracy and the Roman Senatorial Oligarchy were societies in which political power was the exclusive property of free, citizen males. With very few exceptions, the astounding accomplishments of those societies were also the creations of free, citizen males. This course examines the lives of two disparate but comparable groups of outsiders within Greek and Roman society. The status, rights, and accomplishments of Athenian and Roman women are explored and placed in the context of other premodern societies. Likewise, the institution of slavery in Greece and Rome is explored and compared with other slaveholding societies, ancient and modern. Credit 3 units.

**A&S** CD, SD, SS **FA** SSP

### Classics 301C. Greek Mythology

A survey and study of the great mythic stories of the ancient world, with an emphasis on such topics as creation, divinity, friendship, sex, love, death, heroic journeys, and the relation of myth to culture. Credit 3 units.

**A&S** TH **FA** SSP

### Classics 3301. Homeric Archaeology

*Same as Art-Arch 3301.*

**A&S** CD, TH **FA** AH

### Classics 334. Roman Art and Archaeology

*Same as Art-Arch 334.*

**A&S** TH **FA** AH

### Classics 3361. Ancient Sanctuaries: The Archaeology of Sacred Space in the Ancient Mediterranean

*Same as Art-Arch 336.*

**A&S** CD, TH **FA** AH

### Classics 3369. Underwater Archaeology

*Same as ARC 3369.*

**A&S** TH **FA** SSP

### Classics 341C. Ancient History: The Roman Republic

*Same as History 341C.*

From the legendary origins of the city through the establishment and collapse of its republican government. Emphasis on political history, imperialism, slavery, Greek culture, and the Roman aristocracy. Credit 3 units.

**A&S** TH **FA** SSP

### Classics 342C. Ancient History: The Roman Empire

*Same as History 342C.*

From the establishment of the Augustan principate to the sack of Rome in 410. Emphasis on social and cultural history, including life in the provinces, slavery, the family, legal developments, the rise of Christianity, and the general question of Roman imperialism and its consequences. Credit 3 units.

**A&S** TH **FA** SSP

### Classics 345C. Greek History: Archaic and Classical

*Same as History 3456.*

From the so-called Dark Ages to the death of

Socrates, a survey of the political, social, economic, and military development of early Greece, with emphasis upon citizenship and political structure, religion and culture, and the complex relationships between Greeks and neighboring peoples. Credit 3 units.  
**A&S TH FA SSP**

**Classics 346C. Greek History: The Age of Alexander**

*Same as History 346C.*

Survey of the political, cultural, and social ramifications of Alexander the Great's conquests. Emphasis will be placed on cultural conflict, emerging cosmopolitanism, kingship, and royal technologies of power in the period of Alexander's successors. Credit 3 units.

**A&S CD, TH FA SSP**

**Classics 347C. Ancient Philosophy**

*Same as Phil 347C.*

**A&S TH FA SSP**

**Classics 350. Greek Art and Archaeology**

*Same as Art-Arch 331.*

**A&S TH FA AH**

**Classics 3582. Ancient Rome in Film and Fiction**

Examines a group of novels starting with *The Last Days of Pompeii* (1834) and a group of films beginning with *The Sign of the Cross* (1936) to see how writers and filmmakers have conjured up an image of Roman excess and exoticism in line with their own artistic and cultural viewpoints. We will read both popular successes such as *Ben-Hur* and "high art" such as *Marius the Epicurean* and see such commercial successes as *The Robe* and art house films such as Fellini's *Satyricon*. Credit 3 units.

**A&S TH FA AH, Lit**

**Classics 371. The Ancient Family**

Examination of the roles of the family in the ancient world through readings and discussions of primary sources (literature, legal texts, inscriptions, art) and recent scholarship. Topics will include: demography; relationship between family and state; economic, social, and religious roles of the family; roles of women, men, children, and slaves; death and inheritance; marriage; children; family relationships; household space; and comparisons with the modern family. Credit 3 units.

**A&S TH, WI**

**Classics 375. Topics in Classics**

Study of one or more themes recurring in the traditions of Greek, Roman, and European literature. Credit 3 units.

**A&S TH FA SSP**

**Classics 375W. Writing about the Ancient World**

Classics courses at the 300 level with enhanced requirements in writing may be taken under this designation as writing-intensive courses. Required: permission of instructor. Credit 3 units.

**A&S TH, WI**

**Classics 3831. Magicians, Healers, and Holy Men**

*Same as ReSt 3831.*

An examination of magic, divination, and other unconventional religious phenomena in the Greco-Roman world. Credit 3 units.

**A&S TH**

**Classics 386. Old Jokes: Laughter in the Greco-Roman World**

*Same as Drama 332.*

An exploration of the theory and practice of comedy in the Greco-Roman world. Readings include examples of iambic (mocking) poetry, comic theater, satiric verse, and prose fiction, as well as philosophical discussions of the relationship of

humor and laughter to human behavior and values. As comedy in all contexts engages and shapes cultural values just as much as "serious" literature does, its history and reception raise major social and aesthetic issues. Critical topics include: how ancient thinkers imagined comedy's historical "birth," how public comic performances may have encouraged either social cohesion or disruption, how communities defined "beneficial" and "offensive" humor, and how ancient elite writers and readers felt about the often lowbrow and obscene content of "classic" comic literature. Combination of lectures and discussions. Credit 3 units.

**A&S TH FA SSP**

**Classics 389C. The Ancient Novel**

*Same as Comp Lit 391C.*

Many modern readers are familiar with the mythological and dramatic literature of Greco-Roman antiquity, but fewer are aware that the same cultures developed a tradition of prose fiction concerned with romance, human psychology and sexuality, exotic travel and adventure, and religious experience. The European tradition of extended fictional narrative begins with the Greeks, and their novels, along with Apuleius' *Golden Ass* and Petronius' *Satyricon*, had a formative influence on later narrative traditions. Students read and analyze all the surviving examples of the Greco-Roman novel, including some fragmentary works, with the goal of throwing light on the history and conventions of the genre, its appeal, and its influence. Credit 3 units.

**A&S TH FA Lit**

**Classics 392E. Greek and Roman Drama**

Survey of the tragic and comic dramas produced in Ancient Greece and Rome. Study of the plays' religious and civic performance contexts, responses of the ancient audiences, and literary interpretations. Credit 3 units.

**A&S TH FA Lit**

**Classics 393. The Tragic Muse**

*Same as Drama 393.*

Intensive study of the major tragic playwrights of Ancient Greece (Aeschylus, Sophocles, and Euripides) and some of their imitators and critics in the Western tradition. We will consider tragedy's origins, its literary elements and theory, its performance and religious contexts, and its social functions. Lectures with discussions. Credit 3 units.

**A&S TH**

**Classics 426. Ancient Athens**

*Same as ARC 426, Art-Arch 426.*

Athens was one of the great cities of antiquity. From lavishly decorated marble temples on the Acropolis, to public office buildings and inscriptions in the Agora (civic center), to the houses of the living and the monuments for the dead, the city has left a rich record of her material culture. These buildings and objects, together with an exceptionally large number of literary and historical texts, make it possible to paint a vivid picture of the ancient city. The course concentrates on the physical setting and monuments of Athens, as revealed by both archaeology and texts, and how they functioned within the context of Athenian civic and religious life. Prerequisite: Classics 345c, Classics 350, or permission of instructor. Credit 3 units.

**A&S CD, TH FA AH**

**Classics 427. Athenian Vase Painting**

*Same as Art-Arch 427.*

**A&S TH**

**Classics 4321. Ancient Coins**

*Same as Art-Arch 4321.*

**A&S TH FA AH**

**Classics 433. Greek Vase Painting**

*Same as Art-Arch 433.*

**A&S TH FA AH**

**Classics 435. The Parthenon**

*Same as Art-Arch 435.*

**A&S TH FA AH**

**Classics 4350. Hellenistic Philosophy**

*Same as Phil 4530.*

**A&S TH FA SSP**

**Classics 437. Greek Sculpture**

*Same as Art-Arch 437.*

**A&S TH FA AH**

**Classics 4371. Greek and Roman Pottery**

*Same as Art-Arch 4371.*

**A&S TH FA AH**

**Classics 4381. Ancient Painting**

*Same as Art-Arch 438.*

**A&S TH FA AH**

**Classics 442. The Later Roman Empire: From Constantine to Justinian**

*Same as History 4322.*

Covers the period from c. 300 through the reign of Justinian. Focus on legal developments and codification of law, social changes, rise of Christianity, and fall of the Roman Empire in the west. Prerequisite: Classics 342c or permission of instructor. Credit 3 units.

**A&S TH**

**Classics 450. Topics in Classics**

Study of one or more themes recurring in the traditions of Greek and Roman literature. Credit 3 units.

**Classics 450W. Topics in Classics**

Classics courses at the 400 level with enhanced requirements in writing may be taken under this designation as writing-intensive courses. Required: permission of instructor. Credit 3 units.

**A&S TH, WI**

**Classics 451. Plato**

*Same as Phil 451.*

**A&S TH FA SSP**

**Classics 452. Aristotle**

*Same as Phil 452.*

**A&S TH FA SSP**

**Classics 476. Money, Exchange, and Power: Economy and Society in the Ancient Mediterranean World**

From chattel slavery, temple treasure, and the moral effects of maritime commerce to the nature of the family and status of women, the economy of the ancient Greeks, Romans, and others constitutes a particularly dynamic field in the study of ancient societies. This course will engage directly with the evidence for the particular economic behaviors, patterns, and institutions that lay behind the development of ancient Mediterranean societies, and will also bridge a gap between cultural and social science approaches toward ancient society. We will also explore the methodological challenges and implications of working with ancient evidence, as well as a variety of modern theoretical approaches and their implications. Prerequisites: Classics 345c and 346c or Classics 341c and 342c or permission of instructor. Credit 3 units.

**A&S TH**

**Classics 493. Senior Project**

Recommended for all majors in Classics or Ancient Studies who have not completed their college capstone experience in another major, or who are not satisfying this requirement by means of a Senior Honors thesis in Classics, Greek, or Latin. A structured research assignment or independent project under the supervision of one of the department's faculty is required. Prerequisites: Senior standing and permission of the department chair. Credit 3 units.

**Classics 497. Study for Honors**

Prerequisites: junior standing, grades averaging A– in courses numbered 300 or above in Classics, and permission of the department chair. Credit 3 units.

**Classics 498. Study for Honors**

Prerequisites: junior standing, grades averaging A– in courses numbered 300 or above in Classics, and permission of the department chair. Credit 3 units.

**Greek****Greek 101D. Beginning Greek I**

Intensive introduction to the morphology and syntax of classical (ancient) Greek, including extensive readings in literary texts. Credit 4 units.

**A&S** LA

**Greek 102D. Beginning Greek II**

Continuation and completion of the program begun in Greek 101D. Prerequisite: Greek 101D, or permission of the instructor. Credit 4 units.

**A&S** LA

**Greek 190D. Intensive Beginning Greek I**

An intensive study of Attic Greek. Credit 5 units.

**A&S** LA

**Greek 210. Intensive Beginning Greek II**

Completion of work begun in Greek 190D followed by readings in original Greek poetry and prose. Successful completion of Greek 210 with a grade of B+ or better will allow the student to proceed directly to Greek 318C. Credit 5 units.

**A&S** LA

**Greek 215D. Intermediate Greek I**

Reading of Greek prose texts accompanied by review of morphology and syntax and exercises in vocabulary building. Prerequisite: Greek 102D or permission of the instructor. Credit 3 units.

**A&S** LA

**Greek 301. Intermediate Greek: The New Testament in Context**

*Same as ReSt 3011.*

A reading of texts from the New Testament as well as others of relevance to the religions of the Roman Empire. Prerequisites: Greek 317C or permission of the instructor. Credit 3 units.

**A&S** LA

**Greek 316C. Intermediate Greek II**

Readings in various forms of Greek poetry and prose as foundation for advanced study of Greek literature. Prerequisite: Greek 215D or permission of the instructor. Credit 3 units.

**A&S** LA **FA** Lit

**Greek 317C. Introduction to Greek Literature**

Introduction to Attic prose through the reading of Plato's *Apology* and related texts. Prerequisite: Greek 102D with a grade of B+ or higher or permission of the instructor. Credit 3 units.

**A&S** TH **FA** Lit

**Greek 318C. Introduction to Greek Literature**

Introduction to epic poetry through the reading of selections from Homer's *Iliad* and *Odyssey*. Prerequisite: Greek 210, Greek 316C, or Greek 317C. Credit 3 units.

**A&S** TH **FA** Lit

**Greek 350W. Writing About Greek Literature**

Greek courses at the 300 level with enhanced writing requirements may be taken under this designation as writing-intensive courses. Required: permission of instructor. Credit 3 units.

**A&S** LA, WI

The following 400-level courses have as prerequisite Greek 318C, and are not normally open to first-year students.

**Greek 411. Homer: *The Odyssey***

Credit 3 units.

**A&S** TH **FA** Lit

**Greek 413. Homer: *The Iliad***

Credit 3 units.

**A&S** TH **FA** Lit

**Greek 416. Hesiod**

Credit 3 units.

**A&S** TH **FA** SSP

**Greek 418. The Epic Tradition**

Intensive readings in Greek epic, including Homer, Hesiod, Apollonius Rhodius, and a sampling of later hexameters (*The Orphic Argonautica*, *Nonnus*). The emphasis will be on the continuities and the discontinuities in the evolution of the genre. Credit 3 units.

**A&S** TH

**Greek 421. Sophocles**

Credit 3 units.

**A&S** TH **FA** Lit

**Greek 422. Euripides**

Credit 3 units.

**A&S** TH **FA** Lit

**Greek 423. Aeschylus**

Credit 3 units.

**A&S** TH **FA** Lit

**Greek 424. Aristophanes**

Credit 3 units.

**A&S** TH **FA** Lit

**Greek 430. Herodotus**

*Same as Classics 430.*

Credit 3 units.

**A&S** TH **FA** SSP

**Greek 431. Thucydides**

Credit 3 units.

**A&S** TH **FA** SSP

**Greek 432. The Attic Orators**

Credit 3 units.

**A&S** LA **FA** SSP

**Greek 435. Classical Historical Prose**

Credit 3 units.

**A&S** TH

**Greek 436. Attic Prose of the 4th Century B.C.**

Selected texts of Attic orators, Xenophon, Plato, or Aristotle; specific readings for each semester in *Course Listings*. May be repeated for credit for study of a different author or text. Credit 3 units.

**A&S** TH **FA** Lit

**Greek 437. Topics in Greek Poetry**

Selected poetic texts from elegy, iambic, melic,

pastoral, epic (other than *Iliad* and *Odyssey*), and other genres; specific readings for each semester in *Course Listings*. May be repeated for credit for study of different texts. Credit 3 units.

**A&S** TH **FA** Lit

**Greek 438W. Topics in Greek Literature**

Advanced Greek seminars with enhanced writing requirements may be taken under this designation as writing-intensive courses. Required: permission of instructor. Credit 3 units.

**A&S** TH, WI

**Greek 451. Plato**

Credit 3 units.

**A&S** LA

**Greek 499. Study for Honors**

Prerequisites: junior standing, grades of A– or better in courses in Greek numbered 300 or above, and permission of the department chair. Either Greek 499 or Latin 497 must be taken by all Honors candidates. Credit 3 units.

**A&S** TH

**Latin****Latin 101D. Beginning Latin I**

Introduction to morphology and syntax of classical Latin. Credit 4 units.

**A&S** LA

**Latin 102D. Beginning Latin II**

Continuation of program begun in Latin 101D. Credit 4 units.

**A&S** LA

**Latin 105. Medieval Latin: An Introduction**

An accelerated study of Latin grammar. For students with previous knowledge of Latin, graduate students outside of Classics, and for students willing to work at an accelerated pace. The emphasis in this course will be on Medieval Latin. Credit 5 units.

**A&S** LA

**Latin 190D. Intensive Elementary Latin I**

An accelerated study of Latin grammar. For students with previous knowledge of Latin, graduate students outside of Classics, and for students willing to work at an accelerated pace. Credit 5 units.

**A&S** LA

**Latin 210. Intensive Elementary Latin II**

Completion of work begun in Latin 190D followed by readings in original Latin poetry and prose. Successful completion of Latin 210 with a grade of B+ or better will allow the student to proceed directly to Latin 318C. Credit 5 units.

**A&S** LA

**Latin 301. Introduction to Latin Literature I**

Intensive review of Latin grammar and syntax and development of reading skills and translation techniques through short readings from original texts in prose and poetry such as Caesar and Ovid. Prerequisite: Latin 101d, placement by examination, or permission of instructor. Credit 3 units.

**A&S** LA

**Latin 316C. Introduction to Latin Literature II: Elementary Prose and Poetry**

Appreciation of literary forms through study of selected elementary literary texts in Latin prose and poetry. Prerequisite: Latin 301, placement by examination, or permission of the instructor. Credit 3 units.

**A&S** LA **FA** Lit

**Latin 317C. Survey of Latin Literature: The Republic**

A broad overview of the major literary achievements of the last two centuries of the Roman Republic with emphasis on figures such as Catullus, Lucretius, Caesar, and Cicero. Prerequisite: Latin 102D with a grade of B+ or better, or Latin 215D

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

or Latin 316C, or placement by examination, or permission of the instructor. Credit 3 units.

A&S LA FA Lit

**Latin 318C. Survey of Latin Literature: The Empire**

A broad overview of the major literary achievements of the first century of the Roman Empire with emphasis on figures such as Vergil and Livy. Prerequisite: Lat 102D with a grade of B+ or better, or Lat 316C, or placement by examination, or permission of the instructor. Credit 3 units.

A&S LA FA Lit

**Latin 350W. Writing About Latin Literature**

Latin courses at the 300 level with enhanced writing requirements may be taken under this designation as writing-intensive courses. Required: permission of instructor. Credit 3 units.

A&S TH, WI

**Latin 370. Topics in Latin Literature**

Study in selected problems, eras, or generic sequences; specific topic for each semester in Course Listings. May be repeated for credit for study of different topics. Prerequisite: Latin 318c or permission of instructor. Credit 3 units.

A&S TH

The following 400-level courses have as prerequisite Latin 318C, and are not normally open to first-year students.

**Latin 401. Medieval Latin**

Credit 3 units.

A&S TH FA Lit

**Latin 413. Latin Philosophical Writers**

Readings among various writers of philosophy in Latin, ranging from Cicero to Seneca to Augustine. Texts will vary. Therefore, course may be taken more than once. Credit 3 units.

A&S TH FA SSP

**Latin 415. Cicero**

Credit 3 units.

A&S TH FA SSP

**Latin 416. Seneca**

Credit 3 units.

A&S TH

**Latin 4215. Plautus**

Credit 3 units.

A&S TH FA SSP

**Latin 422. Lucretius**

Credit 3 units.

A&S TH FA SSP

**Latin 431. Vergil: *The Aeneid***

Credit 3 units.

A&S TH FA Lit

**Latin 432. Horace on Poetry**

Credit 3 units.

A&S TH

**Latin 433. Ovid**

Credit 3 units.

A&S TH

**Latin 441. Roman Satire**

Credit 3 units.

A&S TH

**Latin 444. Latin Prose Composition**

Readings in Cicero coupled with exercises in composition of Latin prose, with attention to grammatical and idiomatic accuracy as well as elegance of style. Credit 3 units.

A&S TH FA SSP

**Latin 451. The Roman Historians**

Credit 3 units.

A&S TH FA SSP

**Latin 471. Elegiac Poetry**

Credit 3 units.

A&S TH FA Lit

**Latin 493. Readings in Latin Prose**

A survey of the major genres of Latin prose, history, oratory, and philosophy. Authors may include Caesar, Cicero, Seneca, Tacitus. Aim is to develop reading facility and understanding. Credit 3 units.

A&S TH FA Lit

**Latin 494W. Topics in Latin Literature**

Advanced Latin seminars with enhanced writing requirements may be taken under this designation as writing-intensive courses. Required: permission of instructor. Credit 3 units.

A&S TH, WI

**Latin 495. Topics in Republican Latin**

May be repeated for credit for study of different topics. Credit 3 units.

A&S TH FA SSP

**Latin 496. Tacitus**

Credit 3 units.

A&S TH FA SSP

**Latin 4961. Topics in Empire Latin**

May be repeated for credit for study of different topics. Credit 3 units.

A&S TH FA SSP

**Latin 497. Honors Course I**

Prerequisites: junior standing, a grade of A– or better in courses in Latin numbered 300 or above, and permission of the department chair. Either Latin 497 or Greek 499 must be taken by all Honors candidates. Credit 3 units.

**Latin 498. Honors Course II**

Prerequisites: junior standing, a grade of A– or better in courses in Latin numbered 300 or above, and permission of the department chair. Either Latin 497 or Greek 499 must be taken by all Honors candidates. Credit 3 units.

## Comparative Literature

### Chair

**Harriet Stone**

(French)

Ph.D., Brown University

Endowed Professors

**Robert E. Hegel**

Liselotte Dieckmann Professor of Comparative Literature in Arts & Sciences and Professor of Chinese (Chinese)

Ph.D., Columbia University

**Paul Michael Lützelzer**

Rosa May Distinguished University Professor in the Humanities (German)

Ph.D., Indiana University

**Gerhild Scholz Williams**

Barbara Schaps Thomas and David M. Thomas Professor in the Humanities (German)

Ph.D., University of Washington

### Professors

**Robert K. Henke**

Ph.D., University of California–Berkeley

**Fatemeh Keshavarz**

(Persian)

Ph.D., University of London

**Lutz Koepnick**

(German)

Ph.D., Stanford University

**Robert D. Lamberton**

(Classics)

Ph.D., Yale University

**Joseph Loewenstein**

(English)

Ph.D., Yale University

**Stamos Metzidakis**

(Romance Languages)

Ph.D., Columbia University

**Dolores Pesce**

(Music)

Ph.D., University of Maryland

**Richard Ruland**

(English)

Ph.D., University of Michigan

**Stephan Schindler**

(German)

Ph.D., University of California–Irvine

**Henry I. Schvey**

(Performing Arts)

Ph.D., Indiana University

### Associate Professors

**Miriam Bailin**

(English)

Ph.D., University of California–Berkeley

**Guinn Batten**

(English)

Ph.D., Duke University

**Nancy E. Berg**  
(Modern Hebrew)  
Ph.D., University of Pennsylvania

**Lingchei Letty Chen**  
(Chinese)  
Ph.D., Columbia University

**Marvin H. Marcus**  
(Japanese)  
Ph.D., University of Michigan

**Angela Miller**  
(Art History)  
Ph.D., Yale University

**Robert Snarrenberg**  
(Music)  
Ph.D., University of Michigan

**Senior Lecturer**  
**Emma Kafalenos**  
Ph.D., Washington University

**Lionel Cuillé**  
Doctorate, ENS Lettres et Sciences  
Humaines

**Professors Emeriti**  
**Milica Banjanin**  
(Russian)  
Ph.D., Washington University

**John F. Garganigo**  
(Spanish)  
Ph.D., University of Illinois

**William H. Gass**  
David May Distinguished University  
Professor Emeritus in the Humanities  
Ph.D., Cornell University

**Naomi Lebowitz**  
Hortense and Tobias Lewin Distinguished  
Professor Emerita in the Humanities  
Ph.D., Washington University

**Robert E. Morrell**  
(Japanese)  
Ph.D., Stanford University

**James F. Poag**  
(German)  
Ph.D., University of Illinois

**Michel Rybalka**  
(French)  
Ph.D., University of California–Los Angeles

**Merritt Sale**  
(Classics)  
Ph.D., Cornell University

Comparative Literature studies literature across national, cultural, and linguistic boundaries. The broad perspective of Comparative Literature generates sustained critical thinking about what literature is and does; how literature relates to other fields and kinds of writing; how literary texts produce their complex webs of meaning; and the ethical valence of literature in a globalized world. Advanced knowledge of a foreign language is essential for understanding and appreciating a given literature and culture. Therefore, all majors study a foreign language and literature at an advanced level. Moreover, the study of works in translation, especially those originally written in non-

European languages, provokes cross-cultural comparisons and helps prepare students for a multilingual, pluralistic, and global world. Comparison of literature to other kinds of arts, media, and writing further develops one's understanding of literature and culture.

Comparative Literature offers students a high degree of flexibility in their course selection and in their chosen program. A rich array of courses spanning national, temporal, or medial boundaries are organized by genre (e.g., post-modern narrative, comedy, the novel, lyric poetry); cultural issues (e.g., exile, diaspora, cross-cultural encounters); thematic topic (e.g., memory, love in the novel, mysticism in poetry); period (Romanticism, the Renaissance); and transnational region (e.g., Middle Eastern literature, African literature). The program also offers several courses, taught each year, that instruct the student in the central practices, approaches, and theories of the discipline: an entry-level course titled "World Literature," a required introductory course on comparative methods, a required course on literary theory, and a course on translation.

Comparative Literature prepares its majors well for life in a global, multicultural, and plurilingual world. The critical thinking developed in all of our courses will help students succeed in law and other professional schools. Many of our graduates have gone on to careers in secondary or higher education. With the help of our major and the semester or year abroad that we encourage, some graduates have gone into the Peace Corps and careers in international affairs.

**The Major in Comparative Literature:** You are required to complete 30 units of comparative literature study, of which at least 24 must be at the 300 level or above, distributed between Comparative Literature and the study of a language other than English. Two specific courses are required: an introduction to the discipline of Comparative Literature (Comp Lit 204) and Literary Theory (Comp Lit 393). Four other Comp Lit courses are required, only one of which can be at the 200 level. One of these courses must devote substantial attention to non-Western literature. (Overall, four Comp Lit courses at or above the 300 level are required.) Given the immense importance that translation between languages plays in our increasingly global world and given the rich linguistic and cultural questions posed by the practice of translation, interested students are strongly encouraged to take a course on translation.

For your foreign language/literature, you are required to complete 12 advanced units of study in the original language if your language is French, Spanish, Italian, or German; or 9 advanced study units in the original language plus 3 units of the literature in translation if you are studying any other language. Students intending to pursue graduate work in Comparative Literature or national literature departments are especially encouraged to study a second foreign language.

**The Major in Comparative Arts:** You are required to take 27 units in advanced courses

(numbered 300 or higher), distributed in three areas of study—Comparative Literature, the arts, and a language other than English—in addition to introductory courses in all three areas. You will take Comp Lit 204 and three advanced courses in Comparative Literature, including one course in comparative arts. The foreign language requirement for the Comparative Arts major is the same as that of Comparative Literature (12 advanced units for French, Spanish, Italian, or German; 9 advanced units plus 3 in translation for other languages). In consultation with your adviser, you will choose two advanced courses in aesthetics or art history, or in theoretical or historical approaches to drama, dance, film, or music (Music 221 and 222 will also fulfill this requirement). In addition, you will take four courses (4 to 12 units) in an applied art: fine arts, drama, music, video, or creative writing. These additional courses need not be numbered 300 or above.

**The Minor:** If you minor in Comparative Literature or Comparative Arts, you are required to take 18 units. Both minors require 6 of the advanced units to be in a language other than English at the 300 level or above. The Comparative Literature minor then requires 12 units in literature; the Comparative Arts minor requires 6 advanced units in literature and 6 advanced units in theoretical or historical approaches to an art form (music, art, history, film, drama, dance) or in the aesthetics. Both Comparative Literature and Comparative Arts minors are strongly advised to take Comp Lit 204.

**Senior Honors:** To be considered for Honors, you must have a 3.5 GPA by the end of your sixth semester and you must be approved by either the chair of Comparative Literature or the Director of Undergraduate Studies to write a Senior Honors thesis.

## Comparative Literature and the Arts & Sciences Curriculum

Comparative Literature annually offers freshman seminars, writing-intensive courses, several clusters, and various capstone experiences, including a senior seminar, a course on translation, and independent study projects regarding directed research and creative projects.

## Undergraduate Courses

### Comp Lit 110C. Freshman Seminar:

Small interactive seminars based on the research and interests of the professor that introduce students to comparative ways of reading, thinking about, and writing about literature. Previous topics include autobiography, memory in Eastern and Western literature, comedy, and oral-formulaic poetry. Credit 3 units.

A&S TH FA Lit

### Comp Lit 200. Topics in Asian and Near Eastern Languages

Same as ANELL 200.

A&S CD, TH

### Comp Lit 204. Crossing Borders: An Introduction to Comparative Literature

An introduction to some of the ideas and practices of literary studies at the beginning of the 21st century. This course is designed for majors and

prospective majors in comparative literature and comparative arts—and other students interested in reading literature from many parts of the world and exploring issues in literary studies including questions of epistemology and representation, the cultural biases of readers, semiotics, translation theory, and Orientalism. Plays, novels, and poems by writers including Euripides, Vergil, Racine, Rilke, Henry James, Borges, Mellah, and Murakami, and closely related short excerpts by theorists from Aristotle to Bhabha. Prerequisite: sophomore standing or permission of the instructor. Credit 3 units.

A&S TH FA Lit

**Comp Lit 2081. Freshman Seminar: The Chinese-American Experience**

Same as ANELL 208.

A&S SD, TH

**Comp Lit 211. World Literature**

Same as E Lit 209, ANELL 2111.

This course teaches ways of reading literature across Eastern and Western cultures, introducing students to works of great imaginative power from many different regions of the world. The course focuses on a given historical period, such as the modern period or antiquity (the latter including Near Eastern as well as European texts). Organizing themes may include cultural translation, cross-cultural encounter (e.g., Orientalism), hybridity, and displacement. Credit 3 units.

A&S TH FA Lit

**Comp Lit 213E. From Romanticism to Modernism: Literature and the Arts in 19th-Century Europe**

The idea of genius finds expression, in the 19th century, in painting and music as well as in stories, poems, and plays. We will follow the evolution of “genius” and other concepts of Romanticism into the modern period. Beginning with Goethe’s *Werther* (1774), we will move through the 19th century focusing on movements including Symbolism and Impressionism, and conclude with the Futurist Manifesto of 1909. Texts, slides, tapes. Credit 3 units.

A&S TH FA Lit

**Comp Lit 2140. Cross-Currents I**

Same as Hum 214.

A&S TH

**Comp Lit 215C. Introduction to Comparative Practice I**

Same as AFAS 2131.

This course permits the close examination of a particular theme or question studied comparatively, that is, with a cross-cultural focus involving at least two national literatures. Topics are often interdisciplinary; they explore questions pertinent to literary study that also engage history, philosophy, and/or the visual arts. Although the majority of works studied are texts, the course frequently pursues comparisons of texts and images (painting, photography, film). Requirements may include frequent short papers, response papers, and/or exams. Credit 3 units.

A&S TH FA Lit

**Comp Lit 226C. Theater Culture Studies I**

**Comp Lit 227C. Theater Culture Studies II**

Same as Drama 229C.

A&S TH FA AH

**Comp Lit 255C. Text and Tradition: The Emergence of the Modern Mind: Modern Literature**

Same as Hum 205C.

A&S TH FA SSP

**Comp Lit 300. Undergraduate Independent Study**

Students pursue personalized projects not nor-

mally covered in standard courses at this level. Prerequisites: acceptance by an appropriate instructor of a proposed project and permission of the chair of the committee. Credit 3 units.

FA Lit

**Comp Lit 3055. Text and Music**

Same as Music 3051.

A&S TH

**Comp Lit 306. Modern Jewish Writers**

Same as MHBR 306, JNE 3061, IAS 306.

What is Jewish literature? While we begin with—and return to—the traditional question of definitions, we will take an unorthodox approach to the course. Reading beyond Bellow, Ozick and Wiesel, we will look for enlightenment in unexpected places: Egypt, Latin America, Australia. Recent works by Philip Roth, Andre Aciman, Simone Zelitch, and Terri-ann White will be supplemented by guest lectures, film, short stories, and significant essays. We will focus on issues of language, memory, and place. Background knowledge is not required, though it is warmly welcomed. Credit 3 units.

A&S TH

**Comp Lit 3101. Cultural Studies in Sexuality and Gender**

**Comp Lit 327. Gender and Literary History**

Same as WGSS 327C.

Credit 3 units.

A&S TH

**Comp Lit 3270. The Medieval Stage**

Medieval drama, which was performed in churches, monasteries, inns and marketplaces, was the pop culture of the Middle Ages. With a focus on major plays from medieval France, Germany, the Netherlands, and England, this course uses an interdisciplinary approach to reconstruct how these plays were staged in their original settings. Additional topics include the architecture of theater spaces and stage types, the use of music in drama, the nature of acting, mimesis and performativity in the Middle Ages, and the importance of the “theater” of medieval art. Students end the class with a historically accurate performance of a medieval play. Credit 3 units.

A&S TH

**Comp Lit 3301. Topics in Chinese Literature and Culture**

Same as Chinese 330.

A&S CD, TH

**Comp Lit 331C. Tragedy**

Same as Drama 331C.

What is the relationship between freedom and luck? How do men and women respond to large forces beyond their control? Is character a struggle against outside events, or is it a submission to destiny? What happens when two ethical principles, taken absolutely, collide together? What is the nature of evil, and how does good respond to it? In ancient Greece, Renaissance England, 17th-century Europe, modern Europe, and post-colonial Africa, the form of tragedy has grappled with these questions, generating both a rich body of imaginative literature and equally compelling philosophical reflections about tragedy. This course explores great works of tragic literature by authors such as Homer, Aeschylus, Sophocles, Shakespeare, Racine, Ibsen, Dostoevsky, Miller, and Soyinka, and examines philosophers such as Plato, Aristotle, Hegel, Kierkegaard, Nietzsche, Weil, and Arendt in order to explore the questions raised by tragedy. Credit 3 units.

A&S TH FA Lit

**Comp Lit 332. Literature and Art**

Credit 3 units.

A&S TH

**Comp Lit 332C. Comedy**

This comparative course will examine and enjoy the substances and forms of humor and comedy in different times and places. Some attention to jokes, gags, and comics will precede a wide-ranging examination of literary comedy. A study of various plays and comic texts will illuminate different forms of comedy, such as farce, satire, romantic comedy, comedy of manners, absurdist comedy, and contemporary political comedy. Authors will include Aristophanes, Plautus, Rabelais, Shakespeare, Molière, Fielding, Gogol, Wilde, Stoppard, and Dario Fo. Credit 3 units.

A&S TH FA Lit

**Comp Lit 334. Love in the Novel/Love of the Novel**

Our focus is our own pleasure in reading. How do we assure that this pleasure survives into the next century now that the visual, the sound bite, the video clip permeate our lives? We will attempt to answer this question by rediscovering one of the great love stories of all times, Leo Tolstoy’s *Anna Karenina*. Daniel Pennac’s *Reads Like a Novel*, a recent work about the pleasures of reading for pleasure, will guide us as we isolate elements of Tolstoy’s story that compel us, that teach us about our own needs and desires as readers. The class will consider novels whose love stories are molded by the characters’ own reading: Austen’s *Northanger Abbey*; Flaubert’s *Madame Bovary*, (1856); Proust’s *Swann In Love*; Skarmet’s *Burning Patience*; Bernhard Schlink’s *The Reader*. Far from being immune to or eclipsed by history and politics, the pleasure of reading will be shown to reflect the reader’s appreciation of the larger fabric of society, where passion is set against war, prostitution, mental illness, adultery, and prejudice. Credit 3 units.

A&S TH FA Lit

**Comp Lit 338C. Genres: Textravel**

Genre as a comparative laboratory. A close examination of the nature, function, and pleasures of given literary genres, such as epic or post-modern narrative. Credit 3 units.

A&S TH FA Lit

**Comp Lit 3405. History of World Cinema**

Same as Film 340.

A&S CD, TH FA AH

**Comp Lit 3492. Yiddishkayt: Yiddish Literature in English Translation**

**Comp Lit 3508. Introduction to South Asian Literature I**

Same as Hindi 350.

A&S CD, TH

**Comp Lit 355C. The Flowering of Islamic Literature 500-1200**

Same as Arab 355C, JNE 355C, JNE 555, Arab 355C.

Exploration of the multilingual (Arabic, Persian, Turkish) literary cultures of a civilization that stretched from Spain to India. Themes and genres include early court patronage, bedouin odes, wine poetry, social satire, mystical poetry, national epic, and the literature of love and romance. Comparisons to contemporaneous Hebrew and ancient and medieval Western literatures. Readings in English. Credit 3 units.

A&S CD, TH FA Lit

**Comp Lit 360C. Theater Culture Studies III**

**Comp Lit 364. Literature and Ethics**

Imaginative literature may not prescribe any universal system of inviolable ethical rules, but it does represent the nuances and mysteries of lived experience, and the complex deliberations and dilemmas of the individual in particular circumstances. This course explores ethical issues such as autonomy, justice, and responsibility repre-

sented in literature from different periods. It examines how the identification and exposure of a conflict is critical to its resolution; what values are implicit in the choice of specific actions; whether the needs of the individual conflict or mesh with the needs of society; and how some moral choices bind all human beings, whatever their nationality or religion. Credit 3 units.

**A&S TH**

**Comp Lit 375C. Topics in Comparative Literature I:**

Credit 3 units.

**Comp Lit 3778. Comparative Studies in the Novel**

*Same as E Lit 3778.*

This course introduces students to novels from a given period or from a geographical area, with attention to how novels are read and how they communicate. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 386. The Literary 1960s: Years of Hope/Days of Rage**

Taking its subtitle from the one used by Todd Gitlin for his monumental sociological study of the 1960s, this course focuses on the diverse and exciting literature of this often chaotic, always fascinating period. Readings will include popular and influential books by Peter Weiss, Robbe-Grillet, Ken Kesey, Tom Wolfe, Germaine Greer, Eldridge Cleaver, and Joan Didion. Attention will be paid not only to important new artistic, political, and social movements, as seen by these writers, but also to films and music of the time. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 389. Topics**

Comparative study of a given question, theme, or problem, such as eros or exile or cruelty. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 390. Lyrics of Mystical Love, East and West**

*Same as Re St 390, Pers 390, JNE 3901.*

How can mystical experience be put into words? How did the mystic poets, from various world traditions, attempt to express this inexpressible? How should we “read” and “interpret” these poetic images? This course deals with these and similar questions while examining key mystical/poetic concepts such as silence, union with the divine, or human vs. mystical love. The lyrics of the world-renowned mystic Rumi will be used as the main text with frequent comparisons to the writings of other prominent figures such as St. John of the Cross, Yunus Emre, John Donne, Kabir, and Meister Eckhart. All poems will be read in English. Credit 3 units.

**A&S CD, TH, WI FA Lit**

**Comp Lit 391C. The Ancient Novel**

*Same as Classics 389C.*

**A&S TH FA Lit**

**Comp Lit 392. Literary Movements**

This course compares authors of different national literatures by closely examining certain movements and periods, such as Renaissance humanism, romanticism, and naturalism. Credit 3 units.

**A&S TH**

**Comp Lit 393. Literary Theory**

*Same as E Lit 393, German 329, Comp Lit 393.* Credit 3 units.

**A&S TH**

**Comp Lit 396. Lyric Poetry**

A study of the sounds, forms, devices, voices, and pleasures of lyric poetry from international and comparative points of view. Attention to theories of lyric, formal devices, and problems of translation. The study of various lyric forms such as the

ode, the elegy, and the sonnet, will generate comparisons across time and space. Credit 3 units.

**A&S TH, WI**

**Comp Lit 4001. Religion and Literature**

**Comp Lit 4002. Asian and Near Eastern Languages Senior Seminar: Literature of Renaissance**

**Comp Lit 402. Introduction to Comparative Literature**

An introduction to the discipline and practice of Comparative Literature, exploring the concepts most frequently discussed and the methods most successfully practiced. What is revealed of texts when they are examined cross-culturally? What differences between texts emerge when themes and genres are followed across more than one national literature? The course includes a short history of the discipline and recent debates about the nature and scope of the field. Topics to be discussed include periodization, genres and forms, influence and intertextuality, translation, world literature, exile, and cross-cultural encounters. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 406. Translation**

*Same as JNE 4061.*

This course looks at the practice and theory of literary translation. While the main focus is on the literary and linguistic processes involved in translating a text from one language to another, we spend much time exploring the cultural significance of translation in an increasingly interconnected world. Translation is one of the best ways to make the world accessible to us. Successful translation requires in-depth knowledge of the social and cultural conditions in which the original text is produced. It is equally important to be aware of the expectations of the readers who will read the translated version. To balance these theoretical discussions with practical matters, we will invite translators to the class to speak about their published works. The requirements include translation projects to add experience to the analysis carried out in class. Prerequisite: Fluency in a language other than/in addition to English. Credit 3 units.

**A&S TH**

**Comp Lit 409. Correlation Between East and West**

Extensive comparative study of a period, topic, theme, or genre in Chinese or Japanese literature with a body of texts from one or more European languages that serve to illuminate the literary similarities and cultural differences between the two. Texts vary, depending upon the interests of the instructor(s). All texts available in English translations as well as in the original languages. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 419. Feminist Literary Theory**

*Same as WGSS 419.*

**A&S TH**

**Comp Lit 4204. Film Theory**

*Same as Film 420.*

**A&S TH, WI FA Lit**

**Comp Lit 424. Senior Seminar**

Intensive study of a comparative topic in a seminar situation. Credit 3 units.

**A&S TH**

**Comp Lit 425. Seminar in Theater History**

*Same as E Lit 4255, Med-Ren 425.*

Study of particular topics of theater history, organized historically, such as a comparative course on Italian, English, and French early-modern theater. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 430. Narrative Theory**

Credit 3 units.

**A&S TH**

**Comp Lit 436. Seminar in Dramatic Theory**

*Same as Drama 436.*

The course begins with Plato’s critique of mimesis and Aristotle’s defense, as we read *The Poetics* as a response to Plato. We will take some of Aristotle’s basic concepts, such as mimesis, plot, character, and thought, and attempt to apply them to drama up to the present. We will also consider fundamental elements of both the dramatic text and the dramatic production, such as space, time, dialogue, narrative devices, and perspective. Brecht’s theory of “epic drama” will form the other conceptual pole in the course, opposing Aristotle. Besides these two theorists, other figures will include Ben Jonson, Corneille, Dryden, Diderot, Schiller, Hegel, Zola, Artaud, and Grotowski. The course, then, will have both chronological and thematic axes. Three papers and one oral presentation. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 438. Aesthetics**

*Same as Film 438, Art-Arch 338A.*

Credit 3 units.

**A&S TH FA AH, SSP**

**Comp Lit 442. Literature of Catastrophe**

*Same as E Lit 441.*

**A&S TH**

**Comp Lit 4422. History, Memory, and Collective Identities**

*Same as History 4422.*

**A&S TH FA SSP**

**Comp Lit 449. Topics**

Credit 3 units.

**A&S TH**

**Comp Lit 4610. Literature and Psychoanalysis**

**Comp Lit 4690. Europe, An Imagined Community: Identity Discourses Since 1750**

*Same as IAS 422.*

**A&S CD, TH**

**Comp Lit 4715. Topics in Modern Arabic Literature in Translation**

**Comp Lit 477. The Chinese Theater**

**Comp Lit 4891. Topics in Chinese Literature and Culture**

**Comp Lit 4901. Topics: Around Paris: Capital Lives**

Credit 3 units.

**Comp Lit 495. Seminar**

*Same as E Lit 4951, EuSt 4952, IAS 4952.*

Seminar in Comparative Literature Studies. Topics Vary. See course listings for current semester’s offering. Credit 3 units.

**A&S TH FA Lit**

**Comp Lit 497. Independent Work for Senior Honors**

One or more long papers on a topic chosen in conjunction with the adviser and an examination. A committee determines whether the student will receive credit only or Honors. Prerequisites: senior standing and permission of chair of the committee. Credit 3 units.

**FA Lit**

**Comp Lit 498. Independent Work for Senior Honors**

Advanced work as indicated in Comp Lit 497. Prerequisites: senior standing and permission of chair of the committee. Credit 3 units.

**FA Lit**

# Earth and Planetary Sciences

## Chair

**Douglas A. Wiens**  
Ph.D., Northwestern University

## Endowed Professor

**Raymond E. Arvidson**  
James S. McDonnell Distinguished  
University Professor  
Ph.D., Brown University

## Professors

**Robert E. Criss**  
Ph.D., California Institute of Technology

**Robert F. Dymek**  
Ph.D., California Institute of Technology

**M. Bruce Fegley**  
Ph.D., Massachusetts Institute of Technology

**William B. McKinnon**  
Ph.D., California Institute of Technology

**Jill D. Pasteris**  
Ph.D., Yale University

**Frank A. Podosek**  
Ph.D., University of California–Berkeley

**William Hayden Smith**  
Ph.D., Princeton University

**Viatcheslav S. Solomatov**  
Ph.D., Moscow Institute of Physics  
and Technology

## Associate Professors

**Jan P. Amend**  
Ph.D., University of California–Berkeley

**Robert D. Tucker**  
Ph.D., Yale University

**Michael E. Wysession**  
Ph.D., Northwestern University

## Assistant Professors

**Jeffrey G. Catalano**  
Ph.D., Stanford University

**David A. Fike**  
Ph.D., Massachusetts Institute of Technology

**Frédéric P. L. Moynier**  
Ph.D., Ecole Normale Supérieure de Lyon

**Jennifer R. Smith**  
Ph.D., University of Pennsylvania

## Professors Emeritus

**Harold L. Levin**  
Ph.D., Washington University

**Roger J. Phillips**  
Ph.D., University of California–Berkeley

**Ghislaine Crozaz**  
Ph.D., Université Libre de Bruxelles

If you are interested in exploring an exciting and multidisciplinary study of the structure, composition, and evolution of the Earth and other planets at one of the top Earth science departments in the country, Earth and Planetary Sciences is an excellent choice for you.

The areas of study available to you range

from the Earth's core to the mantle, crust, oceans, atmosphere, and even interstellar space. General offerings are suitable for you as a nonmajor; a program of fundamental, modern, quantitative studies will prepare you if you are seeking a full range of opportunities in geoscience.

Depending on your interests, you may focus your studies on geology, geophysics, geochemistry, geobiology, or environmental geology. This variety gives you flexibility in designing a program of study that best meets your needs.

Our faculty is internationally renowned for its research. Areas covered range from the center of the Earth to the structure of the solar system. The department includes the Geosciences Node for NASA's Planetary Data System and is currently taking an active role in the mapping and exploration of Venus, Mars, the moon, and satellites of the outer planets. Other research examines the composition of meteorites and cosmic dust, uses seismic waves and gravity variations to determine the structure and history of the Earth, and dates Earth's oldest rocks to discover the history of how continents evolve.

As an undergraduate major, you can work with faculty in the laboratory to conduct many of your own studies, using analytical facilities and computer modeling, and you also may gather data in the field. Many students participate actively in cutting-edge research in geology, geochemistry, geobiology, and geophysics, using advanced laboratory equipment and some of the world's most powerful computing systems; some students have co-authored published scientific papers. You also learn hands-on geology through visits to unusual geological structures in the local Midwest area and through participation in a six-week summer geology field camp. Summer internships at such places as the Smithsonian Institution also are available. Current field studies involve expeditions to Tonga and Fiji, Madagascar, Italy, Africa, and Antarctica.

With a degree in Earth and Planetary Sciences, you have a choice of several career paths. Many recent graduates of the department have continued their research in graduate school. Others have accepted positions in government and industry. You also may choose to work in environmental business or in one of a variety of related fields.

**The Major:** A well-defined three-course core, consisting of EPSc 201, 352, and 353, gives an overview of the major subfields in the Earth sciences while preparing you for more in-depth study in one of three tracks in the department: (1) geology: EPSc 409, 413, 418, 422, 430, 431, 437, 463, 473, 484 and 505; (2) geochemistry: EPSc 323, 401, 441, 444, 446, 449, 474, and 480; and (3) geophysics and remote sensing: EPSc 407, 408, 410, 428, 452, 453, 454, and 559. You must select at least five courses from those listed above, with at least one from each track. The following prerequisites are required for the above courses: Chem 111A, 112A; Math 131, 132, 233; and Physics 117A-118A or Physics 197-198.

You are also required to take a writing intensive course—either EPSc 404, Ideas and Controversies in the Geosciences, or EPSc 498, Undergraduate Research Seminar—as well as an approved summer field camp of at least 6 units of credit. The field camp must be attended after either the junior or senior year. You may propose to the faculty an alternative program of study as a substitute for field camp.

If you are attracted to the environmental professions, you might choose among EPSc 323, 407, 409, 428, 430, 444, 446, 449, and 454.

If you are interested in planetary sciences, you will need a strong background in Earth sciences to understand planets. Electives specifically focusing on planetary science and its methods include EPSc 401, 407, 408, 410, 453, 473, and 474.

You also may be able to take graduate Earth and Planetary Sciences courses with the permission of your adviser and the specific course instructor.

More information about the department and its faculty and staff can be found on its homepage at [www.epsc.wustl.edu](http://www.epsc.wustl.edu).

**The Minor:** To minor in Earth and Planetary Sciences, you must complete at least 16 units, including the introductory course EPSc 201, followed by EPSc 352 and 353. One additional course is required. At least 9 units, not including EPSc 390 or EPSc 490, must be at the 300 level or above. Your minor program must be approved by the faculty adviser who is assigned to you when you declare the minor.

**Senior Honors:** If you are interested in the Honors program, you should consult with the chair or director of undergraduate studies concerning eligibility and requirements.

## Undergraduate Courses

### EPSc 103A. Oceanography

Emphasis on geological, chemical, and physical oceanography. Topics: topography and origin of ocean basins; origin and composition of sea water; effect of compositional variations on biological productivity; dynamics of water movements, including coastal processes. Credit 3 units.

**A&S** NS **FA** NSM

### EPSc 105A. Earth's Atmosphere

Same as EPSc 105A.

The past, present, and future of the atmosphere. Present composition and structure. Comparison with atmospheres of other planets. History and origin of the present atmosphere, and chemical and other interactions with the solid earth, oceans, and biosphere. Extraterrestrial effects. Effects of human activities. Credit 3 units.

**A&S** NS **FA** NSM

### EPSc 107. Environmental Geology and Energy

Ways to minimize hazards to the environment from the use of different forms of energy. Geological hazards of human activity. Earthquake and volcanic hazards; global warming due to greenhouse effect. Feasibility of nuclear waste disposal. Geothermal energy. Air and water pollution. Intended for nonscience majors. Credit 3 units.

**A&S** NS **FA** NSM

### EPSc 108A. Oceans and the Atmosphere

Basic concepts of the evolution and physical structures of the Earth's oceans and the atmosphere. Dynamic aspects of the oceans (waves,

tides, tsunamis) and atmospheric circulation (weather). Role of biological processes (including anthropogenic) in defining the present oceans and atmosphere. Global climate issues discussed in EPSc 111. Credit 3 units.

**A&S NS FA NSM**

### EPSc 109A. Quantitative Reasoning in Environmental Science

*Same as EnSt 109A.*

Introduction to practical mathematical methods for understanding environmental aspects of our planet, particularly how the environment changes with time through human interactions. Emphasis on intuitive approaches in devising simple relationships for understanding quantitative outcomes of natural processes. Introduction to basic statistical methods, including hypothesis testing and how statistics can be applied to environmental problems. Credit 3 units.

**A&S NS, QA FA NSM**

### EPSc 111. Introduction to Global Climate Change in the 21st Century

Global climate and global climate change and their impacts on life and civilization. Integrated view of global climate and the diverse forces that can alter global climate. Historical and potential future consequences of global climate change on human life, our industrial civilization, and its sustainability. Prerequisite: EPSc 108A, Oceans and the Atmosphere, recommended but not required. Credit 3 units.

**A&S NS**

### EPSc 118A. Geology of National Parks

*Same as AMCS 118A, EPSc 118A.*

Survey of geologic processes occurring at the Earth's surface and its interior using national parks and monuments as the prime venue for presentation. Volcanism and mountain-building; the work of streams, glaciers, and wind; lake and coastline development; stratigraphy and sedimentation; and Earth history. Material presented in a geographic context, with emphasis on landforms and landscape evolution, relating geology to the development and settlement of the United States. Credit 3 units.

**A&S NS FA NSM**

### EPSc 125. The Dinosaurs: "Facts" and Fictions

*Same as EPSc 135, EnSt 125.*

An introduction to the history of prehistoric life from its early beginnings about 3.5 billion years ago until the present. Emphasis will be placed on the origin and evolution of dinosaurs and the stratigraphic and biological methods used by paleontologists to decipher their habits and relation to the Mesozoic world. In addition to the remarkable evolutionary history of dinosaurs, topics relating to the history of fishes, amphibians, reptiles, birds, and mammals will provide a summary understanding of the Earth's amazing pageant of past life. Credit 3 units.

**A&S NS**

### EPSc 131. Natural Disasters

*Same as EPSc 132.*

Examination of the effects of natural hazards on landscapes of the Earth in general, as well as on populated areas specifically, through numerous case studies. Social, economic, and political consequences of natural disasters. Locations, particularly in the United States, where disasters are likely to occur in the future. Nature of the hazards and what preparations are possible to minimize damage and the number of casualties. Credit 3 units.

**A&S NS**

### EPSc 171A. The Solar System

Survey of the planets and satellites of our solar system. Includes results from Apollo manned mis-

sions to the Moon and spacecraft missions to the planets and their major satellites. Credit 3 units.

**A&S NS FA NSM**

### EPSc 201. Earth and the Environment

*Same as EnSt 201.*

Introduction to the study of the Earth as a dynamic, evolving planet. Emphasis on how internal and surface processes combine to shape the environment. Themes: Earth's interior as revealed by seismic waves; Earth history and global tectonics shown by changes to ocean floors, mountain-building, formation of continents, earthquakes, and volcanism; climate history and global biogeochemical cycles, influenced by circulation of atmosphere and oceans, ice ages, and human activity. Composition and structure of rocks and minerals. Three class hours and one two-hour lab a week. Credit 4 units.

**A&S NS**

### EPSc 210A. Epic of Evolution: Life, Earth, and the Cosmos

*Same as EPSc 210, Biol 210A, Physics 210A.*

Evolution of the universe, the Earth, and life, woven together in narrative. Themes of complexity, scale, entropy, and information applied to the Big Bang, origins of matter, formation and history of the Earth, origins of life and diversification of species. Discussion sections explore the implications of the scientific epic for religion, philosophy, the arts, and ethics. Three class hours and one one-hour discussion section per week. Credit 3 units.

**A&S NS FA NSM**

### EPSc 216A. Resources of the Earth

Introduction to major resources of the Earth; rocks, minerals, water, soil, and air. Basics of geology covered as background for origin, supply, and uses of these resources. Environmental awareness stressed. Field trip required. Prerequisite: EPSc 201 (may be taken concurrently.) Credit 3 units.

**A&S NS FA NSM**

### EPSc 221A. Human Use of the Earth

*Same as EPSc 221A, EnSt 221A.*

Examination of the impacts of a growing population on the Earth, including habitat destruction, resource depletion, and air and water pollution. Population growth, landscape change, and the distribution and uses of the water, mineral, and energy-producing resources of the Earth. One all-day field trip required. Credit 3 units.

**A&S NS FA NSM**

### EPSc 230. Introduction to Astrobiology

*Same as EPSc 230.*

Astrobiology is the study of life—its origin, distribution, and impact on the Earth, and the destiny of life elsewhere in the universe. Course includes the investigation of the influence of pseudoscience and the media on public understanding of scientific issues, the origin of the solar system and the Earth, origin of life, the early Earth environment, the evolutionary history of life on Earth, life in extreme environments, and methods for detecting life on other worlds such as Mars and Jupiter's satellite Europa. Discussions include philosophical issues such as the nature of life and the significance of finding life elsewhere. Three class hours and a one-hour discussion period a week. Credit 3 units.

**A&S NS**

### EPSc 323. Biogeochemistry

*Same as EnSt 323.*

Survey of biogeochemical interactions among Earth's crust, oceans, and atmosphere, including perturbations due to human activities. Carbon, nitrogen, phosphorus, and sulfur biogeochemical cycles. Greenhouse warming of atmosphere from carbon dioxide and chlorofluorocarbons; effects of inorganic and organic wastes in groundwater sys-

tems. Introductory course for students of environmental science and nonscience majors. Prerequisite: high school calculus or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

### EPSc 352. Earth Materials

Fundamental principles of crystal chemistry, symmetry and structure of crystals (minerals), X-ray analysis of crystalline materials, information on the important mineral groups (definition of the groups; composition, structure, physical properties, occurrence, and usage of major mineral species); optical mineralogy. Geological and environmental aspects of earth materials. Prerequisites: EPSc 201 and Chem 112A or permission of instructor. Three class hours, one two-hour laboratory, and one two-hour discussion period a week. Credit 5 units.

**A&S NS FA NSM**

### EPSc 353. Earth Forces

Basic concepts regarding the forces that act upon the Earth, how geological materials react to these forces, and the time scale over which they respond. Emphasis on physical concepts needed to understand the geodynamical behavior of the Earth over a broad range of length and time scales. Application and interpretation of geophysical methods to probe the interior of the Earth. Prerequisites: EPSc 201, Phys 117A, and Math 131, or permission of instructor. Three class hours and one two-hour laboratory a week. Credit 4 units.

**A&S NS FA NSM**

### EPSc 390. Independent Study

Independent study for undergraduates, to be supervised by a faculty member. Prerequisite: permission of instructor. Credit to be determined. Credit variable, maximum 3 units.

**FA NSM**

### EPSc 400. Topics in the Geosciences

The content of this course varies each time it is offered, as announced by the department. With permission of the adviser, this course may be repeated for credit. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**A&S NS FA NSM**

### EPSc 401. Earth Systems Science

Quantitative introduction to physical and chemical interactions among the atmosphere, oceans, and solid earth. Use of the geologic record to infer how such interactions varied over geologic time. Prerequisite: EPSc 352, 441, or permission of instructor or the graduate adviser. Credit 3 units.

**A&S NS FA NSM**

### EPSc 404. Ideas and Controversies in the Geosciences

Great ideas and controversies in the geological sciences and how ideas change and become accepted in science. The format is part lecture, part discussion. Writing and oral presentation will be emphasized. Students will read primary sources, as well as book, journal, and web-based historical accounts and interpretations. Among the topics to be addressed are: Continental Drift and Plate Tectonics, Development of the Geological Time Scale, Age of the Earth, Mass Extinctions, and the Snowball Earth Hypothesis. Prerequisites: EPSc 352 and EPSc 353 (may be taken concurrently) or permission of instructor. Credit 3 units.

**A&S NS, WI**

### EPSc 407. Remote Sensing

Use of different parts of the electromagnetic spectrum (visible, ultraviolet, infrared, and radio wavelengths) for interpretation of physical and chemical characteristics of the surfaces of Earth and other planets. Digital image systems and data processing. Prerequisite: EPSc 352, Math 233 or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

**EPSc 408. Earth's Atmosphere and Global Climate***Same as EnSt 408.*

Structure and dynamics of Earth's atmosphere. Basic factors controlling global climate of Earth. Quantitative aspects of remote sensing of atmosphere. Remote sensing instrumentation. Prerequisites: Math 233 and Phys 117A, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 409. Surface Processes**

How do landscapes evolve? Examination of chemical and physical processes that modify earth's surface. Introduction to soil formation. Focus on modern systems, particularly fluvial, karst, and desert terrains. Brief discussion of coastal and glacial systems. Human agency in geomorphic change. Lab covers survey techniques for acquisition of topographic data and use of geographic information systems for geomorphic and hydrologic analysis. Field trips required. Prerequisite: EPSc 352 and 353. Three class hours and one three-hour lab a week Credit 4 units.

A&amp;S NS FA NSM

**EPSc 410. Earth Remote Sensing Methods and Instrumentation**

Detection of electromagnetic radiation reflected, scattered, or emitted by components of the Earth system. Spectroscopy of remote sensing. Interpretation of received radiation via radioactive transfer within a context of real measurements. Theory of instruments and detectors. Comparison of realized equipment to theoretical models. Prerequisite: Phys 118A, Chem 112A, Math 233 or equivalent, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 413. Introduction to Soil Science**

Physical, chemical, and biological processes that occur within soil systems. Types of soils and how these relate to soil formation. Major components of soil, including soil water, minerals, organic matter, and microorganisms. Soils in wetlands and arid regions. Cycling of nutrients and contaminants in soils. Soil quality, conservation, and sustainability. Two one-day field trips required. Prerequisite: EPSc 323 or Chem 112A or permission of instructor. Credit 3 units.

**EPSc 418. Paleobiology**

Detailed survey of the history of life on Earth and the major geological events (e.g., mountain building, change in sea level, continental fragmentation) that affect the evolution and distribution of life. Focus on the past 540 million years, the age of the "more complex" forms of life. Appearances, evolution, and extinctions of the major groups of organisms of this time. Includes major reef-building communities, major plant groups, and important animal groups on land and in the oceans. Environmental change through time and extinctions, both past and current. Prerequisite: EPSc 201 or permission of instructor. EPSc 422 recommended. Three class hours and one two-hour laboratory a week. Credit 4 units.

A&amp;S NS

**EPSc 422. Sedimentary Geology**

Survey introduction to sedimentary processes and materials, including description, formation, and interpretation. Sedimentary materials account for most of the Earth's crust, and much of our understanding of Earth history comes from their examination. Many of our economic resources, such as coal, oil, and natural gas, and many environmental problems, are related to or derive from sediments. Goals: understanding and identifying sediments and processes and using them to interpret stratigraphic, paleoenvironmental, and tectonic information; obtaining the understanding of sedimentology that is relevant to environmental issues; in-

creasing scientific literacy and critical thinking. Prerequisites: EPSc 201. EPSc 352 and EPSc 437 recommended. Three class hours and one two-hour lab a week. Mandatory field trips. Credit 4 units.

A&amp;S NS

**EPSc 428. Hydrology***Same as EnSt 428.*

Survey of principles that govern the flow of water in river and groundwater systems in deep geologic environments. Basic equations of fluid flow, dynamics, and the characteristics of drainage basins, rivers, floods, and important aquifers. Exploitation of ground water systems. Prerequisites: EPSc 353, Phys 117A, Phys 118A, and Math 233, or permission of instructor. Three class hours and one two-hour laboratory a week. Field trip required. Credit 4 units.

A&amp;S NS FA NSM

**EPSc 430. Environmental Mineralogy***Same as EnSt 432.*

Topics connected with environmental mineralogy, some selected by students. Topics may include: mineral dust such as asbestos, containment materials for nuclear waste disposal, environmental ramifications of the processing and use of phosphate fertilizers, lead in the environment, acid mine drainage, microbial mediation of sulfide oxidation, minerals in the human body, weathering of building materials, materials engineering, and engineering of materials for more effective recycling. Three class hours and one two-hour laboratory a week. Participation in discussions, term paper, two field trips required. Most readings from primary sources. Prerequisite: EPSc 352 or permission of instructor. Credit 4 units.

A&amp;S NS FA NSM

**EPSc 431. Petrography**

Origin of selected igneous and metamorphic rock suites investigated by integrating field, laboratory, and theoretical approaches to petrogenesis. Petrographic, electron microprobe, and X-ray fluorescence methods taught and utilized as tools in class exercises. Field trips to nearby localities. Prerequisites: EPSc 352 and permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 437. Introduction to Petrology**

Classification, origin, mineralogy, and geological occurrence of major igneous and metamorphic rocks. Laboratory emphasis on identification of rocks and minerals in hand specimens and in thin sections. Prerequisite: EPSc 352. Three class hours and one two-hour laboratory a week. Credit 4 units.

A&amp;S NS

**EPSc 441. Introduction to Geochemistry**

Application of the principles of nuclear and physical chemistry to problems of the composition and differentiation of the Earth. Introduction to nucleosynthesis of the elements, stellar evolution, the periodic properties of the elements, chemical bonding and ionic substitution, geochronology and stable isotope geochemistry, and the age and composition of the Earth, Moon and meteorites. Prerequisites: EPSc 201 and Chem 112 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 444. Environmental Geochemistry***Same as EnSt 444.*

Introduction to the geochemistry of natural waters and the processes that alter their composition. Key principles of aqueous geochemistry and their application to describe the main controls on the chemistry of pristine and polluted soil, surface, and ground-water environments. Acids and bases, mineral solubility, carbonate chemistry, chemical speciation, redox reactions, adsorption and ion ex-

change, and the speciation, mobility, and toxicity of metals. Prerequisite: EPSc 352 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 446. Stable Isotope Geochemistry**

Applications of equilibrium and kinetic isotope fractionation and material balance principles to the distribution of oxygen and hydrogen isotopes in natural systems. Geothermometry and paleotemperatures, mass spectrometry, isotope hydrology and ice cores, fluid-rock interaction, igneous rocks, and meteorites. Prerequisites: EPSc 441 and Math 233 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 449. Microbes in the Environment***Same as EnSt 4491.*

Microorganisms are ubiquitous and have a large impact on the chemistry of the natural environment. This course will cover the basic physiology of the microbial cell as it pertains to how microorganisms interact with the surrounding environment. Topics include cell structure, protein synthesis, gene regulation (how microbes respond to environmental changes), behavior and development, biofilm formation, and energy generation (how they use energy and impact changes in the geochemistry of the environment). Also the evolutionary relationships among microbes, the major groups of free-living microbes, and the environments they inhabit, and how microbes have co-evolved with the changing chemistry of the Earth through time. Prerequisite: science majors with junior or senior standing or permission of instructor. Credit 3 units.

A&amp;S NS

**EPSc 452. Introduction to Seismology**

Introduction to earthquake and exploration seismology. Seismic wave propagation, data analysis and processing, earthquake mechanisms, seismic constraints on the structure of the Earth, relationship of seismicity to plate tectonics. Prerequisites: EPSc 353 and Math 217 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 453. Interior of the Earth**

Composition and temperature of Earth's mantle and core, determined by geophysical methods. Inferences about mantle and core dynamics, especially interactions. Current understanding and history of interior in fields of seismology, geomagnetism, mineral physics, geodynamics. Prerequisite: EPSc 353 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**EPSc 454. Exploration and Environmental Geophysics**

Basic geophysical techniques used in exploration and environmental geophysics, emphasizing seismic and electromagnetic methods. Basic theory, field procedures, and interpretation of data. Use of geophysical instruments on field trips, followed by reduction and analysis of acquired data. Prerequisites: EPSc 353, Phys 118A, and Math 233; or permission of instructor. Two class hours and one two-hour laboratory a week, and approximately four one-day field trips during the semester. Credit 4 units.

A&amp;S NS FA NSM

**EPSc 459. Geodynamics**

Fundamental physical processes necessary to understand plate tectonics and a variety of geological phenomena. Heat flow, gravity, elasticity and flexure, rheology of Earth materials. Prerequisites: EPSc 353 or permission of the graduate adviser. Credit 3 units.

A&amp;S NS

**EPSc 460. Introduction to Structural Geology**  
Stress and strain, elementary rock mechanics and fracture theory, faulting, plastic deformation, mechanics of folding, strain analysis, application to thrust belts, multiple folded terrains, and sedimentary basins. Laboratories in map interpretation, fault problems, stereo nets, and subsurface geology. Prerequisites: Math 131 and 132. Three hours of lecture and one two-hour laboratory a week. Credit 4 units.  
A&S NS FA NSM

**EPSc 463. Field and Structural Geology**  
Introduction to concepts and principles of structural geology with emphasis on field and laboratory methods for mapping and describing geologic structures. Topics include stress and strain, fracturing and brittle behavior, jointing and faulting, plate tectonics, geologic history of North America. Lab and fieldwork include introduction to topographic maps, orthographic projections, Mohr circle of stress, stereonet analysis, structure contouring, pace-and-compass mapping, determination of stratigraphic thickness, construction of geologic maps and cross-sections. One-and-a-half hours lecture, one three-hour lab a week. Up to six additional outdoor exercises on weekends. Prerequisites: EPSc 352 and EPSc 353 or permission of instructor. Credit 4 units.  
A&S NS

**EPSc 473. Planetary Geology**  
Discussion of the evolution of the terrestrial planets and the outer-planet satellites as evidenced by the geologic records left on the surfaces of these bodies. Focus on major processes affecting planetary surfaces: impact cratering, volcanism, tectonism, and erosion and sedimentation by wind and water. Prerequisite: EPSc 352 and EPSc 353 or permission of instructor. Credit 3 units.  
A&S NS FA NSM

**EPSc 474. Planetary Geochemistry**  
A survey of the geochemistry of the planets and their satellites using data from Earth-based, Earth-orbital, and spacecraft observations. Prerequisites: EPSc 352 and permission of instructor. Credit 3 units.  
A&S NS FA NSM

**EPSc 480. Special Topics in Microbiology–Chemistry–Earth Science**  
*Same as EnSt 480.*  
Investigation of scientific questions at the interface of microbiology, biochemistry, ecology, geochemistry, and environmental studies. Content varies each time this course is offered. With permission of the chair, course may be repeated for credit. Prerequisite: permission of instructor. Credit 3 units.  
A&S NS

**EPSc 484. Paleoenvironmental Reconstruction**  
*Same as ARC 484.*  
How do we know about environments of the geologic past? Survey of paleoenvironmental proxies (stable isotopes, macroflora, macro- and microfauna, pollen/palynomorphs, paleosols, lacustrine sediments, etc.); applications and limitations of each proxy; analytical techniques. Focus on terrestrial, as opposed to marine, environments. Prerequisites: EPSc 201 or permission of instructor; EPSc 422 recommended. Credit 3 units.  
A&S NS

**EPSc 490. Independent Study**  
Independent study for advanced undergraduates or for graduate students, to be supervised by a faculty member. Prerequisite: permission of instructor. Credit to be arranged. Credit variable, maximum 12 units.

**EPSc 498. Undergraduate Research Seminar**  
*Same as EnSt 4980.*  
Provides an opportunity for advanced undergraduates to synthesize many of the diverse subdisciplines of Earth and Planetary Sciences while focusing on a research topic. Subject changes each offering. Each subject will be unique and timely, but broad enough to encompass wide-ranging interests among students. Students will conduct original research, make written reports of the results, and make oral presentations of their projects in class. Prerequisite: senior standing or permission of instructor. Credit 3 units.  
A&S NS, WI FA NSM

**EPSc 499. Honors Research**  
Independent work for undergraduate Honors, to be supervised by a faculty member. Prerequisites: senior standing, eligibility for Honors, and permission of instructor. Credit 3 units.  
A&S NS FA NSM

## East Asian Studies

### Director

**Lingchei Letty Chen**, Associate Professor  
(Asian and Near Eastern Languages)  
Ph.D., Columbia University

### Endowed Professors

**John Owen Haley**  
Wiley B. Rutledge, Jr., Professor of Law  
(Law)  
LL.M., University of Washington

**Robert E. Hegel**  
Lieselotte Dieckmann Professor  
of Comparative Literature  
(Asian and Near Eastern Languages)  
Ph.D., Columbia University

**Charles R. McManis**  
Thomas and Karole Green  
Professor of Law  
(Law)  
J.D., Duke University

### Professors

**Rebecca L. Copeland**  
(Asian and Near Eastern Languages)  
Ph.D., Columbia University

**Frances H. Foster**  
(Law)  
J.S.D., Stanford University

**Beata Grant**  
(Asian and Near Eastern Languages)  
Ph.D., Stanford University

### Associate Professors

**Mary-Jean Cowell**  
(Performing Arts)  
Ph.D., Columbia University

**Marvin H. Marcus**  
(Asian and Near Eastern Languages)  
Ph.D., University of Michigan

**Steven B. Miles**  
(History)  
Ph.D., University of Washington

**Carl Minzner**  
(Law)  
J.D., Columbia University

### Assistant Professors

**Gwen Bennett**  
(Art History and Archaeology)  
Ph.D., University of California–Los Angeles

**Pauline Chen Lee**  
(Asian and Near Eastern Languages)  
Ph.D., Stanford University

**Jamie Newhard**  
(Asian and Near Eastern Languages)  
Ph.D., Columbia University

**Lori Watt**  
(History and International and Area Studies)  
Ph.D., Columbia University

### Adjunct Associate Professor

**Michele Shoresman**  
(Law and East Asian Studies)  
Ph.D., University of Illinois

**Senior Lecturers****Xia Liang**

(Asian and Near Eastern Languages)  
M.A., Beijing Normal University

**Virginia S. Marcus**

(Asian and Near Eastern Languages)  
M.A., University of Michigan  
M.A., New York University

**Judy Zhijun Mu**

(Asian and Near Eastern Languages)  
Ph.D., University of Illinois at  
Urbana-Champaign

**Fengtao Wu**

(Asian and Near Eastern Languages)  
M.A., Indiana University-Bloomington

**Lecturers****Hiroo Aridome**

(Asian and Near Eastern Languages)  
M.A., University of Minnesota

**Shino Hayashi**

(Asian and Near Eastern Languages)  
M.A., University of Wisconsin, Madison

**Mijeong Mimi Kim**

(Asian and Near Eastern Languages)  
Ed.D., University of San Francisco

**Chun-ying Lin**

(Asian and Near Eastern Languages)  
M.A., National Taiwan Normal University

**Kayo Niimi**

(Asian and Near Eastern Languages)  
M.A., Ohio State University

**Wei Wang**

(Asian and Near Eastern Languages)  
M.A., University of Minnesota  
M.A., Beijing Language and  
Culture University

**Adjunct Lecturer****Steven Owyong**

Curator of Asian Art (retired)  
A.B.D., University of Michigan

**East Asian Librarians****Tony Chang**

M.L.S., University of California-Berkeley

**Asako Shiba**

M.L.S., University of Hawaii-Manoa

**Wai-man Suen**

B.A., Hong Kong Baptist College

**Professors Emeriti****George C. Hatch, Jr.**

(History)  
Ph.D., University of Washington

**Robert E. Morrell**

(Asian and Near Eastern Languages)  
Ph.D., Stanford University

**Laurence A. Schneider**

(History)  
Ph.D., University of California-Berkeley

**James C. Shih**

(Asian and Near Eastern Languages)  
Ph.D., University of California-Berkeley

**John E. Walsh, Jr.**

(Business)  
D.B.A., Harvard University

**East Asian Studies Concentration:** If you have particular interest in the cultures and societies of East Asia and would like to study them from a comparative, interdisciplinary perspective, you may major in International and Area Studies (IAS) with a concentration in East Asia. (For more information, refer to International and Area Studies.) From the ancient foundations of East Asia to its most recent transformations, this program offers a wide range of courses. Washington University is one of the oldest centers for the study of China and Japan in the United States, and it also includes selected course work on Korea. In modern Chinese and Japanese language, we offer courses through the advanced level, in addition to classical language study. You may pursue Korean language study through the intermediate level.

For the requirements for a major in International and Area Studies with an East Asian Studies Concentration, please refer to International and Area Studies.

**Undergraduate Courses****East Asia 110. Basic Principles and Practice of Chinese/Japanese Calligraphy**

*Same as Chinese 110.*

**A&S** LA

**East Asia 111. Introduction to Asian Art**

*Same as Art-Arch 111.*

**A&S** CD, LA

**East Asia 200. Topics in Asian and Near Eastern Languages and Literatures**

*Same as ANELL 200.*

**A&S** CD, TH

**East Asia 2081. Freshman Seminar: The Chinese American Experience**

*Same as ANELL 208.*

**A&S** SD, TH

**East Asia 2210. Topics in Japanese Literature and Culture**

*Same as Japan 221.*

**A&S** TH

**East Asia 223C. Korean Civilization**

*Same as ANECC 223.*

**A&S** CD, SD, TH

**East Asia 226C. Japanese Civilization**

*Same as ANECC 226.*

**A&S** CD, SD, TH **FA** SSP

**East Asia 227C. Chinese Civilization**

*Same as ANECC 227.*

**A&S** CD, SD, TH

**East Asia 293C. Freshman Seminar: Images of East Asia: Geisha**

*Same as ANECC 293C.*

**East Asia 294. Images of East Asia**

*Same as ANECC 294.*

**A&S** CD, TH

**East Asia 303. The Taoist Tradition**

*Same as Re St 303.*

**A&S** CD, TH

**East Asia 3051. Anthropology of Tibet and the Himalayas**

*Same as Anthro 3051.*

**A&S** SS

**East Asia 3060. East Asia Since 1500**

*Same as History 3060.*

**A&S** CD, TH

**East Asia 308. Topics in Asian-American Literature: Identity and Self-Image**

*Same as E Lit 308.*

**A&S** SD, TH **FA** Lit

**East Asia 309. Chinese Thought**

*Same as Re St 309.*

**A&S** CD, TH, WI

**East Asia 3091. Confucian Thought**

*Same as Re St 3091.*

**A&S** TH

**East Asia 3112 Buddhist Traditions**

*Same as Re St 311.*

**A&S** TH

**East Asia 312C. Modern Japan**

*Same as History 320C.*

**A&S** CD, TH **FA** SSP

**East Asia 3162. Early Modern China: 1350-1890**

*Same as History 3162.*

**A&S** CD, TH

**East Asia 3164. Chinese Foreign Relations Since the Opium War**

*Same as History 3164.*

**A&S** TH

**East Asia 316C. Modern China: 1800-Present**

*Same as History 316C.*

**A&S** CD, TH **FA** SSP

**East Asia 3220. Contemporary East Asian Cinema**

*Same as Film 322.*

**A&S** CD, TH

**East Asia 324. A User's Guide to Japanese Poetry**

*Same as Japan 324.*

**A&S** LA

**East Asia 3301. Topics in Chinese Literature and Culture**

*Same as Chinese 330.*

**A&S** CD, TH

**East Asia 332C. The Classical Voice in Japanese Literature**

*Same as Japan 332C.*

**A&S** CD, TH **FA** Lit

**East Asia 3333. The Art and Archaeology of Japan and Korea**

*Same as Art-Arch 3333.*

**A&S** TH

**East Asia 333C. The Modern Voice in Japanese Literature**

*Same as Japan 333C.*

**A&S** CD, TH **FA** Lit

**East Asia 3361. The Floating World in Japanese Literature**

*Same as Japan 336.*

**A&S** CD, SD, TH **FA** Lit

**East Asia 3401. Chinese Art and Culture**

*Same as Art-Arch 3401.*

**A&S** CD, TH **FA** AH

**East Asia 3411. Literature of Early and Imperial China**

*Same as Chinese 341.*

**A&S** CD, SD, TH **FA** Lit

**East Asia 3420. The Archaeology of Ancient China**

*Same as Art-Arch 3420.*

**A&S** TH **FA** AH

**East Asia 3421. Literature of Modern and Contemporary China***Same as Chinese 342.*

A&amp;S CD, SD, TH FA Lit

**East Asia 3423. From Ancient Worlds to Contemporary Practice***Same as Art-Arch 3423.*

A&amp;S TH

**East Asia 3460. Zen Buddhism***Same as Re St 3461.*

A&amp;S TH FA SSP

**East Asia 3462. Topics in East Asian Religion***Same as Re St 346.*

A&amp;S TH

**East Asia 352. Literature of Modern and Contemporary Korea***Same as Korean 352.*

A&amp;S CD, SD, TH

**East Asia 355. Topics in Korean Literature and Culture***Same as Korean 355.*

A&amp;S CD, SD, TH

**East Asia 382. Writing Women of Imperial China***Same as Chinese 382.*

A&amp;S TH

**East Asia 388. The Chinese Diaspora***Same as History 39B8.*

A&amp;S CD, TH, WI

**East Asia 3891. East Asia Since 1945: From Empire to Cold War***Same as History 3891.*

A&amp;S CD, TH

**East Asia 398. Rivers: A Comparative Approach to Chinese and World History***Same as History 39S8.*

A&amp;S TH, WI

**East Asia 4001. Asian and Near Eastern Languages and Literatures Seminar***Same as ANELL 400.*

A&amp;S CD, TH

**East Asia 4030. Topics in East Asian Religions***Same as Re St 403.*

A&amp;S CD, TH

**East Asia 4064. Current Issues in Contemporary Chinese Politics**

Credit 3 units.

**East Asia 4141. Readings in Classical Chinese Philosophy***Same as Chinese 414.*

A&amp;S CD, TH

**East Asia 4180. Gender and Sexuality in East Asian Religions***Same as Re St 418.*

A&amp;S CD, SD, TH

**East Asia 445. Japanese Fiction***Same as Japan 445.*

A&amp;S CD, TH, WI FA Lit

**East Asia 446. Japanese Theater***Same as Japan 446.*

A&amp;S CD, SD, TH FA Lit

**East Asia 4471. Japanese Film***Same as Japan 447.*

A&amp;S TH FA Lit

**East Asia 4483. Japanese Poetry***Same as Japan 448.*

A&amp;S TH FA Lit

**East Asia 4492. Modern Japanese Women Writers: Madame Butterfly's Delinquent Daughters***Same as Japan 449.*

A&amp;S CD, SD, TH, WI

**East Asia 4493. The Production of East Asian Art: When Materials Become Media: Bronze, Silk, and Porcelain***Same as Art-Arch 4493.*

A&amp;S TH

**East Asia 4641. Japanese Textual Analysis***Same as Japan 464.*

A&amp;S LA

**East Asia 467. The Chinese Theater***Same as Chinese 467.*

A&amp;S CD, SD, TH FA AH

**East Asia 469. East Asian Feminisms***Same as IAS 469, WGSS 4691, History 4693.*

This course will study the beginnings and the transformations in feminist thought as found in East Asia. It will explore feminism as found in China, Taiwan, Japan, and Korea focusing on the period from the late 1800s to the present. Emphasis will be on the diversity of feminisms both between and within these cultures. Credit 3 units.

A&amp;S SD, TH

**East Asia 470. Readings in Chinese Literature***Same as Chinese 470.*

A&amp;S TH FA Lit

**East Asia 471. Topics in Japanese Culture***Same as Japan 471, IAS 4711.*

Credit 3 units.

A&amp;S TH FA SSP

**East Asia 4711. Topics in Religious Studies***Same as Re St 4711.*

A&amp;S TH FA SSP

**East Asia 476. Reading Seminar in Chinese Traditional Fiction***Same as Chinese 476.*

A&amp;S TH FA Lit

**East Asia 479. Reading Seminar in Modern Chinese Literature***Same as Chinese 479.*

A&amp;S CD, TH FA Lit

**East Asia 4791. Seminar in Religious Studies: Engendering Religious Studies***Same as Re St 479.*

A&amp;S SD, TH

**East Asia 480. Topics in Buddhist Tradition***Same as Re St 480.*

A&amp;S TH FA SSP

**East Asia 4801. Reading Seminar in Chinese Popular Literature and Culture***Same as Chinese 480.*

A&amp;S TH FA Lit

**East Asia 4811. Reading Seminar in Religion and Chinese Literature***Same as Chinese 481.*

A&amp;S TH FA Lit

**East Asia 482. Reading Seminar in Gender and Chinese Literature***Same as Chinese 482.*

A&amp;S TH FA Lit

**East Asia 484. Core Seminar in East Asian Studies: East Asia in Scholarly Literature***Same as IAS 484, History 4841, ANECC 484.*

Introduction to problems and approaches in East Asian Studies. Credit 3 units.

A&amp;S CD, TH FA SSP

**East Asia 4842. The Japanese Empire in Asia, 1874–1945***Same as History 4842.*

A&amp;S CD, TH

**East Asia 486. Independent Work for Senior Honors**

By the beginning of the senior year, the student is expected to have met with a primary adviser and agreed on a topic. Next, the student and the adviser choose two other faculty members to be on the committee and a one-page prospectus is sent to everyone on the committee for their approval. The primary adviser is responsible for reading the preliminary drafts and deciding any technical or format questions. In the first week of March, the student submits a copy of the thesis, which is defended the week after spring break. After a successful defense, the student revises the paper according to the committee's suggestions and submits it to the department before the notification date established by Arts & Sciences that year. Prerequisite: senior standing. Credit 3 units.

**East Asia 488. Directed Study (in China)**

Credit variable, maximum 3 units.

**East Asia 489. Directed Study (in Japan)**

Credit variable, maximum 3 units.

**East Asia 4891. Topics in Modern Chinese Literature***Same as Chinese 489.*

A&amp;S TH FA Lit

**East Asia 4892. Topics in Chinese Literature and Culture: The Chinese City in the Global Context***Same as Chinese 4891.*

A&amp;S SS

**East Asia 490. Topics in Chinese Literature and History***Same as Chinese 490*

A&amp;S TH FA Lit, SSP

**East Asia 4911. The Nativist Dimension in Modern Japanese Culture***Same as IAS 4912, ANECC 4911, Japan 4911.*

A discourse of "uniqueness" has been a prominent feature of Japanese culture in the 20th century, both before and after the Pacific War. This course will explore the domain of nativist expression in modern Japan. While focusing on literary texts by writers such as Kawabata and Tanizaki, we also will consider a range of artistic, cinematic, and cultural production. Considerable attention will be paid to "Nihonjinron," an important—and best-selling—genre of "Japanese uniqueness" writing. Our goal will be to make sense of the complex intersection of traditionalism and modernism in 20th-century Japan, and to consider the larger question of modern nationhood and the construction of national identity. Credit 3 units.

A&amp;S TH

**East Asia 4914. Advanced Seminar in History: Japan in World War II: History and Memory***Same as History 4914.*

A&amp;S TH FA SSP

**East Asia 496. Readings in Asian Studies**

Prerequisite: permission of the chair of the department. Credit variable, maximum 3 units.

A&amp;S TH

**East Asia 4967. Advanced Seminar: East Asian History***Same as History 4967.*

A&amp;S TH

**East Asia 4971. Guided Readings in Korean***Same as Korean 497.*

A&amp;S LA

**East Asia 4972. Advanced Seminar: The Japanese Empire in Asia, 1874–1945**

Credit 4 units.

A&amp;S TH FA SSP

**East Asia 498. Guided Readings in Chinese**  
*Same as Chinese 498.*

A&amp;S LA

**East Asia 4982. Advanced Seminar: Women and Confucian Culture in Early Modern East Asia***Same as History 4982.*

A&amp;S TH

**East Asia 499. Guided Readings in Japanese**  
*Same as Japan 499.*

A&amp;S LA

SB:&gt; BA

**East Asia 4996. Advanced Seminar: Islam in China***Same as History 4996.*

A&amp;S CD, TH

## Economics

### Chair

**Michele Boldrin**Joseph Gibson Hoyt Distinguished Professor  
in Arts & Sciences

Ph.D., University of Rochester

### Associate Chair

**John H. Nachbar**

Ph.D., Harvard University

### Endowed Professors

**Costas Azariadis**Edward Mallinckrodt Distinguished University  
Professor in Arts & SciencesDirector of Center for Dynamic Economics  
Ph.D., Carnegie-Mellon University**David K. Levine**John H. Biggs Distinguished Professor of  
Economics

Ph.D., Massachusetts Institute of Technology

**Douglass C. North**

Spencer T. Olin Professor in Arts &amp; Sciences

Ph.D., University of California–Berkeley

**Werner Ploberger**Thomas H. Eliot Distinguished Professor in  
Arts & Sciences

Ph.D., Vienna University of Technology

**Robert A. Pollak**Herrnreich Distinguished Professor of  
Economics

Ph.D., Massachusetts Institute of Technology

**Norman J. Schofield**William Taussig Professor of  
Political Economy

Litt.D., Liverpool University

**Ping Wang**

Seigle Family Professor

Ph.D., University of Rochester

**Murray L. Weidenbaum**

Edward Mallinckrodt Distinguished

University Professor

Ph.D., Princeton University

**Stephen Williamson**Robert S. Brookings Distinguished Professor  
in Arts & Sciences

Ph.D., University of Wisconsin

### Professors

**Lee K. Benham**

Ph.D., Stanford University

**Marcus Berliant**

Ph.D., University of California–Berkeley

**Steven Fazzari**

Ph.D., Stanford University

**Robert P. Parks**

Ph.D., Purdue University

**Bruce Petersen**

Ph.D., Harvard University

### Associate Professors

**Gaetano Antinolfi**

Ph.D., Cornell University

**Haluk Ergin**

Ph.D., Princeton University

**Sebastian Galiani**

Ph.D., University of Oxford

**Pamela Jakiela**

Ph.D., University of California–Berkeley

**Sukoo Kim**

Ph.D., University of California–Los Angeles

**James Morley**

Ph.D., University of Washington

**Juan Pantano**

Ph.D., University of California–Los Angeles

**Raul Santaaulalia-Llopis**

Ph.D., University of Pennsylvania

**Yongseok Shin**

Ph.D., Stanford University

### Assistant Professors

**Stephanie Lau**

Ph.D., Yale University

### Adjunct Professors

**Dorothy Petersen**

Academic Coordinator

Ph.D., Northwestern University

### Professors Emeriti

**David Felix**

Ph.D., University of California–Berkeley

**Edward Greenberg**

Ph.D., University of Wisconsin

**Charles L. Leven**

Ph.D., Northwestern University

**Wilhelm Neufeind**

Ph.D., Universität Bonn

**Fredric Q. Raines**

Ph.D., University of Wisconsin

The economics program explores the problems of a modern economy and introduces the analytical tools economists use. It emphasizes the development of analytical models and their application to important economic, social, and political issues such as inflation, unemployment, taxation, poverty, pollution, and government decision-making and regulation. Our faculty, which is made

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

up of leading teacher-scholars, includes specialists in economic history, game theory, microeconomics, industrial organization, macroeconomics and monetary economics, political economy, and public finance.

The study of economics contributes to a broad liberal arts education and helps you develop good problem-solving skills. It is an excellent course of study to pursue, whether you plan to enter the workforce after graduation or you are considering graduate work in law, engineering, or the social sciences. You may take advantage of special internships and participate in faculty research projects. Economics also provides excellent preparation for careers in business, either immediately following graduation or after graduate work in an M.B.A. program. In addition to the introductory and intermediate economic theory courses, courses that have particular relevance for business include: Econ 335, 413, 4151, 428, 451, 452, 456, and 487. Economics students with business interests should also strongly consider completing an internship (academic credit for unpaid internships is available via Econ 299) in their junior or senior year to obtain practical business experience and should discuss with their advisers the possibility of taking courses such as accounting in the Olin Business School.

**The Major:** Requirements include Econ 103B and 104B, Math 131 (or a more advanced calculus course), Math 2200 (or an alternative statistics course, which must be approved by the department), and a minimum of 18 advanced units in economics. Advanced units must include Econ 401 and 402, usually taken in the sophomore or junior year, and at least two additional advanced courses with a 401 or 402 prerequisite.

**The Minor:** To minor in economics, you must complete at least 15 units in economics, with at least 9 of those in advanced courses. The general minor must include both Econ 401 and 402. The applied micro minor must include Econ 401 and one course with a 401 prerequisite. The applied macro minor must include Econ 402 and one course with a 402 prerequisite.

**Senior Honors:** Students are invited by the department to participate in Senior Honors if they meet certain academic requirements. To graduate with Honors, you must either complete two additional 401/402 prerequisite electives or write an Honors thesis (via Econ 498/499).

More information on the major, the minor, course offerings, and the Honors Program are in the *Undergraduate Programs in Economics* brochure available from the department.

## Undergraduate Courses

### Econ 103B. Introduction to Political Economy: Microeconomics

Same as Praxis 103B, Lw St 103B, AMCS 103B. Determination of prices; distribution of national income; theory of production. For a thorough introduction to economics, Econ 104B should also be taken. Credit 3 units.

A&S QA, SS FA SSP

### Econ 104B. Introduction to Political Economy:

### Macroeconomics

Same as AMCS 104B, Lw St 104B, Praxis 104B. Business fluctuations: inflation, recession; monetary and fiscal policy; economic development. For a thorough introduction to economics, Econ 103B should also be taken. Credit 3 units.

A&S QA, SS FA SSP

### Econ 110. Introduction to Computing

Introduction to the fundamental tools for network computing including telnet, ftp, e-mail, news, and the World Wide Web (including the construction of web pages), and collaborative tools. Brief coverage of text editors, word processors, spreadsheets, databases, etc. Introduction is tailored to the needs of Arts & Sciences students. Prerequisite: None. Credit 3 units.

A&S SS FA SSP

### Econ 123. Introductory Research Seminar in Microeconomics

Exploration of principles of microeconomics in a seminar setting. Reading from primary sources by authors including Adam Smith, Thomas Schelling, and Kenneth Arrow. Internet exchanges of critiques and questions will take place prior to each class. Class will follow a question-and-answer format based on internet exchanges. Each student will produce and present a short research paper using economic concepts (including substitution, opportunity cost, market equilibrium). Paper topics address specific current economic questions such as: Are costs higher in poorer areas? Do injuries go up or down for university students with more restrictive alcohol policies? This course substitutes for Econ 103 for all major and minor requirements. Enrollment limited to 20 students. Credit 3 units.

A&S SS FA SSP

### Econ 124. Principles of Macroeconomics Seminar with Computing Applications

Introduction to macroeconomic principles including business fluctuations, monetary and fiscal policy, inflation, and international exchange rates. Students will use modern computing resources to complete various assignments such as retrieving price indices and constructing a web page. This course substitutes for Econ 104 for all major and minor requirements. Enrollment limited to 25 students. Credit 3 units.

A&S SS FA SSP

### Econ 205. Napster, AIDS, and Intellectual Property

Same as AMCS 2050.

Controversy surrounds the downloading of music over the internet, and the aggressive response of the Recording Industry Association of America (RIAA) to protect their copyrights. Included in this is the lawsuit against Grokster and the bringing of lawsuits against individual music lovers. Also controversial is the patent protection afforded AIDS drugs, resulting in such high prices that they are unavailable in Africa, the area most devastated by AIDS. Copyrights and patents are justified in the U.S. Constitution by Article I, Section 8: "The Congress shall have Power To ... promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." The goal of this seminar is to examine from an economic perspective to what extent modern intellectual property law does in fact "promote the Progress of Science and useful Arts." Credit 1 unit.

A&S SS

### Econ 207. Markets and American Society Seminar

Same as Focus 207A.

A&S SS

### Econ 2610. Principles of Financial Accounting

Same as Acct 2610.

### Econ 2620. Principles of Managerial Accounting

Same as Acct 2620.

### Econ 290. Sophomore Research Seminar

Seminar for sophomores to develop research skills in economics. Work will consist of an original research paper to be completed by the student by the end of the semester under supervision of the instructor. The paper may describe an economic problem and survey the relevant research literature, although original research is encouraged. Some group meetings may be scheduled but most of the contact will be in individual meetings by appointment with the instructor. Prerequisites: Econ 103 and 104, sophomore standing, and GPA of 3.0 or higher. Credit 3 units.

A&S SS

### Econ 299. Internship

Students may receive up to 3 units of credit for an approved, faculty-sponsored internship. The internship must be approved by the Career Center and supervised by a faculty member. Prerequisites: Econ 103B and 104B. Credit variable, maximum 3 units.

FA SSP

### Econ 305. Behavioral Economics

Behavioral economics incorporates insights from psychology into economics, with the goal of increasing the realism and accuracy of the standard economic models. Topics discussed include: risk and uncertainty; reference-dependent preferences; time discounting; time-inconsistent preferences and self control; fairness; properties of happiness and memory and the implication for behavior; neuroeconomics; and mental accounting. Prerequisite: Econ 103B. Credit 3 units.

### Econ 307. Markets and the American Society: Part II

Same as Focus 307.

A&S SS

### Econ 309W. Microeconomics of Public Policy

Same as AMCS 309W. We will explore the key public policy issues with particular focus on the prominent issues in the 2008 presidential campaign using the worldview of economists. In particular, we have selected six topics that are central to the presidential debates: immigration, health care, education, housing, energy, and the environment. We will identify and objectively analyze the problems surrounding each of the issues, including their causes, consequences, and measurement. The presidential candidates' positions will be delineated and examined with respect to their economic impacts. Prerequisite: Econ 103B. Credit 3 units.

A&S SS, WI

### Econ 3171. Economics of Sports

Same as AMCS 3170, Econ 317.

The economics of sports focuses on the business aspects of professional and intercollegiate sports in the United States. Questions posed and addressed in this course include: do the benefits of publicly subsidized stadiums justify their costs; how do the four major sports differ in terms of the structure of their labor markets; how far away are Division I schools from Title IX compliance; are sports-betting markets consistent with the theory of efficient markets; does the success of a school's intercollegiate sports program enhance alumni donations or the number of applications to that school; how can salary models be used to assist the determination of player value; how can attendance models be used to assist the marketing strategies of that team or school? Additionally, the students will be able to meet some key members of the St. Louis sports scene, and will have an op-

portunity to assist with creating an economic impact analysis on a local sporting event. Prerequisite: Econ 103B. Credit 3 units.

**A&S SS**

### Econ 326. American Economic History

*Same as AMCS 326, Lw St 326, ISA 326, History 3261.*

Basic theoretical concepts applied to analyze the changing structure and performance of the American economy from colonial times to the present. Prerequisites: Econ 103B and 104B. Credit 3 units.

**A&S SS FA SSP**

### Econ 335. Money and Banking

Money and the monetary system; money creation by the banking system; central bank functions; monetary theory and economic policy. Prerequisites: Econ 103B and Econ 104B. Credit 3 units.

**A&S SS FA SSP**

### Econ 337. Financial Intermediaries in the Market Economy

Financial intermediaries, like all financial institutions, channel funds from those who wish to save to those who need to borrow. Examples include commercial banks, savings and loans, mutual funds, and pension funds. At the micro level, these institutions expand opportunities by allowing savers to convert current income into future spending, and permitting borrowers to convert future income into current spending. At the macro level, they spur economic growth by acting as a channel through which savings can finance investment. However, savers can lend directly to firms, so intermediaries must serve other functions as well. This course analyzes in detail the opportunities and risks presented by financial intermediaries, the larger economic benefits of having both direct and indirect methods of lending, and the need for regulation. We also consider the implications for these institutions of changes in communications technology and the growth and globalization of capital markets. Credit 3 units.

### Econ 347W. Federalism and the Economics of Public Policy

*Same as AMCS 3472.*

The economic rationale for multiple tiers of government in the development, implementation, and financing of public policies. Begins with a historical overview of the political and legal dimensions of American federalism, then considers federalism and economic efficiency and the principles of fiscal federalism. The second half of the class examines particular policy areas in which there is significant involvement of federal government with state or local government. Possible topics include homeland security, health care, mass transportation, energy policy, education reform, welfare reform, and urban development. Students required to submit several short essays for discussion and revision. Enrollment limited to 15 students. Prerequisite: Econ 103B and Econ 104B. Credit 3 units.

**A&S SS, WI FA SSP**

### Econ 352. Health Economics

*Same as URST 352.*

Analysis of consumer demand for health care, medical technology, and the role of health insurance. Emphasis placed on behavior of the physician (whether he acts as an agent for the consumer or on his own behalf); on the use of paramedics, preventive care, outpatient care, and the general market organization of the health industry. The major concern will be the rising cost of health care and appropriate public policy responses. Prerequisite: Econ 103B. Credit 3 units.

**A&S SS FA SSP**

### Econ 353. The Economics of the Law

*Same as Lw St 353, ISA 353, Pol Econ 353.*

Course examines the principal findings of the

scholarly literature on the application of economics to law, including such topics as public regulation of the market; concepts of property rights in law and economics; the effect of property rights assignment on income distribution; negligence; no-fault insurance; deterrence and the economic theory of remedies; evidence on the deterrent effect of punishment; and the economics of organized crime. Emphasis will be primarily on the application of theory to specific legal issues. Prerequisite: Econ 103B or permission of instructor. Credit 3 units.

**A&S SS FA SSP**

### Econ 3531. Law and Economics

*Same as Econ 3531.*

### Econ 372. Political Economy of Development in Africa

The course explores poverty and economic development in sub-Saharan Africa. The first half of the course examines the causes of Africa's persistently slow growth and underdevelopment, focusing on the relative importance of geography, Africa's unique historical experience, and current political institutions. The second half of the course explores development issues of particular relevance in Africa, including democracy and political instability, civil conflict, HIV/AIDS, rural poverty, and food security. Prerequisite: Econ 103. Credit 3 units.

**A&S SS**

### Econ 390. Junior Research Seminar

Seminar for juniors to develop research skills.

Work will consist of an original research paper to be completed by the student by the end of the semester under supervision of the instructor. The research topic should apply economic theory and data analysis skills. Students are encouraged to collect original data where feasible. Some group meetings may be scheduled but most of the contact will be in individual meetings by appointment with the instructor. Registration in this course is encouraged for students considering senior honors work in economics. Note that this course does not satisfy economics major requirements. Prerequisites: Econ 401 and 402 (concurrent registration is acceptable), junior standing, and GPA of 3.3 or higher. Credit 3 units.

**A&S SS**

### Econ 401. Price Theory

*Same as Pol Econ 401.*

Analytic theory of consumer and producer behavior under perfect competition; determination of prices, wages, and allocation of resources. Extension to imperfect competition: monopoly, oligopoly, public goods. Required course for Economics majors. Thorough training in intermediate theory would require both Econ 401 and Econ 402. Prerequisites: Econ 103B and Math 131. Credit 3 units.

**A&S SS FA SSP**

### Econ 402. Income and Employment Theory

*Same as Pol Econ 402, URST 402.*

Analysis of forces that determine the general level of prices, output, and employment; relationship between economic growth and business fluctuations; policies for achieving full employment and price stability. Required course for Economics majors. Thorough training in intermediate theory would require both Econ 401 and Econ 402. Prerequisites: Econ 104B and Math 131. Credit 3 units.

**A&S SS FA SSP**

### Econ 4111. Optimization and Economic Theory

An introduction to mathematical optimization and its applications within economics. The course is designed for, and should be taken by, all undergraduates considering graduate study in economics, but all interested students are welcome. Pre-

requisites: Econ 401, Math 233, and Math 309 or permission of the instructor. Credit 3 units.

**A&S SS**

### Econ 413. Introduction to Econometrics

*Same as Pol Econ 413, ASTAT 413.*

Course provides a basic working knowledge of econometrics. Topics include: translation of economic theory into statistical models, statistical foundations of econometrics, pre-regression analysis, bivariate and multiple regression techniques, hypothesis testing, multicollinearity, specification error, auto correlation, errors in variables, identification, and simultaneous estimation. Prerequisites: Econ 103B, Econ 104B and Math 320 or equivalent. Credit 3 units.

**A&S SS FA SSP**

### Econ 4151. Applied Econometrics

Introduction to econometrics as it is applied in microeconomics and macroeconomics (modular). Emphasis is on hands-on implementation of the models covered in the course. Topics related to the analysis of microeconomic data include cross-section and panel data linear models and robust inference; instrumental variables estimation; simultaneous equation models; models for discrete choice; and truncation, censoring, and sample selection models. Topics related to the analysis of macroeconomic data include linear time series models; practical issues with likelihood-based inference; forecasting; structural identification based on timing restrictions; and computational methods for hypothesis testing. Prerequisites: Econ 401 and Econ 413. Credit 3 units.

**A&S SS**

### Econ 418. Mathematical Economics

Principal mathematical formulations used in economic analysis. Acquaints student with those aspects of economic theory typically formulated in mathematical terms. Prerequisites: Econ 401 and Math 132. Credit 3 units.

**A&S SS FA SSP**

### Econ 423. Western Economic History

*Same as IDEV 423, IAS 4231.*

A detailed discussion of the circumstances surrounding the industrialization of the Western world in the 18th and 19th centuries, with special attention given to Britain, France, and Germany. Various hypothesis regarding economic growth and development are examined in the light of the latest evidence and with the use of basic economic reasoning. Prerequisites: Econ 401 or Econ 103B and written permission of instructor. Credit 3 units.

**A&S SS FA SSP**

### Econ 426W. Comparative Systems in Theory and Practice

This class will focus on understanding and evaluating several theories of economic development, the implementation of these theories in various countries, and the consequences of those policies. The course will then provide a historical examination of the arguments for and against capitalism and for the alternatives. The focus will be on understanding and evaluating those arguments. We will look at the correspondence between what various writers asserted would happen and what actually happened. We will be reading Smith, Marx, Lenin, Hayek, Von Mises, Lange, Schumpeter, Schelling, Coase, and North among others. We will examine in some detail how economists over time have evaluated Soviet, Chinese, North Korean, and Singapore economic performance, and what the current evidence suggests actually happened. We will examine in less detail the modern forms of mercantilism, autarky, kleptocracy, despotism, fascism, and Nazi regimes. Prerequisite: Econ 401. Credit 3 units.

**A&S SS, WI**

**Econ 428. Capital Market Imperfections and Entrepreneurial Finance**

Analysis of problems in capital markets for firm financing and institutional structures that address these problems. Investigation of asymmetric information between firms and potential investors and associated moral hazard and adverse selection problems that raise the cost of funds and constrain firm growth. Empirical tests for the presence of financing constraints on firms. A substantial portion of the course explores the role of venture capital, especially in the high-tech sector of the United States economy where venture capital is important for commercializing cutting-edge science. Prerequisite: Econ 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 435. Open Economy Macroeconomics**

*Same as IAS 4352, Pol Econ 435.*

This course will begin with a review of international trade theory, of the balance of payment accounts and their relationship to international borrowing and lending. We will then study the asset approach to exchange rates determination, exchange rate behavior in the short and in the long run, and the relationship of exchange rates with prices and output. The course also will explore monetary and fiscal policy under both fixed and floating exchange rates, macroeconomic policy coordination and optimum currency areas, international debt problems of developing countries and their relation to stabilization program. Prerequisite: Econ 402. Credit 3 units.

**A&S SS FA SSP**

**Econ 440. Economics of Social Policy**

*Same as URST 440, Econ 440, Econ 4401.*

Economic analysis of employment and income problems of the poor; public policy responses. Topics: the distribution of income in the United States; economic and social causes of poverty; education; and technical change. Prerequisites: Econ 103B and 104B or permission of instructor. Credit 3 units.

**A&S SS FA SSP**

**Econ 444. Innovation and Intellectual Property: Theory and Practice**

Innovation—that is: figuring out better and cheaper ways of satisfying human desires—is the key to improving our well-being. It is not patient saving and accumulation that makes us so much better off than we used to be: capital accumulation is only the conduit through which the innovation juices flow. The question is what drives it? How come some societies are apparently much more innovative than others? How come we have the impression that most useful inventions took place in the past three centuries? Are there policies that help fostering innovation and others that hurt? The course tries to address these questions. Economists have many theories of innovation, and some better than others. We will look at the theories, we will examine the facts (past and present), then we will go back to the theories and reconsider their explanatory power. With this background, we approach the debate about Intellectual Property, what it is and what it is not good for, whose interests it serves, and whose well-being it thwarts. Prerequisite: Econ 401. Credit 3 units.

**A&S SS**

**Econ 445. Public Finance**

*Same as URST 445.*

The study of fundamental forms of market failure that provide the economic rationale for government action. The first third of the class examines market failure when an economy contains externalities and public goods and the general nature of public policies that address these issues. The second third addresses particular public policies, with a focus on their intended and unintended consequences and their costs. The final third addresses taxation. Topics include the measurement and

evaluation of tax burdens, the federal personal income tax, tax evasion, and proposals for fundamental tax reform. We use a small amount of microeconomic theory and elementary calculus (all of which we review) to reveal the common core of ideas behind these discussions, but the focus of the course is on applications. Prerequisite: Econ 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 448W. Current Macroeconomic Issues**

Review and extension of macroeconomic models from Econ 402 from a comparative perspective and use of these models to analyze current macroeconomic and policy issues. Topics include recession and recovery; long-term growth; saving and social security; investment; and monetary policy. Multiple writing assignments that emphasize critical analysis of theoretical perspectives and readings applied to current macroeconomic topics. Writing will be revised to improve logical structure, clarity, and style. Enrollment limited to 15 students with priority given to senior economics majors. Prerequisite: Econ 402. Credit 3 units.

**A&S SS, WI FA SSP**

**Econ 451. Environmental Policy**

*Same as Pol Econ 451, EnSt 451, AMCS 454, Econ 4511, IA 4512.*

Course will examine the relationship between environmental economics and environmental policy. The course will focus on air pollution, water pollution, and hazardous wastes, with some attention given to biodiversity and global climate change. The course will examine critically two prescriptions that economics usually endorses: (1) “balancing” of benefits against costs (e.g., benefit-cost analysis) and the use of risk analysis in evaluating policy alternatives; (2) use of market incentives (e.g., prices, taxes, or charges) or “property rights” instead of traditional command-and-control regulations to implement environmental policy. Prerequisite: Econ 103B. Credit 3 units.

**A&S SS FA SSP**

**Econ 452. Industrial Organization**

*Same as AMCS 4520, ISA 452.*

Theoretical and empirical analysis of the presence and value of competitive forces in the United States economy. Theories of industrial organization and development of criteria for performance of noncompetitive industries. Prerequisite: Econ 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 4551. Seminar in Political Economy**

*Same as Pol Sci 4551.*

**A&S SS**

**Econ 456. Business, Government, and the Public**

*Same as AMCS 4563, Pol Sci 4560.*

The increasingly complex interrelationships among business, government, and the public, focused on a set of major problems currently involving these relationships. Prerequisites: Econ 103B, 104B, and junior standing. Credit 3 units.

**A&S QA, SS FA SSP**

**Econ 458. The Theory of Property Rights**

*Same as Pol Econ 458, ISA 458, Lw St 458.*

Develops a theory of property rights and explores the implication of various property rights structures for resource allocation and economic development. Theory developed by Ronald Coase, Harold Demsetz, Armen Alchian, Steven Cheung, and others will be examined and various types of property rights discussed such as share-cropping, slavery, serfdom, as well as property rights in modern market and socialist economies. Prerequisite: Econ 401 or consent of instructor. *Please note:* Requests for online registration will be wait listed. Students must sign up for this course in the Economics Office. Credit 3 units.

**A&S SS FA SSP**

**Econ 460. Urban Economics**

*Same as AMCS 460, URST 460.*

Economic function of the city and the role of the city in a national economy. Local decision-making; financing of local government expenditures. An analysis of selected urban problems, such as causes and effects of housing market segregation; decay and abandonment, landlord-tenant relations, crime, and urban transport systems. Prerequisite: Econ 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 467. Game Theory**

*Same as Pol Econ 467, Lw St 467, IA 4670.*

Introduction to the mathematical theory of games as applied to the study of economics. Topics include games of complete and incomplete information, non-cooperative games with and without time dependency, and cooperative games with and without transferable utilities. Emphasis placed on game theoretic models of industrial organization and political economy. Prerequisites: Econ 401, Math 132 and Math 320. Credit 3 units.

**A&S SS FA SSP**

**Econ 471. Development Economics**

*Same as ISA 471.*

Investigation of issues related to the development of the economies of third-world countries. Topics include economic growth, poverty, and the distribution of income with an emphasis on labor markets and education. Consideration of the effectiveness of various institutional policies designed to encourage development including decentralization and privatization. Empirical examples drawn from international experience, especially Latin America. Prerequisite: Economics 401 and Econ 413. Credit 3 units.

**A&S SS**

**Econ 475. International Trade**

*Same as IAS 4753.*

Analysis of international trade from different perspectives: Ricardian, Heckscher-Ohlin, and new trade theories. Topics include patterns of trade, gains from trade, protectionism, international factor movements, political economy of trade policy, balance of payments, exchange-rate determination, and international investment. Rigorous application of price theory to trade issues and in-depth discussion of current international policy questions. Prerequisite: Econ 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 480. Labor Economics**

Economic analysis of labor markets. Theory and evidence on supply of and demand for labor, explanation of wage and income differentials; impact of education on human skills and productivity. Prerequisite: Econ 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 485. Labor-Management Relations in Modern Economies**

*Same as Lw St 485.*

Analysis of some major and puzzling problems of modern industrial economies, in particular the United States economy, such as the growing earnings inequality, increased use of contingent workers and outsourcing, and the altered role of training. Further, presentation and critique of an alternative paradigm to conventional theories of firm behavior: the theory of the stakeholder corporation, which purports to explain labor-management relations and provide a normative basis for them; evidence from several countries and labor market structures will be drawn upon. Prerequisites: Econ 104B and 401. Credit 3 units.

**A&S SS FA SSP**

**Econ 4861. Seminar in Macro and Monetary Economics**

Topics chosen by instructor from modern empirical and theoretical research papers in macroeco-

nomics. Student participation in class discussions of research papers is essential. Topics vary, but may include the link between capital markets, consumption and investment; imperfect competition and macroeconomic fluctuations; real business cycles models; and post-Keynesian macroeconomics. Prerequisites: Econ 401, 402, 413, and permission of instructor. Credit 3 units.

**A&S SS**

#### **Econ 487. Applied Financial Modeling**

Topics in financial economics, including portfolio theory, the capital asset pricing model, the efficient markets hypothesis, and models of time-varying market volatility, with an emphasis on empirical applications of theoretical concepts using Microsoft Excel. Cultivation of practical programming skills is designed to complement application of economic theory to financial markets. Prerequisite: Econ 401 and 413. Credit 3 units.

**A&S SS FA SSP**

#### **Econ 488. Seminar in Political Economy**

Credit 3 units.

**A&S SS FA SSP**

#### **Econ 490. Independent Work**

Prerequisites: senior standing and permission of the chair of the department. Credit to be determined; maximum 6 units.

**FA SSP**

#### **Econ 4901. Research Experience in Institutional Analysis**

After completing two courses in the minor in Institutional Social Analysis, students may apply to participate in a research program with the participation of the faculty supervisor. Students will be chosen on the basis of their academic record and the appropriateness of the research project. Up to 10 students will be selected each year. Students will be expected to devote at least 10 hours per week on research, and participate in a Research Experiences for Undergraduates conference to be held each semester. Prerequisites: approval of faculty adviser and coordinator of program. Credit 3 units.

#### **Econ 496. Teaching Practicum in Economics**

Opportunity for undergraduates to assist in course instruction, tutoring, and preparation of problems, readings, and exam materials under supervision of faculty. *Note:* This course does not count toward the major in economics. Credit variable, maximum 3 units.

**A&S SS FA SSP**

#### **Econ 497. Research in Economics**

Opportunity to work as part of a research project under faculty supervision. This course does not count toward the major in economics. May be repeated for credit. Credit variable, maximum 3 units.

**A&S SS FA SSP**

#### **Econ 498. Honors Seminar**

Advanced application of economic theory to policy problems. Prerequisite: invitation into departmental Honors Program. Credit 5 units.

**A&S SS FA SSP**

#### **Econ 499. Study for Honors**

Independent reading and research under faculty direction leading to a senior honors thesis. Prerequisites: invitation into the departmental Honors Program and permission of the director of Undergraduate Studies. Credit 5 units.

**A&S SS FA SSP**

## Education

### Chair

#### **William F. Tate**

Edward Mallinckrodt Distinguished University Professor in Arts & Sciences Ph.D., University of Maryland, College Park

### Professors

#### **Carol Camp Yeakey**

Ph.D., Northwestern University

### Associate Professors

#### **Thomas W. Allen**

Ed.D., Harvard University

#### **Garrett A. Duncan**

Ph.D., The Claremont Graduate School

#### **Mary Ann Dzuback**

Ph.D., Columbia University

#### **R. Keith Sawyer**

Ph.D., University of Chicago

### Assistant Professors

#### **Rowhea Elmesky**

Ph.D., Florida State University

#### **Anne Newman**

Ph.D., Stanford University

### Senior Lecturers

#### **Judy Lamb**

M.A. Ed., Washington University

#### **Madonna Riesenmy**

Ph.D., Washington University

### Affiliate Faculty

#### **John Baugh**

Margaret Bush Wilson Professor in Arts & Sciences

Ph.D., University of Pennsylvania

#### **William W. Clark**

Ph.D., University of Michigan

#### **Sarah C.R. Elgin**

Viktor Hamburger Professor in Arts & Sciences

Ph.D., California Institute of Technology

#### **Patrick C. Gibbons**

Ph.D., Harvard University

#### **Robert H. Koff**

Ph.D., University of Chicago

#### **Mark A. McDaniel**

Ph.D., University of Colorado

#### **Rebecca Treiman**

Baker Professor of Child Developmental Psychology

Ph.D., University of Pennsylvania

#### **James V. Wertsch**

Marshall S. Snow Professor in Arts & Sciences

Ph.D., University of Chicago

The Department of Education offers you a choice between two basic types of majors: the teacher education major, which allows you to prepare for a career as a teacher, and the educational studies major, which allows you to study educational institutions and

their sociocultural contexts and processes.

Our teacher education programs prepare you to teach in your choice of elementary, middle, or senior high school settings. While this major prepares you for a teaching career, you also will be prepared to seek a position in a cultural institution or educational agency.

Our teacher education majors provide you with course work in the psychological bases of learning and teaching; the social and historical background of school systems; and teaching methodology, which includes student teaching. Student teaching is done during your senior year as part of an integrated professional semester of interrelated courses and teaching experiences in a local school. You also will have other opportunities to participate in field experiences because school visits and observations are included in many additional teacher education courses.

Our major in educational studies examines the historical, social, cultural, psychological, and public policy aspects of education. As an educational studies major, you may choose to observe in schools, to engage in internships, or to work with faculty members on their research. Many educational studies majors pursue graduate or professional study; however, this major also prepares you to work in educational, nonprofit, or government agencies.

**Senior Honors:** If you wish to pursue Honors study, you need to contact the departmental Honors Coordinator about eligibility. Qualifications for eligibility include a minimum 3.5 grade point average and completion of some education course work. Honors study involves both demonstration of acquired knowledge and a thesis based on an original research project. You may contact a faculty Honors adviser as early as the sophomore year, but ideally this is done during the junior year.

**Title II:** Section 207 of Title II of the Higher Education Act mandates that Washington University's teacher education programs (or DOE) make public specific teacher education performance data. That information can be found on the Department of Education web site at [www.artsci.wustl.edu/~educ/titleII.html](http://www.artsci.wustl.edu/~educ/titleII.html).

You should seek admission to a teacher preparation program early in your sophomore year. To be eligible you must pass an entrance examination mandated by Missouri and have at least a 2.8 grade point average. In addition, you should consult with an education department adviser as early as possible to ensure that you fulfill College of Arts & Sciences, departmental, and professional requirements for certification. Upon completion of your program, a satisfactory records check, and the recommendation of the Washington University Department of Education, the Missouri Department of Elementary and Secondary Education issues you a teaching certificate if you have passed the relevant parts of the PRAXIS teaching exit test and have an overall grade point average of at least 2.5 and no grade lower than C in required field or education course work. Addi-

tional grade point average requirements exist for secondary majors and the middle school teacher education option. The following teacher education majors are available:

**Elementary Teacher Education Major:** This major prepares you to teach grades 1 through 6 and may be completed within a four-year undergraduate degree. You are required to complete a second major other than education and complete the following Education courses: 3 credits in Educational foundations (Educ 301, 453B, 459F or 481), Educ 313B, 4052, 408, 4681, 470, 4831 and 4911 as well as Math 266 and the methods block — Educ 4731, 4741, 4751, 4771, 4841, and 525. During the spring of the junior year, you must enroll in the methods block. Elementary student teaching (Educ 4911) occurs during the fall of your senior year, during which you concurrently enroll in Educ 470 and 4831.

**Secondary Teacher Education Major:** This major prepares you to teach in a senior high school, grades 9 through 12. You are required to complete a major in a teaching field, such as English, mathematics, sciences, or social studies and to maintain a 3.0 grade point average in that content major. In addition, you are required to take the following Education courses: 3 credits of Educational foundations (Educ 301, 453B, 459F or 481), Educ 4052, 408, 4821, 4843, your content area's curriculum and instruction course, Educ 492, and 5681. This course work includes a semester of student teaching (Educ 492) during the spring of your senior year during which you concurrently enroll in Educ 4821.

**K–12 Teacher Education Major:** This major prepares you to teach K–12 in the areas of art, foreign languages, and Latin. You are required to complete a major in your teaching field and to maintain a 3.0 grade point average in that content major. In addition, you are required to take the following Education courses: 3 credits of Educational foundations (Educ 301, 453B, 459F or 481), Educ 4052, 408, 4821, 4843, your content area's curriculum and instruction course, Educ 494, and 5681. This course work includes a semester of student teaching (Educ 494) during the spring of your senior year during which you concurrently enroll in Educ 4821.

**Middle School Teacher Education Option:** This option prepares you to teach in middle school grades 5 through 9. You must major in a subject field taught at the middle school level (English, science, mathematics, or social studies) and maintain a 3.0 grade point average in that content field. In addition, you are required to take the following Education courses: 3 credits of Educational foundations (Educ 301, 453B, 459F or 481), Educ 325, 4052, 408, 4451, 4681, 4821 and 4843, your content area's curriculum and instruction course, Educ 4922, 4951, 4952, and 5681. This course work includes a semester of student teaching during your senior year. The middle school teacher education option may be done in conjunction with the secondary major (all requirements for both must be met including student teaching

at both levels). Students who choose middle school will student teach in the spring of their senior year. Some education course work will be taken concurrently with student teaching, but that course work will vary depending upon the option selected.

**Educational Studies Major:** This major applies the perspectives and methods of various disciplines to questions about educational institutions and processes and the social and cultural factors that affect them. You are required to complete 24 units of advanced study as follows: three courses selected from Educ 304, 4344, 453B, 459F, 462, and 481; one or two courses selected from Educ 300, 337, 4052, 408, 4484, 461BP, and 5122; one or two courses selected from Educ 300, 301C, 303R, 313B, 4288, 4315, 4511P, 4608P, 4621, 489, 557; one elective; and in the senior year either 404 (Honors) or 4999 (Capstone Seminar). Educational studies majors are strongly urged to choose a second major. To minor in educational studies, you must complete 15 units of advanced study, including Educ 301C, 313B, and 12 units from a selected list of courses.

## Undergraduate Courses

### Educ 200. Topics in Education

Introduction to broad areas of educational concern. Topics vary by semester. Credit 3 units.

**A&S SS FA** SSP

### Educ 204. Introduction to the Learning Sciences

This course is an introduction to the science of how people learn. Research in the learning sciences explores learning across diverse educational contexts, including formal settings such as classrooms and informal settings such as after-school programs, families, and social science disciplines. Many learning scientists are using advanced information technology to develop multimedia and Internet-based learning environments. Students will learn about foundational theoretical approaches, empirical research, and new learning environments that are based on this research. Credit 3 units.

**A&S SS**

### Educ 234. Introduction to Speech and Hearing Disorders

*Same as Psych 234, Ling 234, Sphr 234, PACS 234.*

Introduction to the fields of speech-language pathology, audiology, education of hearing-impaired children, and speech and hearing sciences. Normal speech and hearing processes are discussed, as well as communication disorders. Selected research topics in speech and hearing sciences are presented. Credit 3 units.

### Educ 300. Topics in Education

An examination and appraisal of major educational issues, drawing on normative frameworks, empirical research, and analytical literature. Seminar format. Topics vary by semester. Prerequisite: sophomore standing. Credit 3 units.

**A&S SS FA** SSP

### Educ 301C. The American School

*Same as Educ 4301, History 382C, CFH 301C, AMCS 301C, Educ 301C.*

An analysis of the development of American schooling within the context of American social history. Focus on three general themes: differing conceptions of schooling held by leading American educational thinkers, changing relationships among schools and such other educational institu-

tions as the church and the family, policy issues that have shaped the development of schooling in America. Prerequisite: sophomore standing. Credit 3 units.

**A&S SD, TH FA** SSP

### Educ 303. Gender and Education

*Same as AMCS 3031, WGSS 303.*

An examination, through the lens of gender, of educational practices at the preprimary, primary, secondary, and higher education levels. A sociological and historical approach links gender discrimination in education to other forms of discrimination as well as social forces. Students' own gender-related educational experiences are analyzed in the context of the literature used in the course. Prerequisite: sophomore standing or permission of instructor. Credit 3 units.

**A&S SD, SS FA** SSP

### Educ 304. Educational Psychology

*Same as Psych 304.*

A course in psychological concepts relevant to education. Organized around four basic issues: how humans think and learn; how children, adolescents, and adults differ in their cognitive and moral development; the sense in which motivation and intention explain why people act as they do; how such key human characteristics as intelligence, motivation, and academic achievement can be measured. Prerequisite: sophomore standing. Offered fall and spring semester. Credit 3 units.

**A&S SS FA** SSP

### Educ 306. Literacy Education in the Context of Human Rights and Global Justice

*Same as AMCS 3061, AFAS 3061, Ling 3061, Pol Sci 3060.*

Literacy is a fundamental human right. In this course, we will explore the current and historical relationships between literacy and human rights. This will include an analysis of the ways in which literacy education is fundamentally linked to issues of global justice including political engagement and voting rights, environmental sustainability, gender and racial equality, and participation in the globalized economy. We will investigate how literacy education has played a role in social struggles at local, national, and international levels such as the creation of the Freedom Schools in St. Louis, the Native American boarding school movement, the Civil Rights movement in the United States including the creation of the Citizenship schools; the Ebonics debate in Oakland, California; the Nicaragua Literacy Campaign; and the current No Child Left Behind federal educational policy. Students will explore how literacy education has been used, in each of these cases, as a tool of empowerment and a tool of oppression. Credit 3 units.

**A&S SS**

### Educ 313B. Education, Childhood, and Society

*Same as CFH 313A, AMCS 3130.*

An examination of childhood, child development, and education from different perspectives. Observation of children in a variety of settings, including classrooms. Through historical, sociological, psychological, and political readings, students will clarify current ideas about children, investigate the nature of childhood, and begin to understand how and why childhood is constructed as it is. Prerequisite: sophomore standing. Limited to 45 students. Credit 3 units.

**A&S SS FA** SSP

### Educ 314. Sociolinguistics, Literacies, and Communities

*Same as Ling 314.*

The well-known "literacy crisis" has forced scholars from many nations to turn their attention to learning about linguistic, cultural, and class diversity of students and what this means for learning in schools. In this course, we will engage with the

perceived disjuncture between homes, communities, and schools in an era of higher literacy standards, local literacies, and community knowledge. We will examine the contribution of sociolinguistics to what we know about language and literacy education, achievement, and how this relates to social transformation within and across communities. Students can expect theoretical and methodological conversations as we use critical discourse theories, systemic linguistic approaches, and empowerment theories as lenses to formulate, challenge and critique the existing status of language and literacy education. Credit 3 units.

**A&S LA**

### **Educ 315. Cognitive Bases of Peak Performance I**

An examination and appraisal of major educational issues, drawing on normative frameworks, empirical research, and analytical literature. Seminar format. Topics vary by semester. Prerequisite: sophomore standing. Credit 3 units.

**A&S SS**

### **Educ 325. Psychology of Adolescence** *Same as Psych 325.*

**A&S SS FA SSP**

### **Educ 337. Play and Development** *Same as PNP 323, Psych 323.*

An examination of current research and theory in play, development, and education, from infancy through the early school years. Topics include play and the development of language, social skills, creativity, and cognitive abilities. We also will examine the uses of play in educational contexts, focusing on preschool and the early primary grades. Prerequisite: Psych 321 (Developmental Psychology) or Educ 304 (Educational Psychology). Credit 3 units.

**A&S SS**

### **Educ 338. Computer Technology in Education**

Technology has become increasingly important in education in the past 10 years. Many exciting new software applications have been developed by scholars in the learning sciences, an interdisciplinary field based in cognitive psychology. Many of these systems draw on the power of the Internet to support online student collaboration in inquiry-based and project-based learning. This course will introduce students to computer technology in education. No prior knowledge of computer programming or software design is required. A major goal of the course is to teach students the basic concepts behind computer programming and design. Toward this end, a significant portion of the course involves laboratory work where students will solve programming assignments. This basic knowledge will allow students to acquire a deeper understanding of the different possible approaches to developing computer applications that are based on learning sciences research. This course requires a special classroom in which each student has his or her own computer during the class. Enrollment will be limited to the number of students that can be supported by this classroom. Credit 3 units.

**A&S SS**

### **Educ 343. Text, Memory, and Identity**

*Same as IAS 343.*

**A&S TH**

### **Educ 358. Language Acquisition**

*Same as Psych 358.*

**A&S SS FA SSP**

### **Educ 366. Psychology of Creativity**

*Same as PNP 3661, Psych 366.*

This course is an introduction to the psychological study of art and creativity. Our topics include the artist, the audience, the artistic product, the creative process, and social, cultural, and institutional influences on the creative process. We will explore these issues by considering a range of creative

fields, including painting, literature, music, and theater performance. Throughout the semester, we will take a developmental perspective on psychology and art. How do children learn to create, perceive, and understand different art forms? What role can the arts play in education? To ground our study of the psychology of art, we will explore what "art" is, which members of society are labeled "artists," and how these categories are socially and culturally defined. Prerequisite: Educ 304 (Educational Psychology). Psych 325 (Psychology of Adolescence) or Psych 321 (Developmental Psychology). Credit 3 units.

**A&S SS FA SSP**

### **Educ 400. Topics in Education:**

An analysis of major educational issues, drawing on empirical research and literature. Seminar format. Topics vary by semester. Credit 3 units.

**A&S SS FA SSP**

### **Educ 4011. Independent Study: Observation in the Schools**

Credit variable, maximum 3 units.

### **Educ 4033. Video Microanalysis: Methods and Tools**

The purpose of this course is to explore video microanalysis as a methodological tool for studying and valuing unconscious aspects of culturally diverse settings. Utilizing social cultural theoretical lens, this type of analysis will reveal fleeting actions, subtle movements, peripheral events, and nonverbal communication that are not easily identified in real time viewing. Specifically we may look at facial expressions, direction of gaze, hand movements, body position, and use of material resources as micro techniques to expand our capacity to explore minute aspects and alternative interpretations of social interactions. Credit 3 units.

**A&S SD, SS**

### **Educ 404. Study for Honors**

A research program arranged by the student and a faculty member. Prerequisite: recommendation for Honors study. Credit 3 units.

**A&S SS FA SSP**

### **Educ 4052. Educational Psychology: A Focus on Teaching and Learning**

*Same as Educ 4052.*

The classroom as a physical, social, and intellectual environment. Selected psychological concepts and theories are applied to processes and practices of teaching and learning through readings, discussions, and participation/observation in preschools and elementary and secondary schools. A systematic, firsthand look at schooling in America both for prospective teachers and those interested in furthering their understanding of fundamental principles of teaching and learning. Prerequisite: sophomore standing. Must enroll in fieldwork laboratory (5 hours per week). Credit 4 units.

**A&S SS FA SSP**

### **Educ 4055. Central Topics in Learning Sciences Research**

The learning sciences are a group of disciplinary approaches to the study of learning, including cognitive science, education, psychology, anthropology, and sociology. The core of the approach is based in the study of cognition and its relationship to the disciplines of science, mathematics, and literacy. Technology has become increasingly important in the past 10 years, as computer-supported collaborative learning (CSCL) software has grown in sophistication and effectiveness. The learning sciences have contributed interesting new methodologies for studying and documenting how learning occurs in real-world settings. In this course, we review the broad range of research currently taking place in the learning sciences, including methodologies for studying learning, computer software that supports both solitary and collaborative learning, the impact of new technologies on

educational practice, and the impact of learning sciences research on teacher professional development and schoolwide reform. Students will acquire the ability to think creatively and critically about the learning sciences and to critically evaluate the strengths and weaknesses of specific classroom approaches and software applications. Credit 3 units.

**A&S SS**

### **Educ 407. Curriculum and Instruction in Modern Foreign Languages**

*Same as Educ 407.*

Modern foreign language curriculum in the secondary schools, with emphasis on the selection, organization, and appraisal of materials. Analysis of methods of instruction and evaluation in teaching modern foreign languages. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the fall semester in which student teaching is done. Credit 3 units.

**A&S LA FA SSP**

### **Educ 408. Education and Psychology of Exceptional Children**

*Same as Educ 408.*

Major handicaps of children that require educational modifications. The nature of the handicaps, their known causes, and educational provisions for exceptional children, ranging from special schools to "mainstreaming" children into regular classrooms. The nature of giftedness, together with current practices of educating gifted children and youth. Required in teacher certification program. Prerequisite: sophomore standing. Offered fall and spring semesters. Credit 3 units.

**A&S SS FA SSP**

### **Educ 4111. Curriculum and Instruction in Modern Foreign Languages: Linguistics and Language Learning**

*Same as Span 413.*

**A&S LA FA SSP**

### **Educ 413. Curriculum and Instruction in Art K-12**

*Same as Educ 413.*

Art curriculum in the public schools, with emphasis on examination of methods and materials for teaching art. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the year in which student teaching is done. Offered fall semester. Credit 3 units.

**A&S LA FA SSP**

### **Educ 414. Curriculum and Instruction in English**

*Same as Educ 414.*

English curriculum in the secondary school; emphasis on the selection and organization of materials. Analysis of methods of instruction and evaluation in teaching literature and language. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the year in which student teaching is done. Offered fall semester. Credit 3 units.

**A&S LA FA SSP**

### **Educ 415. Curriculum and Instruction in Science**

*Same as Educ 415.*

Secondary school science curriculum and instructional methods, including evaluation of curricular materials and student performance based on specific teaching objectives. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the fall semester during the year in which student teaching is done. Offered fall semester. Credit 3 units.

**A&S NS FA SSP**

**Educ 417. Curriculum and Instruction in Mathematics***Same as Educ 417.*

Mathematics curriculum in the secondary school, with emphasis on modern developments in organization of mathematics. Analysis of methods of instruction and evaluation in teaching mathematics. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the fall semester during the year in which student teaching is done. Credit 3 units.

**A&S NS FA SSP****Educ 418. Curriculum and Instruction in Social Studies***Same as Educ 418.*

Goals of general education in social studies and their relationship to the nature of knowledge in the social sciences. Introduction to the nature of thinking and its relationship to pedagogy and teaching materials. Prerequisite: admission to teacher education program. Secondary teacher education majors are required to take 3 credit hours during the year in which student teaching is done. Credit 3 units.

**A&S SS FA SSP****Educ 4210. Developing Community-Based Documentaries: Video Inquiry for Educators***Same as Educ 4210.***Educ 4271. Health of the Child**

A study of the health and nutrition of children. Prerequisites: admission to the teacher education program or permission of Director of Teacher Education. Credit 1 unit.

**A&S SS FA SSP****Educ 428. History of Education in the United States**

Credit 3 units.

**A&S SS****Educ 4280. History of Urban Schooling in the United States***Same as AMCS 4280, CFH 4280, History 4280, URST 4280.*

This reading colloquium examines the history of urban schooling and school policy in the United States. Readings focus on the growing literature in the history of urban schooling and on primary source material. We explore urban schooling in general and we examine particular primary source material. We explore urban schooling in general and we examine particular cities and their school districts. Such districts may include New York, Boston, Chicago, Detroit, St. Louis, Los Angeles, San Francisco, Atlanta, and others. The course has two goals: to develop a strong contextual understanding of the conditions of urban schooling, the history of urban school reform, and the debates over the purposes of urban schools and to examine the ways historians have explored urban schooling in the U.S. Students should expect to read a book a week as well as primary source materials and occasional articles. Credit 3 units.

**A&S TH****Educ 4288. Higher Education in American Culture***Same as History 4288, AMCS 4288.*

Colleges and universities in the United States have been the sites of both cultural conservation and political and cultural subversion from their founding in the 17th and 18th centuries. They have been integral to the national and regional cultural and economic development. In addition, they have functioned as one component of an increasingly diversified and complex system of education. This course, a reading colloquium, surveys higher education in American history, including the ideas that have contributed to shaping that history, beginning with its origins in European institutional

models. We use primary and secondary readings to examine critically its conflict-ridden institutional transformation from exclusively serving the elite to increasingly serving the masses. We explore the cultural sources of ideas as well as the growth and diversification of institutions, generations of students and faculty as they changed over time, and curricular evolutions and revolutions in relation to the larger social and cultural contexts of institutional expansion. Credit 3 units.

**A&S TH FA SSP****Educ 4289. Neighborhoods, Schools, and Social Inequality***Same as AMCS 4289, URST 4289.*

A major purpose of the course is to study the research and policy literature related to neighborhoods, schools and the corresponding opportunity structure in urban America. The course will be informed by theoretical models drawn from economics, political science, sociology, anthropology, education, and law. A major focus is to gain greater understanding of the experiences and opportunity structure(s) of urban dwellers in general and urban youth in particular. While major emphasis will be placed on data derived from the interface of urban environments and the corresponding institutions within them, the generational experiences of various ethnic groups will complement the course foci. Credit 3 units.

**A&S SS****Educ 4301. Historical Social Content of the American School***Same as Educ 301C.***A&S SD, TH FA SSP****Educ 4312. Tools of Inquiry***Same as Educ 4312.*

This course offers an introduction to teacher inquiry and provides a foundation of skills, knowledge, and performances that effective teachers use to monitor and improve practice. In this course, teachers will be involved actively in their own teaching and learning with an emphasis on the following: (1) Reflective practice: reflective practitioners continually evaluate the effects of their choices and actions on others (e.g., students, parents, and other professionals in the learning community) and actively seek out opportunities to improve practice and grow professionally. (2) Use of technology: teacher leaders model the use of media and technology as tools of inquiry. This course will support teachers in doing the following: use multiple sources of data to assess the growth of individual learners; use assessment data to adjust curriculum and instruction to student needs; investigate their own biases, assumptions, and ideologies and monitor the effects on student learning; conduct research in the classroom to assist them in improving their practice; and use portfolios and other reflective practices to document and monitor their professional development. Offered spring semester. Credit 3 units.

**A&S SS****Educ 4315. Culture, Language, and the Education of Black Students***Same as AMCS 4315, AMCS 4315, AFAS 433, PNP 4315, Ling 4315, URST 4315.*

This course examines the communicative patterns of what is called variously African-American language, Pan-African linguistic systems, and Ebonics within the context of public school policy and practice. In addition to a review of the structural and pragmatic aspects of Black speech, the course highlights relationships between controversies within the linguistic community, contrasting views of speech within Black lay communities, public discourse, and educational policy. Students also will conduct a field-based research project in accord with their particular interests. Credit 3 units.

**A&S CD, SS FA SSP****Educ 4344. Seminar in Black Social Sciences***Same as AFAS 434B.***A&S SD, SS FA SSP****Educ 434B. Seminar in Black Social Sciences***Same as AFAS 434B.***A&S SD, SS FA SSP****Educ 4351. Reading and Reading Development***Same as Psych 4351.***A&S SS****Educ 440. Women in the History of Higher Education and the Professions***Same as History 4920, WGSS 440, AMCS 4908.*

An advanced seminar with readings exploring education, historical studies, and feminist theory. Each student writes a paper, based on research in local archives and in other primary sources, on a topic related to women in higher education and/or professions. Prerequisites: junior standing or above; some background in American history. Credit 3 units.

**A&S SD, TH FA SSP****Educ 4413. Project Design for Math and Science Education**

A course for those students who have an interest in teaching or educational design: This graduate/advanced-undergraduate course focuses on the design and construction of educational projects for schoolchildren in the middle and high school levels of mathematics and science. Students in the course, in small group collaborations, will conduct an entire cycle of design, implementation, and evaluation of a small math or science project (or both) for local middle or high school students. Projects will be aligned with state and national standards, so they could be used in Missouri public schools. Creativity is encouraged! The class will include four phases of work throughout the semester: (1) Ongoing reading and discussion of the national and state standards for math and science instruction, and of research literature on inquiry in science and math education; (2) design of project activities, materials, and assessments, including specification of content, pedagogical, and technology goals and alignment with standards; (3) conduct of the teaching projects at selected sites with middle school or high school students; (4) evaluation of projects in a final presentation and report. Students in science, mathematics, psychology, and education with interests in teaching, educational research, or educational outreach are encouraged to attend. Credit 3 units.

**A&S SS****Educ 4414. Learning Technologies for Math and Science***Same as Educ 4414.*

What does the integration of electronic technology into classrooms, projects, and informal settings mean for the development of our students' understanding of mathematics and science? What implications does it have for our own content understanding and for how we lead our students in the classroom? Can we really integrate information technology into the classroom in ways that truly enhance student inquiry and reasoning? This course focuses on the function, design, use, and effectiveness of electronic technology in mathematics and science education, and, in particular, how it interacts with content and classroom practice. A primary perspective in the course will be the ways in which electronic tools can be used to promote understanding and interpretation of data and quantitative thinking as springboards to inquiry, modeling, and the doing of "authentic science." Participants learn several software applications and computer-based curricula and read current research on the implications for the learning sciences of technology and modeling in science and math. Content emphasis is from middle and

high school science and mathematics, and accessible to all teachers of science and math. In-service teachers, graduate students, and advanced undergraduates in education, mathematics, science, and psychology are invited. Credit 3 units.

**A&S SS**

#### **Educ 4415. Learning Sciences in Math and Science**

This course will introduce the concepts of the learning sciences as related to mathematics, science, and technology education. The focus of the course will be on how students learn fundamental concepts selected each semester from topics such as number, space, shape, data, operations, functions, rate, balance, density, etc. and how their ideas evolve and develop over time. The inventiveness of children's thinking and the sophistication of their interactions will be shown as rich resources, often underutilized in typical classroom instruction. The developmental and epistemological theories of scholars such as Jean Piaget and the von Hiele will be contrasted with sociocultural and linguistic approaches such as of Lev Vygotsky and Sylvia Scribner and Michael Cole, and the pragmatic theories of John Dewey. Topics will include studies of error patterns, misconceptions, alternative conceptions in mathematics and science and how these relate to outside experience, student interactions and discourse patterns using excerpts from real classrooms. Students will be expected to read original works, learn to analyze video interviews from each perspective, and to read and summarize existing literature on children's reasoning for specific topics. The course is targeted toward upper-division undergraduates, master's and doctoral students in education, psychology and/or mathematics and science, and adjusted to meet these various levels of preparation. Credit 3 units.

**A&S SS**

#### **Educ 4451. Teaching Writing in School Settings** *Same as Educ 4451.*

Writing teachers often know how to write well but less about the teaching of writing. To provide effective instruction in writing, teachers need, first of all, experiences with writing instruction and theoretical knowledge to guide classroom practices. The goals of this course are as follows: to provide opportunities for all teachers of English and language arts, to develop theoretical knowledge and skill as teachers of writing, to connect the practices of research and teaching, to encourage teachers to give their students multiple and varied experiences with writing, to assist teachers in learning to respond to students' writing and assess their progress as writers. Offered spring semester. Credit 3 units.

**A&S SS**

#### **Educ 4511. Race, Ethnicity, and Culture: Qualitative Inquiries in Urban Education**

*Same as AFAS 4511.*

**A&S SD, SS**

#### **Educ 4512. Race, Ethnicity, and Culture: Qualitative Inquiries into Urban Education II**

*Same as AFAS 4512.*

This course is the second of two to examine ethnographic research at the intersecting and overlapping points of race, ethnicity, class, gender, and culture. The emphasis in this course is on developing methodology that is consistent with critically grounded, socially responsible, culturally responsive, and humane research projects and programs. Secondary English education majors are required to take fall semester during the year in which student teaching is done. Prerequisite: AFAS/Educ 4511 and/or permission of the instructor. Credit 3 units.

**A&S SS, WI FA SSP**

#### **Educ 453B. Sociology of Education**

How does society shape schools and schools

shape society? An examination of cultural, political, and economic factors and their relationship to the structure of our educational institutions; how control is exercised in classrooms; how knowledge and learning are defined, and basic values about equality, gender, and social justice are shaped by teachers' educational decisions. Students analyze their own schooling experience, visit at least two schools, interview teachers and students, and consider what changes are needed to make schools more responsive to students and communities. Prerequisite: sophomore standing. Credit 3 units.

**A&S SD, SS FA SSP**

#### **Educ 459F. Philosophies of Education**

*Same as AMCS 459, Educ 459, AMCS 459F.*

An examination of distinct educational philosophies (traditional, progressive, and radical) and an analysis of perennial topics in the philosophy of education (educational goals, the teacher's and student's roles, and curricular content). Discussion of such recent themes as gender relations and education, democracy and education, and moral values and education. Seminar format. Credit 3 units.

**A&S TH FA SSP**

#### **Educ 4608. The Education of Black Children and Youth in the United States**

*Same as URST 4608, AFAS 4608, AMCS 4608, Educ 4608, STA 4608.*

This course provides an overview of the education of Black children and youth in the United States. Covering both pre- and post-Brown eras, this course applies a deep reading to the classic works of DuBois and Anderson as well as the more recent works of Kozol, Delpit, and Foster. The social, political, and historical contexts of education, as essential aspects of American and African-American culture and life, will be placed in the foreground of course inquiries. Credit 3 units.

**A&S SD, TH, WI FA SSP**

#### **Educ 461. Introduction to Educational Tests and Measurements**

*Same as Educ 4610.*

Basic concepts of tests and measurements for teachers (and other school personnel). Topics: test reliability and validity; fundamentals of test construction and standardization; analysis of major types of group tests used in schools, including achievement and aptitude tests; meaning and interpretation of test scores; development of school testing programs. Teacher-made tests are a central concern. Prerequisite: Educ 4052 or the equivalent. Credit 3 units.

**A&S SS**

#### **Educ 4611. Psychological Tests and Measurements**

*Same as Psych 4611.*

**A&S SS FA SSP**

#### **Educ 461B. The Construction and Experience of Black Adolescence**

*Same as AFAS 461B.*

**A&S SS FA SSP**

#### **Educ 462. Politics of Education**

*Same as URST 462, AMCS 462.*

Politics is interpreted broadly to include not just government, but any situation in which people have to solve a problem or come to a decision. This course focuses on schools and the processes through which certain stories, identities, and practices are promoted, and others not. Credit 3 units.

**A&S SS FA SSP**

#### **Educ 4621. The Political Economy of Urban Education**

*Same as AMCS 4621, URST 4261.*

Defining a political economy of urban education involves the examination of power and wealth and the manner in which they operate in urban settings. It requires analysis of the larger urban social and economic context and consideration of histori-

cal forces that have brought the schools to their present state. In this course, we consider various political and economic factors that have influenced and shaped urban education in the United States, drawing upon the extant literature on urban education and related social science disciplines to characterize and discuss them. A particular focus of this course will be on the dynamic interrelationships among the political economy, urban education, and social stratification. Credit 3 units.

**A&S CD, SS**

#### **Educ 463. Economics of Education**

How does society shape schools and schools shape society? An examination of cultural, political, and economic factors and their relationship to the structure of our educational institutions; how control is exercised in classrooms; how knowledge and learning are defined, and basic values about equality, gender, and social justice, shaped by teachers' educational decisions. Students analyze their own schooling experience, visit at least two schools, interview teachers and students, and consider what changes are needed to make schools more responsive to students and communities. Prerequisite: minimum sophomore standing. Credit 3 units.

**A&S SS**

#### **Educ 4681. Teaching Reading in the Elementary School**

*Same as Educ 4681.*

This course, emphasizing emergent literacy and children's literature, is the first in a sequence of three courses on teaching reading and writing. The purposes of this course are to survey children's acquisition of oral and written language from an emergent literacy perspective, to focus on methods of teaching beginning reading, to develop uses of children's literature in a reading program. Offered fall semester. Credit 3 units.

**A&S LA FA SSP**

#### **Educ 4699. Adolescent Psychology in School Settings**

An examination of current research on adolescent psychological development and the adolescent experience across different cultures. Emphasis will be on the application of theories of adolescence to the classroom setting to those settings outside the classroom that can affect how students learn. Students will be given a repertoire of pedagogical and communication strategies for effectively teaching adolescents as well as opportunities to implement and analyze them in the classroom and school. Credit 3 units.

**A&S SS FA SSP**

#### **Educ 470. Language, Learning, and Instruction**

*Same as Ling 470.*

This course, which emphasizes children's writing and literacy issues, is the third of three courses in a sequence on teaching reading and writing. The course reviews and elaborates on work from previous courses on children's acquisition of written language, examines approaches to teaching writing, and focuses on work from sociological, feminist, and philosophical perspectives to affirm and criticize aspects of these approaches. Prerequisites: Educ 4681 and 525. Credit 3 units.

**A&S LA FA SSP**

#### **Educ 4731. Elementary School Mathematics**

*Same as Educ 4731.*

Fundamental concepts, properties, operations, and application of mathematics related to the systems of whole numbers, integers, rational numbers, and real numbers. Also included are measurement, simple geometry, probability, and logical reasoning. Examination and implementation of varied curricula and teaching strategies. Prerequisite: admission to Elementary Education program or permission of director of teacher education. Offered spring semester. Credit 3 units.

**A&S NS FA SSP**

**Educ 4741. Elementary Science: Content, Curriculum, and Instruction**

Focus on key concepts appropriate for elementary school science and health instruction. Repertoire of effective teaching strategies and approaches to curriculum development. Prerequisite: admission to teacher education program. Offered spring semester. Credit 2 units.

**A&S NS FA SSP**

**Educ 4751. Elementary Social Studies: Content, Curriculum, and Instruction**

Introduction to key concepts in social studies, including economics and geography. Repertoire of effective teaching strategies and approaches to curriculum development in all areas of social studies. Prerequisite: admission to teacher education program. Credit 2 units.

**A&S SS FA SSP**

**Educ 4771. Arts and Aesthetics: A Means of Communication**

Methods and materials for integrating the arts and aesthetics into the elementary classroom. Emphasis on art, music, and oral communication as well as curricula in movement. Prerequisite: admission to teacher education program, or permission of instructor. Credit 3 units.

**A&S LA FA SSP**

**Educ 481. History of Education in the United States**

*Same as History 481, CFH 481, AMCS 481, Educ 481, AMCS 481.*

Examines education within the context of American social and intellectual history. Using a broad conception of education in the United States and a variety of readings in American culture and social history, the course focuses on such themes as the variety of institutions involved with education, including family, church, community, workplace, and cultural agency; the ways relationships among those institutions have changed over time; the means individuals have used to acquire an education; and the values, ideas, and practices that have shaped American educational policy in different periods of our history. Credit 3 units.

**A&S TH FA SSP**

**Educ 4821. The Teaching-Learning Process in the Secondary School**

*Same as Educ 4821.*

Secondary teacher education majors are required to take this course during the spring semester in which student teaching is done. The course focuses on the study, practice, and analysis of generic teaching strategies and skills needed to meet the needs of all students. Topics include classroom management, lesson planning, instructional, and ethical decision-making and strategies for presenting clear explanations, asking effective questions, conducting productive discussions, reaching students with different learning styles/abilities/cultural backgrounds, and using cooperative learning groups. Secondary teacher education majors are required to take 3 credit hours during the year when student teaching is done. Credit 3 units.

**A&S SS, WI FA SSP**

**Educ 4831. The Teaching-Learning Process in the Elementary School**

Focus on four broad areas: self-awareness and human relations, generic teaching and behavioral management strategies, analysis of instruction, social and political issues affecting the classroom. Topics include teacher-pupil relationships, evaluation of pupil progress, curriculum development, instructional technology, and school organization. Admission to elementary teacher education program required. Elementary teacher education majors are required to take this course in the fall se-

mester during the semester in which student teaching is done. Credit 3 units.

**A&S SS, WI FA SSP**

**Educ 4841. Elementary Methods Field Experience**

*Same as Educ 4841.*

Application and analysis of specific content area methods strategies in an elementary school classroom. Prerequisite: admission to teacher education program. Elementary teacher education majors are required to take this course during the spring semester before the year in which student teaching is done. Offered spring semester. Credit 2 units.

**A&S SS FA SSP**

**Educ 4843. Field Experience Seminar**

*Same as Educ 4843.*

This course guides students through a field experience in middle or secondary public school. Students observe and document classroom environment characteristics, professional teacher behaviors, and student behaviors; work with students individually and/or in small groups; prepare and teach a lesson. Credit variable, maximum 3 units.

**A&S SS**

**Educ 489. Education and Public Policy in the United States**

*Same as AMCS 489, URST 4891.*

Critical examination of current public policy issues that shape education in a variety of institutions. Theoretical approaches to educational policy making; the significance of values, social goals, and knowledge in framing, implementing, and evaluating educational policy; relations among educational institutions affected by policy issues. Lectures, class discussions, and papers address literature on the problems of policy making and implementation, family policy, school policy, education and work policy, and cultural policy. Prerequisite: junior standing. Credit 3 units.

**A&S SS FA SSP**

**Educ 4891. The Science and Politics of Testing in the United States**

*Same as Educ 4890.*

Why do tests permeate American society? Tests have been integral to the decision-making process in many venues of American culture, e.g., immigration opportunities, voting rights, college admissions, workforce considerations, special education placement, educational reform, and graduation requirements. The credibility of these decisions depends upon the claim that a particular test is a scientific instrument and relevant to the decision-making process. This claim is worthy of study. The purpose of this course is two-fold. The first purpose is to examine how the nexus of science and politics influence testing practices in American society. The second purpose is to explore how testing practices influence the culture of schools, civil liberties, the workplace, and public discourse about merit. Credit 3 units.

**A&S SD, SS**

**Educ 4911. Student Teaching in the Elementary School**

Supervised teaching experience. Group meetings and individual conferences. Emphasis on integration of theory/practice and reflection on teaching through videotape analysis. Prerequisites: admission to elementary teacher education program and permission of director of teacher education. Credit/no credit only. Elementary teacher education students enroll for 8 credits during the fall semester. Credit variable, maximum 8 units.

**A&S SS FA SSP**

**Educ 492. Student Teaching in the Secondary School**

Supervised teaching experience. Group meetings and individual conferences. Emphasis on integra-

tion of theory/ practice and reflection on teaching through videotape analysis. Prerequisite: admission to teacher education program. Credit/no credit only. Secondary teacher education students enroll for 8 credits during the spring semester. Credit variable, maximum 8 units.

**A&S SS FA SSP**

**Educ 4922. Student Teaching in Middle Schools**

*Same as Educ 4922.*

Supervised teaching experience. Group meetings and individual conferences. Prerequisite: admission to teacher education program. Credit/no credit only. Middle school teacher education students enroll for 8 credits. Offered spring semester. Credit variable, maximum 8 units.

**A&S SS FA SSP**

**Educ 494. Student Teaching in Grades K-12**

*Same as Educ 494.*

Supervised teaching experience. Group meetings and individual conferences. Prerequisite: admission to teacher education program. Credit/no credit only. K-12 teacher education students enroll for 8 credits. Offered spring semester. Credit variable, maximum 8 units.

**A&S SS FA SSP**

**Educ 4951. Middle School Philosophy and Organization**

*Same as Educ 4951.*

This course examines the history, goals, organization and philosophy of middle schools as institutions. Students will explore how the characteristics and needs of early adolescents guide the mission, structure, and operation of middle schools. Prerequisite: admission to teacher education program. Credit 2 units.

**A&S SS FA SSP**

**Educ 4952. Middle School Curriculum and Instruction**

*Same as Educ 4952.*

Building on knowledge of the middle-level child and the ways in which middle schools are organized to meet the needs of middle-level children (covered in Educ 4951), this course explores the learning styles and attributes of middle school students and examines instructional theory, methods, and materials appropriate to grades five through nine. In addition, portions of this course will be devoted to specific content field methodology subdivided into English/language arts and social studies or science and math. The English/social studies and science/math sessions will be held concurrently and students will attend the session appropriate to their content major or minors. Interdisciplinary team teaching will be modeled and featured in these sessions. Features a required practicum experience. Prerequisite: admission to teacher education program and Educ 4951. Credit 3 units.

**A&S SS FA SSP**

**Educ 498. Internship Seminar**

Credit 3 units.

**Educ 4999. Capstone Seminar in Educational Studies**

All majors not writing an Education senior honors thesis are required to enroll in the senior seminar, a reading colloquium. Students read with faculty and write papers based on the readings and the courses taken to complete the major requirements in the program. All honors students are required to attend at least one session of the seminar to present their work and all graduating Educational Studies majors, including those completing honors work in Educational Studies, are required to attend the final session of the seminar. Credit 3 units.

**A&S SS FA SSP**

## English

### Chair

**Vincent Sherry**  
Ph.D., University of Toronto

### Endowed Professors

**Gerald L. Early**  
Merle Kling Professor of Modern Letters  
Ph.D., Cornell University

### Wayne Fields

Lynne Cooper Harvey Distinguished  
Professor of English  
Ph.D., University of Chicago

### Steven Zwicker

Stanley Elkin Professor in the Humanities  
Ph.D., Brown University

### Professors

**Mary Jo Bang**  
M.F.A., Columbia University

**David Lawton**  
F.A.A.H., Ph.D., University of York

**Joseph Loewenstein**  
Ph.D., Yale University

**Robert Milder**  
Ph.D., Harvard University

**Carl Phillips**  
M.A., Boston University

**Vivian Pollak**  
Ph.D., Brandeis University

**Richard Ruland**  
Ph.D., University of Michigan

**Rafia Zafar**  
Ph.D., Harvard University

### Associate Professors

**Miriam Bailin**  
Ph.D., University of California–Berkeley

**Guinn Batten**  
Ph.D., Duke University

**Marina MacKay**  
Ph.D., University of East Anglia

**William McKelvy**  
Ph.D., University of Virginia

**Steven Meyer**  
Ph.D., Yale University

**Wolfram Schmidgen**  
Ph.D., University of Chicago

### Assistant Professors

**J. Dillon Brown**  
Ph.D., University of Pennsylvania

**Daniel Grausam**  
Ph.D., University of California–Berkeley

**Anca Parvulescu**  
Ph.D., University of Minnesota

**Sarah Rivett**  
Ph.D., University of Chicago

**Jessica Rosenfeld**  
Ph.D., University of Pennsylvania

**Julia Walker**  
Ph.D., Duke University

### Faculty Associate

Dillon Johnston  
Ph.D., University of Virginia

### Senior Lecturers

**Joan Brockman**  
Ph.D., St. Louis University

**Kathleen Drury**  
M.A., Washington University

**Amy Pawl**  
Ph.D., University of California–Berkeley

**Paul Rosenzweig**  
Ph.D., University of Michigan

**Shane Seely**  
M.F.A., Syracuse University

**Joseph D. Thompson**  
Ph.D., Yale University

### Lecturers

**Jennifer Arch**  
Ph.D., Washington University

**Bethany Daniels**  
M.A., University of Missouri

**Jeffrey Hamilton**  
Ph.D., Washington University

**Stephanie Pippin**  
M.F.A., Washington University

**Robert Wiltenburg**  
Dean, University College  
Ph.D., University of Rochester

### Writers-in-Residence

**Kathryn Davis**  
B.A., Goddard

**Kathleen Finneran**  
B.A., Washington University

**Marshall Klimasewski**  
Director of Creative Writing Program  
M.F.A., Bowling Green State University

**Kerri Webster**  
M.F.A., Indiana University

**Kellie Wells**  
Ph.D., Western Michigan University

### Writing Courses

**Debie Rudder Lohe**  
Director, Writing 1  
Ph.D., Washington University

**Chuck Sweetman**  
Assistant Director, Writing 1, Lecturer  
Ph.D., Washington University

### Director of Creative Writing Program

**Marshall Klimasewski**  
M.F.A., Bowling Green State University

### Professors Emeriti

**Donald Finkel**  
M.A., Columbia University

**Richard Hazelton**  
Ph.D., Rutgers University

**Naomi Lebowitz**  
Ph.D., Washington University

**William Madsen**  
Ph.D., Yale University

### Carter C. Revard

Ph.D., Yale University

### Daniel Shea

Ph.D., Stanford University

### Richard Stang

Ph.D., Columbia University

### Burton M. Wheeler

Ph.D., Harvard University

If you are seeking a well-rounded liberal arts education or are interested in pursuing a career in journalism, publishing, business, law, medicine, social work, teaching, or writing, majoring in English is an excellent choice. This diverse course of study introduces you to important literary texts and offers a wide range of electives that help develop your reading and writing skills, make use of critical-thinking skills, and enhance appreciation of the intellectual, aesthetic, and moral dimensions of human experience.

In addition to teaching literary texts and theories, the Department of English offers you the opportunity to develop advanced writing skills in expository and creative writing courses. Courses are cross-listed with such programs as Women, Gender, and Sexuality Studies; African and African American Studies; Religious Studies; and Comparative Literature.

The English faculty is made up of distinguished writers and scholars dedicated to your learning experience. Classes are usually small enough to encourage a sharing of ideas among students and to provide stimulating discussion between faculty and students.

As a student majoring in English, you may pursue internships in communications and journalism, participate in study abroad programs, and design independent study courses. The English department's chapter of Sigma Tau Delta, the national English Honorary, publishes its own critical journal, *Word*, and involves majors in a variety of literary and extracurricular programs.

You also will have the opportunity to take courses and attend lectures and readings by distinguished writers and critics who join the department as Visiting Hurst Professors. In 2004-05, professorships were held by Jay Wright, Heather McHugh, Tony Earley, Kathryn Davis, and Frank Bidart; in 2005-06 by Michael Martone, Richard Rodriguez, Arthur Sze, Linda Gregerson, and Sigrid Nunez; in 2006-07 by Stephen Millhauser, Bruno Latour, Deborah Eisenberg, Nuruddin Farrah, and Isabelle Stengers; in 2007-08 by Peter Orner, Alan Lightman, Eric Santner, Susan Wheeler, Michael Palmer, and Edward P. Jones.

For more detailed information about declaring a major or minor in English, the English departmental office offers a Guidebook on Undergraduate Studies in English.

**The Major:** To major in English you are required to take E Lit 215 and either E Lit 211 or 257. There are no prerequisites for 200-level course work, but if you have little experience in writing, you should consider taking the university required course, Writing I, before enrolling in these courses.

English majors take 24 units of advanced courses, of which two must be taken at the 400 level. Students choose two courses in literature pre-1700 and two courses in literature between 1700 and 1900, one of which may also fulfill the requirement for a course in American literature. Then, if you wish to increase your expository writing skills or participate in fiction or poetry writing workshops, you may either substitute 9 units of upper-level English composition courses toward the major, or elect a 15-unit writing minor in English.

**The Minor:** You may minor in English and American literature by completing 15 units of introductory and advanced courses, of which one must be Shakespeare. The writing minor requires 15 units of expository or creative writing courses.

**Senior Honors:** If your grade point average is 3.5 or above, you are encouraged to apply for Honors with recommendations from your instructors. To earn Honors by Thesis, you must complete 27 units of advanced English courses, participate in the required Junior Honors Seminar (E Lit 398), and complete an Honors thesis. You can earn up to 6 units in Honors thesis tutorial. Or, to gain Honors without Thesis, you will take two additional courses at the 400 level and submit two fully revised essays from previous course work. Each candidate takes an oral examination.

## Undergraduate Courses

### English Composition

#### E Comp 100. Writing 1: Writing Culture

This course explores writing both as a process and a medium of intellectual inquiry. It asks students to build on their existing skills, imagining more complex relationships with their readers and more nuanced approaches to their subject matter. Students will engage critically with cultural texts and scholarly research, as well as with their own writing, and present their analytical arguments in mature, effective prose. Satisfies the University's first-year writing requirement (if passed with C+ or higher), and must be taken for a letter grade. Sections limited to 14 students. Credit 3 units.

FA Comp

#### E Comp 1001. Fundamentals of Academic Writing

This course may be required of some students before they take Writing 1 (E Comp 100). (Placement to be determined by the department). Emphasis is on writing process, reading comprehension, critical thinking, organization of ideas, and grammar. Must be taken for a letter grade. (Note: Some students will be required also to enroll in ELP 499.) Credit 3 units.

A&S LA

#### E Comp 201. Writing Workshop

An intensive workshop focusing on selected topics related to writing. Topics to be chosen by the department/instructor. May be taken for 1, 2, or 3 credit hours; must be taken for credit. See section description for details about workshop emphases. Credit variable, maximum 3 units.

A&S LA

#### E Comp 202. Composition Seminar

Composition seminar for Summer Scholars. Credit 1 unit.

#### E Comp 211. Writing 2

This course invites students to pursue a writing

project that centers on their own intellectual interests and that complicates their approaches to researched, creative, and analytical work. See section description for details about specific class emphases. Limit: 12 students. Prerequisite: E Comp 100 (Writing 1). Credit 3 units.

A&S LA

#### E Comp 213. The Long Essay

This course is designed for skilled writers who want to bring more complexity and depth to their style and content. Emphasis is on the innovation that can occur when we give sustained interest to our subjects in a long work. The class is particularly well-suited to students who wish to produce extended works of creative nonfiction, honors theses, or artist statements. Prerequisite: E Comp 100 (Writing 1). Credit 3 units.

A&S LA

#### E Comp 220. Creative Nonfiction Writing 1

Credit 3 units.

A&S LA

#### E Comp 221. Fiction Writing 1

A course designed to introduce students to the fundamental craft elements involved in writing fiction. Prerequisite: E Comp 100 (Writing 1). 3 units. Credit 3 units.

A&S LA

#### E Comp 222. Poetry Writing 1

A course designed to introduce students to the fundamental craft elements involved in writing poetry. Prerequisite: E Comp 100 (Writing 1). 3 units. Credit 3 units.

A&S LA

#### E Comp 224. Playwriting

Same as Film 224, Drama 227.

An introductory course in playwriting. Limited to 8 students. Prerequisites: E Comp 100 (Writing 1) and permission of the instructor. Credit 3 units.

A&S LA

#### E Comp 298. Journalism: Communications Internship

For students undertaking projects in newspaper or magazine journalism, in radio or television, or in business, government, foundations, and the arts. The student must secure permission of the chair of the Undergraduate Committee, file a description of his or her project with the department and, at the end of the semester, submit a significant portfolio of writing together with an evaluation by the internship supervisor. Up to 3 units acceptable toward the Writing Minor but cannot be counted toward the English Major or Literature Minor. Prerequisite: E Comp 100 (Writing 1). Must be taken Credit/no credit. Credit 3 units.

#### E Comp 310. Guided Research in Composition: Theory and Pedagogy of One-to-One Writing Instruction

This course teaches theoretical and practical approaches to the tutoring of writing, specifically focusing on tutoring writing within the context of undergraduate courses. Students will learn collaborative methods of tutoring writing, explore different approaches to writing comments on student work in various content areas, and examine the connections between writing and thinking. Students in this course will analyze their own writing processes and learn how to help others through the writing and revision process. Readings and discussions will focus on writing theory and pedagogy, and students will practice one-to-one methods in mock conferences and with sample essays. Assignments: two short essays, a longer research paper and presentation, and a journal. Credit variable, maximum 3 units.

A&S LA

#### E Comp 311. Exposition

This advanced writing course considers style in relationship to audience and purpose, asking the writer to engage more consciously with writing conventions, and to explore strategies appropriate to various writing situations. Prerequisites: E Comp 100 (Writing 1) and junior standing. A note for students and advisers: when registering refer to WebStac for updated information on section times and available seats. Credit 3 units.

A&S LA, WI

#### E Comp 3111. Exposition (Visual)

This advanced writing course emphasizes writing and visual analysis, asking students to examine important forms of visual media to develop a sophisticated sense of the strategies, techniques, and the rhetoric of visual representation. Prerequisites: E Comp 100 (Writing 1) and junior standing. Credit 3 units.

A&S LA

#### E Comp 312. Argumentation

Same as Lw St 312.

This advanced writing course examines the strategies of argumentation, exploring such elements of argument as the enthymeme, the three appeals, claim types, and fallacies. Prerequisites: E Comp 100 (Writing 1) and junior standing. A note for students and advisers: when registering refer to WebStac for updated information on section times and available seats. Credit 3 units.

A&S LA, WI

#### E Comp 314. Topics in Composition

Same as AMCS 3132.

An advanced writing course focusing on selected topics related to writing. Topics to be chosen by department/instructor. See section description for details about specific class emphases. (Note: In some cases, this course may be cross-listed with other programs/departments and may satisfy the writing-intensive requirement.) Prerequisites: E Comp 100 (Writing 1) and junior standing. Credit 3 units.

A&S LA, WI

#### E Comp 321. Fiction Writing 2

This course is aimed at undergraduates who have taken Fiction Writing 1 and wish to pursue both their development as writers and the study of craft in the context of a more rigorous workshop. Prerequisite: E Comp 100 (Writing 1), E Comp 221 (Fiction Writing 1). Credit 3 units.

A&S LA

#### E Comp 321W. Mellon Undergraduate Fellows Seminar

Credit 3 units.

A&S LA, WI

#### E Comp 322. Poetry Writing 2

This course is aimed at undergraduates who have taken Poetry Writing 1 and wish to pursue both their development as poets and the study of craft in the context of a more rigorous workshop. Prerequisites: E Comp 100 (Writing 1), E Comp 222 (Poetry Writing 1). Credit 3 units.

A&S LA

#### E Comp 322W. Undergraduate Honors Fellowship Seminar

Credit 3 units.

A&S LA, WI

#### E Comp 351. Introduction to Playwriting

Same as Drama 351.

A&S LA FA Lit

#### E Comp 352. Introduction to Screenwriting

Same as Film 352.

A&S LA

#### E Comp 3621. Mentors in Craft

Same as AFAS 362.

A&S LA

**E Comp 403. Dramaturgical Workshop***Same as Drama 403.*

A&amp;S LA

**E Comp 4131. Topics in Composition**

Composition topics course—offerings will vary from semester to semester. Credit 3 units.

A&amp;S TH

**E Comp 421. Advanced Fiction Writing**

For qualified students who wish to continue their creative writing and reading through immersion in an intensive fiction workshop. Students wishing to enroll must not only register but also submit a 15-page (double-spaced) fiction sample. The sample must include a cover page with: your name, the semester you took Fiction Writing 2, and the name of the Fiction Writing 2 instructor. Submit samples to the English Department mailbox of the E Comp 421 instructor no later than April 20. No one is officially enrolled in this class until contacted by the instructor. Prerequisite: E Comp 100 (Writing 1), E Comp 221 (Fiction Writing 1), E Comp 321 (Fiction Writing 2). Credit 3 units.

A&amp;S LA

**E Comp 422. Advanced Poetry Writing**

For qualified students who wish to continue their creative writing and reading through immersion in an intensive poetry workshop. Students wishing to enroll must not only register but also submit eight poems. The sample must include a cover page with: your name, the semester you took Poetry Writing 2, and the name of the Poetry Writing 2 instructor. Submit samples to the English Department mailbox of the E Comp 422 instructor no later than April 20. No one is officially enrolled in this class until contacted by the instructor. Prerequisite: E Comp 100 (Writing 1), E Comp 222 (Poetry Writing 1), E Comp 322 (Poetry Writing 2). Credit 3 units.

A&amp;S LA

**E Comp 423. Proseminar in Writing: Nonfiction Prose**

For students qualified to pursue their own projects in nonfiction prose; criticism by other members of the class and by the instructor. Limit: 12 students. Prerequisite: permission of instructor upon submission of writing samples. Credit 3 units.

A&amp;S LA

**E Comp 431. Craft of Fiction**

A literature/creative writing hybrid course; students will read a number of contemporary historical fictions—an increasingly important and innovative genre—and then write one of their own. Credit 3 units.

A&amp;S LA

**E Comp 432. The Craft of Poetry**

An investigation into the art and craft of poetry, in order to consider the choices a poet makes in the process of composing and revising. The students will be asked to complete many poetry writing exercises, as well as the writing of critical papers, in their investigation of poetic forms and modes from many historical periods. (This course is highly recommended for those who have completed or are taking the 300-level creative writing courses and to students in the Writing Program.) Credit 3 units.

A&amp;S LA

**E Comp 452. Seminar in Playwriting****E Comp 4521. Advanced Screenwriting***Same as Film 452.*

A&amp;S LA FA Lit

**E Comp 4731. Advanced Playwriting***Same as Drama 473.*

A&amp;S LA

**E Comp 4801. Screenwriting***Same as Drama 480.*

A&amp;S LA

**English Language and Literature****E Lit 151. Literature Seminar for Freshmen**

Reading courses, each limited to 15 students. Topics: selected writers, varieties of approaches to literature, e.g., Southern fiction, the modern American short story, the mystery. Consult Course Listings. Prerequisite: first-year standing. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 151S. Literature Seminar for Freshman**

Reading courses, each limited to 15 students. Topics: selected writers, varieties of approaches to literature, e.g., Southern fiction, the modern American short story, the mystery. Consult Course Listings. Prerequisite: first-year standing. Credit 2 units.

A&amp;S TH

**E Lit 190. Freshman Seminar: African and Afro-American Culture***Same as AFAS 188.*

A&amp;S SD, TH FA Lit

**E Lit 2001. Howard Nemerov Program****E Lit 201C. Text and Tradition***Same as Hum 201C.*

A&amp;S TH FA Lit

**E Lit 205C. Text and Tradition***Same as Hum 205C.*

A&amp;S TH FA SSP

**E Lit 209. World Literature: Exile and Displacement***Same as Comp Lit 211.*

A&amp;S TH FA Lit

**E Lit 211C. Chief English Writers I***Same as E Lit 211C.*

An introduction to major writers: Chaucer through Milton. Emphasis on chief works and critical methods for interpretation. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 214C. Introduction to Women's Texts***Same as WGSS 214C.*

A&amp;S SD, TH FA Lit

**E Lit 215. Introduction to Literary Study: Modern Texts, Contexts, and Critical Methods**

Intensive introduction to important literary works published since 1700; how literary scholars use cultural, biographical, and generic contexts and apply critical approaches. Credit 3 units.

A&amp;S TH

**E Lit 228. Theater Culture Studies I***Same as Drama 228C.*

A&amp;S TH FA AH

**E Lit 229C. Theater Culture Studies II***Same as Drama 229C.*

A&amp;S TH FA AH

**E Lit 237. The American Dream: Myth or Nightmare?***Same as Drama 237.*

A&amp;S TH

**E Lit 241E. Masterpieces of European Literature I**

Masterpieces of Western literature in English translation: Homer through Dante. Credit 3 units.

**E Lit 243. Topics in English and American Literature**

Topics changes each semester. Credit 3 units.

A&amp;S TH

**E Lit 245. Topics in Literature**

Topics in literature, will vary by semester. Credit 3 units.

**E Lit 246. Topics in English and American Literature**

Topics course that changes from semester to semester. Credit 3 units.

A&amp;S TH

**E Lit 257. The Art of Poetry**

An introduction to the critical vocabulary necessary for the study and evaluation of poetry; provides a basic understanding of prosody, poetic forms, and figurative language, and the historical periods in which poetry has been written. Credit 3 units.

A&amp;S TH

**E Lit 2946. Mellon Freshman Seminar***Same as History 2946.*

A&amp;S TH

**E Lit 300. Independent Study**

Credit 3 units.

A&amp;S TH

**E Lit 302W. Writing Modern War**

The 20th century, as Graham Greene observed, was a century "in which there would never be a peace." This writing-intensive course examines the ways in which modern writers have tried to describe warfare and its impact on both combatants and those on the "home front." Credit 3 units.

A&amp;S TH, WI

**E Lit 303W. Strangers and Savages, Aliens and Outcasts**

This writing-intensive course will focus on a literary tradition united by its representation of passionate hatred and intolerance. Credit 3 units.

A&amp;S TH, WI

**E Lit 304W. Craft of Fiction: Historical Fiction**

This writing-intensive course will be a literature/creative writing hybrid course in which a number of contemporary historical fictions (meaning, fictions set in periods prior to the authors' births, and sometimes incorporating real historical events or figures) will be covered. Credit 3 units.

A&amp;S TH, WI

**E Lit 305W. Fabricating Lives**

The premise of this writing-intensive course is that autobiography is not a straightforward narrative of the past but a conscious shaping of life into a meaningful design. Credit 3 units.

A&amp;S TH, WI

**E Lit 306. Old English Literature: *Beowulf***

Credit 3 units.

A&amp;S TH

**E Lit 307. The Writing of the Indian Subcontinent***Same as E Lit 307, IAS 307.*

The Indian subcontinent has in recent years yielded a number of writers, expatriate of other-wise, whose works articulate the postcolonial experience in the "foreign" English tongue. This course is designed to be an introductory survey of such writing, drawing on select subcontinental writers. Covering both fiction and nonfiction by several authors including R. K. Narayan, Salman Rushdie, Anita Desai, Amitav Ghosh, Sara Suleri, Micheal Ondaatje, and Romesh Gunsekera, we will discuss such issues as the nature of the colonial legacy, the status of the English language, problems of translation (linguistic and cultural), the politics of religion, the expatriate identity, and the constraints of gender roles. Credit 3 units.

A&amp;S CD, TH FA Lit

**E Lit 308. Topics in Asian-American Literature: Identity and Self-image***Same as East Asia 308, IAS 3081, AMCS 310.*

Topics in Asian-American literature that will vary from semester to semester. Credit 3 units.

A&amp;S SD, TH FA Lit

**E Lit 311E. Electronic Poetry**

An inquiry into new forms of screen art beginning with traditional printed poetry to varieties of virtual poetry emergent on the computer screen; the stream of programming code as a level of writerly activity. Credit 3 units.

**A&S LA**

**E Lit 311W. Electronic Poetry**

The primary focus in this writing-intensive course will be to look at every possible kind of electronic poetry we can come up with in order to evaluate it as poetry. Credit 3 units.

**A&S LA**

**E Lit 312. Topics in English and American Literature**

*Same as AMCS 3121, CFH 312.*

Topics: themes, formal problems, literary genres, special subjects (e.g., English and American Romanticisms, science and literature, the modern short story). Consult *Course Listings* for offerings in any given semester. Credit 3 units.

**A&S TH, WI FA Lit**

**E Lit 3121. The Medieval Romance**

The romance grows out of the epic: how we get from the fall of Troy to the fall of Troilus. Readings from Vergil's *Aeneid* to *Sir Gawain and the Green Knight*. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3122. Topics in Literature: Heroes and Lovers**

We will read *Beowulf*, *Sir Gawain and the Green Knight*, Chaucer's *Troilus and Criseyde*, *The Mabinogion*, *The Tain*, *Margery Kempe*, and Malory's *Morte d'Arthur*. Credit 3 units.

**A&S TH FA Lit**

**E Lit 313. Topics in English and American Literature**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3141. American Indian Literature**

Texts and contexts from Osage, Yaqui, Hopi, Acoma, Laguna, Blackfeet, Chippewa, Kiowa, and other nations of America; naming ceremonies, deer dances, creation stories, and trickster tales lead to reading of contemporary poems and fiction. Credit 3 units.

**A&S TH FA Lit**

**E Lit 315W. The Literature of the American Revolution**

While not a historical survey, the course will present several case studies raising questions about later myth and contemporary reportage. Credit 3 units.

**A&S TH, WI**

**E Lit 316. Topics in American Literature**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 317W. Topics in English and American Literature**

Topics: themes, formal problems, literary genres, special subjects (e.g., the American West, American autobiographical writing). Consult *Course Listings* for offerings in any given semester. Credit 3 units.

**A&S TH, WI**

**E Lit 319. Topics in Women and Literature**

*Same as WGSS 319.*

**A&S SD, TH, WI FA Lit**

**E Lit 3191. Contemporary American Women Poets**

*Same as AMCS 3191, WGSS 3191.*

An introduction to the work of contemporary American poets who are women; extensive reading of both poetry and prose. Readings include the work of poets such as Bishop, Rich, Plath, Sexton,

Clampitt, Gluck, Moss, Graham, Howe, Dove, Oliver, Forche, Lauterbach. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3192. Interdisciplinary Studies in the Humanities, 20th Century: The European Avant Garde**

*Same as Hum 3191.*

**A&S TH**

**E Lit 321. American Literature to 1865**

*Same as AMCS 3223, E Lit 321B.*

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3211. Topics in 19th-Century American Writing**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 322. American Literature 1865 to Mid-20th Century**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3222. 20th-Century American Writers**

*Same as AMCS 3222.*

Credit 3 units.

**A&S TH FA Lit**

**E Lit 322C. Major American Writers II**

*Same as E Lit 325.*

Representative works of American writing from 1880 to the present, with particular attention to fiction and poetry; authors include James, Stein, Hemingway, Faulkner, Ellison. Prerequisite: 6 units of sophomore literature, junior standing, or permission of instructor. Credit 3 units.

**A&S TH FA Lit**

**E Lit 322W. Major American Writers II**

This writing-intensive course is intended as an in-depth introduction to arguably the two most significant American fiction writers of the first half of the 20th century. Credit 3 units.

**E Lit 323. Selected American Writers**

*Same as WGSS 323.*

Intensive study of one or more American writers. Consult *Course Listings* for offerings in any given semester. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3254. Topics in Literature: African Americans and Children's Literature**

*Same as AFAS 3254.*

**A&S SD, TH**

**E Lit 326. Selected American Writers**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 327. Selected American Writers**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 328W. Selected English and American Writers**

Credit 3 units.

**A&S TH, WI**

**E Lit 329. Selected English and American Writers**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3301. Topics in American Culture Studies**

*Same as AMCS 330.*

**A&S TH FA SSP**

**E Lit 3303. Humanities and Technology Project**

The Humanities and Technology Project provides the opportunity to combine a passion for the liberal arts with technology training and the leadership skills needed to succeed in any profession. Students develop prototype solutions for projects integrating technology into the humanities; faculty

members in the humanities act as their clients; and specialists from Arts & Sciences computing provide training in a variety of database, multimedia and interactive technologies. Course work involves research, planning, teamwork, technology training, and presentation skills. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3311. Interdisciplinary Studies in the Humanities**

*Same as Hum 3311.*

**A&S TH**

**E Lit 331C. Tragedy**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3322. Reading in the Renaissance: Texts and Practices**

This course aims, first, to acquaint students with English Renaissance literature, from Shakespeare to Dryden; then to investigate the ways in which that literature might have been read by its original audience; and finally to consider how such knowledge might, or should influence, our own understanding and experience of Renaissance texts. Credit 3 units.

**A&S TH**

**E Lit 332C. Comedy****E Lit 334. A History of the Golden Age of Children's Literature**

*Same as CFH 334, E Lit 334.*

A comprehensive survey of the major works for children written during this period. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3341. The History of Children's Literature from the End of the Golden Age to the Age of Multiculturalism**

A continuation of English 334, this is a comprehensive survey looking at the major works of children's and adolescent literature in both Britain and America. Credit 3 units.

**E Lit 335. Modern Drama 1850–1920**

The emergence of modern drama: emphasis on Ibsen, Strindberg, Chekhov, Shaw. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3351. Modern Drama 1880–1945**

Major figures of modern drama: Ibsen, Strindberg, Shaw, Chekhov, Lorca, Synge, Pirandello, Brecht, and O'Neill. Close literary study and consideration of these plays as examples of the art of the stage. Reference also will be made to contemporary experiments in the other arts, and to major literary movements in the time period under consideration. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3361. Modern Drama, 1945 to the Present**

Course concentrates on the development of modern drama from 1945 to the present. Focus is on both literary and theatrical techniques as well as the examination of trends in the contemporary theater from Samuel Beckett through Sam Shepard. Perspective is comparative and international in scope, with particular attention given to women and minority playwrights. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3370. Contemporary Stages: An Anglo-American History of Performance after 1950**

Credit 3 units.

**E Lit 3371. The Theater of the Absurd**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 339. Topics in 19th-Century American Writing**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3391. Topics in 19th- and 20th-Century American Writing: American Short Fiction**  
*Same as AMCS 3391.*

This course is directed toward a broad range of majors and nonmajors with a serious but not scholarly interest in American Short Fiction. Credit 3 units.

**A&S TH**

**E Lit 340. Topics in 20th-Century American Writing**

An introduction to major American works and writers from the later 19th century through the mid-20th century. Writers studied include Twain, James, Crane, Fitzgerald, Hemingway, Faulkner, Frost, Eliot, and Stevens. The course assumes no previous acquaintance with the material and is directed toward a broad range of majors and nonmajors with a serious but not scholarly interest in the subject. Students with little or no background in literature might be advised to take E Lit 213C (Chief American Writers), while English majors looking to do advanced work should consider the 400-level American literature sequence. Students who have taken E Lit 213C should not enroll in this course. Credit 3 units.

**A&S TH FA Lit**

**E Lit 340W. The American Novel: Split and Hybrid American Identities**

*Same as AMCS 3402.*

Examination of the struggle to form an enabling identity for author, characters, and text against the divisive pressures of family and society. Credit 3 units.

**A&S TH, WI**

**E Lit 342W. The Romance: Medieval to Modern**

Credit 3 units.

**E Lit 343. Two Cultures: Literature and Science**

The relation between biology and literature as it has been examined and expressed in poetry, fiction, and nonfiction of the past two centuries. Credit 3 units.

**A&S TH**

**E Lit 344W. Writing About Performance**

In this writing-intensive course, students will develop critical strategies for writing about theater and other performance events, in the present and in a range of historical periods. Credit 3 units.

**A&S TH, WI**

**E Lit 347. Masterpieces of Literature I**

Masterpieces of Western literature in English translation: Homer through Dante. Credit 3 units.

**A&S TH**

**E Lit 348. Masterpieces of Literature II**

Masterpieces of Western literature in English translation: the 17th century through the 20th century. Credit 3 units.

**A&S TH**

**E Lit 3520. Introduction to Postcolonial Literature and Theory**

*Same as EuSt 3520, IAS 3521.*

At its zenith, the British Empire encompassed almost a quarter of the globe, allowing the diminutive island nation unprecedented economic, military, and political influence upon the rest of the world. This course will introduce some of the foundational responses to this dominance, both literary and theoretical, by the colonized and their descendants. We will examine important critiques of colonialism by theorists such as Frantz Fanon, Aimé Césaire, Edward Said, Homi Bhabha, and Gayatri Spivak, as well as literary works that reflect a postcolonial critique by authors such as V.S. Naipaul, George Lamming, Doris Lessing, and N'gugi wa Thiong'o. The course will interrogate how literature could be said to help consoli-

date Empire as well as ways in which it might function as rebellion against imperial power, with a view toward teasing out the problematics of race, gender, language, nationalism, and identity that postcolonial texts so urgently confront. Credit 3 units.

**A&S CD, SD, TH**

**E Lit 3522. Topics in Literature**

*Same as IAS 3522, EuSt 3522.*

Topics course which varies by semester. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3531. Selected English and American Writers**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 355. Topics in Literary Criticism and Theory**

Credit 3 units.

**A&S TH FA Lit**

**E Lit 3551. Topics: Literary Criticism and Theory: Ways of Approaching a Literary Text**

Credit 3 units.

**A&S LA**

**E Lit 356. The Art of the Novel**

*Same as AMCS 3562.*

Novelistic techniques and aesthetics. Credit 3 units.

**A&S TH FA Lit**

**E Lit 357. The Art of Poetry**

Techniques of poetry, considered theoretically and practically in relation to problems of form and significance: meter, rhyme, image, metaphor, stanzaic patterns, and others. Credit 3 units.

**A&S TH, WI FA Lit**

**E Lit 3571. 20th-Century Poetry**

Credit 3 units.

**A&S TH**

**E Lit 358. Studies in Short Fiction**

Study of the work of four novelists who were also fascinated by shorter forms throughout their careers: D. H. Lawrence, Joseph Conrad, Henry James, and William Faulkner. The course will be concerned with the variety of forms their work takes as it is shaped by the very individual visions of each. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3581. Historical and Comparative Linguistics**

*Same as Ling 320.*

**A&S LA FA Lit**

**E Lit 3582. Black Literature: Race, Class, and Writing in the United States and the Caribbean, 1900–1950**

Study of the differences in literary tradition arising from the divergent social, racial, and educational milieux of the United States and the West Indies. Credit 3 units.

**A&S SD, TH**

**E Lit 359. 19th-Century American Women Writers**

*Same as WGSS 358.*

**A&S TH, WI FA Lit**

**E Lit 360. The Writings of Philip Roth**

Fiction by Philip Roth in chronological order from his earliest to his last major effort. Credit 3 units.

**A&S TH**

**E Lit 362. The 18th Century: A Study of Major Texts**

Credit 3 units.

**A&S TH**

**E Lit 363. Theater Culture Studies III: Melodrama****E Lit 363C. Theater Culture Studies III**

*Same as Drama 365C.*

**A&S TH FA Lit, SSP**

**E Lit 365F. The Bible as Literature**

*Same as JNE 365F, E Lit 365F, E Lit 5652, Re St 365F.*

Extensive reading in English translations of the Old Testament and the New Testament, with emphasis on literary forms and ideas. Credit 3 units.

**A&S TH FA Lit**

**E Lit 367. Religious Themes in Contemporary Literature**

The use by selected 20th-century writers of religious themes and symbols. Close analysis of the literary techniques by which religious concepts and images are developed and differing insights of writers representing a broad spectrum of contemporary attitudes toward religious issues. Credit 3 units.

**A&S TH FA Lit**

**E Lit 370. The Age of Victoria**

Works of fiction, poetry, journalism, children's literature, political cartoons, book illustrations, genre paintings, and photographs. The course aims to give a sense of the age in all its diversity and peculiarity, as well as to concentrate on a few central issues and developments in 19th-century British society: e.g. industrialism, materialism, feminism, liberalism, the rise of the social sciences. Readings will include works by Tennyson, Matthew Arnold, Lewis Carroll, Dickens, George Eliot, John Stuart Mill, Trollope, Oscar Wilde, and Edmund Gosse. Credit 3 units.

**A&S TH FA Lit**

**E Lit 371. The Age of Chaucer**

Study of the ways in which literature and history interplay between 1340 and 1400. Literary texts include writings by Chaucer, Langland, the Pearl Poet, and anonymous composers of songs, dream visions, romances, satires, debates, and low stories; attempts to move from these to theoretical and over into historical texts, alienating where necessary and translating where possible. Credit 3 units.

**A&S TH FA Lit**

**E Lit 372. The Renaissance**

Major texts of the European Renaissance examined to set English literary achievement in a continental context. Among authors to be studied: Petrarch, Castiglione, Erasmus, More, Luther, Wyatt, Rabelais, Montaigne, Shakespeare, Spenser, Jonson, Milton. Prerequisite: 6 units of literature, junior standing, or permission of instructor. Credit 3 units.

**A&S TH FA Lit**

**E Lit 3725. Topics in Renaissance Literature**

Topics course in Renaissance literature. Credit 3 units.

**A&S TH**

**E Lit 3731. Writing and the Representation of Pain**

Writing-intensive course on the representation of pain at every level, from private suffering to public policy. Course reader consists of examples of or extracts from a diversity of materials: the Bible and *Ovid*, medieval religious lyric, saints' lives, visions of hell and damnation, descriptions of visionary illness, Freud's *Anna O*, Kafka's *In the Penal Colony*, Wilde's *The Nightingale and the Rose*, Woolf's *On Being Ill*, Artaud and the theater of cruelty; autobiographical and other writings by Susan Sontag and Inga Clendinnen; theory by Bataille, Deleuze, Dolimore, and Elizabeth Grosz; work on pain by Leder, Morris, Rey, and others; poetry by Anne Sexton, Sylvia Plath, Gwen Harwood, Alan Jenkins, and others. We will also read Elaine Scarry's *The Body in Pain* and two recent novels: Andrew Miller's *Ingenious Pain* and Manil Suri's *The Death of Vishnu*. Credit 3 units.

**A&S TH, WI**

**E Lit 374W. Epistolary Literature in the 18th Century: Other Peoples' Letters**

In this writing-intensive course, we will examine the attraction the letter held for authors and readers alike, taking into consideration the advantages and the disadvantages of the form, its role in the development of the early novel, and current theories of epistolary writing. Credit 3 units.

**A&S** TH, WI

**E Lit 375. The Romantic Period**

Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 3752. Modern British Novel**

Credit variable, maximum 6 units.

**E Lit 376. The Victorian Period**

Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 376C. The East-African Storyteller**

Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 3778. Comparative Studies in the Novel**

*Same as Comp Lit 3778.*

**A&S** TH **FA** Lit

**E Lit 3781. Wanderlust: Travel and American Culture****E Lit 381. Banned Books**

*Same as AMCS 379.*

Why would anyone want to burn a book? Under what circumstances would you support censorship? Several years ago, a Russian student was exiled to Siberia for possessing a copy of Emerson's *Essays*; today, school boards in the United States regularly call for the removal of *Huckleberry Finn* and *The Catcher in the Rye* from classrooms and library shelves. Actions like these dramatize the complex interconnections of literature and society, and they raise questions about what we read and the way we read. The course explores these issues by looking closely at several American and translated European texts that have been challenged on moral, sociopolitical, or religious grounds to determine what some readers have found so threatening about these works. Possible authors: Goethe, Voltaire, Rousseau, Defoe, Hawthorne, Flaubert, Twain, Chopin, Brecht, Salinger, Aldous Huxley, Ray Bradbury. Brief daily writing assignments. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 3831. Topics in African-American Poetry**

*Same as AFAS 3838.*

**A&S** TH **FA** Lit

**E Lit 3838. Topics in African-American Poetry**

*Same as AFAS 3838.* Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 387. African-American Literature: Early Writers to the Harlem Renaissance**

*Same as AFAS 387C, AMCS 3871.*

Credit 3 units.

**A&S** SD, TH

**E Lit 387C. Black Literature to Early 1900s****E Lit 3881. Black Women Writers**

*Same as AFAS 3651.*

**A&S** SD, TH

**E Lit 388C. African-American Literature from the Harlem Renaissance**

*Same as AFAS 388C.*

**A&S** SD, TH **FA** Lit

**E Lit 390. Topics in Comparative Literature**

*Same as Drama 456.*

**A&S** TH **FA** Lit

**E Lit 393. Literary Theory: Subject and Subjection**

*Same as Comp Lit 393.*

**A&S** TH

**E Lit 395C. Shakespeare**

*Same as Drama 395C.*

Introductory course emphasizing critical interpretation. Representative plays are studied in detail. Required of all English majors and minors. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 396. Topics in Shakespeare**

This course will provide a close look at a few of Shakespeare's plays. Credit 3 units.

**A&S** TH

**E Lit 398. Junior Honors Seminar**

*Same as LH 398.*

Topic or writer to be studied varies from semester to semester; consult *Course Listings*. Designed for students seriously considering Honors in English. Prerequisite: permission of instructor. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 4003. Blacks in Fiction**

Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 402. Introduction to Graduate Studies I: Research**

Introduction to academic scholarship and related professional activities. A workshop in developing topics, conducting research and preparing and presenting conference papers, articles, and grant proposals. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 4021. Introduction to Graduate Studies II**

Continued introduction to academic scholarship and related professional activities. A workshop in developing topics, conducting research and preparing and presenting conference papers, articles, and grant proposals. Open only to graduate students in the English Department. Credit 2 units.

**E Lit 403. Black and White in American Drama**

*Same as Drama 4031.*

This course will address the complex issue of race in America through the 19th and 20th centuries as dramatized by American playwrights, black and white. Authors include Countee Cullen, Lillian Hellman, Eugene O'Neill, Jean Toomer, Langston Hughes, and Arthur Miller. Prerequisites: junior standing, two 300-level courses or better. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 404. Topics for Writers: Beckett**

*Same as Drama 404.*

*Waiting For Godot, Happy Days, Krapp's Last Tape*: these are but three of Samuel Beckett's revolutionary texts for theater. The complete canon of plays will be examined for structure and compositional elements. Students undertake exercises in dramatic composition and perform a chamber presentation of *Endgame*. Course is intended for writers with some experience of the dramatic form. Intending students MUST interview with instructor Nov. 12–14. Credit 3 units.

**A&S** LA **FA** Lit

**E Lit 405. Living Influences: Poets and the Poets Who've Shaped Them**

This course examines a number of very contemporary collections of poetry (e.g. from first books by writers like Karen Volkman and Greg Williamson, to more established writers like Carl Phillips and Frank Bidart) to discover how generations of writers speak to and through one another. The course considers the nature and possible anxieties of writerly influence and how traditional and/or canonical writers' voices, verse, and vision have shaped a number of poets writing today. This class requires at least a basic knowledge of poetry in English up to the 1950s as we will be moving freely among writers such as Ben Jonson, George Herbert, Gerard Manly Hopkins, and Emily Dickinson,

as well as Pound, Eliot, Lowell, and Plath. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 407. Old English, Introductory**

*Same as Ling 407.*

Study of the Anglo-Saxon language and introduction to major prose and short poetry of the period. Prerequisites: junior standing and 6 units of literature. Credit 3 units.

**A&S** LA **FA** Lit

**E Lit 408. Old English Literature**

Close study of some major literary texts (e.g., *Beowulf*, the Exeter book) and major issues (e.g., Anglo-Saxon and Latin culture, traditions of heroic literature) of the Anglo-Saxon tradition. Prerequisite: E Lit 407 or permission of instructor. Credit 3 units.

**A&S** LA **FA** Lit

**E Lit 410. Medieval English Literature I**

Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 4101. Medieval English Literature II**

*Same as WGSS 4101.*

Topics course in Medieval English literature. Credit 3 units.

**A&S** TH

**E Lit 411. Old and Middle English Literature**

Early English literature from *Beowulf* and Anglo-Saxon poetry, in translation, through major works in Middle English of the 14th and 15th centuries, exclusive of Chaucer. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 4111. Interdisciplinary Studies in the Humanities**

*Same as Hum 4111.*

**A&S** TH

**E Lit 413. 17th-Century English Literature: 1603–1660**

Selected readings in English literature from Donne and Jonson through Dryden. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 415. 18th-Century English Literature**

*Same as LH 422, WGSS 415.*

Selected readings in English literature from Pope and Swift through the age of Johnson. Credit 3 units.

**A&S** TH **FA** Lit

**E Lit 415A. Readings in 19th-Century English Literature**

Credit 3 units.

**A&S** TH **FA** Lit

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

**E Lit 416. English Literature of the Romantic Period**

Credit 3 units.  
**A&S TH FA** Lit

**E Lit 417. Roman Remains: Traces of Classical Rome in Modern British Literature**

*Same as Hum 4171.*  
**A&S TH**

**E Lit 418. Victorian Literature 1830–1890**

*Same as LH 418.*  
 Readings in such authors as Carlyle, Tennyson, Browning, Mill, Arnold, and Pater. Credit 3 units.  
**A&S TH FA** Lit

**E Lit 420. Topics in English and American Literature**

*Same as AMCS 4201.*  
 Comparing the literatures—readings in the literature and theory of English and American Literature. Topics vary according to semester offerings. Credit 3 units.  
**A&S TH FA** Lit

**E Lit 420.4. Film Theory**

*Same as Film 420.*  
**A&S TH, WI FA** Lit

**E Lit 423. Topics in American Literature**

*Same as AFAS 424, URST 423.*  
 Credit 3 units.  
**A&S SD, TH FA** Lit

**E Lit 423.1. Topics in American Literature I**

*Same as LH 4232, WGSS 4233, AMCS 4231.*  
 Credit 3 units.  
**A&S TH FA** Lit

**E Lit 423.2. Slavery and the American Imagination**

*Same as AMCS 4232, AFAS 435.*  
 Credit 3 units.  
**A&S TH FA** Lit

**E Lit 423.3. The New England Tradition in American Literature**

Credit 3 units.

**E Lit 423.4. Religion and the Public Sphere in Early America**

*Same as EnSt 424, WGSS 4241.*  
 Credit 3 units.  
**A&S TH FA** Lit

**E Lit 424.1. In the Kingdom of Swing-Black American Culture**

An examination of the development of African-American literature and culture between 1929 and 1941. Credit 3 units.  
**A&S TH FA** Lit

**E Lit 424.3. Contemporary African-American Drama**

A close study of selected plays from Africa, the Caribbean and the United States. We shall consider plays by Lonnie Carter, John Pepper Clark, Adrienne Kennedy, Wole Soyinka, Efuia T. Sutherland, Derek Walcott, and Edgar White, among others. Credit 3 units.  
**A&S TH FA** Lit

**E Lit 424.4. Topics in African-American Literature**

*Same as AFAS 429, AMCS 4244, AMCS 4244.*  
 Credit 3 units.  
**A&S TH FA** Lit

**E Lit 425. Early American Literature**

From the invention of “America” to the writings of Edgar Allan Poe. Topics include the literature of colonization, native American myths, New England Puritanism, representative texts of the Ameri-

can Revolution and Early Republic, fiction and drama in the period of literary nationalism. Credit 3 units.

**A&S TH FA** Lit

**E Lit 425.5. Seminar in Theater History**

*Same as Comp Lit 425.*  
**A&S TH FA** Lit

**E Lit 426. The American Renaissance**

*Same as AMCS 4291.*  
 Literature of the mid-19th century with attention to social and intellectual backgrounds and the sources of the transcendentalist movement. Credit 3 units.

**A&S TH FA** Lit

**E Lit 427. American Literature: The Rise of Realism to World War I**

The maturing of American literature from the regional origins of realistic fiction just prior to the Civil War through the early naturalist novel and the beginnings of modern American poetry. Credit 3 units.

**A&S TH FA** Lit

**E Lit 428. Modernism and Postmodernism**

*Same as AMCS 431.*  
 Readings in early sources of 20th-century developments, followed by a selective survey of literary discourse from the 1920s through the 1990s in the United States. Prerequisites: junior standing and 6 units of literature or graduate standing. Credit 3 units.

**A&S TH FA** Lit

**E Lit 428.2. English Modernist Fiction**

The first half of the 20th century produced some of English fiction’s greatest individual achievements, linked by writers’ attempts to represent, through narrative experiments, a world in which many certainties about self and society were dissolving. Attentive reading of 10 novels or short story collections; study of the historical and cultural contexts to which these writers were responding. Among writers to be considered: E.M. Forster, Virginia Woolf, D.H. Lawrence, Rebecca West, Joseph Conrad, Katherine Mansfield, and Ford Madox Ford. Credit 3 units.

**A&S TH**

**E Lit 429. American Fiction Since 1945**

*Same as AMCS 4301.*  
 Credit 3 units.

**A&S TH FA** Lit

**E Lit 431. English Drama, Exclusive of Shakespeare, to 1642**

*Same as Drama 431.*  
 Studies of selected major plays against a background of change and tradition in English drama from its beginnings to the closing of the theaters. Credit 3 units.

**A&S TH FA** Lit

**E Lit 431.2. Early Drama**

This unit is concerned with English and European drama and spectacle from late Roman theater onward: primarily in England, but with comparative material from France and Italy. The chronological span of the course will end at about 1600; the working assumption is that there is no clean break between Medieval and Renaissance drama, but that the theaters and scripts of the late 16th century should be understood as developing out of, as well as departing from, earlier theatrical traditions and practices. Credit 3 units.

**A&S TH FA** Lit

**E Lit 432. Topics in Renaissance Drama**

*Same as Drama 432.*  
 A study of Elizabethan and Jacobean theatrical culture—the plays, players, playwrights, and audi-

ences of public theaters, private theaters, and banqueting halls. Study includes the plays of Lyly, Kyd, Marlowe, Jonson, Chapman, Ford, Beaumont, Fletcher, Marston, Middleton, Webster, and Shakespeare. Credit 3 units.

**A&S TH FA** Lit

**E Lit 432.3. Reading in the Renaissance: Texts and Practices**

Examination of reading practices among original audiences for Wyatt, Sidney, Shakespeare, Donne, Jonson, Herrick, Marvell, Rochester, and Dryden and application to our understanding and experience of early modern texts. Credit 3 units.

**E Lit 433. Studies in Drama After 1660****E Lit 433.1. American Drama**

*Same as Drama 453.*

**A&S TH FA** Lit

**E Lit 434. Topics in English and American Drama**

Varies from semester to semester. Credit 3 units.

**A&S TH FA** Lit

**E Lit 435. Childhood and Society: The Formation of Children’s Literature**

An intensive examination of some of the major works that have shaped the canon and conception of children’s literature in the English-speaking world. Among the authors to be studied are George Macdonald, Mark Twain, Kenneth Grahame, L. Frank Baum, Lewis Carroll, Robert Louis Stevenson, Rudyard Kipling, and others. If time permits at the end of the course, we will examine some works that appeared in *The Brownies Book*, the children’s publication of the NAACP that appeared in 1920 and 1921, edited by W.E.B. Du Bois and Jessie Fauset, a significant attempt to create a literature for children of color. Credit 3 units.

**A&S TH FA** Lit

**E Lit 436. Craft of Fiction: Dialogue**

This literature/creative writing hybrid course will concentrate on the element of dialogue in fiction. We’ll focus on 20th-century novels and stories that use dialogue in radical ways or that place conversational dynamics at the center of their projects, probably including works by Don DeLillo, Henry Green, Grace Paley, and Philip Roth. We’ll consider the architecture of conversations—the evasions and hidden agendas; the art of the well-made monologue; how speech is shaped by varieties of linguistic capital; and secrets as a narrative device, extending into issues of conspiracy and paranoia. As this will be a craft rather than a traditional literature course, we’ll approach the texts as creative writers (although experience as such is not required), considering what they have to say through a primary emphasis on the means they develop to say it, and we’ll put the craft into practice: assignments will include both a critical paper and a short story using radical elements of dialogue. We’ll also make room for some consideration of the dynamics of actual conversations, outside of fiction, through a reading of some conversational analysts and speech-act theorists, and through some real-world experiments. Credit 3 units.

**A&S TH**

**E Lit 437. Literary Theory: The Subject and Subjection**

Credit 3 units.

**E Lit 438. African-American Comedy**

Credit 3 units.

**A&S TH FA** Lit

**E Lit 439. Literary Theory**

Literary Theory course. Credit 3 units.

**A&S TH**

**E Lit 440. Modernism**

Credit 3 units.

A&amp;S TH

**E Lit 441. Literature of Catastrophe***Same as Comp Lit 442.*

In this course, we will examine the ways in which art, both literary and visual, attempt to address catastrophic events. Credit 3 units.

A&amp;S TH

**E Lit 442. Introduction to Romantic Poetry**

We will read the poetry of the major Romantics—Blake, Wordsworth, Coleridge, Shelley, Byron, and Keats—with attention to their biographical, historical, economic, and cultural contexts. Credit 3 units.

**E Lit 4451. Seminar: 19th-Century Theater in the United States and Britain****E Lit 4453. Seminar: Contemporary Irish Drama****E Lit 4454. Irish Women Writers***Same as WGSS 4454.*

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 446. Introduction to Contemporary Poetry**

Introduction to contemporary poetry. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4461. American Studies and Poetry: The 20th Century**

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 447. Modern British and American Poetry**

Modern poetic forms, schools, and techniques. Readings in such poets as Yeats, Eliot, Pound, Moore, Auden, Bishop, Hill. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4471. Modern Poetry I: Modernisms**

American and British poetry before, during, and after World War I. Readings include Hardy, Yeats, Frost, Stein, Eliot, Williams, Moore, Johnson, Pound, H.D., and Stevens, as well as selections from Wordsworth, Whitman, and Dickinson. First half of two-course sequence; second half optional. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4472. Modern Poetry II: Post-Modernisms**

American and British poetry from 1930 to the present. Readings include Stevens, Riding, Crane, Zukofsky, Bunting, Auden, Brooks, Olson, Bishop, Merrill, Ashbery, Hill, Ammons, Rich, Wright, and Howe. Prerequisite: E Lit 4471 or permission of instructor. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4485. Topics in Irish Literature I***Same as EuSt 4485, IAS 4485.*

Topics course in Irish literature. Credit 3 units.

A&amp;S TH

**E Lit 449. 20th-Century Irish Poetry**

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4492. The Irish Literary Revival**

The class will study major writings by Oscar Wilde, W.B. Yeats, J.M. Synge, James Joyce, and Flann O'Brien within the contexts of the language movement, colonialism, cultural nationalism, the socialist movement and the 1913 Lockout, the Easter Rising and the War for Independence, the Civil War, the founding of the Irish Free State, the Partition, and the Irish Theocracy. Wilde's notions of the primacy of art with regard to politics and

their elaboration by W.I. Thompson and Declan Kiberd will be an organizing principle in the course. The class will see two films, offer oral reports, and write papers. Credit 3 units.

A&amp;S TH

**E Lit 450. American Film Genres***Same as Film 450.*

A&amp;S TH FA Lit

**E Lit 4502. Topics in Film and Media Studies***Same as Film 458.*

A&amp;S TH

**E Lit 4503. Hollywood Film Genres, 1950s/1990s****E Lit 4504. Patronage and the Circumstances of Writing in Early Modernity****E Lit 4505. Junior Colloquium***Same as Hum 450.*

A&amp;S TH, WI

**E Lit 4531. American Drama***Same as Drama 453.*

A&amp;S TH FA Lit

**E Lit 4533. Seminar: Tennessee Williams****E Lit 455. English Novel of the 18th Century***Same as WGSS 4550.*

Prose fiction by such writers as Defoe, Richardson, Fielding, Smollett, and Sterne. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4551. English Novel of the 18th Century**

Variable topics, such as Women and the Rise of the Novel, Daniel Defoe and the Problem of the Modern, The Bastard in the 18th Century Novel. Credit 3 units.

A&amp;S TH

**E Lit 456. English Novel of the 19th Century***Same as E Lit 456, IAS 4560, EuSt 4560.*

Prose fiction by such writers as Jane Austen, Dickens, Thackeray, George Eliot, the Brontës, and Hardy. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 458. The Modern Novel**

Content and craft in the varying modes of the American, British, and continental modern novel by such writers as James, Joyce, Lawrence, Faulkner, Kafka, Mann, Gide, Camus. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4581. Modern British Novel**

A selection of books by some of the major 20th-century figures: Henry James, Samuel Butler, Joseph Conrad, James Joyce, D.H. Lawrence, Virginia Woolf, E.M. Forster, Elizabeth Bowen, Graham Greene, Christopher Isherwood, Sybille Bedford, V.S. Naipaul, William Trevor, and Kazuo Ishiguro. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4582. The North American Novel, 1945 to the Present**

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4583. British Fiction after Modernism**

Course attempts to identify characteristics of British postmodern fiction: experimental novels of the 1970s and 1980s—works by, for example, John Fowles, Alasdair Gray, and Martin Amis; the “devolution” of British fiction into its constituent Scottish and English strands in the 1980s and 1990s, as well as its simultaneous globalizing as diasporic novelists wrote from Britain about “home.” Younger writers, in frequently provocative ways, address the questions of nation, place, class, and sexual identity that have dominated the post-war period. Credit 3 units.

A&amp;S TH

**E Lit 4584. Contemporary Fiction***Same as AMCS 4584.*

Credit 3 units.

A&amp;S TH

**E Lit 4591. The Modern European Novel**

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4601. The Shaping of Modern Literature***Same as LH 452.*

Themes and major figures associated with the shaping of the modern literary imagination, including such topics as Freudian and Jungian versions of the self, phenomenological thought, the symbolist imagination, and such masters as Hegel, Kafka, Kierkegaard, and William and Henry James. Topics vary each semester; consult Course Listings. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 461. Topics in English Literature I***Same as IAS 4610, Med-Ren 4613, Med-Ren 4612, Art-Arch 462.*

Studies in special subjects, e.g., allegory and symbolism in the medieval period, the sonnet in English literature, English poetry and politics. Consult Course Listings. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 462. Topics in English Literature II***Same as WGSS 462, Med-Ren 462, AMCS 4620.*

Variable topics, such as Travel and Colonization in the Renaissance; Renaissance Skepticism and the Literature of Doubt. Credit 3 units.

A&amp;S SD, TH FA Lit

**E Lit 463. American Culture Traditions, Methods, Visions***Same as AMCS 475.*

A&amp;S TH

**E Lit 4631. Topics in English Literature and History: The 17th Century***Same as History 4631.*

Variable topics, such as Writing, Politics, and Society in Revolutionary England, Life Writing and Literature in Early Modern England. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4651. Topics in European Literature and History**

The course gives equal time to historical and textual approaches, fiction and nonfiction, lecture and discussion, and is organized around the following rubrics: Worlds we have lost, the permanent crisis; aesthetic and spiritual, totalitarianism and resistance, and postcommunism and postmodernism. Such writers as Gibbon, Nietzsche, Kafka, Schultz, Krudy, Cioran, Hasek, Dery, Freud, Gombrowicz, Illyes, Wat, Schorske, and Enzenberger. Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4653. Banned Books**

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 466. Seminar in Theory and Methods***Same as Hum 405.*

A&amp;S TH

**E Lit 4681. Topics in English Literature and History***Same as History 4681.***E Lit 469. Theory and Methods***Same as Hum 405.*

A&amp;S TH

**E Lit 4693. Topics in European Literature and History**

Credit 3 units.

A&amp;S TH FA Lit

**E Lit 4701. Topics in World Literature and History**Credit 3 units.  
A&S TH FA Lit**E Lit 4702. Topics in World Literature and History**Credit 3 units.  
A&S TH FA Lit**E Lit 472. History of the English Language**  
*Same as PNP 472, Ling 472.*Concepts and methods of linguistical study: comparative, historical, and descriptive. Application of methods to selected problems in the history of English. Contrastive analysis of excerpts from Old, Middle, and later English; sounds, meanings, syntax, and styles. Credit 3 units.  
A&S LA FA Lit**E Lit 475. Intellectual History of Feminism**  
*Same as WGSS 475.*

A&amp;S TH FA Lit

**E Lit 4751. American Culture: Traditions Methods and Visions****E Lit 476. Feminist Literary Theory**  
*Same as WGSS 419.*

A&amp;S TH

**E Lit 478. The Craft of Fiction**A literature/creative writing hybrid course concentrating on the element of dialogue in fiction, reading novels and stories that use dialogue in radical ways, including works by Don DeLillo, Henry Green, Zora Neale Hurston, Grace Paley, and Philip Roth. Credit 3 units.  
A&S LA FA Lit**E Lit 479. The Art and Craft of Poetry**An examination of poetry from its beginnings in English to the present considering the relationship between earlier traditions and the manifestations of those traditions in contemporary poetry. Issues such as image, metaphor and the employment of it, notions of vision, the extent to which vision can spring from the intersection of art and craft. Study of prosody, reading poems which exemplify the successful use of prosodic technique, and trying our own hands at those techniques as well. Credit 3 units.  
A&S LA FA Lit**E Lit 4801. Screenwriting***Same as Drama 480.*  
A&S LA**E Lit 481. Selected English Writers I**Concentrated study of one or two major English writers, e.g., Spenser, Dickens, Blake, Yeats. Consult Course Listings. Credit 3 units.  
A&S TH FA Lit**E Lit 482. Selected English Writers II**Concentrated study of one or two major English writers, e.g., Spenser, Dickens, Blake, Yeats. Consult Course Listings. Credit 3 units.  
A&S TH FA Lit**E Lit 483. Selected American Writers I**Concentrated study of one or two major American writers, e.g., Gertrude Stein and Richard Wright; Emily Dickinson. Consult Course Listings each semester for specific authors. Credit 3 units.  
A&S TH FA Lit**E Lit 484. Selected American Writers II**Credit 3 units.  
A&S TH FA Lit**E Lit 490. Culture Industry: The Politics of Distraction****E Lit 491. Chaucer**Readings in the *Canterbury Tales*. Lectures on background; critical analysis. Credit 3 units.  
A&S TH FA Lit**E Lit 493. Spenser**Readings in the *Faerie Queene* and *Shepherd's Calendar*, with attention to Spenser's deliberate fashioning of a literary career. Credit 3 units.  
A&S TH FA Lit**E Lit 494. Milton***Same as LH 468, MLA 4941.*Major poems and prose works in relation to literary and intellectual currents of the 17th century. Credit 3 units.  
A&S TH FA Lit**E Lit 495. Milton and Early Modern Poetry**Two-course sequence on Milton and his various contexts. Credit 3 units.  
A&S LA**E Lit 4951. Seminar: The 19th-Century European Novel***Same as Comp Lit 495.*  
A&S TH FA Lit**E Lit 4969. Shakespeare in Production***Same as Drama 469.*  
A&S LA**E Lit 4976. Advanced Seminar in Literature***Same as History 4976.*  
A&S TH**E Lit 498. The Spenser Lab**This course involves graduate and undergraduate students in the ongoing work of the Spenser Project, an inter-institutional effort to produce a traditional print edition of the *Complete Works of Edmund Spenser*. Credit 3 units.  
A&S TH**E Lit 498W. The Spenser Lab**In this writing-intensive course, the students will be given a variety of writing tasks: writing commentaries, introductions, software manuals, grant proposals, software requirements, and design documents (SRDDs). Credit 4 units.  
A&S TH, WI

## Environmental Studies

**Director****Jan P. Amend**, Associate Professor  
(Earth and Planetary Sciences)  
Ph.D., University of California–Berkeley**Associate Director****Tiffany Knight**, Assistant Professor  
(Biology)  
Ph.D., University of Pittsburgh**Endowed Professors****Raymond E. Arvidson**James S. McDonnell Distinguished  
University Professor  
(Earth and Planetary Sciences)  
Ph.D., Brown University**Pratim Biswas**Stifel and Quinette Jens Professor  
(Chair, Department of Energy, Environmental and Chemical Engineering)  
Ph.D., California Institute of Technology**Milorad (Mike) Duduković**Laura and William Jens Professor  
(Chemical Engineering)  
Ph.D., Illinois Institute of Technology,  
Chicago**Edward S. Macias**Barbara and David Thomas  
Distinguished Professor in Arts & Sciences  
(Chemistry)  
Ph.D., Massachusetts Institute of Technology**Robert Pollak**Hernreich Distinguished Professor of  
Economics  
(Economics)  
Ph.D., Massachusetts Institute of Technology**Barbara A. Schaal**Spencer T. Olin Professor in Arts & Sciences  
(Biology)  
Ph.D., Yale University**Alan R. Templeton**Charles Rebstock Professor  
(Biology)  
Ph.D., University of Michigan**Professors****Richard Axelbaum**(Energy, Environmental and Chemical Engineering)  
Ph.D., University of California–Davis**Robert E. Criss**(Earth and Planetary Science)  
Ph.D., California Institute of Technology**Willem H. Dickhoff**(Physics)  
Ph.D., Free University, Amsterdam**Robert F. Dymek**(Earth and Planetary Sciences)  
Ph.D., California Institute of Technology**J. Claude Evans**(Philosophy)  
Ph.D., State University of New York, Stony Brook

**M. Bruce Fegley**  
(Earth and Planetary Sciences)  
Ph.D., Massachusetts Institute of Technology

**T. R. Kidder**  
(Anthropology)  
Ph.D., Harvard University

**William R. Lowry**  
(Political Science)  
Ph.D., Stanford University

**Jill D. Pasteris**  
(Earth and Planetary Sciences)  
Ph.D., Yale University

**Bruce Petersen**  
(Economics)  
Ph.D., Harvard University

**D. Tab Rasmussen**  
(Physical Anthropology)  
Ph.D., Duke University

**Glenn D. Stone**  
(Anthropology)  
Ph.D., University of Arizona

**Robert W. Sussman**  
(Anthropology)  
Ph.D., Duke University

#### Associate Professors

**Jon M. Chase**  
(Biology)  
Ph.D., University of Chicago

**Clare Palmer**  
(Philosophy)  
Ph.D., Oxford University

**Jay R. Turner**  
(Chemical Engineering  
and Civil Engineering)  
D.Sc., Washington University

#### Assistant Professors

**Jeffrey G. Catalano**  
(Earth and Planetary Sciences)  
Ph.D., Stanford University

**Geoff Childs**  
(Anthropology)  
Ph.D., Indiana University

**Ellen Damschen**  
(Biology)  
Ph.D., North Carolina State University

**Daniel Giammar**  
(Energy, Environmental and Chemical Engineering)  
Ph.D., California Institute of Technology

**Ken Olsen**  
(Biology)  
Ph.D., Washington University

**John Orrock**  
(Biology)  
Ph.D., Iowa State University

**Jennifer R. Smith**  
(Earth and Planetary Sciences)  
Ph.D., University of Pennsylvania

**Jane Wolff**  
(Architecture)  
MLA, Harvard University

**Professor Emeritus**  
**Owen J. Sexton**  
(Biology)  
Ph.D., University of Michigan

#### Additional Faculty

**Maxine I. Lipeles**  
(Law, Interdisciplinary Environmental  
Clinic)  
J.D., Harvard University

**Beth Martin**  
(Law and Environmental Studies)  
M.S., Washington University

Environmental Studies is an exciting interdisciplinary program that gives you a relevant and comprehensive look at the various systems that shape the Earth's environment. This course of study offers you the opportunity to major or minor in either environmental natural science or societal issues associated with the environment. The program's curriculum reflects the breadth of environmental studies and allows you to explore in depth the environmental connections between different fields of study.

Because this degree program was created in response to student demand and faculty interest, both play an important role in shaping the atmosphere of interdisciplinary learning. Dedicated faculty from anthropology, architecture, biology, chemistry, earth and planetary sciences, economics, environmental engineering, law, philosophy, physics, and political science participate in the program. Outside the classroom, environmentally related student groups organize outings to local areas of interest.

As a major or minor in Environmental Studies, you may participate in environmental research or fieldwork. Fieldwork has included surveying local wetlands to study the effects of flooding, investigating the biological effects of lead smelting, and using satellite imagery to study the effects of flooding in river channels. Some examples of research have included studying thermophiles from Vulcano Island, Italy, co-management of National Parks, and Green Energy in the United States. You may choose to work in field schools or conduct research in environmental policy during a year abroad. In the past, students have worked in South Africa, Australia, Costa Rica, and Kenya. Also, internships are available with local organizations and businesses, including environmental consulting firms.

With a degree in Environmental Studies, you may pursue graduate work or an academic career, work for nonprofit organizations or for businesses in the private sector, or enter public service with, for example, the Forest Service or Justice Department.

Environmental Studies offers three different Tracks for students to follow:

**Track 1—Social Science.** This track is designed to give students a broad understanding of the environment with regard to anthropology, economics, history, philosophy,

and political science. Students must complete five core requirements: EnSt 294, EnSt 295, EPSc 201, a capstone experience, and one of the two following courses: EnSt/Anthro 361 or EnSu/Pol Sci 332.

In addition to the five core requirements, students must also complete an additional five electives from a select list.

**Track 2—Geoscience.** This track is for students interested in Earth surface processes, including global elemental cycling, land use, aqueous geochemistry, geobiology, paleoenvironmental processes, and climate change. Students must complete nine core requirements: EnSt 294, EnSt 295, EPSc 201, EPSc 323, EPSc 352, Math 131, Math 132, Chem 111, Chem 112, a capstone experience, and one of the two following courses: EnSt/Anthro 361 or EnSu/Pol Sci 332.

In addition to the nine core requirements, students must also complete an additional six electives from a select list.

**Track 3—Biology/Ecology.** This track provides students with a strong background in biology and ecology, with emphasis on evolution, genetics, botany, population, and behavior. Students must complete eight core requirements: EnSt 294, EnSt 295, Biol 381, EPSc 201, Math 131, Math 132, Chem 111, Chem 112, a capstone experience, and one of the two following courses: EnSu/Anthro 361 or EnSt/Pol Sci 332.

In addition to the nine core requirements, students must also complete an additional seven electives from a select list.

**Capstone Experience:** The capstone experience is meant to provide students with an educational experience that cuts across course work and allows them to integrate and synthesize the knowledge they have gained as an Environmental Studies major. It is a requirement that applies to all tracks within the major. The capstone requirement is met by completing EnSt 490, Senior Seminar. The Environmental Studies Senior Seminar brings Environmental Studies seniors together to communicate across interdisciplinary boundaries while examining a selected topic of current interest in depth. In doing so, students will be asked to reflect upon their previous course work as they discuss, evaluate, and critically analyze the selected topic. The seminar will be an experiential course, introducing students to the "real world" in which the selected topic exists. To achieve this goal, the seminar will incorporate field trips and projects with community and environmental groups concerned about working to address the selected topic.

**Students can design their own major.** Due to the diversity of topics in Environmental Studies, we realize that there may be some students who have an interest in the environment that is not properly covered by the approved curriculum. Therefore, students may propose their own track instead of working on the set requirements. Such tracks must propose a rigorous course of study that has a consistent theme that provides a depth of un-

derstanding in an area of environmental studies. Examples of appropriate tracks might be “Global Climate Change,” “Behavioral Science and the Environment,” or “Paleobiology.” Proposed tracks that sample broadly across Environmental Studies but without depth will not be approved. Students should identify and work with a sponsor to develop a track. Proposed tracks must be approved by the sponsor and the program director.

**The Minor:** Students planning to minor in Environmental Studies must take the following courses: EnSt 294, EnSt 295, EPSc 201, and one of the two following courses: EnSt/Anthro 361 or EnSt/Pol Sci 332. In addition to the four core requirements, students must also complete an additional two electives from a select list.

## Undergraduate Courses

### EnSt 109A. Quantitative Reasoning in Environmental Science

Same as EPSc 109A.  
A&S NS, QA FA NSM

### EnSt 110. Introduction to Environmental Studies

Same as Biol 1100, AMCS 1100, Biol 1101. This course offers an overview of topics and disciplines needed to understand the environmental issues and challenges of today’s world. The course will integrate aspects of biology, earth science, and policy. Specific topics will include preserving biodiversity, nature preserve management, human population growth, energy, pollution, and sustainability. For non-Environmental Studies majors. Credit 3 units.

A&S NS

### EnSt 125. The Dinosaurs: “Facts” and Fictions

Same as EPSc 125.  
A&S NS

### EnSt 201. Earth and the Environment

Same as EPSc 201.  
A&S NS

### EnSt 209. Design Process

Same as ARCH 209.

### EnSt 221A. Human Use of the Earth

Same as EPSc 221A.  
A&S NS FA NSM

### EnSt 222. Topics in Japanese Literature and Culture: Environmental Consciousness in Modern Japanese Literature

Same as Japan 221.  
A&S TH

### EnSt 272A. Physics and Society

Same as Physics 171A.  
A&S NS, QA FA NSM

### EnSt 294. Introduction to Environmental Studies: Social Sciences

Same as AMCS 294. Introduction to interdisciplinary environmental study in the social sciences and humanities. Topics include: differing interpretations of “nature” and “environment”; contrasting understandings of relationships between humans and their environments; key concepts in environmental studies such as “sustainable development” and “the precautionary principle”; different conceptions of, and objections to, environmentalism. These ideas and debates will be explored in the context of important current environmental controversies. No prerequisites. Credit 3 units.

A&S SS

### EnSt 295. Introduction to Environmental Studies: Biology

Same as Biol 295.

A broad and integrative overview of biological aspects of environmental science focusing primarily on ecology, including behavioral, population, community, and ecosystem ecology; animal behavior; and conservation biology. Credit 3 units.

A&S NS

### EnSt 299. Directed Internship

Internship with an environmental organization (commercial, not-for-profit, governmental, etc.) where the primary objective is to obtain professional experience outside of the classroom. Student must have a faculty sponsor, and must file a Learning Agreement with the Career Center, the faculty sponsor, and the site supervisor. A final written project is to be agreed upon between the student and faculty sponsor before work begins, and will be evaluated by the faculty sponsor at the end of the internship. Detailed supervision of the intern is the responsibility of the site supervisor. Credit variable, maximum 3 units.

### EnSt 3053. Nomadic Strategies and Extreme Ecologies

Same as Anthro 3053.  
A&S SS FA SSP

### EnSt 306B. Africa: Peoples and Cultures

Same as Anthro 306B.  
A&S CD, SS FA SSP

### EnSt 323. Biogeochemistry

Same as EPSc 323.  
A&S NS FA NSM

### EnSt 332. Environmental and Energy Issues

Same as Pol Sci 332B.  
A&S SS FA SSP

### EnSt 3322. Brave New Crops

Same as Anthro 3322.  
A&S SS FA NSM

### EnSt 335F. Introduction to Environmental Ethics

Same as Phil 235F.  
A&S TH FA SSP

### EnSt 345. Pollution Abatement and Waste Minimization

Same as ChE 345.

### EnSt 361. Culture and Environment

Same as Anthro 361.  
A&S SS FA SSP

### EnSt 370. Biological Conservation

Conservation biology is a science borne out of the current extinction crisis. This course will examine the causes of the decline of biodiversity across the planet, including social, economic and political, as well as biological, issues. Biological implications of this loss will be discussed, as will the ways in which further degradation of the ecological systems on Earth can be prevented. Specific topics will include habitat and endangered species management, conservation genetics, reserve design, environmental law, and the history of the conservation movement. Prerequisite: EnSt 295 (preferred), Biol 2970 or consent of instructor. Credit 3 units.

A&S NS

### EnSt 372. Behavioral Ecology

Same as Biol 372.  
A&S NS FA NSM

### EnSt 373. Behavioral Ecology Lab

Laboratory/field course exploring topics in animal behavior and ecology. The primary goal of this course is to introduce students to experimental and observational techniques commonly used in studies of organisms and their environment. Methods

studied will include measures of population abundance, spatial dynamics, foraging behavior, and community structure. Much of this course will take place in the field. Students should be prepared for the possibility of cold and/or inclement weather. Credit 2 units.

A&S NS

### EnSt 379. Feast or Famine: Archaeology and Climate Change

Same as Anthro 379.  
A&S SS

### EnSt 3793. Mississippi River Basin: Past, Present, and Future

Same as Anthro 3793.  
A&S SS

### EnSt 381. Introduction to Ecology

Same as Biol 381.  
A&S NS

### EnSt 390. Independent Study

Independent study for undergraduates, to be supervised by a faculty member. Prerequisite: permission of instructor. Credit variable, maximum 6 units.

### EnSt 391. Directed Research in Environmental Studies

Research activities or project in environmental studies done under the direction of an instructor in the program. Prerequisites: permission of an instructor and of the chair of the program. Credit variable, maximum 6 units.

### EnSt 392. Directed Fieldwork in Environmental Studies

Fieldwork carried out under the direction or supervision of an instructor in the program. Prerequisites: permission of an instructor and of the chair of the program. Credit variable, maximum 6 units.

### EnSt 393. Practical Skills in Environmental Biology Research

Same as Biol 393.

This course will provide students with an interest in research in environmental biology and a broad overview of the skills and tools needed for a successful career. Topics covered will include: (1) developing ideas/approaches for research projects, (2) experimental design and analyses, (3) using the primary literature effectively, (4) writing successful small grant and fellowship proposals, (5) writing/reporting results. In addition, students will learn other important field biology skills, including a variety of field methods, as well as coping with rough field conditions. Some Saturday and night-time field trips required. Grading will be based primarily on class participation and take-home assignments. Prerequisites: permission of Professor Chase and at least one of the following courses: EnSt 295, EnSt 370, EnSt 373, Biol 3501, Biol 372, Biol/EnSt 381, Biol/EnSt 4170, Biol/EnSt 419, Biol 4191, Biol/EnSt 4193. Credit 2 units.

A&S NS

### EnSt 408. Earth’s Atmosphere and Global Climate

Same as EPSc 408.  
A&S NS FA NSM

### EnSt 4170. Population Ecology

Same as Biol 4170.  
A&S NS

### EnSt 419. Population and Community Ecology

Same as Biol 419.  
A&S NS FA NSM

### EnSt 4193. Experimental Ecology Laboratory

Same as Biol 4193.  
A&S NS, WI

**EnSt 424. Topics in American Literature I, II***Same as E Lit 424.***A&S** TH **FA** Lit**EnSt 428. Hydrology***Same as EPSc 428.***A&S** NS **FA** NSM**EnSt 432. Environmental Mineralogy***Same as EPSc 430.***A&S** NS **FA** NSM**EnSt 437. Environmental Risk Assessment***Same as ChE 438.***EnSt 443. Environmental Chemistry***Same as ChE 443.***EnSt 444. Environmental Geochemistry***Same as EPSc 444.***A&S** NS **FA** NSM**EnSt 4491. Microbes in the Environment***Same as EPSc 449.***A&S** NS**EnSt 451. Environmental Policy***Same as Econ 451.***A&S** SS **FA** SSP**EnSt 455. Metropolitan Landscapes***Same as Arch 654D.***EnSt 464. Hybrid Landscapes: Ecology, Infrastructure, and Cultural Expression***Same as Arch 564H.***EnSt 479. Climate, Culture, and Human History***Same as Anthro 479.***A&S** NS**EnSt 480. Special Topics in Microbiology–Chemistry–Earth Science***Same as EPSc 480.***A&S** NS**EnSt 490. Senior Seminar**

Provides an opportunity for students majoring in environmental science and environmental social science to communicate across interdisciplinary boundaries. Topics of current interest to environmental studies are presented and discussed by students in weekly sessions. Efforts are made to communicate ideas from environmental science, biology, economics, anthropology, geology, political science, chemistry, and law in ways that are easily understood by all participants. Prerequisite: senior standing. Credit 3 units.

**A&S** NS**EnSt 490W. Senior Seminar—Writing Intensive**

This is a writing-intensive version of EnSt 490, Senior Seminar. Students will participate in the regular EnSt 490 class and are responsible for all the assignments associated with EnSt 490. Students in EnSt 490W will have one additional meeting each week—a writing workshop. Writing assignments will be designed to provide students with the opportunity to dissect, reconstruct and reflect upon topics discussed in EnSt 490. Students also will examine types of writing found in environmental studies. The class will consist of extensive drafting and revising of the student work including in-class editing workshops, peer reviews, and individual meetings between students and the instructor. Credit 5 units.

**A&S** NS, WI**EnSt 498. Senior Honors Research**

Independent research for undergraduate Honors, to be supervised by a faculty member. Prerequisites: senior standing, eligibility for Honors, and permission of instructor. Credit 3 units.

**EnSt 4980. Undergraduate Research Seminar***Same as EPSc 498.***A&S** NS, WI **FA** NSM**EnSt 499. Senior Honors**

Independent work for undergraduate Honors, to be supervised by a faculty member. Prerequisites: senior standing, eligibility for Honors, and permission of instructor. Credit 3 units.

## European Studies

**Co-Director****Lynne Tatlock**

Hortense and Tobias Lewin Distinguished University Professor in the Humanities (Germanic Languages and Literatures) Ph.D., Indiana University

**Co-Director****Steven C. Hause**

Senior Scholar in the Humanities (History) Ph.D., Washington University

**Endowed Professors****John R. Bowen**

Dunbar–Van Cleave Professor in Arts & Sciences (Anthropology)

Ph.D., University of Chicago

**Hillel J. Kieval**

Gloria M. Goldstein Professor of Jewish History and Thought (History)

Ph.D., Harvard University

**Paul Michael Lützel**

Rosa May Distinguished University Professor in the Humanities (German and Comparative Literature) Ph.D., Indiana University

**Hugh J. MacDonald**

Avis Blewett Professor of Music (Music)

Ph.D., University of Cambridge

**Stanley L. Paulson**

William Gardiner Hammond Professor of Law

(Law and Philosophy)

J.D., Harvard University

Ph.D., University of Wisconsin

**James V. Wertsch**

Marshall S. Snow Professor of Arts & Sciences (Anthropology, Education, and IAS) Ph.D., University of Chicago

**Professors****Gerald Izenberg**

(History)

Ph.D., Harvard University

**Lutz Koepnick**

(Germanic Languages and Literatures)

Ph.D., Stanford University

**Joseph Loewenstein**

(English)

Ph.D., Yale University

**Stamos Metzidakis**

(Romance Languages and Literatures)

Ph.D., Columbia University

**Dolores Pesce**

(Music)

Ph.D., University of Maryland

**Stephan Schindler**

(Germanic Languages and Literatures)  
Ph.D., University of California–Irvine

**Joseph Schraibman**

(Romance Languages)  
Ph.D., University of Illinois at  
Urbana–Champaign

**Henry I. Schvey**

(Performing Arts)  
Ph.D., Indiana University

**Harriet Stone**

(Romance Languages and Literatures)  
Ph.D., Brown University

**Associate Professors****Gaetano Antinolfi**

(Economics)  
Ph.D., Cornell University

**Guinn Batten**

(English)  
Ph.D., Duke University

**Elizabeth Childs**

(Art History and Archaeology)  
Ph.D., Columbia University

**Matt Erlin**

(Germanic Languages and Literatures)  
Ph.D., University of California–Berkeley

**Erin McGlothlin**

(Germanic Languages and Literatures)  
Ph.D., University of Virginia

**William McKelvy**

(English)  
Ph.D., University of Virginia

**Rebecca Messbarger**

(Romance Languages and Literatures)  
Ph.D., University of Chicago

**Max J. Okenfuss**

(History)  
Ph.D., Harvard University

**Michael Sherberg**

(Romance Languages and Literatures)  
Ph.D., University of California–Los Angeles

**Akiko Tsuchiya**

(Romance Languages and Literatures)  
Ph.D., Cornell University

**Assistant Professors****Charly Coleman**

(History)  
Ph.D., Stanford University

**Rebecca de Roo**

(Art History and Archaeology)  
Ph.D., University of Chicago

**Jennifer Kapczynski**

(Germanic Languages and Literatures)  
Ph.D., University of California–Berkeley

**Anca Parvulescu**

(English)  
Ph.D., University of Minnesota

**Peter Schmelz**

(Music)  
Ph.D., University of California–Berkeley

**Corinna Treitel**

(History)  
Ph.D., Harvard University

**Adjunct Faculty****Sabine Eckmann**

(Art)  
Curator, Washington University  
Mildred Lane Kemper Art Museum  
University of Erlangen–Nürnberg

**Professors Emeriti****Milica Banjanin**

(Russian)  
Ph.D., Washington University

**Elyane Dezon-Jones**

(Romance Languages and Literatures)  
Doctorat de 3e Cycle, University of Paris

**Wilhelm Neuefeind**

(Economics)  
Ph.D., Universitat Bonn

If you have an interest in a broadly interdisciplinary perspective on the cultures, histories, politics, and economics of modern Europe (1750–present), you may major in International and Area Studies (IAS) with a concentration in European Studies. Given the importance of Europe to the United States, both historically and in the contemporary period, the relevant course work for this concentration is found across a wide range of social science and humanities departments at Washington University. We offer advanced course work in most major European languages (including French, German, Italian, Russian, and Spanish) as well as study abroad opportunities in all these languages.

For the requirements for a major in International and Area Studies with a European Studies concentration, please refer to International and Area Studies.

**Undergraduate Courses****EuSt 3024. International Institutions**

*Same as Pol Sci 3024.*  
A&S SS

**EuSt 3093. Politics of the European Union**

*Same as Pol Sci 3093.*  
A&S SS

**EuSt 315. Russian Music**

*Same as Music 315.*  
A&S TH

**EuSt 3191. Interdisciplinary Studies in the Humanities: The European Avant-Garde**

*Same as Hum 3191.*  
A&S TH

**EuSt 320. British Cinema: A History**

*Same as Film 320.*  
A&S TH

**EuSt 321. Comparative European Politics**

*Same as Pol Sci 321.*  
A&S SS FA SSP

**EuSt 323. The Cinema of Eastern Europe in the Cold War Era**

*Same as Film 323.*  
A&S CD, TH

**EuSt 3250. French Film Culture**

*Same as Film 325.*  
A&S TH

**EuSt 328. History of German Cinema**

*Same as Film 328.*  
A&S TH

**EuSt 3290. Italian Neorealism**

*Same as Film 329.*  
A&S TH

**EuSt 3318. Topics in Holocaust Studies**

*Same as Ger 331.*  
A&S TH FA Lit, SSP

**EuSt 332. Topics in Film Studies: Italian Cinema**

*Same as Ital 332.*  
A&S TH FA AH, Lit

**EuSt 333. Economics of the European Union**

*Same as Econ 333.*  
A&S SS

**EuSt 3331. The Holocaust: The Experience of European Jewry**

*Same as History 333.*  
A&S SD, TH FA SSP

**EuSt 335. Topics in Italian Cinema: Pier Paolo Pasolini: Ideology, Sexuality, Representation**

*Same as Ital 334.*  
A&S TH FA AH

**EuSt 3350. The Jews in the Modern World**

*Same as IAS 334.*  
A&S CD, TH FA SSP

**EuSt 336. Cinema and Ireland**

*Same as Film 336.*  
A&S CD, LA

**EuSt 340. History of World Cinema**

*Same as Film 340.*  
A&S CD, TH FA AH

**EuSt 3400. German Literature and the Modern Era**

*Same as Ger 340C.*  
A&S CD, TH FA Lit

**EuSt 344. Introduction to European Studies**

*Same as IAS 344.*  
A&S CD, TH

**EuSt 3453. Modern Germany**

*Same as History 3450.*  
A&S TH

**EuSt 3491. Europe in the 20th Century: 1945–2000**

*Same as History 3491.*  
A&S TH FA SSP

**EuSt 3500. The 19th-Century Russian Novel**

*Same as E Lit 3520.*  
A&S SD, TH, WI FA Lit

**EuSt 3520. Introduction to Postcolonial Literature and Theory**

*Same as E Lit 3520.*  
A&S CD, SD, TH

**EuSt 3522. Topics in Literature**

*Same as E Lit 3522.*  
A&S TH FA Lit

**EuSt 3552. Modern France Since 1870**

*Same as History 3552.*  
A&S TH

**EuSt 3553. French Revolution and Napoleon**

*Same as History 3553.*  
A&S TH

**EuSt 356. 20th-Century Russian History***Same as History 356C.*

A&amp;S TH FA SSP

**EuSt 359C. Topics in European History: Modern European Women***Same as History 359.*

A&amp;S TH FA SSP

**EuSt 366. Women in Film: From the Silent Feminists to Thelma and Louise***Same as Film 366.*

A&amp;S SD, TH

**EuSt 375. Screening the Holocaust***Same as Film 375.*

A&amp;S TH FA AH

**EuSt 3750. Topics in Russian Culture***Same as IAS 3750.*

A&amp;S TH, WI

**EuSt 377. International Political Economy***Same as Econ 377.*

A&amp;S SS FA SSP

**EuSt 3833. Realism and Impressionism***Same as Art-Arch 3833.*

A&amp;S TH FA AH

**EuSt 3838. Modern Art in Fin-de-Siècle Europe, 1880–1907***Same as Art-Arch 3838.*

A&amp;S TH

**EuSt 3872. The History of Modern Britain***Same as History 3872.*

A&amp;S TH

**EuSt 3874. An Embarrassment of Riches: 19th-Century Britain***Same as History 3874.*

A&amp;S TH

**EuSt 3878. Britain and its Empire from 1688 to 1870***Same as History 3878.*

A&amp;S TH

**EuSt 3879. Britain and Its Empire Since 1870***Same as History 3879.*

A&amp;S TH

**EuSt 3880. The Russian Revolution***Same as History 3880.*

A&amp;S TH, WI

**EuSt 3892. Modern Sculpture: Canova to Koons***Same as Art-Arch 3892.*

A&amp;S TH

**EuSt 399. To Russia and Return: Travel, Literature, and History***Same as History 399X9.*

A&amp;S TH, WI

**EuSt 404. Germany Today***Same as Ger 404.*

A&amp;S CD, TH FA SSP

**EuSt 4101. German Literature and Culture: 1750–1830***Same as Ger 4101.*

A&amp;S CD, TH, WI FA Lit

**EuSt 4104. Studies in Genre***Same as Ger 4104.*

A&amp;S CD, TH, WI FA SSP

**EuSt 4105. Topics in German Studies***Same as Ger 4105.*

A&amp;S CD, TH, WI FA SSP

**EuSt 422. Europe, An Imagined Community: Identity Discourses Since 1750 in Literature, Thought, Art, and Politics***Same as IAS 422.*

A&amp;S CD, TH

**EuSt 4271. Topics in Comparative Politics***Same as Pol Sci 4271.*

A&amp;S SS, WI FA SSP

**EuSt 4280. The New Sicilian School***Same as Ital 428.*

A&amp;S TH FA Lit

**EuSt 432. Divergent Voices: Italian Women Writers***Same as Ital 432.*

A&amp;S SD, TH, WI FA Lit

**EuSt 433. Literature of the Italian Enlightenment***Same as Ital 433.*

A&amp;S TH, WI FA Lit

**EuSt 437. Caffè, Cadavers, Comedy, and Castrati: Italy and the Age of the Grand Tour***Same as Ital 437.*

A&amp;S TH

**EuSt 442. European Intellectual History: 1789–1890***Same as History 442.*

A&amp;S TH FA SSP

**EuSt 4425. European Cultures: Victorian England to Weimar Germany***Same as History 4425.*

A&amp;S TH

**EuSt 443. European Intellectual History: 1890–1930***Same as History 443.*

A&amp;S TH FA SSP

**EuSt 444. European Intellectual History: 1930–2000***Same as History 444.*

A&amp;S TH FA SSP

**EuSt 4442. The Jewish Experience in Eastern Europe***Same as History 4442.*

A&amp;S CD, TH FA SSP

**EuSt 4446. European Social History: 1750–1930***Same as History 4446.*

A&amp;S TH

**EuSt 4485. Topics in Irish Literature***Same as E Lit 4485.*

A&amp;S TH

**EuSt 449. Imperial Russia***Same as History 449C.*

A&amp;S TH FA SSP

**EuSt 4560. English Novel of the 19th Century***Same as E Lit 456.*

A&amp;S TH FA Lit

**EuSt 4562. Science and Empire***Same as History 4562.*

A&amp;S TH

**EuSt 458. Major Film Directors***Same as Film 458.*

A&amp;S TH

**EuSt 4580. British History: Beyond the Beatles—Britain in the 1960s***Same as History 4580.*

A&amp;S TH

**EuSt 4615. Caricature: The Culture and Politics of Satire***Same as Art-Arch 4615.*

A&amp;S TH

**EuSt 4816. Art and Culture in Fin-de-Siècle Europe***Same as Art-Arch 4816.*

A&amp;S TH FA AH

**EuSt 4864. Exoticism and Primitivism in Modern Art***Same as Art-Arch 4864.*

A&amp;S TH FA AH

**EuSt 491. Postmodernism***Same as Ital 491.*

A&amp;S TH, WI

**EuSt 492. The Italian Detective Novel***Same as Ital 492.*

A&amp;S TH, WI FA Lit

**EuSt 4952. Seminar in Comparative Literature: 19th-Century European Novel: Ambition and Desire***Same as Comp Lit 495.*

A&amp;S TH FA Lit

**EuSt 4961. Advanced Seminar in History: Self-Interest and Self-Development in the Liberal Tradition***Same as History 4961.*

A&amp;S TH FA SSP

**EuSt 4988. Advanced Seminar in History: The French Revolution***Same as History 4988.*

A&amp;S TH

**EuSt 4994. Advanced Seminar in History: Religion and Society in Modern Europe, 1750–1930***Same as History 4994.*

A&amp;S TH

## Film and Media Studies

**Interim Director** (Fall 2008)

**William Paul**, Professor  
Ph.D., Columbia University

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As our national and international cultures become increasingly dominated by visual culture, we acknowledge the need to study those forms that provide our chief sources of entertainment and information. This need speaks to our desire to become critical viewers, knowledgeable in the history of the most popular contemporary art forms and possessing the analytical skills to understand and interpret visual forms of expression.

The undergraduate major in Film and Media Studies requires you to study history and aesthetics in an attempt to understand the creative force of an individual art work, its relation to other artistic production, and its place in culture. Furthermore, because film and media creations are most often produced within an industrial context, you must also study industrial and business practices.

Complementing the critical studies curriculum courses in production will provide you with an intimate understanding of the kinds of choices that film and media artists confront, further refining your ability to view critically. To explore the film and media artists' tools analytically, you need to gain the same kind of insider understanding of the tools of the trade that literature students learn by writing.

It is not the purpose of this program to train students for professional work. Students who gain skills in writing and analysis, as they should in any rigorous course of study in the humanities, can work in many professions such as journalism and publishing, business, law, medicine, social work, and teaching. Film and Media Studies majors who seek careers in the entertainment and information industries will certainly gain an intellectual perspective on these forms that should enhance their professional lives. But this major also will benefit any student looking at other possible professions because it shares the aim of a liberal arts curriculum to train you in rigorous analytical thinking and provide you with historical knowledge.

**The Major:** The Film and Media Studies major aims for a sense of sequencing and comprehensiveness. It begins with a founda-

tional course, Film 220 (Introduction to Film Studies) that trains you to analyze images for their formal and conceptual strategies. Four additional courses are required. Three are designed to give you a historical overview of image-based media: Film 330 (History of American Cinema), Film 340 (History of World Cinema), and Film 350 (History of Electronic Media). A fourth required course, Film 420 (Film Theory), provides an overview of writings in film theory, a central part of the discourse on film, dating back to the 1910s.

On the production side, one course is required of all students: Film 230 (Moving Images and Sound), a foundational course in moving-image production that complements Film 220. Students with an interest in production may count two additional production courses toward the major, including courses in video production or courses in screenwriting.

A total of 12 credits of advanced electives (300 level or above) are required to complete the major. Electives in critical studies may be drawn from courses on individual directors, genre study, limited historical periods, study of individual crafts such as acting, and so on. You must take one elective that focuses on a national cinema other than that of the United States. (Courses on national cinemas offered in various foreign language departments are cross-listed and coordinated with courses in Film and Media Studies. Please check the course guide for cross-listings.)

**The Minor:** You may minor in Film and Media Studies by taking the first four critical studies courses (the introductory course plus the historical surveys of American and world cinema and the survey of broadcast media) required for the major for a total of 12 credits, plus one elective for another 3 credits, bringing the minor to 15 credits.

### Undergraduate Courses

**Film 110. Freshman Seminar: Race and Ethnicity on American Television**

*Same as AMCS 111.*

This course will present a historical overview of the forms that racial and ethnic representations have taken in American television. The course will chart changes in public perception of racial and ethnic difference in the context of sweeping cultural and social transformations. The course examines how notions of medium and ponders the implications for these identities of the contemporary practice of "narrowcasting." Required screening. Credit 3 units.

**A&S** CD, SD, TH **FA** SSP

**Film 116. Freshman Seminar: Cult TV: Critical Approaches to Fans and Fictions**

*Same as AMCS 116.*

What do such disparate television series as *Doctor Who*, *Star Trek*, *The Avengers*, *Monty Python's Flying Circus*, *The X-Files*, *Buffy the Vampire Slayer*, *Xena: Warrior Princess*, and *Sealab 2021* have in common? They all attract loyal audiences, stimulate "subcultural" sensibilities, lend themselves to "textual poaching," and thus qualify as examples of "Cult TV," a term that has become increasingly salient within critical studies of the medium. In this course, we will explore the sub-

ject of cult television from a variety of social, cultural, and thematic perspectives, so that by the end of the semester, students will have gained a deeper understanding of its historical importance as a barometer of both popular and oppositional tastes. We will examine how these and other examples of genre-based network and cable programming complicate distinctions between low-brow and highbrow tastes while sustaining worldwide "interpretative communities" years after their original airdates. Students will also examine the importance of syndication, home video technologies, ancillary markets, publishing, and the Internet in the construction of fan cultures. Required screening. Credit 3 units.

**A&S** TH

**Film 117. Freshman Seminar: Asians in American Film**

This course surveys the history of Asian representations in American cinema from the silent period to the contemporary era. Throughout the semester, we will focus on images of Chinese, Japanese, Koreans, Filipinos, and Vietnamese that have become most ingrained in American popular culture over the past century, from Fu Manchu and Madame Butterfly stereotypes popular during the classical studio era to more recent reconfigurations of racialized imagery in Jackie Chan and Jet Li films. We also will examine selected works by Asian-American independent writer-directors—films and videos such as *Chan is Missing*, *History and Memory*, and *Better Luck Tomorrow* that challenge the stereotypes and normative tropes of "Orientalism" still permeating mainstream media. Students will be asked to frame textual analyses of key films (such as *The Cheat*, *Daughter of Shanghai*, *Battle Hymn*, *Flower Drum Song*, and *Enter the Dragon*) within various political, social, cultural, and industrial contexts (e.g., anti-Asiatic immigration and labor policies; U.S. foreign policies; the practice of "yellowface;" censorship codes; wars in East and Southeast Asia; anti-miscegenation laws; grassroots campaigns to stem the tide of stereotypes and hate crimes; etc.). Credit 3 units.

**A&S** TH

**Film 200. Special Projects**

This course is intended for freshman and sophomores who wish to register for internships. Students must receive Program approval prior to beginning the internship. Please consult the Program guidelines governing internships. Credit variable, maximum 3 units.

**Film 220. Introduction to Film Studies**

*Same as Art-Arch 220, AMCS 246.*

How do film images create meaning? What are the tools the film artist uses to create images?

This course will introduce students to basic techniques of film production and formal methodologies for analyzing film art. Students will learn the essential components of film language—staging, camera placement, camera movement, editing, lighting, special effects, film stock, lenses—to heighten perceptual skills in viewing films and increase critical understanding of the ways films function as visual discourse. The course is foundational for the major in Film and Media Studies. Required screenings. Credit 3 units.

**A&S** LA

**Film 224. Playwriting**

*Same as E Comp 224.*

**A&S** LA

**Film 230. Moving Images and Sound**

*Special Note:* Admission by wait-list only. Preference will be given to Film and Media Studies majors and minors. This introductory video production course explores how images and sounds func-

tion as cinematic building blocks and purveyors of content. Through creative assignments involving at times personal inquiry, at other times the understanding of elementary semiotics, the components of film and video are examined. Students learn the basics of key sound and editing software to produce, outside of class time, an original two-minute narrative piece. This course is a prerequisite to all other Film and Media Studies video courses. Prerequisite: Film Studies 220 or consent of instructor. Credit 3 units.

**A&S** LA

**Film 304. Sex, Gender, and Popular Culture**

*Same as AMCS 3041 and WGSS 304.*

**Film 3040. Documents and Documentary in Photography and Film**

*Same as Art-Arch 3040.*

**A&S** TH

**Film 310. Video Production**

An advanced course exploring the creative and technical aspects of video production. Students sharpen their knowledge of cameras, directing, lighting, sound recording, non-linear systems, and narrative structures. In addition to acquiring a theoretical understanding of the production process, students will gain practical experience by producing, outside of class time, a short project reflecting their visual and conceptual maturity. Prerequisite: Film 230 (Moving Images and Sound) or permission of the instructor. Credit 3 units.

**A&S** LA

**Film 311. Documentary Production**

In parallel with an overview of various documentary genres, ranging from the personal, the poetic, the agitprop, and cinema vérité, this course will offer students the opportunity to produce a short documentary piece on the topic of their choosing. Aesthetic and ethical issues will be explored by considering the overall methodology in terms of subjectivity, content, structure, and the possible usage of music and/or voice-over. For the sake of completing the project in time, it is recommended that students be familiar with the subject matter of their investigation, before taking the course. Prerequisite: Film 230 (Moving Images and Sound) or permission of the instructor. Credit 3 units.

**A&S** LA

**Film 315. Visual Music**

The cinema took more than 30 years to emerge with fully synchronized sounds. Since then, sound and picture have continued to be more and more integrated and interdependent. Current music video artists like Michel Gondry and Chris Cunningham constitute only one expression of that desire to merge image and sound. Earlier, many explorers such as Oskar Fischinger, Peter Kubelka, and Norman McLaren conceived films where images and sounds surprise the viewer. In the process of producing similarly challenging four- to five-minute video pieces, we will examine how synesthesia in the arts has functioned to energize the two media. A variety of software will be explored in that context. Prerequisite: Film 230 or permission from the instructor. Credit 3 units.

**A&S** LA

**Film 320. British Cinema: A History**

*Same as IAS 320, EuSt 320.*

In cinema, as in politics, Britain is caught awkwardly between America and Europe, never quite knowing how to position itself. Should it try to compete seriously with Hollywood, or develop a smaller-scale and more distinctive national cinema on the French or Swedish model? This uncertainty has commonly been seen as a weakness, but it can be seen, conversely, as a strength, fostering a rich diversity and complexity both in the output overall and in the work of key British filmmakers such as Michael Powell, David Lean, and, in the first half of his career, Alfred Hitchcock. This course traces

the fortunes of British cinema from its lively beginnings through a switchback history of slump and recovery, giving equal attention to the work of high-profile directors like Hitchcock and to important genres like 1930s documentary, Ealing comedy, and Hammer horror. A continuing theme is the complex economic relationship between British cinema and Hollywood: co-productions, trade barriers, the drain of talent to Hollywood, and the intermittent success of British films such as *Four Weddings and a Funeral* in the American market. Required screening time: Thursdays at 4 p.m. Credit 3 units.

**A&S** TH

**Film 322. Contemporary East Asian Cinema**

*Same as East Asia 3220, ANECC 322, IAS 322.*

This course focuses on films made in Japan, Mainland China, Taiwan, Hong Kong, and South Korea over the past three decades. Students will examine how the global/local geopolitics specific to the post-Cold War period, the passing of authoritarian regimes, the boom and bust of the Asian economy, and international film festivals have influenced the shaping of New East Asian cinemas across borders. The first section of our course will investigate the ways in which historical traumas (wars, massacres, revolutions, and uprisings) have been revisited in the cinemas of Japan, China, Taiwan, and South Korea. What is the relationship between history and national cinema? How do such concepts as imperialism, nationalism, postcolonialism, guilt, and trauma figure in films shouldering the “burden of history” and representing the “unrepresentable”? The second section explores selected auteurs and stars familiar to international cinephiles, such as Zhang Yimou, Kim Ki-duk, Park Chan-wook, Nagisa Oshima, Maggie Cheung, Stephen Chow, John Woo, Chow Yun-fat, Gong Li, and Takeshi Kitano. In the process, we will identify the themes, styles, genres and ideological/cultural content of East Asian film canons in the West. The final weeks will be devoted to border-crossing films such as Ang Lee’s *Wedding Banquet*, Wong Kar-wai’s *Happy Together*, the Korean-Japanese co-production *Asako in Ruby Shoes*, and the pan-Asian horror film *Three Extremes*, which highlight the critical concerns of diaspora, hybridity, transnationalism, and globalization. Credit 3 units.

**A&S** CD, TH

**Film 323. The Cinema of Eastern Europe in the Cold War Era**

*Same as IAS 323, EuSt 323.*

This course has two objectives. On the one hand, we will watch masterpieces of European cinema, awarded at international festivals and directed by legendary names such as Milos Forman, Emir Kusturica, and Andrzej Wajda, and focus on their artistic genius. On the other hand, we will study the way in which the confrontational politics of the Cold War inform these films, with a special focus on the perplexing predicament of a divided and antagonized Europe. The readings for this class emphasize our dual exploration. We will work with texts dealing with both film history and its aesthetics and with broader analyses of the intellectual and political landscape of the Cold War context. Required screening: Wednesdays at 7 p.m. Credit 3 units.

**A&S** CD, TH

**Film 325. French Film Culture**

*Same as French 3251, EuSt 3250, IAS 3250.*

Called “the seventh art,” film has a long tradition of serious popular appreciation and academic study in France. This course will offer an overview of French cinema, including the origins of film (Lumière brothers, Méliès), the inventive silent period (which created such avant-garde classics as *Un chien andalou*), the poetic realism of the ’30s, the difficulties of the war years, the post-

war emphasis on historical/nationalist themes in the “tradition of quality” films, the French New Wave’s attempt to create a more “cinematic” style, the effects of the political turmoil of May 1968 on film culture, the “art house” reception of French films in the U.S., and the broader appeal of recent hypervisual (“cinéma du look”) films, such as *La Femme Nikita* and *Amélie*. While the primary focus of the course will be on French cinema, we also will discuss the reciprocal influences between American and French film culture, both in terms of formal influences on filmmaking and theoretical approaches to film studies. French film terms will be introduced, but no prior knowledge of the language is expected. Required screenings. Credit 3 units.

**A&S** TH

**Film 328. History of German Cinema**

*Same as IAS 3291, EuSt 328.*

This course explores the major developments of German cinema throughout the 20th century. More specifically, this course will engage with issues relating to German film culture’s negotiation of popular filmmaking and art cinema, of Hollywood conventions and European avant-garde sensibilities. Topics will include the political functions of German film during the Weimar, the Nazi, the post-war, and the post-wall eras; the influence of American mass culture on German film; the role of German émigrés in the classical Hollywood studio system; and the place of German cinema in present-day Europe and in our contemporary age of globalization. Special attention will be given to the role of German cinema in building and questioning national identity, to the ways in which German feature films over the past hundred years have used or challenged mainstream conventions to recall the national past and envision alternative futures. Films by directors such as Murnau, Lang, Fassbinder, Herzog, Tykwer, and many others. All readings and discussions in English. May not be taken for German major or minor credit. Required screenings. Credit 3 units.

**A&S** TH

**Film 329. Italian Neorealism**

*Same as EuSt 3290, IAS 3290.*

This course explores the visual language of one of the most influential film movements of the 20th century. We will concentrate on the origins of neorealism in Italian post-war cinema and history, and focus on the works of filmmakers such as Roberto Rossellini, Vittorio De Sica, and Luchino Visconti. We also will consider the longer-term influence of the movement both in Italy and elsewhere. Throughout this course, we will reflect on the possibilities of mimesis in cinema, on the social and political engagement of neorealist film, and on the factors that caused its decline. Credit 3 units.

**A&S** TH

**Film 330. History of American Cinema**

*Same as AMCS 3301, History 3303.*

This course traces the history of the American cinema from the earliest screenings in vaudeville theaters through the birth of the feature film to movies in the age of video. The course will examine both the contributions of individual filmmakers as well as the determining contexts of modes of production, distribution, and exhibition. The course aims to provide an understanding of the continuing evolution of the American cinema, in its internal development, in its incorporation of new technologies, and in its responses to other national cinemas. Required screenings. Credit 3 units.

**A&S** TH **FA** **AH**

**Film 331. The New Hollywood Cinema**

This course will examine the history of film culture and the film industry in the United States since the end of the classical Hollywood studio system. It will pay special attention to the period

of auteur-centered filmmaking in the 1970s. During this time, the end of the production code, the financial crisis of the industry, the unparalleled influence of European New Wave and Art films, and the introduction of the first generation of film school graduates (the so-called “movie brats”) all combined amidst the tumultuous cultural politics of such movements as the counterculture, civil rights, and second-wave feminism to form a film-historical moment often called the Hollywood Renaissance. This brief period was soon followed by a newly reinvigorated Hollywood industry focused on the high-concept blockbuster. Such rapid transformations in the practice and nature of American film not only continue to influence commercial filmmaking today, but also continue to shape our understanding of the role of authorship, genre, and ideology within Hollywood. The course will consider films of the New Hollywood in the context of tensions between radicalism and populism, progressivism and nihilism, entertainment and ideology, artistic and commercial success. Required screenings. Credit 3 units.

### Film 336. Cinema and Ireland

*Same as IAS 3365, EuSt 336.*

Like many other Anglophone and Francophone countries, Ireland only even started to develop a robust national cinema in the 1970s. As in, for instance, Australia and New Zealand, growth had previously been blocked by the dominance of local screens by films from, on the one hand, the overbearing “imperial” power, Britain, and, on the other, Hollywood, center of an even stronger cultural imperialism. Increased national self-assertion coincided with the weakening of the grip of those two cinemas in the post-classical period. A major focus of the class is on some of the key works of the filmmakers who established themselves in the 1980s, notably Neil Jordan and Jim Sheridan. But, as the title indicates—not simply Irish Cinema—it deals with more than this. Like Ireland itself, Irish cinema is deeply marked by, and preoccupied with, the political and cultural struggles of the past, and recent cinema is illuminated by seeing it in the context of earlier films: Hollywood and British versions of Ireland, whether shot on location or in the studio, as well as the isolated earlier landmarks of an indigenous Irish cinema. We also look at the rich topic of the representation of Irish immigrants in Hollywood films. Required screening time: Tuesdays at 4 p.m. Credit 3 units.

**A&S** CD, LA

### Film 340. History of World Cinema

*Same as Comp Lit 3405, EuSt 340, IAS 3400.*

The course surveys the history of cinema as it developed in nations other than the United States. Beginning with the initially dominant film-producing nations of Western Europe, this course will consider the development of various national cinemas in Europe, Asia, and third-world countries. The course will seek to develop an understanding of each individual film both as an expression of a national culture as well as a possible response to international movements in other art forms. Throughout, the course will consider how various national cinemas sought ways of dealing with the pervasiveness of Hollywood films, developing their own distinctive styles, which could in turn influence American cinema itself. Required screenings. Credit 3 units.

**A&S** CD, TH **FA** AH

### Film 343. Fundamentals of Directing

*Same as Drama 343.*

**A&S** LA

### Film 349. Media Cultures

*Same as AMCS 3490, Drama 3491.*

This course is an introduction to the interdisciplinary field of cultural and media studies. Through a focus on television and new media, it analyzes current theoretical ideas and debates about culture.

Main topics include the relationship between new technologies and everyday life and popular culture; analysis of media messages and images; how media help construct new identities and mark differences between groups; analysis of the globalization of the production and circulation of media culture; the rise of multimedia cultural industries; and the role of the audience. Required screenings. Credit 3 units.

**A&S** TH

### Film 350. History of Electronic Media

*Same as History 3853, AMCS 351.*

This course traces the history of electronic media as they have become the dominant source for entertainment and information in contemporary culture, starting with over-the-air broadcasting of radio and television through to cable and the “narrowcasting” achieved by digital technologies. While some attention will be paid to other national industries, the chief focus of the course will be on electronic media in the United States to determine, in part, the transformative role they have played in the cultural life of the nation. The course will explore the relationship of the electronic media industries to the American film industry, determining how their interactions with the film industry helped mutually shape the productions of both film and electronic media. Required screenings. Credit 3 units.

**A&S** TH

### Film 352. Introduction to Screenwriting

*Same as Drama 3521, E Comp 352.*

Writers will explore the various elements, structure, and styles used in crafting a motion picture screenplay. They will experience this process as they conceive, develop, and execute the first act of a feature-length script. Writers will create a screenplay story, present an outline for class discussion and analysis, then craft Act One. Writers will be encouraged to consult with the instructor at various stages: concept, outline, character and scene development, and dialogue execution. While the students fashion their screenwriting independently, the class also will explore the general elements of theme, genre, and voice. A more specific examination of mechanics, the nuts and bolts of story construction, plotting, pacing, etc. will follow to support the ongoing writing process. In-class exercises will aid the writer in sharpening skills and discovering new approaches to form and content. Writers’ work will be shared and discussed regularly in class. Screening of film scenes and sequences will provide students with concrete examples of how dramatic screenwriting evolves once it leaves the writer’s hands. Credit 3 units.

**A&S** LA

### Film 353. Writing Episodic Television

This class will focus on all the factors that go into preparing and writing an episode for a network TV series (dramas only). Students begin with a “pitch” (verbally or in short outline form) for an idea for a show currently on a network schedule. Once the “pitch” is accepted, the student will then complete a “beat sheet,” and ultimately a spec script that can run from 62 to 75 pages. Two drafts of the script will be required. During the course of this process, students also will learn how to research their narrative premises by contacting legal, medical, and law enforcement experts in order to guarantee the accuracy of their scripts. In addition to learning the actual writing process, students will be expected to watch several television shows and to read books, scripts, and industry trade papers as they pertain to the craft and business of television writing. Finally, students also will meet agents, producers, directors, and other television industry professionals in order to gain their insights into the script-writing process and to gain a more global view of the steps involved in bringing their ideas to the screen. Credit 3 units.

**A&S** LA

### Film 355. Topics in Korean Literature and Culture: Gender in Korean Film and Literature

*Same as Korean 355.*

**A&S** CD, SD, TH

### Film 356. Television Culture and Cult TV: Critical Approaches to Fandom

*Same as AMCS 3563.*

Why do television series inspire passionate involvement on the part of some viewers? What are the differences among being a viewer, an audience member, and a fan? How can we make scholarly sense of cultural practices such as learning to speak Klingon or building a repli-car of the General Lee? Studies of fandom have attempted to answer such questions and continue to explore issues that are crucial to understanding contemporary television culture. The phenomenon of “Cult TV” offers fertile ground for examining the complex dynamics at play among fans, popular culture, the institutions of American media, and individual programs. In its exploration of cult television and fans, this course will engage with key issues in contemporary media such as the proliferation of new media technologies and the repurposing of existing media forms, the permeable boundaries between high and low or mass and oppositional culture, and the fragmentation and concentration of media markets. The class will combine close textual analysis with studies of fan practices to examine a variety of television programs, from canonical cult texts such as *Star Trek* and *Doctor Who* to “quality” fan favorites such as *Designing Women* and *Cagney & Lacey* to contemporary cult/quality hybrids such as *Lost* and *Heroes*. In mapping out this cultural territory, we will develop a set of critical perspectives on audience identities and activities and examine the continuing and conflicted imagination of fans by media producers, distributors, regulators, and critics. Required screening. Credit 3 units.

**A&S** TH

### Film 359. The American Musical Film

*Same as Drama 3950, Music 320, AMCS 3590.*

Film musicals were crucial to the success of the American film industry from the dawn of sound film in the late 1920s to the demise of the studio system in the late 1950s. This course examines the American film musical from a variety of aesthetic, critical, and historical perspectives, with particular attention to how the genre interacted with popular music and dance and the major political and social trends of the '30s, '40s, and '50s. Credit 3 units.

**A&S** LA

### Film 360. The History of the Film Score

*Same as Music 328.*

Moving pictures have always needed sound, and long before film actors could talk, the emotions on their faces were (literally) underscored with music. This course considers the breadth of film history, from the silent era to the present, by way of music and how it has been deployed for artistic effects and commercial purposes. Topics include: live accompaniment practices in silent film, thematically integrated, original “classical” scores; pastiche scores; popular music scores; how music defines and supports various film genres; technical and creative practices behind the making of film scores; Hollywood film music vs. selected world cinemas; the highly personal uses of music by important writer-directors; the power of music to generate nostalgic feelings (often for a quite recent past); the relationship between classical and popular music as vehicles of emotional expression within film narratives; and the shifting commercial connections between the music and film industries. Structured around 14 screenings, the course surveys the uses of music in narrative feature-length films, with particular emphasis on films that bring music-making as a creative human

activity directly into plot or overall theme. The films range from *The Jazz Singer* (1927) to *The Talented Mr. Ripley* (1999). Required screenings. Credit 3 units.

**A&S TH FA AH**

**Film 3601. Documenting American Lives**  
*Same as AMCS 361.*

**Film 361. Film Sound**

Although film critics and theorists tend to think of cinema as a “visual art,” this shorthand description of the medium overlooks the importance of film sound in cinematic storytelling. This course is intended to provide a general overview of the way in which film theorists have treated the issue of sound in the cinema. Among the issues addressed in the course are: the contribution sound technology and practice makes to film form; the various possible formal relationships between sound and image; the effects of sound technologies on notions of realism and verisimilitude; the importance of sound to particular genres, like the horror film; and lastly, the role of sound in film spectatorship. The course also will showcase the work of the most important sound stylists in film history, such as Fritz Lang, Orson Welles, Alfred Hitchcock, Robert Altman, and David Lynch. Required screenings. Credit 3 units.

**A&S TH**

**Film 363. Video Post-Production**

While post-production of the soundtrack has been around for years, post-production of the “visual track” has increasingly become a major phase in the video and movie-making process. It often allows filmmakers to enhance existing footage with potentially dazzling results. As in all our production courses, we will be concerned with developing strong content. The focus is not on special effects per se, but rather on how they may be used to enhance the message. Students find a nonprofit organization of vital importance in need of exposure and produce a Public Service Announcement to be broadcast. Key post-production software such as Commotion, AfterEffects, and Motion are explored throughout the semester. Prerequisite: Film 230 (Moving Images and Sound) or consent of instructor. Credit 3 units.

**A&S LA**

**Film 364. Life After Broadcast: From the Screen to the Archive**

**Film 366. Women in Film**

*Same as WGSS 3666, EuSt 366, IAS 366.*

The aim of this course is primarily to familiarize students with the work of prominent women directors over the course of the 20th century, from commercial blockbusters to the radical avant-garde. Approaching the films in chronological order, we will consider the specific historical and cultural context of each filmmaker’s work. In addition, we will discuss the films in relation to specific gender and feminist issues such as the status of women’s film genres, representations of men and women on screen, and the gender politics of film production. Required screenings. Credit 3 units.

**A&S SD, TH**

**Film 370. American Horrors**

*Same as AMCS 369.*

Horror movies. Fright films. Scream marathons. Blood and gore fests. Why should we want to look at movies that aim to frighten us? What is the attraction of repulsion? Is there an aesthetics of ugliness? Except for some early prestige literary adaptations like *Dr. Jekyll and Mr. Hyde*, the horror film began as a low-class genre, a notch above exploitation movies. In the 1970s–1980s, it became the dominant commercial genre by offering increasingly graphic images of violence and mayhem. The horror film had arrived: lavish budgets, big stars, and dazzling special effects in main-

stream major studio films competed with low-budget, no-frills productions that helped establish artistically ambitious and quirky filmmakers such as George Romero and David Cronenberg. By a chronological survey of the American horror film, this course will explore how differing notions of what is terrifying reflect changing cultural values and norms. Throughout, we will consider the difficult questions raised by horror’s simple aim of scaring its audience. In addition to weekly screenings, work for the course will include analytical and theoretical essays on the horror film. Written analyses of films with a close attention to visual style will be required. Prerequisite: Film 220. Required screenings. Credit 3 units.

**A&S TH**

**Film 371. Making War**

*Same as AMCS 373.*

This course examines the cinematic representation of war. Using World War II as a case study, students will examine a series of combat pictures, documentaries, and “home front” films from the 1940s to the present. Several key questions will guide the class discussion: How do war films respond to and shape the political worlds in which they are produced? How do these films confront the aftermath of war and the soldier’s homecoming? Where is the line between the home front and the front line? More broadly, what does it mean to portray the violence and suffering that war inevitably brings? At the close of the semester, students will partake in an in-class symposium presenting their research on the cinematic treatment of other conflicts, from the Civil War to the “War on Terror.” Films include: *The Boat, Saving Private Ryan, The Thin Red Line, Why We Fight, and Mrs. Miniver*. Readings will include works by Susan Sontag, Kaja Silverman, and W.G. Sebald. Required screenings. Credit 3 units.

**A&S TH**

**Film 375. Screening the Holocaust**

*Same as IAS 375, EuSt 375, JNE 380.*

The course will survey ways in which the story of the Holocaust is conveyed through film. Focusing on the individual and aesthetic pleasure, modern Western film seems to be an inappropriate genre to depict the German mass murdering of 6 million Jews. But since the broadcasting of the NBC series *Holocaust* in 1975, feature films have replaced documentaries and historiographies in educating the public about the traumas of the unprecedented genocide. With the continuing impact of the Holocaust on Jewish, American, and German identity and politics, Holocaust films are more scrutinized than any other genre. We will examine these aesthetic and philosophical controversies as well as the narrative and editing strategies filmmakers use to relate collective history and individual trauma. Special attention will be given to the complex cinematographic perspectives on human agency in a world of bureaucratically administered killing. In the course, we will try to close the gap between reading film theory and watching a Holocaust movie: we will analyze the properties of cinematic language, reconstruct the sociohistorical and psychological formation of memory and imagination, and even question our own evaluation of a film. Screenings include *Shoah; The Wannsee Conference; Europa, Europa; Enemies, a Love Story; Jakob the Liar; Schindler’s List; and Life Is Beautiful*. Required screenings. Credit 3 units.

**A&S TH FA AH**

**Film 390. TABOO: Boundary and Transgression in American Cinema**

*Same as AMCS 3901.*

Almost from the first public exhibition of motion pictures in the United States, concerns were expressed about the content of film. Denied the First Amendment protection of free speech by a 1915

Supreme Court decision, movies were repeatedly subject to various attempts at regulating content by government at federal, state, and even municipal levels. Trying to stave off government control, Hollywood would eventually institute forms of self-regulation, first in the formation of the Production Code Administration, and subsequently in the ratings system. Control of content in American movies may be seen as paternalistic, a top-down attempt to impose moral norms and standards of behavior on a diverse audience. But it also reflects changing standards of acceptable public discourse, most particularly with regard to violence, sexuality, and race. That topics once barred from dramatic representation by the Production Code—miscegenation, non-normative sexuality and “lower forms of sexuality,” abortion, drug addiction—could eventually find a place in American movies speaks to changes in the culture at large. In trying to understand these cultural changes, this course will explore films that challenged taboos, films from the early teens that brought on the first attempts to control film content to films released under the ratings system, which has exerted subtler forms of control over content. Required screenings. Credit 3 units.

**A&S TH**

**Film 420. Film Theory**

*Same as Comp Lit 4204, E Lit 4204.*

This course is an introduction to both classical and contemporary film theory. Beginning with the earliest attempts to treat cinema as a new and unique art form, the course initially will review the various ways in which film theory attempted to define cinema in terms of its most essential properties.

The course will then examine more contemporary developments within film theory, more specifically its attempt to incorporate the insights of other critical and analytical paradigms, such as semiotics, psychoanalysis, feminism, queer theory, and post-modernism. Throughout the course, we will consider questions regarding the ontology of cinema, its relation to spectators, and the various ways in which its formal properties create meaning. Readings for the course will include the major works of Sergei Eisenstein, Andre Bazin, Christian Metz, Laura Mulvey, and Fredric Jameson. Required screenings. Credit 3 units.

**A&S TH, WI FA Lit**

**Film 421. Film Historiography**

This course is a seminar on the writing of film history and is intended to provide a capstone experience for Film and Media Studies majors.

Through an engagement with the historiographical writings of scholars, such as Dominic LaCapra, Hayden White, and Michel Foucault, students will gain an understanding of various genres of film historical writing, an appreciation for the kinds of research that film historians do, and a familiarity with the ways in which film historians delimit their field of study, form research questions, and develop hypotheses. In addition to reading and classroom discussions, each student will be expected to write a fairly lengthy paper (17 to 20 pages) that involves original historical research and the close examination of trade press, professional journals, fan magazines, and news articles. As preparatory assignments leading up to the final project, students also will prepare project descriptions, bibliographies, and outlines that will be shared and discussed in a workshop format. Credit 3 units.

**A&S TH**

**Film 430. Clown Princes**

“Dying is easy, comedy is hard,” runs an old theatrical adage. Nevertheless, some of the most popular actors in American film have chosen the hard path by typecasting themselves in comedy, playing repeated variations on the same character. “Come-

dian comedy,” representing films that showcase the distinctive skills of great clown-actors, is the central concern of this course. We will analyze how individual comedians rework performance traditions through the distinctive concerns of their time and culture to create idiosyncratic comic personae. We will look at films starring Charles Chaplin, Buster Keaton, Harold Lloyd, Laurel and Hardy, the Marx Brothers, Jack Benny, Peter Sellers, Jim Carrey, and Eddie Murphy. Work for the course will require reading in comic theory and analytical essays. Required screenings. Credit 3 units.

**A&S TH**

**Film 438. Aesthetics: The Aesthetics of the Interface/Media and the Arts as Windows onto the World**

*Same as Comp Lit 438.*

**A&S TH FA AH, SSP**

**Film 450. American Film Genres**

*Same as E Lit 450, AMCS 457.*

By close examination of three or four specific types of film narratives, this course will explore how genre has functioned in the Hollywood mode of production. Students will gain an understanding of genre both as a critical construct as well as a form created by practical economic concerns, a means of creating extratextual communication between film artist/producers and audience/consumers. Genres for study will be chosen from the western, the gangster film, the horror movie, the musical, screwball comedy, science fiction, the family melodrama, the woman’s film, and others. In addition to film showings, there will be readings in genre theory as well as genre analyses of individual films. Required screenings. Credit 3 units.

**A&S TH FA Lit**

**Film 451. American Television Genres**

*Same as AMCS 4510, Drama 4511.*

Questions of genre are central to any exploration of television’s texts, whether they are being analyzed as craft, commerce, or cultural phenomenon. Genre has been used by critics and historians to ascribe “social functions” to groups of programs and to diagnose cultural preoccupations, while genre has been used industrially to manage expectations among audiences, advertisers, programmers, producers, and creative professionals. Investigating genres ranging from the soap opera to the western, workplace situation comedies to sports, and game shows to cop shows, this course will explore the role of genre in the production, distribution, and reception of American television. Students will gain a critical understanding of genre theory and key arguments about the form and function of television texts and will develop a set of tools for analysis of televisual narrative and style, the social uses and meanings of genre, the institutional practices and presumptions of the American television industry, and the persistence of textual forms and audience formations in the face of structural changes such as deregulation, media convergence, and globalization. Required screening. Credit 3 units.

**A&S TH**

**Film 452. Advanced Screenwriting**

*Same as E Comp 4521.*

This course is intended for students who have already taken Film 352 (Introduction to Screenwriting). Building on past writing experiences, students will explore the demands of writing feature-length screenplays, adaptations, and experimental forms. Particular attention will be paid to the task of rewriting. Credit 3 units.

**A&S LA FA Lit**

**Film 458. Major Film Directors**

*Same as AMCS 4581, IAS 459, EuSt 458, German 328, E Lit 4502.*

What does the film director do? In the earliest movies, film directors modeled themselves on their theatrical counterparts: they chiefly focused on how to stage an action in a confined space for a stationary camera that represented an ideal member of the audience. As the camera began to be used to direct audience attention, first through cutting, then through actual movement, the film director evolved from a stager of events to a narrator. By analyzing the work of one or more major film directors, this course will explore the art of film direction. We will learn how film directors may use the camera to narrate a scene, to provide their own distinctive view of the actions playing out on the movie screen. May be repeated for credit with permission of the instructor. Required screenings. Credit 3 units.

**A&S TH**

**Film 495. Special Projects**

This course is intended for juniors and seniors who wish to register for internships. Students must receive Program approval prior to beginning the internship. Please consult the Program guidelines governing internships. Credit variable, maximum 3 units.

**Film 499. Study for Honors**

This course is intended for majors pursuing honors in Film and Media Studies. In order to enroll for this course, students must apply in advance for honors and be approved by a faculty committee. Please consult the Program guidelines for application deadlines and other requirements. Credit 3 units.

## FOCUS

### Participating Faculty, 2008–10

**John Baugh**

Margaret Bush Wilson Professor in Arts & Sciences

(Linguistics)

Ph.D., University of Pennsylvania

**Barbara Baumgartner**, Senior Lecturer

(Women, Gender, and Sexuality Studies)

Ph.D., Northwestern University

**J. Andrew Brown**, Associate Professor

(Romance Languages and Literatures)

Ph.D., University of Virginia

**Marvin J. Cummins**, Professor Emeritus

(Political Science)

Ph.D., University of Colorado

**Sarah C.R. Elgin**

Viktor Hamburger Professor in

Arts & Sciences

(Biology)

Ph.D., California Institute of Technology

**Joachim Faust**, Lecturer

(Linguistics)

Ph.D., University of Kansas

**Regina Frey**, Director

(The Teaching Center)

Senior Lecturer

(Chemistry)

Ph.D., University of Utah

**James Gibson**

Sidney W. Souers Professor of Government

(Political Science)

Ph.D., University of Iowa

**Peter Kastor**, Associate Professor

(History)

Ph.D., University of Virginia

**Dirk Killen**, Assistant Dean

(Arts & Sciences)

Ph.D., Harvard University

**Joseph Loewenstein**, Professor

(English)

Ph.D., Yale University

**Jeffery S. Matthews**, Senior Artist in

Residence

(Performing Arts)

M.F.A., Virginia Commonwealth University

**Joseph Schraibman**, Professor

(Romance Languages and Literatures)

Ph.D., University of Illinois

**Lynne Tatlock**

Hortense and Tobias Lewin

Distinguished University Professor

in the Humanities

(German)

Ph.D., Indiana University

**Richard J. Walter**, Professor

(History)

Ph.D., Stanford University

FOCUS is a special, year-long seminar program open only to first-year students. Several FOCUS plans are offered every year, each built around a seminar topic reflecting the FOCUS faculty member’s particular area

of expertise. All students in a FOCUS seminar also attend a companion course chosen by their professor to encourage exploration of the seminar topic from varying perspectives. The FOCUS program provides a coherent, group-oriented learning experience, with out-of-classroom activities, while still allowing time for electives.

FOCUS seminars change each year and have included such topics as the following: Law and Society; Global Culture and the Individual; the Theater as a Living Art; Writers as Readers; Nationalism and Identity; and Cuba: From Colonialism to Communism. Enrollment in each FOCUS plan is limited to 16 students to ensure informal, personalized instruction. All FOCUS courses count toward degree requirements, and no major or pre-professional curriculum is precluded by enrolling in FOCUS.

## Undergraduate Courses

### Focus 1910. FOCUS: Phage Hunters

*Same as Biol 191.*

A research-based laboratory class for freshmen. Students will join a national experiment organized by Howard Hughes Medical Institute (HHMI), with the goal of isolating and characterizing bacteriophage viruses found in the soil outside of Rebstock Hall. Laboratory work will include isolation and purification of your own phage, DNA isolation and restriction mapping, and EM characterization of your phage. One WU phage will be selected for genome sequencing over winter break. Prerequisites: high school courses in biology, chemistry and physics, at the AP or International Baccalaureate level; permission of the instructor. Limited to 20 students. One-hour lecture, one-hour discussion, and three hours lab per week. Prerequisite: admission to the Focus program. Credit 3 units.

A&S NS

### Focus 1920. FOCUS: Phage Bioinformatics

*Same as Biol 192.*

A research-based laboratory class for freshmen. Students will join a national experiment organized by HHMI, with the goal of genomic characterization of a local phage. Laboratory work will focus on learning computer-based tools for genome analysis followed by annotation and comparative analysis of the genome of the WU phage, which was isolated fall semester and sequenced over winter break. Limited to 20 students; preference given to those completing Biol 191, Phage Hunters. One-hour lecture, one-hour discussion, and three hours lab per week. Prerequisites: high school courses in biology, chemistry, and physics, at least one at the AP or International Baccalaureate level; permission of the instructor; and admission to the FOCUS program. Credit 3 units.

A&S NS

### Focus 200. FOCUS: Americans and Their Presidents

How have Americans understood what it means to be president of the United States? This seminar uses that question as a point of departure for a multidisciplinary cultural approach to the presidency in the United States, examining the shifting roles of the chief executive from George Washington through George W. Bush. In addition to a consideration of the president's political and policy-making roles, this course will examine how the lived experiences of presidents have informed the ways Americans have conceived of public and private life within a broader political culture. In the process, this course will use the presidency as a means to explore topics ranging from electioneering to gender, foreign policy to popular media.

Readings will be drawn from a broad range of fields. Prerequisite: admission to the FOCUS on the Presidency program. Credit 3 units.

A&S TH

### Focus 2001. FOCUS: Seminar in the Presidency

In January 2009, a new presidential administration will take office. How will the president attempt to articulate and enact an agenda? How will Americans—in government, in media, and in the general public—respond to that new president? Equally important, what are the best means to study the presidency in broad context? This course tackles those questions through a focused, collaborative research seminar for freshmen. Students will examine the new administration in broad cultural context, considering not only political and policy-making activities, but also the cultural representation of the new administration. Students will participate in groups that will develop their own methodologies for researching these topics. Credit 3 units.

A&S TH

### Focus 201. FOCUS: Nationalism and Identity: The Making of Modern Europe

This course is a reading-and-discussion seminar designed for students interested in an interdisciplinary program in history, literature, and language. It will cover a series of major topics in French and German history, beginning with the French Revolution and culminating in the origins of World War I. The unifying theme will be the concept of the nation and development of nationalism. Major topics will include Napoleon, the revolutions of 1848, and German unification; related topics will include such issues as women and the concept of the nation. The seminar will read texts such as the Abbe Sieyès' *What is the Third Estate?* (in translation) and will review excerpts from such films as Abel Gances's *Napoleon* and Jean Renoir's *La Marseillaise*. Credit 3 units.

A&S TH FA SSP

### Focus 202. FOCUS: French Nationalism 1789–1914: The Formation of French National Identity

Exploration of cultural expressions and depictions of nationalism in France 1789–1914 with emphasis on literary forms—poetry, prose, drama—against the background of social and political change and in particular against the background of Franco-German relations. Will include investigation of the use of gender to construe the nation; founding myths; the roles of men, women, and the family in the nation; importance of language and other ethnic markers; the creation and function of heroes; versions of the past; cultural stereotyping of the French vs. the German, as well as contemporary critiques of nationalism. Taught in English. Course should be enrolled as 3 units, or 4 units with trip. Co-course: Each student should enroll in the level of French language instruction that follows his or her fall course. Credit variable, maximum 4 units.

A&S TH FA SSP

### Focus 203. FOCUS: German Nationalism 1789–1914: The Formation of German National Identity

Exploration of cultural expressions and depictions of nationalism in Germany 1789–1914 with emphasis on literary forms—poetry, prose, drama—but including other symbolic modes of expression, against the background of social and political change and in particular against the background of Franco-German relations. Will include investigation of the use of gender to construe the nation; founding myths; the roles of men, women, and the family in the nation; the importance of language and other ethnic markers; the creation and function of heroes; versions of the past; cultural

stereotyping of the German vs. the French, as well as contemporary critiques of nationalism. Course should be enrolled as 3 units, or 4 units with trip. Credit variable, maximum 4 units.

A&S TH FA SSP

### Focus 207A. FOCUS: Markets in American Society

*Same as Econ 207.*

The first semester of a freshman program on economic issues facing American society. Topics will include income distribution and inequality, taxation, environmental policy and global warming, and health care. Students must apply for admission through the FOCUS program. All students must register concurrently in Economics 103B, section 1. Credit 1 unit.

A&S SS

### Focus 208. FOCUS: Global Culture and the Individual: Intercultural Skills for the 21st Century

The emergence of a global society continues to create vast changes in all cultures. How do these changes impact our lives and the way we view ourselves and our place in the world? Students in this FOCUS seminar will use the study of language, culture, and literature to examine how they, as individuals, relate to self, community, and culture. Students also will learn to apply the skills needed to live and work most effectively within the University community and beyond. Credit 3 units.

A&S SS FA SSP

### Focus 2081. Global Culture and the Individual: Intercultural Skills for the 21st Century

During the spring semester, we continue to find ways to practically apply the skills and knowledge gained during the fall semester. The course will be built around projects proposed by students at the end of the fall semester. By the end of the academic year, you will have gained a greater understanding of how you relate to, and affect, one another within your own immediate environment, your community, your culture, and beyond. The companion course for this FOCUS seminar continues to be a two-semester language sequence at your level of proficiency as determined by a placement test. Prerequisite: Focus 208. Credit 3 units.

A&S SS

### Focus 215. FOCUS: The Theater As A Living Art

Moving in and out of practice and theory, this FOCUS plan interweaves a traditional introductory acting course with discussions of dramatic theory and visits to rehearsals where directors and actors work to shape the play. Must be taken concurrently with Drama 237. Credit 3 units.

A&S LA FA AH

### Focus 2151. FOCUS: Theater Topics Course

Companion course to Focus 215. Credit 3 units.

A&S TH

### Focus 216. The Theater As A Living Art

What are the origins of the theater? Steeped in religious ritual and ancient myths, theatrical spectacle still speaks to us after 2,000 years. Or does it? What is the place of the theater today in the world of cinema, television, video, and infomercials? These are just some of the questions that will tantalize us in a course that is a unique combination of theory and practice. We will closely examine the art of the stage through a variety of perspectives: actor, director, and playwright. We also will do so through exercise, theme study, monologues, and performances on and off campus. Prerequisite: admission to the Theater FOCUS Plan. Credit 3 units.

A&S LA FA AH

**Focus 2171. FOCUS: Women in Science**

Throughout the centuries, women were interested and involved in the sciences. Their scientific contributions, however, often have been overlooked and their abilities questioned. The 2005 proposition by Harvard's former President Larry Summers that women's innate differences explain why fewer women succeed in math and science suggests that women continue to face assumptions about their scientific competence. In addition to examining the history of women's participation in science, this class will explore the continuing cultural and economic barriers to women interested in science. Starting with a historical overview of women in science, we will look at the contributions of women scientists. We will review the numbers of women in various fields with good representation, such as biology, and those with few women, such as physics and computer science. Like the prestigious journal *Science*, we also will explore whether women do science differently. This course is restricted to Women in Science FOCUS program participants. Credit 1 unit.

A&amp;S TH

**Focus 2172. FOCUS: Women in Science: Contemporary Issues**

Following the history of women in science that we explored in the fall semester, this class will begin a discussion and analysis of current issues in gender and science. We will look at the feminist critique of science and scientific objectivity before turning to women's careers in science. Several questions will be central to our inquiry: Do women "do" science differently? Could alternative science and mathematics education help increase women's representation in fields that continue to be male-dominated like physics, engineering, and computer science? How do social expectations of men and women affect career choices and retention? In addition to exploring these issues, we will hear from a number of women scientists. Drawing from both the Danforth and Medical Campuses, our visitors will include faculty members from chemistry, biology, engineering, earth and planetary sciences, medicine, physics, and medical administration, among others, who will share their reflections about women and science. This course is restricted to Women in Science FOCUS program participants. Credit 2 units.

A&amp;S SD, SS

**Focus 221. FOCUS in Law and Society**

The Law and Society FOCUS is designed to expose students to some contemporary legal debates in American society and to expand their understanding of those issues as they are adjudicated in our legal system. We will explore these current topics within the basic liberal arts tradition that emphasizes the view that the legal system is a social instrument for seeking a "just society." The seminar, accordingly, is an introduction to legal controversies as questions of public policies that have philosophical, social, political, and economic implications, as well as legal ones. Prerequisite: admission to the Law and Society FOCUS Plan. Credit 3 units.

A&amp;S SS FA SSP

**Focus 222. Seminar In Law and Society**

The Law and Society FOCUS is designed to expose students to some contemporary legal debates in American society and to expand their understanding of those issues as they are adjudicated in our legal system. We will explore these current topics within the basic liberal arts tradition that emphasizes the view that the legal system is a social instrument for seeking a "just society." The seminar, accordingly, is an introduction to legal controversies as questions of public policies that have philosophical, social, political, and economic implications, as well as legal ones. Prerequisite: admission to the Law and Society FOCUS Plan. Credit 3 units.

A&amp;S SS FA SSP

**Focus 2601. FOCUS: Argentina: Past and Present**

A history of Argentina from Spanish settlement to the present, focusing on the wars of independence, foreign immigration and economic growth, urbanization and the popular culture, Juan and Evita Peron, the "Dirty War," and the transition to democracy and neoliberalism. The course is intended to complement an offering on Argentine culture offered by Professor Andrew Brown of the Department of Romance Languages and Literatures in the spring semester. It also will provide historical background for a field trip by the students to Buenos Aires, Argentina, during spring break. It covers, in summary fashion, the history of one of Latin America's largest and most important countries, with an emphasis on the 20th century. It also encourages students to do some work on their own into how foreigners have viewed Argentina over time. Prerequisite: admission to the FOCUS Argentina program. Credit 3 units.

A&amp;S TH

**Focus 2602. FOCUS: Buenos Aires and the Construction of Argentine Culture**

In this course, we will examine the various expressions of Argentine culture that have given us gauchos, tango, Jorge Luis Borges, and one of the most prolific and honored cinematic traditions of Latin America. In particular, we will explore the ways in which history and culture interact to express the experience of Argentina and Buenos Aires. We will study films, popular music, dance, literature, sport, and theater to gain insight into that experience. This course is part of the Buenos Aires FOCUS program. It includes a trip to Buenos Aires over spring break and is intended to be taken after Focus 2601, Argentina: Past and Present. Credit 3 units.

A&amp;S TH

**Focus 267. FOCUS: Cuban Transitions: From Colonialism to Communism**

This course will examine the Cuban experience from its beginnings as a Spanish colony to its independence. Topics to be studied will include, among others, the Tainos, slavery, the preeminence of sugar and tobacco as an economic and cultural force, social structures, race, the documentaries, the paintings of Wilfredo Lam, the photographs of Walker Evans, and the contribution of music to the Cuban ethos. We will contrast various approaches to the understanding of Cuban history, such as those of Fernando Ortiz, Hugh Thomas, and Louis Peres. Short readings will be drawn from Las Casas, Martí, Felix Varela, and others. Requirements: three short papers (five to seven pages) and an oral report. Credit 3 units.

A&amp;S SS FA SSP

**Focus 2671. Stranger than Paradise: Cuban Experience of the Revolution**

The word "Cuba" strikes a resonant chord with many of us—a mix of curiosity, anxiety and hope—shaped by many years of controversy and stereotyping, on one hand, and myth-making, on the other. Whether you want to develop an understanding of Cuban literature on and off the island, or to learn about music and dance history that led up to the Buena Vista Social Club phenomenon, this is a seminar for you. Organized chronologically and thematically as a companion course to Focus 267 (Cuba: From Colonialism to Communism), it will cover a comprehensive range of topics related to contemporary Cuba. Faculty with ample firsthand knowledge of Cuba and invited speakers will encourage wide-ranging discussions about the interplay of such issues as the politics of race and sexuality, repression and exile, censorship and dissent. African cultural heritage, and syncretic religious practices will be presented as both a source of pride for Cubans and a symbol of their unique Caribbean experience. By examining

a variety of ideological perspectives in prose fiction, poetry, political speeches, artwork, musical forms, personal testimonies and film, this seminar will allow students to exchange perceptions across various disciplines, question myths, and erase the distance between theory and context-based critical practice. Prerequisite: successful completion of the first-semester course, Focus 267. Credit 3 units.

A&amp;S TH FA SSP

**Focus 2751. From Dred Scott to Nelson Mandela: Social Justice and Racial Discrimination in the African Diaspora**

The freshman FOCUS program will introduce students to an array of research in diverse fields—including law, the social sciences, and education—that is relevant to discussions concerned with the recent descendants of U.S. African slaves. Students also will be introduced to the Henry Hampton Archive at Washington University and will have the opportunity to experience hands-on archival assignments related to this important African-American documentary archive if they so choose. The course provides a balanced introduction to various civil rights topics that are relevant to African Americans, beginning with the Dred Scott case, which was argued in St. Louis, as well as other landmark Supreme Court rulings that are relevant to past discrimination resulting from the institution of slavery. Prerequisite: admission to the FOCUS program. Credit 3 units.

A&amp;S SS

**Focus 2752. Racial Discrimination and Apartheid in the Truth and Reconciliation Commission**

This course focuses on two questions: (1) can facing the truth about apartheid in South Africa lead to reconciliation, and (2) are the politics of tolerance sustainable in the New South Africa? We begin with a brief review of recent South African history and move to an exploration of the many facets of truth and reconciliation in South Africa, including applications to social identity, interracial dynamics, legal matters, and local and national contexts. As the second part of the Freshman FOCUS program is devoted to Social Justice and Racial Discrimination in the African Diaspora, this course examines racial conflict during and after apartheid in South Africa, and South African apartheid is compared and contrasted with the legal and scholarly reading that students completed pertaining to the U.S. situation. Credit 3 units.

A&amp;S SS

**Focus 2811. FOCUS: Literary Culture of Modern Ireland**

This course will examine the literature of Ireland from the fall of Parnell to the outbreak of the Second World War. This is the period of an emerging cultural nationalism, a great efflorescence of literature in many genres, and some of the most important political, social, and military events in modern Irish history. One of the remarkable things about the period is the close relationship between prominent figures in the literary and artistic world and those in the realm of politics and social change. The result was a rich cross-fertilization of ideas and attitudes that had enormous implications for the future of this embattled island nation. We will explore this vital and transformative exchange by close attention to some primary texts of the period. Writers to be studied will include: Yeats, Gregory, Wilde, Synge, Shaw, Joyce, and Bowen. Credit 3 units.

A&amp;S TH

**Focus 2812. FOCUS: Literary Culture of Modern Ireland II**

This course will explore the intersection of literature and culture in Ireland from the establishment of the Fianna Fail government of de Valera in

1932, through the lean years of the 1940s to '70s, to the economic boom of the Celtic Tiger in the 1990s and beyond. To appreciate this small nation's rocky road to a successful entrance into the European Union, economic security, and national confidence, we will read closely how Ireland's rich and diverse literature casts a cold but feeling eye on its hard-earned independence and fraught nationalism. For the fiction, poetry, and drama of Ireland not only mirrors but often moves the story of this nation's growth and transformation over the decades of economic, social, and political strife. Credit 3 units.

**A&S TH**

**Focus 2813. Focus: Literary Culture of Modern Ireland and Irish America: Irish-American Writers from Fitzgerald to Kennedy**  
Credit 1.5 units.

**A&S TH**

**Focus 2814. Focus: Literary Culture of Modern Ireland and Irish America: Modern and Contemporary Irish Drama**

Building on students' coverage of the early days of Dublin's Abbey Theatre, this segment will focus on (mostly) living Irish playwrights whose work develops familiar themes in unfamiliar ways. Brian Friel, whose long career was recently recognized by an elite council of Irish Arts, will be represented by *Translations* and *Dancing at Lughnasa*. We will read plays by Marina Carr, the most important Irish woman playwright since Lady Gregory, often described as "Greek" for her scorching fatalism. Continuity with Synge will be evident in work by Martin McDonagh, as will his transformation of Irish stereotypes into grotesque and deep resources of dark humor. Conor McPhereson's *Shining City* is not yet ready to banish a ghost from a psychiatrist's office. Other playwrights likely to be represented include Tom Kilroy and Christina Reid. It is notable that the work of three of these playwrights was produced in New York recently and nominated for Tony awards. Credit 1.5 units.

**Focus 307. Focus: Markets and the American Society II**

*Same as Econ 307.*

The second semester of a freshman program on economic issues facing American society. Topics will include income distribution and inequality, taxation, environmental policy and global warming, and health care. Student must apply for admission through the FOCUS program. All students must register concurrently in Econ 104B, section 1. Credit 3 units.

**A&S SS**

## Germanic Languages and Literatures

### Chair

**Stephan Schindler**

Ph.D., University of California–Irvine

### Endowed Professors

Paul Michael Lützeler  
Rosa May Distinguished University Professor in the Humanities  
Ph.D., Indiana University

**Lynne Tatlock**

Hortense and Tobias Lewin Distinguished University Professor in the Humanities  
Ph.D., Indiana University

**Gerhild Scholz Williams**

Barbara Schaps Thomas and David M. Thomas Professor in the Humanities  
Ph.D., University of Washington

### Professor

**Lutz Koepnick**

Ph.D., Stanford University

### Associate Professor

**Matt Erlin**

Ph.D., University of California–Berkeley

**Erin McGlothlin**

Ph.D., University of Virginia

### Assistant Professors

**Jennifer Kapczynski**

Ph.D., University of California–Berkeley

**William Layher**

Ph.D., Harvard University

### Adjunct Associate Professor

**James E. McLeod**

Vice Chancellor for Students and Dean of the College of Arts & Sciences  
A.B.D., Rice University

### Specialist in Foreign Language Pedagogy

**Eva Russo**

Ph.D., University of California–Los Angeles

### Professors Emeriti

**James F. Poag**

Ph.D., University of Illinois

**Egon Schwarz**

Rosa May Distinguished University Professor Emeritus in the Humanities  
Ph.D., University of Washington

Germanic Languages and Literatures offers a diverse and challenging program of study in the language, literature, and culture of the German-speaking countries. In this program you study the German language intensively and explore German literature and culture from the Middle Ages to the present. You also have the opportunity to learn business German and to study contemporary Germany.

As a beginning student, you are taught German through a combination of main classes and subsections. You rapidly acquire speaking skills through intensive interactive classroom activities. Intermediate German combines a three-hour main class with a subsection to enable you to work steadily on speaking, writing, listening, and reading skills. Advanced language courses help you to polish your basic German and to improve your facility to use complicated grammatical structures and to express complex ideas orally and in writing.

In Washington University's German program, you take courses from internationally recognized faculty members who are leaders in their fields and who have been recognized for their expertise in undergraduate teaching. Faculty areas of interest include literature and history, film, prose narrative, gender studies, philosophy, the history of German cultural institutions, the history of literary genres, literature before 1700, contemporary literature, and Austrian literature. All German classes are small, thus facilitating lively faculty-student interaction. Our collection of contemporary German literature, housed in Olin Library, is the largest in North America and attracts many visiting scholars to our campus.

As a student of German, you can choose among several study abroad programs, and you can take advantage of an array of co-curricular activities including film series, the German honorary society Delta Phi Alpha, lectures by guest speakers, and readings by visiting authors. Many German students also elect to assist with the annual German Day for middle school as well as junior and senior high school students from Missouri and Illinois and thus to transmit their interest in German to the next generation of students.

A degree in German prepares you for graduate study in German language, literature, and culture; language education; comparative literature; and linguistics. You may also choose to combine a degree in German with another major in the College and upon graduation to pursue graduate degrees in, for example, art history, business, environmental studies, international and area studies, law, or medicine. In addition to careers in academia, our graduates have pursued careers in diverse fields, including international banking, diplomacy, publishing, and law.

**The Major:** You are required to complete 24 units of course work in German on the 300 and 400 levels, with a maximum of 12 units at the 300 level and a minimum of 12 units at the 400 level. Ger 340C and the Senior Assessment (undertaken in conjunction with a 400-level seminar) are required of all majors. Ger 340C is required for admission to all 400-level courses except Ger 401, 404, and 408D. Admission to 400-level courses (except Ger 401, 404, and 408D) without completion of 340C is by departmental permission only. If you begin German at Washington University and follow the regular sequence of courses (Ger 101D-102D-210D), you will be ready to begin your German major

after three semesters. Each student's progress toward her or his goal will be monitored on a regular basis and by a variety of means.

**The Minor:** For a minor in German, you are required to take 15 units at the 300 and 400 levels. Ger 340C is strongly recommended.

**Study Abroad:** As a German major or minor, you are encouraged to participate in one of the overseas study programs. The German department sponsors a semester and a year abroad at the University of Tübingen, Germany. To be accepted to the Tübingen program you must complete Ger 301D and 302D or the equivalent by the end of your sophomore year. If you begin your German study at Washington University and wish to study abroad, you need to plan to participate in the summer program after your first year at Washington University. Upon returning to campus, German majors are required to take at least one 400-level course (other than Ger 497-498) for each semester spent abroad.

Washington University sponsors an eight-week summer program in Göttingen, Germany. If you have taken at least one semester of German, you may be eligible for this intensive language program. Especially if you are interested in business, the department encourages you to apply for the Webster University International Business Internship or for the business internship in Koblenz, Germany, arranged by Washington University's Olin Business School.

**Senior Honors:** You can earn Honors in German by writing a thesis during your final year at Washington University. You choose a topic, with the help of a faculty thesis adviser from the department. Upon acceptance of your thesis proposal (normally in the fall of your senior year), you register for the Ger 497-498 sequence. You present the thesis to your thesis adviser and a second reader approximately one month before the conclusion of your final semester at the University.

## Undergraduate Courses

### Ger 100D. Continuing German for Students with High School German

Builds on students' previous knowledge of German language and culture, reviewing and reinforcing the four language skills of listening, speaking, reading, and writing in cultural contexts with special emphasis on communicative competence. In addition to the regular class meetings, students sign up after the semester begins for a once-weekly subsection (time to be arranged). Prerequisite: placement by examination and at least two years of high school German, or permission of instructor. Students who complete this course successfully may enter Ger 102D or 290D. Credit 3 units.

A&S LA

### Ger 101D. Basic German: Core Course I

Introductory language program; no German required. Develops the four language skills of listening, speaking, reading, and writing in cultural contexts. Emphasis on communicative competence. In addition to the regular class meetings, students should sign up for a twice-weekly subsection. Students who complete this course successfully should enter Ger 102D or 290D. Credit 5 units.

A&S LA

### Ger 102D. Basic German: Core Course II

Continuation of Ger 100D or 101D. In addition to the regular class meetings, students should sign up for a twice-weekly subsection. Prerequisite: Ger 100D, 101D or equivalent, or placement by examination. Credit 5 units.

A&S LA

### Ger 111D. Elementary German I

Development of speaking, listening, reading, and writing skills. Exposure to cultural topics. Laboratory work included. Offered during Summer School only. Credit 4 units.

A&S LA

### Ger 112D. Elementary German II

Continuation of Elementary German I. Further development of all skills. Exposure to cultural topics and to fictional and nonfictional texts. Laboratory work included. Prerequisite: Ger 111D (Elementary German I), or equivalent. Offered during Summer School only. Credit 4 units.

A&S LA

### Ger 210D. Intermediate German: Core Course III

Continuation of Ger 102D. Reading and discussion in German of short literary and nonliterary texts combined with an intensive grammar review. Further development of writing skills. In addition to the regular class meetings, students sign up after the semester begins for a subsection (time to be arranged). Prerequisite: Ger 102D or equivalent, or placement by examination. Students who complete this course successfully should enter Ger 301D or 313. Credit 4 units.

A&S LA

### Ger 301D. Advanced German: Core Course IV

Discussion of literary and nonliterary texts combined with an intensive grammar review. Systematic introduction to the expressive functions of German with an emphasis on spoken and written communication. In addition to the regular class meetings, students should sign up for a twice-weekly subsection. Prerequisite: Ger 210D, 290D, or equivalent, or placement by examination. Students who complete this course successfully should enter Ger 302D. Credit 4 units.

A&S LA

### Ger 302D. Advanced German: Core Course V

Continuation of Ger 301D. Refinement and expansion of German communication skills (speaking, listening, writing, reading), deepening understanding of German grammatical structures, acquisition of more sophisticated and varied vocabulary, introduction to stylistics through discussion and analysis of literary and nonliterary texts. In addition to the regular class meetings, students should sign up for a twice-weekly subsection. Prerequisite: Ger 301D or equivalent, or placement by examination. Students completing this course successfully may enter the 400 level. Credit 4 units.

A&S LA

### Ger 313. Conversational German

*Same as German 313.*

Practice in speaking and vocabulary development in cultural contexts. Prerequisite: Ger 210D, 290D, or equivalent, or placement by examination. Two hours a week. May be repeated for credit. Credit 1 unit.

A&S LA

### Ger 328. Topics in German Studies

*Same as Film 458.*

A&S TH

### Ger 329. Topics in German Literature I

*Same as Comp Lit 393.*

A&S TH

### Ger 331. Topics in Holocaust Studies

*Same as CFH 3331, IAS 3318, EuSt 3318.*

Content variable. Credit 3 units.

A&S TH FA Lit, SSP

### Ger 334C. Masterpieces of Modern German Literature in Translation

*Same as German 452.*

Content variable. Credit 3 units.

A&S TH FA Lit

### Ger 340C. German Literature and the Modern Era

*Same as IAS 3402, EuSt 3400.*

Introduction in English to German writers from 1750 to the present. Discussion focuses on questions like the role of outsiders in society, the human psyche, technology, war, gender, the individual and mass culture, modern and postmodern sensibilities as they are posed in predominantly literary texts and in relation to the changing political and cultural faces of Germany over the past 250 years. Readings include works in translation by some of the most influential figures of the German tradition, such as Goethe, Nietzsche, Freud, Kafka, Thomas Mann, Brecht, and Christa Wolf. Open to first-year students, nonmajors, and majors. Required for admission to 400-level courses (except Ger 404 and 408D). Qualifies for major or minor credit when taken in conjunction with a one-hour discussion section in German. The discussion section provides an introduction to critical German vocabulary and is open to students with prior knowledge of German (Ger 210D or equivalent, or placement by examination). Credit variable, maximum 4 units.

A&S CD, TH FA Lit

### Ger 401. Advanced German Core Course VI

Designed to foster advanced proficiency in German through analysis and discussion of a wide variety of high-level texts and through practice in advanced composition. Discussions and papers will focus on questions of style, rhetoric, and cultural specificity and on developing expertise in textual interpretation. Additional emphasis on problems of advanced German grammar encountered by English speakers and on subtleties of style and idiomatic expression in spoken and written German. Prerequisite: Ger 302D or the equivalent, or permission of instructor. Credit 3 units.

A&S LA

### Ger 4031. Lectures on German Literature and Culture

*Same as German 4031.*

Four lectures in German on German literature and culture by a distinguished visiting professor. Students present class notes in German and write four one-page reaction papers (in German, to be revised) as well as a final three- to five-page reaction paper (in German). Attendance is required for those taking the course for credit. Credit/no credit only. Credit 1 unit.

A&S TH FA Lit

### Ger 404. Germany Today

*Same as Ger 404, EuSt 404, IAS 4040.*

Introduction to the history, politics, and culture of contemporary Germany (1945 to the present). Topics include the cultural construction of identity in post-unified Germany; European integration and post-wall economy; the German constitution, electoral system, and current elections; current debates and controversies; political parties and leading political figures; the role of literature, film, music, the visual arts, media, and popular culture; the role of universities. Discussion, readings, and papers in German. Required for candidates for the Overseas Study Program in Tübingen, Germany. Prerequisite: Ger 302D (may be taken concurrently with Ger 404), or permission of instructor. Credit 3 units.

A&S CD, TH FA SSP

**Ger 408D. German as a Language of Business**  
Designed to introduce students to concepts, structures, and issues relevant to German business and economics and to develop language and communication skills necessary to succeed in the German business world. Concentration on the fundamental structures of the German economic system, including industry and commerce, Germany as a production site, the structure of labor relations, the banking and finance sectors, fiscal and monetary policies, and international trade. Students also will be introduced to specific aspects of German business, including market and product analysis, distribution and marketing, contracting and communication, enterprise cultures and human resources, as well as accounting. Development of business vocabulary, writing style appropriate for business reports, letter writing, oral presentation techniques, reading techniques for German newspapers and economic texts, and comprehension skills for German news programs. Lectures, readings, and assignments in German. In addition to the regular class meetings students sign up for a twice-weekly subsection. Prerequisite: Ger 302D or permission of instructor. Credit 4 units.  
**A&S LA**

**Ger 4100. German Literature and Culture, 1150–1750**  
Exploration of medieval and early modern literature and culture within sociohistorical contexts. Genres and themes vary and may include visual culture; representation; the development of fictionality and historical writing; questions of race, gender, and class; courtly culture, law, magic and marvels; and medical and scientific epistemologies. Readings may include such genres as the heroic epic, drama, “Minnesang,” the courtly novel, the Arthurian epic, fables, the novella, religious or devotional literature, witch tracts, pamphlets, political writings, the “Volksbuch,” the picaresque novel, and the essay. Discussion, readings, and papers in German. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S TH, WI**

**Ger 4101. German Literature and Culture, 1750–1830**  
*Same as IAS 4101, EuSt 4101.*  
Exploration of the literature and culture of the Enlightenment, Storm and Stress, Weimar Classicism, and Romanticism within sociohistorical contexts. Genres and themes vary and may include the representation of history, absolutism and rebellion, the formation of bourgeois society, questions of national identity, aesthetics, gender, romantic love, and the fantastic. Reading and discussion of texts by authors such as Lessing, Goethe, Schiller, Kant, Novalis, Günderode, the Brothers Grimm, Kleist, E.T.A. Hoffmann, Eichendorff, Bettina von Arnim. Discussion, readings, and papers in German. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S CD, TH, WI FA Lit**

**Ger 4102. German Literature and Culture, 1830–1914**  
Exploration of 19th-century literature and culture within sociohistorical contexts. Genres and themes vary and may include the representation of history; liberalism and restoration; nationalism; industrialization; colonialism; class, race and gender conflicts; materialism; secularization; and fin-de-siècle. Reading and discussion of texts by authors such as Büchner, Heine, Marx, Storm, Keller, Meyer, Fontane, Droste-Hülshoff, Nietzsche, Ebner-Eschenbach, Schnitzler, Rilke. Discussion, readings, and papers in German. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S CD, TH, WI FA Lit**

**Ger 4103. German Literature and Culture, 1914 to the Present**  
Exploration of modern and contemporary literature within sociohistorical contexts. Genres and themes vary and may include the representation of history, the crisis of modernity, the two World Wars, the Weimar Republic, the Third Reich, generational conflicts, the women’s movement, and postmodern society. Reading and discussion of texts by authors such as Wedekind, Freud, Mann, Kafka, Brecht, Seghers, Böll, Bachmann, Grass, Wolf. Discussion, readings, and papers in German. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S CD, TH, WI FA Lit**

**Ger 4104. Studies in Genre**  
*Same as WGSS 4104, EuSt 4104, IAS 4104.*  
Exploration of the definition, style, form, and content that characterize a specific genre. Investigation of the social, cultural, political, and economic forces that lead to the formation and transformation of a particular genre. Examination of generic differences and of the effectiveness of a given genre in articulating the concerns of a writer or period. Topics and periods vary from semester to semester. Discussion, readings, and papers in German; some theoretical readings in English. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S CD, TH, WI FA SSP**

**Ger 4105. Topics in German Studies**  
*Same as IAS 4105, EuSt 4105.*  
Focus on particular cultural forms such as literature, film, historiography, social institutions, philosophy, the arts, or on relationships between them. Course examines how cultural meanings are produced, interpreted, and employed. Topics vary and may include national identity, anti-Semitism, cultural diversity, construction of values, questions of tradition, the magical, the erotic, symbolic narrative, and the city. Course may address issues across a narrow or broad time frame. Discussion, readings, and papers in German. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S CD, TH, WI FA SSP**

**Ger 4106. Studies in Gender**  
*Same as WGSS 4106.*  
Investigation of the constructions of gender in literary and other texts and their sociohistorical contexts. Particular attention to the gendered conditions of writing and reading, engendering of the subject, and indicators of gender. Topics and periods vary from semester to semester and include gender and genre, education, religion, politics, cultural and state institutions, science, sexuality, and human reproduction. Discussion, readings, and papers in German; some theoretical readings in English. May be repeated with different content. Prerequisites: Ger 340C and departmental permission. Credit 3 units.  
**A&S SD, TH, WI**

**Ger 411. German Language Seminar: History of the German Language**  
Treatment of the historical development of German phonology, morphology, syntax, and lexicon. Focus on the emergence of New High German. Examination of the relationship of standard German to its dialects and to other Germanic languages, particularly English. Conducted in German; papers in German. Prerequisite: Ger 302D or the equivalent or permission of instructor. Credit 3 units.  
**A&S LA**

**Ger 414. German Language Seminar: Structure of the German Language**  
*Same as Ling 4651.*  
Advanced course for undergraduates that enables better understanding of the language and sublanguages of modern German in terms of linguistic theory. Particular attention to semantics and pragmatics, i.e., to German viewed as a “sign” of human communication, value, interaction. Conducted in German; papers in German. Prerequisite: Ger 302D or the equivalent, or permission of instructor. Credit 3 units.  
**A&S LA**

**Ger 497. Independent Work for Senior Honors**  
Research for an Honors thesis, on a topic chosen in conjunction with the adviser. Emphasis on independent study and writing. Open to students with previous course work in German at the 400 level, an overall 3.0 grade point average, and at least a B+ average in advanced work in German. Prerequisites: senior standing and permission of the undergraduate adviser. Credit 3 units.

**Ger 498. Independent Work for Senior Honors**  
Continuation of Ger 497. Completion of thesis. Quality of the thesis determines whether the student receives credit only or Honors in German. Prerequisite: Ger 497. Credit 3 units.

# History

## Chair

### Hillel J. Kieval

Gloria M. Goldstein Professor of Jewish History and Thought  
Ph.D., Harvard University

## Endowed Professors

### Jean Allman

Jack Hexter Professor in the Humanities  
Ph.D., Northwestern University

### Daniel Bornstein

Stella Koetter Darrow Professor of Catholic Studies  
Ph.D., University of Chicago

### Derek M. Hirst

William Eliot Smith Professor  
Ph.D., Cambridge University

### Linda J. Nicholson

Stiritz Professor of Women's Studies  
Ph.D., Brandeis University

### Douglass C. North

Spencer T. Olin Professor in Arts & Sciences (Economics)  
Ph.D., University of California–Berkeley

## Professors

### Iver Bernstein

Ph.D., Yale University

### Howard Brick

Ph.D., University of Michigan

### Gerald N. Izenberg

Ph.D., Harvard University

### Ahmet T. Karamustafa

Ph.D., McGill University

### David T. Konig

Ph.D., Harvard University

### Kenneth H. Ludmerer

M.D., Ph.D., Johns Hopkins University

### Tim Parsons

Ph.D., Johns Hopkins University

### Richard J. Walter

Ph.D., Stanford University

## Associate Professors

### Tony Ballantyne

Ph.D., University of Cambridge

### Elizabeth Borgwardt

Ph.D., Stanford University

### Andrea S. Friedman

Ph.D., University of Wisconsin

### Margaret Garb

Ph.D., Columbia University

### Christine Johnson

Ph.D., Johns Hopkins University

### Peter Kastor

Ph.D., University of Virginia

### Steven Miles

Ph.D., University of Washington

### Max J. Okenfuss

Ph.D., Harvard University

### Mark Pegg

Ph.D., Princeton University

## Assistant Professors

### Catherine Adcock

Ph.D., University of Chicago

### Charly Coleman

Ph.D., Stanford University

### Nancy Reynolds

Ph.D., Stanford University

### Corinna Treitel

Ph.D., Harvard University

### Lori Watt

Ph.D., Columbia University

## Senior Scholar in the Humanities

### Steven Hause

Ph.D., Washington University

## Mellon Postdoctoral Fellow

### Sowandé Mustakeem

Ph.D., Michigan State University

## Adjunct Professor

### Steven Zwicker

(English)

Ph.D., Brown University

## Adjunct Associate Professors

### Mary Ann Dzuback

(Education)

Ph.D., Columbia University

## Professors Emeriti

### Henry Berger

Ph.D., University of Wisconsin

### Richard Davis

Ph.D., Columbia University

The discipline of history poses challenging questions about the ways that human beings have made the worlds they live in. There are many approaches to history. Some historians study how relations of power have structured individual experience and social organization. Some may emphasize the ways that individuals in a particular time and place came to understand themselves in relation to their environment, other people, or dominant ideologies. Others are especially interested in the kinds of stories about the past that we tell ourselves, for those stories reveal a great deal about our own society as well as that of a different time. In all these ways (and more) of studying the past, historians grapple with how people—together and in conflict—have structured the possibilities of human society. In their explorations, historians reveal the origins of many issues that we continue to contend with today, including international conflict, social inequality, race relations, religious and ethnic diversity, family roles, technological innovation, and a host of others. While it is not true that history repeats itself, it is true that without knowledge of the past we are unable to understand the present.

The History Department encourages all undergraduates to incorporate the discipline of historical thinking into their liberal arts education. Those students who declare majors or minors, those who count history among one of many interests, and those who

take history courses to complete general education requirements will find in our classes fascinating topics; knowledgeable and accessible instructors; and an emphasis on critical thinking, research, and communication skills. You will learn to organize and interpret data, to write with precision and clarity, to develop logical and convincing arguments, and to combine careful research with creativity. In all of our courses, we emphasize the kinds of skills that will help you to succeed both in your classes at Washington University and in your postgraduate career.

For our majors and minors, we offer the opportunity to work closely with a faculty mentor to develop a coherent yet challenging program of study. The history major is structured to be flexible, and we encourage students both to pursue established interests and to explore topics, time periods, and locales that may be less familiar. We offer a broad range of courses from the ancient world to the present, and across Africa, Asia, the Mideast, Europe, and the Americas. We have many opportunities for small-group learning and discussion, including freshman seminars, our Historical Methods seminar, writing-intensive seminars, and advanced seminars. Prior to graduation, every major is expected to demonstrate mastery of the field through an advanced seminar, an independent research project, formal fieldwork in the historical and archival professions, or writing a senior honors thesis.

Some history majors go on to pursue graduate work in the field and become professional historians. But most find that the knowledge and skills they build through history courses fit them for a wide range of careers. Our graduates have attended law or medical school, and have pursued careers in government, education, research, business, communications, international agencies, publishing, museums and archives, public advocacy, and many other fields.

**The Major:** Departmental requirements normally call for you to take two introductory courses. In addition, you are required to take 18 units in advanced-level courses, including History 301A, Historical Methods, plus a capstone experience (either a Senior Honors thesis, an advanced seminar, or a faculty-guided independent research project or historical internship). Each student must have advanced level courses in both the premodern and the modern eras, and in three distinct geographic regions. Although there is no formal language requirement, you may need foreign language or quantitative skills to pursue advanced or graduate work. You should consult with your adviser to determine what is best for your career goals.

**The Minor:** For a history minor, you must complete 18 units, of which 6 ordinarily are two introductory courses. Of the remaining 12 units, 9 must be in advanced-level courses.

**Fieldwork:** As a history major, you are eligible for fieldwork at the Missouri Historical Society or at other museums. Opportunities are also sometimes available in the special collections at Olin Library, with local businesses, and at historical sites.

**Study Abroad:** You are encouraged to participate in various overseas studies programs, which normally may fulfill up to 8 units of credit for the major or minor.

**Senior Honors:** If you have a strong academic record, you may work toward Honors, for which you will be recommended at the end of the sophomore year. You must normally complete two advanced seminars in the junior year, and complete History 399, Senior Honors Thesis and Colloquium, while writing a thesis during your senior year.

## Undergraduate Courses

### History 101C. Western Civilization

This course surveys the period from ca. 3500 BCE to 1650 CE in the West. As we examine the civilizations of Mesopotamia, the ancient Mediterranean, and medieval and early modern Europe, we will focus on themes of cultural contact, conflict, and change in order to understand the complex roots of conventional “Western” history. Credit 3 units.

A&S TH FA SSP

### History 102C. Western Civilization

This course provides an introduction to the history of modern Europe. It begins by following Europeans from the upheavals of the Enlightenment to the French Revolution, and from the industrial revolution to the era of nation-state building. It continues by exploring how Europeans became embroiled in the scramble for empire, the era of totalitarianism, and two disastrous world wars. The course concludes by examining how Europeans coped with the divisions of the Cold War, the collapse of communism, and the challenges of unification and resurgent nationalism. Introductory course to the major and minor. Credit 3 units.

A&S TH FA SSP

### History 1113. Freshman Seminar: Latin America in the 1960s—The Cuban Revolution and Its Influence

As in much of the world, the 1960s were turbulent years in the history of Latin America. The Cuban Revolution of 1959 had a widespread influence that shook the hemisphere and dominated many of the events of the period. In this seminar, students will examine the Revolution and its repercussions, particularly as it affected United States–Cuban relations specifically and U.S.–Latin American relations generally. Credit 3 units.

A&S CD, TH

### History 1115. Freshman Seminar: Topics in East Asian History

The seminar explores national identity formation in the transformation from pre-industrial societies to modernity in East Asia. Emphasis on primary sources and attention to a variety of historical methods, including “modernization,” Marxism, and critical discourse theories. Credit 3 units.

A&S TH

### History 115. Economic History and Entrepreneurialism in Modern Western Civilization

This introductory course surveys Western civilization (predominantly European history, but with a component of American history) from the 17th century to the present, focusing on economic history and the rise of entrepreneurialism. The course begins by considering the economic structures and doctrines of the pre-capitalist world, such as Christian teachings of “the just price,” the working of the guild system, and pre-capitalist doctrines such as mercantilism. Subsequent classes explore the transformation of the Western economy through such experiences as the slave economy and the factory system, through such theories as

laissez-faire capitalism and Marxism, and the development of Western entrepreneurialism (including “social entrepreneurialism” and nonprofit ventures). Credit 3 units.

A&S TH FA SSP

### History 120. Conflicts in the Middle East: An Historical Perspective

Due to recent current events, the Middle East and its future has become a hotly debated topic. Yet, for the most part, we know very little about its history and the origins of the different conflicts. Beginning with the 20th century, students will study the history, society, and culture of the different regions of the Middle East, concentrating on Turkey, Egypt, Israel/Palestine, and Iraq. This discussion-based, interdisciplinary class integrates the readings with film, music, and literature. Open only to students in the Freshman Summer Academic Program. Credit 3 units.

A&S TH

### History 131C. Topics in European History: Text and Tradition

Same as Hum 203C.

A&S TH FA SSP

### History 132C. Topics in European History: Text and Tradition

Same as Hum 207C.

A&S TH FA SSP

### History 154. Freshman Seminar: Saints and Society

Same as Re St 154.

The topic of this course is saints and society in medieval and early modern Europe. It will explore the complex relationships between exceptional holy men and women, the historical settings in which they lived, and the religious and cultural traditions on which they drew. It will consider saints as both embodiments of the highest ideals of their societies and radical challenges to ordinary patterns of social existence. We will test different approaches to the study of saints and sainthood, and see what the study of such exceptional individuals can tell us about social and cultural norms. Throughout, the relations of saints to society will be seen as a point at which social, intellectual, political, economic, and religious history meet. Credit 3 units.

A&S TH

### History 156. Freshman Seminar: England in the Age of Shakespeare

This course will examine certain themes central to our understanding of Shakespeare’s England, such as monarchy, order, power and the limits on action, national identity, gender, and family. It will read and discuss modern historical scholarship, a range of contemporary sources, Shakespeare’s plays, and the relations among these. Credit 3 units.

A&S TH

### History 1620. Introduction to the History and Culture of China and Japan

This course surveys the major historical developments from ancient to modern times in the countries of China and Japan. Themes and continuities developed in dynastic or shogunate periods that have carried over into modern times will be emphasized. Students also will explore the art, literature, and philosophy of these two nations through visual presentations and extensive reading in their classic literature. Credit 3 units.

A&S TH

### History 163. Freedom, Citizenship, and the Making of American Life

Same as AMCS 163.

This course offers a broad survey of American history from the era before European settlement of North America to the late 20th century. It explores the emergence and geographic expansion of the

United States and addresses changes in what it meant to be an American during the nation’s history. Tracing major changes in the nation’s economic structures, politics, social order, and culture, the course chronicles, among other issues, changes in the meanings of freedom, citizenship, and American identity. Introductory course to the major and minor. Credit 3 units.

A&S TH FA SSP

### History 164. Introduction to World History

This course explores links between commerce and culture in the early modern world (approximately 1450–1800). In the process, we will examine some ways in which historians have attempted to conceive of transnational, global, and world histories as alternatives to nation-based histories. Moreover, rather than attempting to offer a comprehensive survey of early modern world history, this course will both examine alternative geographical units of study (including oceans, diasporas, and frontiers) and pursue comparative historical analysis (focusing on sorcery and piracy) in different areas of the world. Introductory course to the major and minor. Credit 3 units.

A&S TH FA SSP

### History 168. Introduction to European Studies

This course focuses on Europe since 1945, but uses a historical approach to explore the experiences, traditions, and ideas that have created contemporary European civilization. Most of the semester will be spent in examining thematic topics, such as demography, religion, human rights, economic traditions, militarism, and war. The latter part of the semester will look at the major topics of Europe since 1945, such as the Cold War, decolonization, the welfare state, immigration, and the European Union. Class meetings will stress the analysis and discussion of historical texts and data. Credit 3 units.

A&S TH

### History 196C. Freshman Seminar: Images of Africa

Same as AFAS 196C.

A&S CD, TH FA Lit

### History 201A. Text and Tradition: Puzzles and Revolutions

Same as Hum 201A.

A&S TH FA NSM

### History 2051. History of American Radicalism: From the Abolitionists to the Battle of Seattle

Same as Lw St 2051.

A general history of radical movements that were intended to challenge varied forms of inequality, domination, exploitation, or violence, and to foster some kind of emancipatory reconstruction of American life and government. With some attention to early forms of artisans’ and workingmen’s radicalism, as well as the antebellum abolitionist and women’s rights movement, we will focus on the development and the fate of a modern Left—from the labor, anarchist, socialist, and communist movements through the Black freedom struggle and the New Left of the 1960s, feminism, and beyond. Credit 3 units.

A&S TH

### History 2081. Introduction to Jewish Civilization

Same as JNE 208F.

A&S TH FA SSP

### History 2090. Freshman Seminar: Chinese Diasporas

China has had one of the most mobile populations in world history. This freshman seminar will explore migration patterns and networks in the creation of Chinese diasporas in the early modern and modern eras (1500–present). Rather than focus exclusively on the history of China or the Chinese overseas, this course more broadly considers

practices and networks that sustained and linked internal and external migrations. Credit 3 units.

**A&S TH**

**History 2091. Freshman Seminar: The City in Early Modern Europe**

Cities were important political, economic, and population centers in early modern Europe. For its diverse inhabitants, a city functioned as a source of identity and support and as a site for economic and social conflict. Using a wide variety of primary and secondary sources, this class will examine how men and women, rich and poor, established citizens and marginal groups, tried to understand and manage the urban experience. Credit 3 units.

**A&S SD, TH FA SSP**

**History 209C. America to the Civil War**

The American experience from the age of Columbus to that of Lincoln; development of distinctive American patterns of thought, culture, society, politics, and religion. Topics include efforts to cope with the wilderness; colonial maturity and the development of revolutionary ideology; defining the American character; literature and art for a new republic; and the impulses of religion, idealism, and perfectionism. Credit 3 units.

**A&S TH FA SSP**

**History 210. America from the Civil War**

*Same as AMCS 209.*

This course is an overview of American history from the end of the Civil War to the present. Main topics include: Reconstruction; the Industrial Revolution and the rise of big business; progressivism, American imperialism, and WWII; the 1920s, the Great Depression and the New Deal; WWII and the Cold War; suburbanization, the Civil Rights Movement, Vietnam, and contemporary America. Credit 3 units.

**A&S TH FA SSP**

**History 214C. Introduction to Islamic Civilization**

*Same as JNE 210C.*

**A&S CD, TH FA SSP**

**History 2152. The Theory and Practice of Justice: The American Historical Experience**

*Same as AMCS 2152, Lw St 2152.*

This introductory course uses historical case studies combined with readings in law, literature, and philosophy to illuminate key episodes in which definitions of justice were contested in 19th- and 20th-century America. Some of the conflicts to be explored include: Civil War-era debates over southern secession, whether reparation should be offered to freed people to redress the injustices of racial slavery, the denial of voting rights to women as a case of "taxation without representation"; 20th-century controversies over legal bans on racial intermarriage, free speech vs. hate speech in the 1960s and '70s; and recent debates over affirmative action and gay marriage. Credit 3 units.

**A&S SD, TH FA SSP**

**History 215C. Topics in American History**

*Same as AMCS 215C.*

A survey of major themes that reflect general trends in American history. A lecture and discussion course using both primary and secondary sources to introduce students to significant issues and methods in American history. Open only to first-year students. Enrollment is limited to 15 students per section. See course listings for current topics. Credit 3 units.

**A&S SD, TH FA SSP**

**History 2202. The Rear View: Automobility in American Culture**

*Same as AMCS 220.*

**A&S TH**

**History 2250. Freshman Seminar: African-**

**American Women's History: Sexuality, Violence, and the Love of Hip Hop**

*Same as WGSS 2250, AFAS 2250, AMCS 2250.*

Black women, much like their male counterparts, have shaped the contours of African-American history and culture. Still, close study of African-American women's history has burgeoned only within the past three decades as scholars continue to uncover the multifaceted lives of black women. This course serves as an introduction to the lived experiences of black women in North America, placing their history in the context of Reconstruction, the Harlem Renaissance, the Great Depression, the Civil Rights and Black Power Movements. Credit 3 units.

**A&S SD, TH**

**History 276. St. Louis African American History**

*Same as AFAS 2151.*

**A&S SD, TH**

**History 2776. Sexuality, Courtship, and Marriage in U.S. History**

*Same as WGSS 2776.*

This course surveys the history of practices, identities, legal constructs, and social norms relating to sexuality, courtship, and marriage. Students will particularly focus on locating the history of sexuality in its larger social, economic, and cultural contexts and also will discuss the experience of individuals or social groups who deviated from the socially and legally constructed norms of the day in order to gain insight into how the sexual order has developed as a whole in this country. Credit 3 units.

**A&S SD, TH**

**History 2845. Freshman Seminar: States of Nature: The Natural Order of Society in Western Thought**

This small-group discussion course gives full attention to the major moments and movements of modern European history, 1650 to the present. We also will examine some fundamental texts in the Western traditions, from the Enlightenment to Romanticism; from Marxism to Darwinism and feminism; to the diverse thought of the 20th century. Its organizing idea is that an evolving notion of "nature" and "the natural order" has had an impact on Europe's definition of the state, and has shaped its image of a just society. This course fulfills one of the introductory course requirements for the major in History, however, students *cannot* get credit for both this course and History 102C. Credit 3 units.

**A&S TH**

**History 2944. Freshman Seminar: Unequal Freedom: Race, Class, and Gender in Modern America, 1865–1920**

*Same as AMCS 2944.*

From the end of the Civil War through the end of World War I, the United States underwent unprecedented growth and transformation. As the nation became fully industrialized and market-dependent, America's people became increasingly stratified. Consequently, many different marginalized groups struggled to achieve greater access to the fruits of liberty upon which the nation was founded. In this course, we will examine the strategies that were employed by different social groups whose gender, race, class, and ethnicity often formed the basis of their social identity and culture. We will examine the way different social groups influenced changes in politics, the workplace, their families, and the laws. Credit 3 units.

**A&S TH**

**History 2946. Freshman Seminar: The Land**

**of Plenty: Obesity and the History of the American Diet**

*Same as E Lit 2946, AMCS 2946.*

This course explores the history of the American diet and ideals of the healthy body over the past two centuries. It will examine changes in medicine, agriculture, the environment, and popular culture that have contributed to the understanding of the healthy body in the United States. Credit 3 units.

**A&S TH**

**History 2948. Freshman Seminar: History of Ethnicity in China**

This seminar addresses the rich and complex history of ethnicity in China. How did different ethnic groups come into being in China? How has ethnicity been defined and labeled? How did different ethnic groups interact with each other? How does the state influence ethnic identity? What is the role of ethnicity in politics? Through analyzing these questions, this course seeks to help students understand ethnicity in Chinese history and develop the ability to think, write, and talk about relevant issues in a critical and compelling manner. Credit 3 units.

**A&S CD, TH**

**History 299. Undergraduate Internship in History**

Students receive credit for a faculty-directed and approved internship. Registration requires completion of a Learning Agreement, which the student obtains from the Career Center and which must be filled out and signed by the Career Center and the faculty sponsor prior to beginning internship work. Credit should correspond to actual time spent in work activities, e.g., eight to 10 hours a week for 13 or 14 weeks to receive 3 units of credit; 1 or 2 credits for fewer hours. Students may not receive credit for work done for pay but are encouraged to obtain written evaluations about such work for the student's academic adviser and career placement file. Credit variable, maximum 3 units.

**FA SSP**

**History 3002. Independent Work**

Permission of the instructor is required. Credit 3 units.

**History 3012. Modern British History: 1688–2000**

This course will examine the social and political history of Great Britain from the Glorious Revolution to the present. Major themes will include the forging of a "British" identity, the acquisition of Empire, economics, transition, and religious conflict. Credit 3 units.

**A&S TH**

**History 301A. Historical Methods**

This is a small-group reading course in which students are introduced to the skills essential to the historian's craft. Emphasis will be on acquiring research skills, learning to read historical works critically, and learning to use primary and secondary sources to make a persuasive and original argument. See course listings for current topics. Required for history majors who declared the major after July 2007. Credit 3 units.

**A&S TH**

**History 3021. Introduction to the History and Culture of Ancient Mesopotamia**

*Same as JNE 302.*

**A&S TH**

**History 3040. Globalizing Africa**

*Same as AFAS 304C.*

**A&S SS**

**History 3042. Two Renaissance Cities: Approaches to Early Modern Culture***Same as Hum 3042.*

This core course explores Renaissance texts, images, and contexts. We will compare the experience and the artifacts of two cities, one Italian and one outside Italy, in order to assess the viability of “the Renaissance” as a pan-European cultural label; we will note the pressures of urban and court life on cultural production; and we will observe the interaction of intellectual and aesthetic self-confidence with the concerns of politics and patronage. Credit 3 units.

**A&S TH****History 3043. Renaissance Europe**

The Renaissance was a time of tremendous cultural change, global expansion, and political and religious conflict that gave birth to the modern world. Yet, these dynamic developments were produced by an anxious society, where limited technological capabilities and an increasingly rigid system of social and gender divisions discouraged innovation and encouraged repressive measures. How did these contradictory impulses shape the European Renaissance and with what consequences? Topics covered include: the social history of art and science; warfare and political consolidation; the printing revolution; popular culture and witchcraft; the Protestant Reformation; and the discovery of the New World. Credit 3 units.

**A&S SD, TH****History 3060. East Asia Since 1500***Same as IAS 3060, East Asia 3060.*

This course seeks to explain the emergence of three of the most dynamic societies in early modern (1500–1800) and modern (1800–present) times: China, Korea, and Japan. In addition to offering an introductory overview of East Asian history, this course provides an alternative view to American and European interpretations of early modern and modern world history. Rather than imagining East Asia as a passive actor in history, this course explores the ways in which East Asia has shaped global modernity. Credit 3 units.

**A&S CD, TH****History 3063. American Environmental History**

This course explores main themes and questions in the environmental history of the United States. The discussion will lead from conflicting models of nature and society held by Native American and European groups, through European newcomers’ attempts to order landscape, into the varying uses of land in the early American republic. We also will examine the cultural changes and violent conflicts that took place in and through land use in the 19th century. In the 20th century, our themes center on the role of governmental power in the Dust Bowl, the control of waterways, and growing environmental activism. Credit 3 units.

**A&S TH FA SSP****History 3066. The American City in the 19th and 20th Centuries**

*Same as AMCS 3066, Pol Sci 3066, URST 3066.* This course will explore the cultural, political, and economic history of U.S. cities in the 19th and 20th centuries. The course will focus on New York, Chicago, St. Louis, Los Angeles, and Atlanta, although other cities may be included. Students will conduct significant primary research on sections of St. Louis, developing a detailed history of one of the city’s neighborhoods. Much of the course readings address broad themes, such as immigration, industrialization, deindustrialization, and race and gender relations in American cities. Credit 3 units.

**A&S SD, TH FA SSP****History 307C. Law in American Life: English and Colonial Foundations to 1776***Same as Lw St 307C, Pol Sci 307C, AMCS 308C.*

The role of law and legal institutions in the establishment of societies by the various peoples of the New World. Although some attention will be paid to Native American, African, French, and Spanish traditions and practices, the course will focus on the creation of a new Anglo-American legal culture on the fundamental structures and principles of English law. Credit 3 units.

**A&S TH FA SSP****History 3091. Poverty and Social Reform in American History***Same as AMCS 3091.*

This course explores the history of dominant ideas about the causes of and solutions to poverty in American society from the early republic to the end of the 20th century. We will investigate changing economic, cultural, and political conditions that gave rise to new populations of impoverished Americans, and to the expansion or contraction of poverty rates at various times in American history. Credit 3 units.

**A&S SD, TH FA SSP****History 310C. The Jews in the Ancient World***Same as JNE 301C.***A&S CD, TH FA SSP****History 3120. South Asian Traditions***Same as Re St 312.***A&S CD, TH****History 313C. Islamic History: 622–1200***Same as IAS 313C, JNE 513, JNE 313C, Re St 313C.*

The cultural, intellectual, and political history of the Islamic world, beginning with the prophetic mission of Muhammad and concluding with the Mongol invasions. Credit 3 units.

**A&S TH FA SSP****History 3149. The Late Ottoman Middle East***Same as IAS 3149, JNE 3149, JNE 5149.*

This course surveys the Middle East in the late Ottoman period (essentially the 18th and 19th centuries, up to World War I). It examines the central Ottoman state and the Ottoman provinces as they were incorporated into the world economy, and how they responded to their peripheralization in that process. This course will focus on how everyday people’s lived experiences were affected by the increased monetarization of social and economic relations; changes in patterns of land tenure and agriculture; the rise of colonialism; state efforts at modernization and reform; shifts in gender relations; and debates over the relationship of religion to community and political identity. Credit 3 units.

**A&S CD, SD, TH****History 314C. Islamic History: 1200–1800***Same as Lw St 314, JNE 314C, JNE 5314, Re St 314C, History 3149, History 5314.*

A survey of the major Islamic polities and societies of the Nile-to-Oxus region from 1200 to 1800; their cultures, socioeconomic conditions, and historical development. Particular attention is given to the Mamluk and Ottoman Middle East, Safavid Iran, and Mughal India. Credit 3 units.

**A&S TH FA SSP****History 3150. The Middle East in the 20th Century***Same as IA 5150, JNE 3150, JNE 5150, IAS 3150.*

This course surveys the history of the Middle East since World War I. Major analytical themes include: colonialism; Orientalism; the formation of the regional nation-state system; the formation and political mobilization of new social classes; changing gender relations; the development of new forms of appropriation of economic surplus (oil, urban industry) in the new global economy;

the role of religion; the Middle East as an arena of the Cold War; conflict in Israel/Palestine; and new conceptions of identity associated with these developments (Arabism, local patriotism, Islamism). The geographical focus is on the mashriq—the eastern Arab world (Egypt, the Fertile Crescent, and the Arabian Peninsula), plus Turkey, Iran, and Israel. Credit 3 units.

**A&S CD, TH****History 3151. The Palestinian–Israeli Conflict, 1881–Present***Same as IAS 3151.*

This class will trace the roots of the Palestinian–Israeli conflict back to Europe, Istanbul, and late Ottoman Palestine. During this period, we will observe how the Palestinian–Israeli conflict developed as a regional conflict. We will then move on to the British mandate period, examining how the Holocaust impacted the conflict and how, following Israeli independence, this conflict transformed into a full-fledged Arab–Israeli conflict. The last section will cover events in Israel and the Palestinian territories once the land was united following the 1967 war, including the rise of the PLO and its impact on Israel. Credit 3 units.

**A&S TH****History 3152. The History of Iran from 1501 to the Present***Same as History 5152, JNE 3152, IAS 3152.*

In this class, we will examine the sociopolitical change and religious movements from Safavid Persia to present-day Iran. We will discuss the process of institutionalization of Shi’ism in Iran during the Safavid period and the reasons for the fall of the Safavid Empire. In studying the Qajar period, we will focus on the increasing contact between Qajar Iran and the Western powers, the introduction of ideas of constitutionalism and Western form of schooling, as well as the debates that surrounded such contacts with the West. Credit 3 units.

**A&S TH FA SSP****History 3162. Early Modern China: 1350–1890***Same as IAS 3163, ANECC 3162, East Asia 3162.*

This course examines political, socioeconomic, and intellectual-cultural developments in Chinese society from the middle of the 14th century to 1890. This chronological focus largely corresponds to the last two imperial dynasties, the Ming (1368–1644) and Qing (1644–1911). Thematically, the course emphasizes such early modern indigenous developments as increasing commercialization, social mobility, and questioning of perceived cultural values. Credit 3 units.

**A&S CD, TH****History 3164. Chinese Foreign Relations Since the Opium War***Same as Hist 3164, East Asia 3164, IAS 3164.*

This course will analyze the evolution of Chinese foreign relations from the Opium War to the present. This course will focus on Chinese state relations with the rest of the world over the past century and a half and will address relevant issues of Chinese domestic political history over the same period. Throughout the course, we will look for consistent themes in Chinese foreign relations. Credit 3 units.

**A&S TH****History 316C. Modern China: 1890s to the Present***Same as IAS 316C, East Asia 316C.*

A survey of China’s history from the clash with Western powers in the 1800s to the present-day economic revolution. This course examines the background to the 1911 revolution that destroyed the old political order. Then it follows the great cultural and political movements that led to the

Communist victory in 1949. The development of the People's Republic will be examined in detail, from Mao to the global economy. Credit 3 units.  
**A&S** CD, TH **FA** SSP

### History 3190. The Eastern Question: 1815–2002

This course surveys Great Power diplomacy in the Eastern Mediterranean Basin and in the Caucasus from the Congress of Vienna to 9/11. Topics include Russo-Turkish Wars, Balkan Wars of National Liberation, Crimean War, Congress of Berlin, World Wars I and II, Cold War, and post-1989 regional conflicts. Credit 3 units.

### History 3192. Modern South Asia

*Same as IAS 3192, Re St 3192.*

This course will cover the history of the Indian sub-continent in the 19th and 20th centuries. We shall look closely at a number of issues including colonialism in India, anti-colonial movements, the experiences of women, the interplay between religion and national identity, and popular culture in modern India. Political and social history will be emphasized equally. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 320C. Japan Since 1868

*Same as East Asia 312C, IAS 324C.*

For some, "Japan" evokes Hello Kitty, animated films, cartoons, and sushi. For others, the Nanjing Atrocity, "Comfort Women," the Bataan Death March, and problematic textbooks. For still others, woodblock prints, tea ceremony, and cherry blossoms, or Sony Walkmans and Toyotas. Still others may hold no image at all. Tracing the story of Japan's transformations from a pre-industrial peasant society managed by samurai-bureaucrats into an expansionist nation-state and then to its current paradoxical guise of a peaceful nation of culture led by conservative nationalists provides the means for deepening our understandings of historical change in one region and grappling with the methods and aims of the discipline of history. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 3212. Special Topics in History: Keble College, Oxford

See Department. Credit variable, maximum 10 units.

**A&S** TH **FA** SSP

### History 321C. Latin America: From Colonialism to Neocolonialism, 1492–1898

*Same as Pol Sci 3212, LatAm 321C, IAS 321C.*

A survey of Latin-American history from the European discovery of the New World in 1492 to the Spanish-American-Cuban War of 1898. Topics covered include: the period of discovery, conquest, and settlement; the establishment of Iberian colonial control; the wars of independence; and the attempts to establish modern nation-states in the 19th century. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 3221. Latin America in the 20th Century

This course provides an introduction to the history of Latin America from the time of the European conquest until the revolutions of independence—1492 to 1825. Through the critical reading and discussion of primary and secondary sources, as well as films, we will examine topics such as: the diversity of Amerindian societies before 1492; the complex and often violent encounter between Amerindians, Europeans, and Africans; the economic and political underpinnings of the Spanish and Portuguese-American empires; the shifting racial, political, and social colonial identities; the late colonial uprisings; and the multilayered struggles for independence in the early 19th century. Credit 3 units.

**A&S** TH

### History 322C. Latin America in the 20th and 21st Centuries: Reform or Revolution

*Same as LatAm 322C, IAS 322C.*

This course is an examination of Latin America in the 20th and 21st centuries, with special emphasis on class dynamics, revolutionary nationalism, attempts at reform, industrialization and urbanization, mass participation in politics, the transition to democracy in the 1980s and the "neo-liberal" policies of the 1990s, the backlash against globalization, and the role of the United States in the area. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 3261. American Economic History

*Same as Econ 326.*

**A&S** SS **FA** SSP

### History 3262. The Early Medieval World: 300–1000

*Same as Re St 3262, Hist 3262.*

A principal theme of this course will be the Christianization of Europe. From the emergence of the Christian church in the Roman Empire and the conversion of the emperor Constantine in 312 through the turbulent adoptions of Christianity by different cultures in the early Middle Ages; the rise of Islam in the 7th century; the Arab conquests of north Africa and southern Europe; and the Byzantine empire, especially in Constantinople. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 3263. The High Middle Ages: 1000–1500

*Same as Re St 3263.*

This course will begin with the first millennium in the West and end with the arrival of Europeans in the Americas. We will explore issues such as the relationship of popes to kings, cities to villages, Jews to Christians, vernacular literature to Latin, knights to peasants, the sacred to the profane. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 3266. Scholarship and the Screen: Medieval History and Modern Film

Historical films are surprisingly accurate reflections of modern historiographical trends in the study of the Middle Ages. This course uses films on the Middle Ages, medieval documentary evidence, scholarship from the time the film was released, and current scholarship. It will explore the shifts in historical interpretation of the Middle Ages over the past century and engage in debates over what evoking the past means for the scholar and the filmmaker. This course is about imagining the Middle Ages in the modern world and the abiding problem of historical truth in words and images. Credit 3 units.

**A&S** TH

### History 3302. Religion and Science

*Same as Re St 3301.*

**A&S** TH

### History 3303. History of American Cinema

*Same as Film 330.*

**A&S** TH **FA** AH

### History 3311. Topics in American Culture Studies: Exploring America, 1957

*Same as AMCS 330.*

**A&S** TH **FA** SSP

### History 3320. Explosion on Contact: Combustible Politics of Medical Science in America from Colonial Times to the Present

From Cotton Mather in 1721 weighing in on the rectitude of smallpox vaccination in Massachusetts to actor Michael J. Fox joining the 2006 Amendment 2 stem-cell debate in Missouri, Americans have fought vehemently about the politics of medical science. Arguments over what

counts as legitimate medical science, and about the proper relationship of such science to public policy, have been central in U.S. political contestation over such seemingly unrelated themes as immigration, race, imperialism, gender, sexuality, reproduction, crime and punishment, land use, ethics, and religion. Credit 3 units.

**A&S** TH

### History 333. The Holocaust: History and Memory

*Same as EuSt 3331, IAS 333, JNE 5331, JNE 3331.*

Origins, causes, and significance of the Nazi attempt to destroy European Jewry within the context of European and Jewish history. Related themes: the Holocaust in literature; the psychology of murderers and victims, bystanders and survivors; contemporary implications of the Holocaust for theology and politics. Credit 3 units.

**A&S** SD, TH **FA** SSP

### History 334C. History of Jews in Christian Europe to 1789

*Same as History 5334, Re St 334C, JNE 334C, JNE 5334.*

The position of the Jews in relation to church and state; organization and self-government of the Jewish community; movements of Jewish spirituality (Kabbalah, German and Polish Hasidism); divisions within Jewish society; and the background of emancipation and enlightenment. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 335C. The Jews in the Modern World

*Same as IAS 3350, EuSt 3350, JNE 535C, JNE 335C, Re St 335C, History 5335, Hist 335.*

This course offers a survey of the Jewish experience in the modern world. We begin with the European Enlightenment and the formation of the modern state and end with American and Israeli settings at the close of the 20th century. Among the themes that we will be exploring in depth are: the campaigns for and against Jewish "emancipation"; acculturation and religious reform; Jewish life in the Russian empire and in Eastern Europe; the rise of political and racial anti-Semitism; mass migration and the formation of American Jewry; varieties of Jewish national politics; Jewish-Gentile relations between the World Wars; the destruction of European Jewry; the emergence of a Jewish nation-state; and Jewish culture and identity since 1945. Credit 3 units.

**A&S** CD, TH **FA** SSP

### History 3362. Topics in American Culture Studies: Secret Societies in American Culture

*Same as AMCS 336.*

**A&S** TH

### History 336C. History of the Jews in Islamic Lands

*Same as IA 536, Re St 336C, JNE 336C, JNE 536C.*

This course is a survey of Jewish communities in the Islamic world, their social, cultural, and intellectual life from the 7th to the 19th century. Topics include: Muhammad and the Jews, the legal status of Jews under Islam, the spread of Rabbinic Judaism in the Islamic empire, the development of new Jewish identities under Islam (Karaites), Jewish traders and scholars in Medieval Egypt, the flourishing of Jewish civilization in Muslim Spain, and Sephardi (Spanish) Jews in the Ottoman Empire. Credit 3 units.

**A&S** TH **FA** SSP

### History 3402. Money and Morals in the Age of Merchant Capital

*Same as Lw St 3401.*

Between the late medieval period and the 18th century, Europe underwent an economic transformation that, while creating an expansive and dy-

namic European economy, also prompted much debate and discussion about the changing patterns of production, consumption, and social relations that went hand-in-hand with new economic practices. As state officials worked to make economic policies fit in with national priorities, other writers proclaimed that stock market bubbles, shady business practices, and the materialism and fickleness of consumers signaled the decline of morality and civilization. Credit 3 units.

**A&S TH FA SSP**

**History 3403. Europe Between the Wars: 1919–1939**

A survey of European history between the wars. It will stress the distinctive modern conflicts of the period, particularly those resulting from World War I and leading to World War II. Considerable attention will be given to the development of the Soviet system, but the major emphasis will be on the rise of fascism, Nazism, and other forms of right-wing authoritarianism, which will be studied in the broader European context. There also will be extended examination of the Spanish Republic and the internationalization of the Spanish Civil War. Credit 3 units.

**A&S TH FA SSP**

**History 341. The Jewish People In America**

*Same as JNE 341.*

**A&S TH**

**History 3413. Women in Early Modern Europe**

*Same as WGSS 3413.*

From the Renaissance to the Enlightenment, European women experienced tremendous change as Europe witnessed religious upheaval, economic retrenchment, political consolidation, and intellectual revolution. However, many of the core ideas about women's role and status remained remarkably stable during this period, and women continually struggled to create opportunity for themselves. We will examine both the changing and unchanging nature of women's lives through sources such as conduct manuals for women; biographies about women from different economic, social, and religious backgrounds; and the works of female authors. Credit 3 units.

**A&S SD, TH FA SSP**

**History 3415. Jewish–Gentile Relations in the United States, 1830–1970**

*Same as JNE 3415.*

**A&S TH**

**History 341C. Ancient History: The Roman Republic**

*Same as Classics 341C.*

**A&S TH FA SSP**

**History 342C. Ancient History: The Roman Empire**

*Same as Classics 342C.*

**A&S TH FA SSP**

**History 3433. Renaissance and Reformation Europe**

A survey of the tumultuous cultural and religious changes that laid the foundations of modern Europe. Through an exploration of the works of passionate artists, crafty courtiers, and fiery theologians, this course tracks the disintegration of the medieval world and the formation of a new society. Topics include the Italian Renaissance and the rediscovery of ancient learning, Christian Humanism, the discovery of the New World, the Protestant and Catholic Reformations, warfare and the military revolution, and the rise of the modern state. Credit 3 units.

**A&S TH**

**History 3435. The Rear View: The Automobile in American History and Culture**

This course treats the automobile as an important technological innovation that transformed Ameri-

can landscape, industry, and culture in the 20th century. Using maps, films, historical sources, literature, and cultural criticism, we will trace the impact of automobility on 20th-century America by exploring a wide range of topics. These topics include Henry Ford, the United Auto Workers union, suburbanization, sprawl, fantastic 1950s styling, advertising, road trips, roadside architecture, drive-ins, car customizing, gender, and environmental ruin. Broader themes include the relationship between technology and history, the role of government and private choices, and the extent to which American culture is synonymous with car culture. Credit 3 units.

**A&S TH**

**History 343C. Europe in the Age of Reformation**

*Same as Re St 343C.*

At the beginning of the 16th century, Europe was torn apart by the theological, social, and political upheaval created by Martin Luther's challenge to the Roman Catholic Church. We will examine the late medieval history of dissent and the social and religious environment that made the Reformation possible. We also will analyze the doctrines and the tactics of the principal branches of Protestantism and the Catholic Church's response, and the social and political impact of the Reformation. Credit 3 units.

**A&S CD, SD, TH FA SSP**

**History 3441. Introduction to European Studies**

*Same as IAS 344.*

**A&S CD, TH**

**History 3450. Modern Germany**

*Same as IAS 3453, EuSt 3453.*

What does it mean to be German? How should Germany fit into Europe? What problem does the German past pose for today? These questions structure our survey of the forces that have shaped German history since 1800. After examining the multiplicity of German states that existed in 1800, we will explore the forces that resulted in unification in 1871. We then turn to a study of modern Germany in its various forms, from the Empire through the Weimar Republic and Third Reich, to post-war division and reunification. Credit 3 units.

**A&S TH**

**History 3456. Greek History: Archaic and Classical**

*Same as Classics 345C.*

**A&S TH FA SSP**

**History 345A. The Scientific Revolution**

*Same as Biol 345A.*

**A&S NS FA NSM**

**History 346C. Greek History: The Age of Alexander**

*Same as Classics 346C.*

**A&S CD, TH FA SSP**

**History 347. Darwin and Evolutionary Controversies**

*Same as Biol 347.*

**A&S NS, WI FA NSM**

**History 3470. Gender and Citizenship**

*Same as WGSS 347.*

**A&S TH, WI**

**History 3481. Rethinking the 'Second Wave': The History of U.S. Feminisms, 1960–1990**

*Same as WGSS 348.*

**A&S SD, TH**

**History 3490. Europe in the 20th Century**

In 1914, several European nations dominated much of the world through vast overseas empires in which they exercised military, political, and economic power. This course explores the decline,

fall, and slow return of the "new Europe" by examining the history of Europe from World War I to the present. It considers the decline of Europe brought about by two devastating wars, and the crucial impact of war and genocide in shaping European politics, society, and culture; the place of Europe in the Cold War; and the European retreat from empire in the post-war era. Credit 3 units.

**A&S TH**

**History 3491. Europe in the 20th Century: 1945–2000**

*Same as EuSt 3491.*

This course is an introduction to political, social, and cultural developments in Europe from 1945 to the present. It investigates the reconstruction of Europe following the devastation of World War II and the principles upon which this reconstruction was based. Topics include the post-war settlement following World War II, the division of Germany, the consolidation of the communist and the capitalist power blocs and the beginning of the Cold War, political and economic reconstruction in Western Europe and Stalinization in Eastern Europe, and the path toward the formation of the European Community. Credit 3 units.

**A&S TH FA SSP**

**History 3530. Re-Forming Ireland, 1500–1700**

Ireland in the 16th and 17th centuries was radically transformed. Not only were the political structures and the political culture of resurgent Gaelic destroyed, but religious loyalties consolidated new Irish identities as Protestantism—in the form of new waves of settlers and new flurries of English governmental interventions—obliterated inherited distinctions and divisions, and defined all Roman Catholics as the enemy. Credit 3 units.

**A&S SD, TH**

**History 3531. Early Modern England**

Around 1500, England was an overwhelmingly agrarian society dominated by crown and aristocracy; by 1700, political power had been redistributed by revolution while commercialization, "science," and empire-building were well under way. Through lecture and discussion, and through readings in a variety of autobiographical and other writings, including some of the great works of literature, we will examine how contemporaries sought to shape, or to come to terms with, their world. Credit 3 units.

**A&S TH FA SSP**

**History 3532. Faith and Power in Early Modern England**

This course will examine the often-explosive relations between religious faith and political power in 16th- and 17th-century England: a time of the conquest of Ireland, the burning of martyrs, the hanging of witches, and puritan experiments in England and New England. It will explore the painful process by which a general commitment to religious unity and coercion eroded to allow space to the individual conscience. Credit 3 units.

**A&S TH**

**History 3541. The History of the American West Since 1848**

*Same as AMCS 3541.*

Historians of the American West commonly see the West as three different places: the geographic area west of the Mississippi River and contained by the United States' borders; a frontier defined by westward-moving Anglo-American expansion; and an imagined place—most often seen in popular culture—in which people frequently invest their expectations, hopes, and fears for the country as a whole. In this course, students gain a better understanding of how the United States took the geographic form it did, what impact that formation had on the people and the ecology of the American West, and what expectations we have of

the American West today. Credit 3 units.

**A&S TH**

**History 3552. Modern France Since 1870**

*Same as EuSt 3552, IAS 3552.*

This course examines French history since the Franco-Prussian War of 1870–71. It looks at the creation of an enduring republic (the Third Republic—the first lasting republic in the history of the European great powers) and the shaping of republican institutions up to the present. The course will focus on political history, with special attention to social, economic, and religious history—as distinguished from the cultural and intellectual. Credit 3 units.

**A&S TH**

**History 3553. French Revolution to Napoleon III**

*Same as IAS 3553, EuSt 3553.*

The focus of this course is on the French Revolution of 1789–1799 and France under Napoleon Bonaparte, but the topics discussed will begin with the crisis of the French monarchy at the end of the Old Regime and will end with the reign of the last French monarch, Emperor Napoleon III. Credit 3 units.

**A&S TH**

**History 356C. 20th-Century Russian History**

*Same as Russ 356, EuSt 356, Russ St 356C, IAS 356C.*

A survey of Russian history from 1900 to the present. The course emphasizes the Russian Revolutions at the beginning and end of the century, Stalinism, de-Stalinization, and post-communist society. Much attention will be given to the assumptions and conclusions of schools of historical analysis: Marxist, totalitarianism, Kremlinologist, and revisionist. Credit 3 units.

**A&S TH FA SSP**

**History 3580. Identity: From Individual Crisis to Collective Politics**

What does it mean to say that we have, or that we seek, an identity? We seem to need to define ourselves as something, to be able to know “who we are.” The psychoanalyst Erik Erikson, who coined the famous concept of “identity crisis” half a century ago, suggested that individual identity becomes a problem when the materials from which we normally construct it, parental identifications, and cultural beliefs come into conflict. Sociologists have argued that personal identity is a problem specific to modernity, created by the breakdown of the fixed categories of traditional society. Credit 3 units.

**A&S TH**

**History 3584. From Freud to Postmodern and Feminist Psychoanalysis: A History of Psychoanalytic Ideas**

*Same as WGSS 3584.*

This course will trace the development of psychoanalysis from Freud’s original positions in the early 20th century to the most recent innovations in the psychoanalytic theory and practice of the 21st century. Credit 3 units.

**A&S TH**

**History 358C. Leeches to Lasers: Medicine and Health in the United States**

*Same as AMCS 300C.*

This course introduces main themes in the history of American medicine, and is designed for those who intend to enter the health profession as well as for History majors. Our questions include: What were the epidemiological consequences of colonial intervention in North America? What did people, before germ theory, think would make them sick or keep them well? How did our current medical professions emerge out of the chaotic medical debates of the 19th century? What kinds

of environments have Americans found healthful, and why? How is mainstream medicine in the United States responding to challenges from immigrants’ belief systems, new and threatening diseases, and recent popular interest in alternative or natural care? Credit 3 units.

**A&S TH FA SSP**

**History 359. Modern European Women**

*Same as WGSS 359C, EuSt 359C, IAS 359.*

This course examines the radical transformation in the position and perspective of European women since the 18th century. The primary geographical focus is on Britain, France, and Germany. Topics include changing relations between the sexes, the emergence of mass feminist movements, the rise of the “new woman,” women and war, and the cultural construction and social organization of gender. We will look at the lives of women as nurses, prostitutes, artists, mothers, hysterics, political activists, consumers, and factory hands. Credit 3 units.

**A&S TH FA SSP**

**History 3604. Science, Religion, and the Humanities since Darwin**

Credit 3 units.

**A&S TH FA SSP**

**History 3608. Science and Society Since 1800**

This course surveys selected topics and themes in the history of modern science from 1800 to the present. Emphasis will be on the life sciences, with some attention to the physical sciences. Topics include the Darwinian Revolution, women’s struggle to enter and shape the scientific profession, eugenics and racial hygiene in the United States and Nazi Germany, physicists and the atomic bomb, and the Humane Genome Project. Credit 3 units.

**A&S TH FA SSP**

**History 3632. The American Frontier: 1776–1848**

*Same as AMCS 3632.*

This course will examine the nation’s shifting frontier from independence through the Mexican-American War. It will consider people and places in flux as their nationality, demography, and social order underwent dramatic changes. Students will make use of an extensive electronic archive of primary sources including period documents, historic maps, and contemporary artwork, in order to consider how these sources confirm, reject, or expand on the ideas they encounter in published scholarship. Credit 3 units.

**A&S SD, TH FA SSP**

**History 365. The New Republic: The United States, 1776–1850**

*Same as Lw St 365.*

A survey of American history from the eve of the Revolution to the eve of the Civil War. Topics covered include: the Revolution and its ambiguous legacies; the rise of democracy; the starkly paradoxical “marriage” of slavery and freedom; the creation of much of the America that we know; mass political parties; sustained capitalist growth; individualistic creeds; formalized and folkloric racism; technological innovation; literary experimentation; distinctively American legal, scientific and religious cultures; and the modern movements of labor, feminism, and African-American empowerment. Credit 3 units.

**A&S TH FA SSP**

**History 366. The Civil War and Reconstruction: 1848–1877**

*Same as AMCS 366.*

This course is a survey of American history from 1848–1877, focusing on the Civil War and Reconstruction. The bloody conflict, and its causes and consequences, are explored from multiple perspectives. Those of individuals such as Lincoln,

McClellan, Davis, Douglass, and Lee, who made momentous choices of the era; of groups such as the Radical Republicans and the black freed people that helped shape the actions of individuals; and of the historians, novelists, filmmakers, and social movements that have struggled to define the war’s legacy for modern America. Credit 3 units.

**A&S SD, TH FA SSP**

**History 3660. Narratives of Discovery**

This course examines Europe’s encounter with the newly discovered lands and peoples of Africa, Asia, and America through the writings of the travelers themselves. We will read stories of exploration and conquest, cultural and commercial exchanges, religious visions, and cannibal practices. Students will read stories of exploration and conquest, cultural and commercial exchanges, religious visions, and cannibal practices. Topics studied will include: the world of the explorers; the development of colonial discourses and practices; and the strategies used to handle the difficult questions of eyewitness authority, political legitimacy, and European cultural hegemony. Credit 3 units.

**A&S TH**

**History 3669. The Making of Modern Europe, 1945 to the Present**

The history of Europe from the end of World War II to the present. Topics include the place of Europe in the Cold War, the divergent paths and experiences of Western and Eastern Europe, the emergence of the European Union, the 1968 student uprisings throughout Europe, the “revolutions” of 1989 throughout Eastern Europe, the collapse of the Soviet Union and reunification of Germany, the Balkan Wars of the 1990s, and current social problems related to the minority ethnic and religious groups living in European nations. Credit variable, maximum 4 units.

**A&S TH**

**History 367. Modern America: 1877–1929**

*Same as AMCS 367, Lw St 367.*

The rise of industrial America: the social conflicts, cultural shifts, political responses, and world status occasioned by industrial development in the United States, from Reconstruction to World War I. Key concerns will include labor, race, and women’s suffrage; popular culture; the bohemian avant-garde; consumerism; progressive reform; imperialism and the impact of World War I. Credit 3 units.

**A&S TH FA SSP**

**History 368. Modern America Since 1929**

*Same as AMCS 368.*

This course offers an intensive survey of U.S. history since World War I, concentrating on key turns in the development of American life: social and political strains of the 1920s as part of the “new era” commenced by the Great War, responses to the Great Depression and the construction of a limited welfare state in the 1930s and 1940s, the rise of Cold War anticommunism in foreign and domestic affairs in the wake of World War II, the advent of a new period of social reform and disruptive protest in the 1950s and 1960s, the turn toward the political right since the 1970s, and the aftermath of the Cold War. Credit 3 units.

**A&S TH FA SSP**

**History 3680. The Cold War, 1945–1991**

*Same as AMCS 3680, Pol Sci 3680, IAS 3680.*

This course presents an assessment of the Cold War from the perspective of its major participants. Topics include: the origins of the Cold War in Europe and Asia; the Korean War; the Stalin regime; McCarthyism and the Red Scare; the nuclear arms race; the conflict over Berlin; Cold War film and literature; superpower rivalry in Guatemala, Cuba, Vietnam, Africa, and the Middle East; the rise and fall of detente; the Reagan years and the impact of

Gorbechev; the East European revolutions; and the end of the Cold War. Credit 3 units.

**A&S TH FA SSP**

### History 3700. U.S. Social History in the Modern Era

*Same as AMCS 3700.*

This course is an introduction to the methods and questions of social history. The purpose of social history is to examine the lives of ordinary people, paying particular attention to the different ways people experience historical change. The period between 1880 and 1930, "modern America," is characterized by massive immigration and urbanization, the growth of industrial capitalism in the U.S. economy, and the growth of consumer industries and assorted forms of mass culture. Credit 3 units.

**A&S SD, TH**

### History 3711. The History of Popular Culture in the United States

*Same as AMCS 3711.*

**A&S TH**

### History 3712. Art and Culture in America's Gilded Age

*Same as Art-Arch 3712.*

**A&S TH FA AH**

### History 372C. Law in American Life: 1776 to the Present

*Same as AMCS 372C, URST 372C, Pol Sci 372C, Lw St 372C, AFAS 372C.*

At the founding of the American republic, new conceptions of human rights clashed with new forms of property rights created by commerce and industry. How have some Americans tried to use law to achieve "equal justice under law" or—what is not always the same thing—"liberty" to advance their goals? How have "the people" called on the law to create and maintain order in their communities and at whose expense? What has been the relationship between legal change and advancements in science, technology, and medicine? Viewing law as the contested terrain of justice, cultural construction, social necessity, and self-interest, this course will pay close attention to the way Americans have used, abused, or evaded law throughout their national history. Credit 3 units.

**A&S SD, TH FA SSP**

### History 373. History of U.S. Foreign Relations to 1914

*Same as IAS 3731, AMCS 3730.*

This course explores the major diplomatic, political, legal, and economic issues shaping U.S. foreign relations from the colonial era up to 1914. Credit 3 units.

**A&S TH FA SSP**

### History 374. History of U.S. Foreign Relations: 1914–1950

Impact of world conflict, revolution, and domestic political-economic developments on the global expansion of American interests, ideology, and power from the Great War to the eve of the Korean struggle. Credit 3 units.

**A&S TH FA SSP**

### History 3741. History of United States: Foreign Relations Since 1950

*Same as IAS 3741, Pol Sci 3741, AMCS 3741.*

Analysis of the causes, burdens, and consequences of American world supremacy in an age of nuclear power and revolutionary challenge. Credit 4 units.

**A&S TH FA SSP**

### History 3750. African-American Women in the 19th and 20th Centuries

*Same as WGSS 3754.*

**A&S SD, TH**

### History 3751. Women Since 1945: Women in

### the United States

*Same as WGSS 3751.*

Through a combination of lectures and discussion, we will identify and analyze important themes in the history of American women since 1945. Topics will include: domesticity and the culture of the 1950s; gendering the Cold War; women and racial politics; the social movements of the 1960s; the "sexual revolution"; second-wave feminism; the new right's gender politics; and women, work, and poverty at the century's end. A central presumption of the class is that one cannot understand the recent history of the United States without understanding the history(ies) of women and gender during this period. Credit 3 units.

**A&S SD, TH FA SSP**

### History 3752. Women in American History

*Same as WGSS 3752, AMCS 3754.*

This course provides an introduction to the major themes in U.S. women's history from the period of colonial exploration and conquest to the present. In this course, we will learn about the terms, questions, and methods used by women's historians, and we will use both primary and secondary sources to explore the diversity of women's experiences as they have been shaped by such factors as region, ethnicity, class, race, sexuality, and politics, as well as ways in which women have acted as agents in shaping their own lives. Major themes in the course will include women and work, women in family structures, women and the law, changing ideas about womanhood, manhood and sexuality, and women's social and political activism. Credit 3 units.

**A&S SD, TH FA SSP**

### History 3755. Topics in Women's History: U.S. Women's History from 1869 to the Present

This course examines women's social, political, cultural, and economic status in the United States since 1869. We pay special attention to the changing ideological foundation for women's roles; investigate how the social and economic transformations that accompanied industrialization and urbanization influenced women's lives; and look closely at the effects of race, class, ethnicity, and region on women's experiences. Students will explore how women used their defined roles to create positions of influence in American society and thereby overcame the constraints they faced in achieving social and political equity. Credit 3 units.

**A&S TH**

### History 3766. Women, Men, and Gender in African Societies Since 1800

This course explores the ways in which gender has been produced, reproduced, and transformed through the everyday actions and activities of African women and men. The focus of the course is both on agency and on structures of power as we move from a consideration of gender relations after the 19th-century jihad of Uthman dan Fodio to the problems of love and marriage in the late 20th-century Ghana. Credit 3 units.

**A&S TH**

### History 3802. The Supreme Court in American Life, 1789–2006

*Same as Lw St 3802.*

From *Marbury vs. Madison* in the early 19th century to *Dred Scott vs. Sanford* on the eve of the Civil War and, more recently, *Roe vs. Wade* or *Bush vs. Gore*, the Supreme Court—its composition, its rulings and their legitimacy—have provoked intense, widespread legal, political, even ethical debate. This course is a historical survey of the Supreme Court's history and of the court's broader resonance in American life and society, from the court's first session in 1789 to the present. Of particular concern will be the historical relationship of court rulings to the evolving politics

of gender, race, and class in America. Credit 3 units.

**A&S TH**

### History 3811. Islam in Africa

*Same as Re St 347.*

A historical survey of the spread and assimilation of Islam in sub-Saharan Africa. Primary topics will include the initial introduction of Islam, the formulation of Swahili culture, the medieval Islamic states of the Sahel, Sufism, the West African jihads, the spread of Islam during Africa's colonial period, and Islam in South Africa. Credit 3 units.

**A&S CD, TH FA SSP**

### History 3812. Sufism: Mystics in Islam

This course is designed as a social and intellectual history of Sufism in all its major aspects. The course begins with a survey of Sufism's formative period from the 9th to the 12th centuries, examining the emergence of key Sufi doctrines and practices as well as the formation of the first Sufi communities around accomplished masters. Then, the course traces the rise to social prominence of the Sufi mode of piety during and after the 12th century in the form of Sufi orders, as well as the reaction of nonconformist Sufis to such increasing social success. The course also will consider the critique of Sufism by modernist Muslims and radical Islamists alike as a mode of piety out of tune with "modern" science and rationality, as well as Sufi responses to such critique. Credit 3 units.

**A&S CD, TH**

### History 382C. The American School

*Same as Educ 301C.*

**A&S SD, TH FA SSP**

### History 385. Topics in American History

See course listings for current topics. Credit 3 units.

**A&S TH FA SSP**

### History 3853. History of Electronic Media

*Same as Film 350.*

**A&S TH**

### History 3872. The History of Modern Britain

*Same as EuSt 3872, IAS 3872.*

This course is a survey of the major institutions that have shaped the history of modern Britain over the past 300 years. Some of the topics we will explore include: the pressures of agricultural and industrial revolution; parliamentary government and the role of a monarchy in an increasingly democratic society; the acquisition and dismantling of empire in Asia and Africa; and the relation of church and state. Credit 3 units.

**A&S TH**

### History 3874. An Embarrassment of Riches: 19th-Century Britain

*Same as IAS 3874, EuSt 3874.*

This course examines the embarrassment of riches that characterized British society, culture, and politics in the 19th century; "riches" because it was in this period that Britain emerged as the world's wealthiest superpower, "embarrassment" because the same period witnessed the discovery of extreme poverty and malnutrition among its own population. Weekly topics will include: the Napoleonic Wars; the Industrial Revolution; democratic reforms to Parliament; imperialism in South Asia and East Africa; the rise of science and evolutionary thought; struggles on behalf of workers' education, women's rights, and Irish independence; and major contributions to Victorian culture. Credit 3 units.

**A&S TH**

### History 3878. Britain and its Empire from 1688 to 1870

*Same as EuSt 3878, IAS 3878.*

This course is an introduction to the history and culture of modern Britain and Ireland. We will see how this damp archipelago off the northwestern

coast of Europe extended its reach across the seas and throughout the world. The expansion of English power throughout the British Isles—and of British power throughout the world—was made possible by a combination of political stability, unifying nationalism, and economic might. We will trace these developments from the assertion of Parliamentary supremacy in 1688 to the apex of Victorian civilization in 1870. Credit 3 units.

**A&S TH**

**History 3879. Britain and its Empire Since 1870**

*Same as IAS 3879, EuSt 3879.*

The United Kingdom of Great Britain and Ireland entered the 20th century as an economic and political superpower; after enduring civil war, two world wars, de-industrialization, and the loss of its empire, however, it ended the century on very different terms. This seminar will examine, explain, and attempt to characterize this process, focusing upon two seemingly contradictory themes: (1) the tendency of historians, politicians, and other analysts to read this period as an age of national decline, and (2) the improvements to the lives of the vast majority of Britons. Credit 3 units.

**A&S TH**

**History 387C. Upon These Shores: African-American History, 1500–1864**

*Same as Lw St 387C, AFAS 390C.*

An overview of African-American history, culture, and traditions from pre-colonial Africa through the end of the Civil War. Recurring themes in the history of blacks in North America will be explored: origins and evolution of scholarship and methodologies; significance of the diaspora; slavery; religious ethos; the search for community; the impact of gender on identity and philosophy; black resistance to slavery; emancipation; and political empowerment. Credit 3 units.

**A&S SD, TH FA SSP**

**History 388C. For Freedom's Sake: African-American History Since Emancipation**

*Same as AFAS 391C, Lw St 388C, Pol Sci 388.*

This course introduces students to the major themes of African-American history: the changing meanings of freedom; advances and setbacks in the struggle for equality; the impact of class and gender on racial identity; and black social and political activism. We will examine Reconstruction, the Jim Crow era, the great migration, the Civil Rights movement, the Black Nationalist period, and contemporary politics. Credit 3 units.

**A&S SD, TH FA SSP**

**History 3891. East Asia Since 1945: From Empire to Cold War**

*Same as East Asia 3891, Korean 3891, IAS 3891.*

This course examines the historical forces behind the transformation of East Asia from war-torn territory under Japanese military and colonial control into distinct nations ordered by Cold War politics. We begin with the 1945 dismantling of the Japanese empire and continue with the emergence of the People's Republic of China, the Republic of China (Taiwan), the two Koreas, and Vietnam, all of which resulted from major conflicts in "post-war" Asia. We will conclude with a look at East Asia in the post-Cold War era. Credit 3 units.

**A&S CD, TH**

**History 38A8. Women, Men, and Gender in Africa: Writing-Intensive Seminar**

*Same as IAS 3881, AFAS 3766, WGSS 38A8.*

This seminar explores the ways in which gender relations have been produced, reproduced, and transformed through the everyday actions of women and men in Africa. The focus is both on agency and on structures of power as we move from a consideration of gender relations during the 19th-century jihads in West Africa to problems

of love, sexuality, and marriage in contemporary South Africa. Credit 3 units.

**A&S CD, TH, WI**

**History 38M8. The Making of the Modern American Landscape: Writing-Intensive Seminar**

This writing-intensive seminar explores environmental change in relation to human actions in the United States. It provides a vision of American history from the perspective of the land itself. It traces transformations in the organization and uses of landed property from the 18th-century surveys of western lands through the expansion of slavery and the cotton kingdom; the construction of irrigation systems in the West; the emergence of new technologies of production and communication in 19th-century cities to the mass production of suburban housing; and finally to the rise of Disneyland and Las Vegas. Credit 3 units.

**A&S TH, WI**

**History 38R8. The Russian Revolution: Writing-Intensive Seminar**

*Same as IAS 3880, Russ St 3880, EuSt 3880, Russ 3880.*

The "Ten Days that Shook the World" divided Russian, European, and American society from 1917 until the dissolution of the USSR in 1991. This seminar will examine major interpretations of the Russian Revolution through readings and a series of written exercises, including a formal book review, a comparative essay, and an analytical research paper. Credit 3 units.

**A&S TH, WI**

**History 3920. South Asian Traditions in Practice: Ritual, Spectacle, Self**

*Same as Re St 392.*

**A&S CD, TH**

**History 393. Medieval Christianity**

*Same as Re St 393.*

**A&S TH**

**History 394C. African Civilization to 1800**

*Same as AFAS 321C.*

**A&S CD, TH FA SSP**

**History 395C. African Civilization: 1800 to the Present**

*Same as AFAS 322C.*

**A&S CD, TH FA SSP**

**History 3960. Women and Social Class**

*Same as WGSS 396.*

**A&S SD, TH**

**History 399. Senior Honors Thesis and Colloquium: Writing-Intensive Seminar**

Prerequisites: satisfactory standing as a candidate for Senior Honors and permission of thesis director. Credit variable, maximum 4 units.

**A&S TH, WI FA SSP**

**History 39B8. The Chinese Diaspora: Writing-Intensive Seminar**

*Same as IAS 3882, ANECC 388, East Asia 388.*

China has had one of the most mobile populations in world history. This course will explore migration patterns and networks in the creation of Chinese diasporas in the early modern and modern eras (1500–present). Rather than focus exclusively on the history of China or the Chinese overseas, we will more broadly consider practices and networks that sustained and linked internal and external migrations. Credit 3 units.

**A&S CD, TH, WI**

**History 39F8. Gender and Sexuality in 1950s America: Writing-Intensive Seminar**

*Same as AMCS 397, WGSS 3988.*

Historians have recently begun to reconsider the dominant view of the 1950s as an era characterized by complacency and conformity. In this writ-

ing-intensive seminar, we will use the prism of gender history to gain a more complex understanding of the intricate relationship between conformity and crisis, domesticity and dissent that characterized the 1950s for both women and men. Credit 3 units.

**A&S SD, TH, WI**

**History 39G9. American Society and Culture: 1945–1991: Writing-Intensive Seminar**

*Same as Lw St 39G9, AMCS 3991.*

In this course, students will learn about the major trends in American cultural history from the end of World War II to the 1990s. In particular, the course will focus on the complex relationship between American culture and politics in the Cold War era. We will examine: how American culture reflected, contested, and shaped America's emergence as a global superpower; domestic anti-communism; the growth of a mass consumption economy; generational conflict; changing gender expectations; the rise of protest movements around the 1960s; and the conservative drift of the nation since the 1970s. Materials will be drawn from primary sources, including film, music, literature, and social criticism, as well as from secondary sources. Credit 3 units.

**A&S TH, WI**

**History 39H8. Internal Empire: The Unification of Britain: Writing-Intensive Seminar**

The establishment and the costs of English hegemony over the British Isles. Political and cultural aggression, religious conflict, and social and economic development all contributed to identity formation, whether in the triumphant metropolitan core or in the embittered Celtic periphery. Students cannot receive credit for both History 3511 and 39H8. Credit 3 units.

**A&S TH, WI**

**History 39J8. Mapping the Early Modern World: Writing-Intensive Seminar**

Societies use maps not just to see the world, but also to assign meaning and order to space—both nearby spaces and spaces on the other side of the world. In this writing-intensive seminar, we will study how maps were created, circulated, and interpreted between the 16th and 18th century,—when Europeans came into contact with new regions throughout the world and reshaped their own backyards through the rise of the modern state and the development of national identity. Credit 3 units.

**A&S TH, WI**

**History 39K8. The Many Enigmas of Thomas Jefferson: Writing-Intensive Seminar**

Who was Thomas Jefferson, and why has his reputation undergone so many changes? Why has this hero of abolitionists and a man hated by slaveholders become a figure condemned today for being a slaveholder with an African-American mistress? How did an apostle of small government and states' rights become the patron saint of the New Deal and the Democratic Party, and then an inspiration for anarchists? Why have examinations of his public "greatness" and study of his ideas shifted to scrutiny and criticism of his private lapses? Credit 3 units.

**A&S TH, WI**

**History 39S8. Rivers: A Comparative Approach to Chinese and World History: Writing-Intensive Seminar**

*Same as IAS 398, East Asia 398.*

This course uses rivers as geographical frames of reference to address a variety of issues, including physical and social mobility, agriculture and commerce, the state, environmental history, and construction of cultural meanings. Each week begins

with a focus on the West River, which flows through two provinces in southern China. Readings on the West River are matched with readings that address similar topics but focus on other important rivers in the world. The temporal focus is approximately 1500–1900, a period that witnessed the zenith of rivers as modes of transportation and commerce. Credit 3 units.

**A&S** TH, WI

**History 39T8. Sufism: Mystics in Islamic History: Writing-Intensive Seminar**

*Same as Re St 39T8, JNE 39T8, JNE 59T8.*

This course is designed as a social and intellectual history of Sufism in all its major aspects. The course begins with a survey of Sufism's formative period from the 9th through the 12th centuries, examining the emergence of key doctrines and practices, as well as the formation of the first Sufi communities around accomplished masters. Then, the course traces the rise to social prominence of the Sufi mode of piety during and after the 12th century. The course also will consider the critique of Sufism by modernist Muslims and radical Islamists alike as a mode of piety out of tune with "modern" science and rationality, as well as Sufi responses to such critique. Credit 3 units.

**A&S** CD, TH, WI

**History 39X9. To Russia and Return: Travel, Literature, and History: Writing-Intensive Seminar**

*Same as IAS 399, Russ 3990, Russ St 39X9, EuSt 399.*

For 300 years, scholars have relied upon the accounts of eyewitness travelers to make Russia less mysterious. One famous traveler was responsible for the idea of despotic tsars, others deemed the Muscovy "rude and barbarous," while still another shaped the end of Russian serfdom. This course will introduce students to the full sweep of modern Russian history through readings in selected travelers and scholarship based on them. Prior course work on Russia is not required. Credit 3 units.

**A&S** TH, WI

**History 4000. IPH Thesis Prospectus Workshop**

*Same as Hum 401.*

**A&S** TH

**History 4001. Directed Field Work in Historical and Archival Professions**

A fieldwork project under the direction of a member of the Department of History. Normally planned and undertaken in conjunction with an established museum or archival program. Credit 4 units.

**A&S** TH **FA** SSP

**History 4002. Directed Field Work in Historical and Archival Professions**

A fieldwork project under the direction of a member of the Department of History. Normally planned and undertaken in conjunction with an established museum or archival program. Credit 4 units.

**A&S** TH **FA** SSP

**History 4020. Jerusalem, The Holy City**

*Same as JNE 4020.*

**A&S** CD, SD, TH

**History 4021. Identity: From Individual Crisis to Collective Politics**

What does it mean to say that we have, or that we seek, an identity? We seem to need to define ourselves as something, to be able to know "who we are." The psychoanalyst Erik Erikson, who coined the famous concept of "identity crisis" half a century ago, suggested that individual identity becomes a problem when the materials from which we normally construct it—parental identifications and cultural beliefs—come into conflict. Credit variable, maximum 4 units.

**A&S** TH

**History 4030. Topics in East Asian Religions: Revisioning Japanese Religions**

*Same as Re St 403.*

**A&S** CD, TH

**History 4033. Race, Sex, and Sexuality: Concepts of Identity**

*Same as WGSS 403.*

**A&S** SD, SS **FA** SSP

**History 4040. Convivencia or Reconquista? Muslims, Jews, and Christians in Medieval Iberia**

*Same as JNE 4060.*

**A&S** CD, TH

**History 4042. Competing Ideologies and Nationalisms in the Arab–Israeli Arena**

*Same as JNE 4042.*

**A&S** SS

**History 4044. The Politics of Secularism**

*Same as Anthro 4044.*

**A&S** SS

**History 4051. Diaspora in Jewish and Islamic Experience**

*Same as JNE 405.*

**A&S** TH

**History 4112. Topics in Christianity: Women and Religion in Medieval Europe**

*Same as Re St 411.*

**A&S** TH

**History 4153. Colonial South Asia: Society in British India**

*Same as IAS 4153.*

This course will focus on the social history of British India. It will particularly focus on the ways in which British dominance reshaped social, economic, and family life in India between the 1760s and the 1940s. We also will pay close attention to centrality of gender in shaping ideas about cultural difference and the meaning of colonialism. A key part of this course will be evaluating the value of a range of different primary sources, including memoirs, diaries, letters, domestic manuals, novels, newspapers, photographs, and art. Credit variable, maximum 4 units.

**A&S** SD, TH **FA** SSP

**History 4154. Post-Colonial South Asia: Nations, Cultures, and Identities**

*Same as IAS 4154.*

In-depth look at the cultural and political dilemmas posed by the end of colonial rule in India and Pakistan. We will investigate the effects of the nation-state upon society and the individual in this part of the world, examine how nationhood is manifested in politics and popular culture, and ask whether there are alternative ways of expressing identity in the modern world. Credit 3 units.

**A&S** SD, TH

**History 417. Topics in African History: Middle Passages—African Americans and South Africa**

*Same as AFAS 417.*

**A&S** CD, TH

**History 4210. Christians and Muslims in the Mediterranean World, 1100–1650**

The medieval and early modern Mediterranean was the crossroads of empire, trade, learning, and faith. This course examines how the diverse countries in this region handled questions of religious difference, cultural encounter, and political and economic rivalry from the Crusades to the flourishing of the Ottoman Empire and the 17th-century revolutions in politics and knowledge. Topics covered include religious disputes and dialogue, the treatment of religious minorities, diplomacy and war, trade, slavery, and cultural influences. Credit variable, maximum 4 units.

**A&S** TH

**History 4214. A Tale of Two Cities: The Growth and Structure of Chicago and St. Louis**

*Same as AMCS 4210.*

**A&S** TH

**History 4222. Special Topics in History: Keble College, Oxford**

Credit variable, maximum 10 units.

**FA** SSP

**History 4274. Palestine, Israel, and the Arab–Israeli Conflict**

*Same as IAS 4274, JNE 4274.*

This course examines the history of the Arab–Israeli conflict from the mid-18th century to the present. Topics include Palestine in the late Ottoman period; the development of modern Zionism; British colonialism and the establishment of the Palestine Mandate; Arab–Jewish relations during the Mandate; the growth of Palestinian nationalism and resistance; the establishment of the state of Israel and the dispersion of the Palestinians in 1948; the Arab–Israeli wars; both Palestinian uprisings; and the peace process. Credit 3 units.

**A&S** TH

**History 4276. History as a Way of Thinking**

*Same as IA 5276.*

This course will examine many broad questions and their implications by studying how historical inquiry has been conceived and practiced at various points in Western history from Ancient Greece to the present. Credit 3 units.

**A&S** TH

**History 4280. History of Urban Schooling in the United States**

*Same as Educ 4280.*

**A&S** TH

**History 4288. Higher Education in American Culture**

*Same as Educ 4288.*

**A&S** TH **FA** SSP

**History 4293. History and Social Theory**

*Same as AMCS 4293.*

This is an advanced readings course for upper-division undergraduates and graduate students that explores the relation between historical analysis, on the one hand, and social and cultural theory, on the other. Starting with readings in basic texts of Karl Marx, Max Weber, and Emile Durkheim, the course will go on to examine other works published since the mid-20th century that use social, cultural, and historical means of understanding large-scale processes of change. Credit 3 units.

**A&S** TH **FA** SSP

**History 4322. The Later Roman Empire: From Constantine to Justinian**

*Same as Classics 442.*

**A&S** TH

**History 442. European Intellectual History, 1789–1890**

*Same as EuSt 442, Lw St 442, IAS 442.*

The development of modern rationalist individualism out of the French and Industrial Revolutions, its extension in Romanticism and Hegelian thought, and the reactions of modern ideologies (liberalism, conservatism, nationalism, and socialism); Romantic individuality; the conflicted responses to industrialization and modernity; liberal culture; Marxism; the aesthetic reaction; Nietzsche. Credit variable, maximum 4 units.

**A&S** TH **FA** SSP

**History 4422. History, Memory, and Collective Identities**

*Same as IAS 4422, Comp Lit 4422.*

Do social groups have a "memory?" What do we mean when we talk about "history and memory?" How is the past "remembered" in social settings, and what role do these remembrances play in the

construction and transmission of identity? Students will read from cognitive psychology, history, social thought, autobiography, and fiction texts. Credit variable, maximum 4 units.

**A&S TH FA SSP**

**History 4425. European Cultures: Victorian England to Weimar Germany**

*Same as EuSt 4425, IAS 4425.*

This course will explore important scenes of European cultural life in the 19th and early 20th centuries. We will begin by examining the seemingly contradictory culture of Victorian England, which was characterized by optimism about moral and technological progress on the one hand and a sense of apprehension about the psychological and social effects of modern industrial life on the other. We will end the course with a study of culture and ideas in Weimar Germany, the short-lived republic founded at the end of World War I and destroyed by the Nazis in 1933. In between, we will study two urban centers of European culture around 1900—Paris and Vienna—whose writers, poets, and playwrights together made up much of what we think of as modernism. Credit 3 units.

**A&S TH**

**History 443. European Intellectual History: 1890–1930**

*Same as IAS 443, EuSt 443.*

This course will explore the crises in individualist and nationalist thought and culture in the years before and after World War I. Topics will include: the emergence of irrationality in political and social thought; the rise of psychoanalysis; the birth of modernism in painting, music, and literature; relativism in philosophy and the social sciences; the crisis of WWI; the beginnings of Fascist and Nazi ideology; and the emergence of existentialism. Credit variable, maximum 4 units.

**A&S TH FA SSP**

**History 444. European Intellectual History: 1930–2000**

*Same as EuSt 444, IAS 444.*

This course is an exploration of European thought and culture from the intellectual and artistic response to Nazism in the 1930s to the postmodernism of the present. Topics include: art and political commitment before and after World War II; existentialism in France; the intellectual responses to the Cold War, such as the theory of totalitarianism; the “Critical Theory” of the Frankfurt School and the rise of Marxist humanism; the student movements of 1968; the critique of technological society; structuralism and poststructuralism; contemporary feminist theory; and postmodernism. Credit variable, maximum 4 units.

**A&S TH FA SSP**

**History 4442. The Jewish Experience in Eastern Europe**

*Same as IAS 4442, Russ 4442, Russ St 4442, EuSt 4442, JNE 4442.*

A study of Jewish culture, society, and politics in Poland–Lithuania, Hungary, the Czech lands, Russia, Romania, and the Ukraine, from the 16th century through the 20th century. Among the topics to be covered are: economic, social, and political relations in Poland–Lithuania; varieties of Jewish religious culture; Russian and Habsburg imperial policies toward the Jews; nationality struggles and anti-Semitism; Jewish national and revolutionary responses; Jewish experience in war and revolution; the mass destruction of East European Jewish life; and the transition from Cold War to democratic revolution. Credit 3 units.

**A&S CD, TH FA SSP**

**History 4446. European Social History: 1750–1930**

*Same as EuSt 4446, IAS 4446.*

This course will examine both the old social history (which focused on social classes and “the so-

cial question”) and the newer social history of the Annales School (which stresses the social conditions of everyday life). Most of the semester will be spent surveying selected topics of the new social history, such as demography, marriage and the family, sexuality and reproduction, diet and cuisine, drink and drugs, disease and public health, and topics in material culture such as housing. Credit 3 units.

**A&S TH**

**History 444A. Europe Under the Old Regime, 1660–1789**

Despite the static obsolescence implied by the term, the Old Regime was a dynamic period during which European men and women gradually, but fundamentally, altered how they related to power, to knowledge, and to each other. This course will explore the major sociopolitical and intellectual developments of the period through primary sources and historical literature. Our main geographical focus will be France, with occasional forays into the Dutch, British, and German cases. Our main cultural focus will be on the Enlightenment, with an eye to the diversity of ideas and beliefs that were advocated both for and against it. Credit 3 units.

**A&S TH**

**History 4481. Race Politics in 19th- and 20th-Century America**

*Same as AFAS 448.*

**A&S SS FA SSP**

**History 448C. Russian History to the 18th Century**

*Same as Russ 448C, Russ St 448C.*

Medieval Russian history is in turmoil: Ukrainians charge the Russians with stealing their history; new perspectives from world history have fundamentally altered our understanding of the Viking age and of Russia’s infamous Tatar Yoke; Ivan the Terrible has lost his demonic appearance, and the hapless Romanovs before Peter the Great are now praised as the most successful of all early modern monarchs! Topics include Kievan politics, society and religion; the Mongol world; the rise of Moscow; consolidation and empire; religious crisis; and the dramatic first contacts with the West. Credit variable, maximum 4 units.

**A&S TH FA SSP**

**History 449C. Imperial Russia**

*Same as IAS 449C, Russ 449C, Russ St 449C, EuSt 449.*

The Russian tsars, from Peter the Great to Nicholas II, built the empire that became the Soviet Union. Now that the USSR is gone, historians focus not only on the governance of the Russians, but also on the fate of scores of nationalities ruled by them. This course also explores the changing reputation of Russia’s rulers, especially the women rulers of the 18th century; the rise of an intelligentsia committed to radical reform; the fate of millions of serfs; and the government’s efforts to steer a path between Muscovite traditions and a dynamic West. Credit variable, maximum 4 units.

**A&S TH FA SSP**

**History 450B. Topics in the History of Eugenics**

*Same as Biol 450W.*

**A&S NS, WI**

**History 4562. Science and Empire**

*Same as EuSt 4562, IAS 4562.*

This seminar explores the relationship between knowledge and politics. How does political context shape knowledge about the world, and how does knowledge about the world facilitate political projects? We will examine the intersections between science and empires since the 18th century, a period that witnessed both the expansion and retraction of European power, and the development of the natural and social sciences. We will ask how technologies of seafaring and population con-

trol facilitated imperial expansion, and how the experience of imperial expansion shaped such fields as botany, natural history, anthropology, and psychiatry. Credit 3 units.

**A&S TH**

**History 4580. Topics in British History: Beyond the Beatles—Britain in the 1960s**

*Same as IAS 4580, EuSt 4580.*

This seminar examines one corner of the vast international upheaval associated with “The Sixties,” focusing on British society, culture, and politics from 1956–1970—that is, from the break-up of the Empire to the break-up of the Beatles. Other topics will include the Cold War; the Campaign for Nuclear Disarmament; student activism and the New Left; commonwealth immigration; second-wave feminism; the troubles in Northern Ireland; labor and industrial relations; major developments in literature, film, and theater; and the conservative political resurgence that has subsequently characterized British politics. The course will consist of lectures, films, readings, and discussions. Credit 3 units.

**A&S TH**

**History 4631. Topics in English Literature and History: The 17th Century**

*Same as E Lit 4631.*

**A&S TH FA Lit**

**History 4675. Beyond the Harem: Women, Gender, and Revolution**

*Same as JNE 4675, WGSS 4675, IAS 4675.*

This course examines the history and current situations of women in Middle Eastern societies. The first half of the course is devoted to studying historical changes in factors structuring women’s status and their sociopolitical roles. The second half of the course focuses on several case studies of women’s participation in broad anti-colonial social revolutions and how these revolutions affected the position of women in those societies. Evaluation of students encourages their participation, analytical engagement, and improvement throughout the term. Credit 3 units.

**A&S CD, SD, TH**

**History 4681. Topics in Literature and History: The Age of Lincoln—America in the 1850s**

*Same as E Lit 4681.*

This seminar is an interdisciplinary examination of the culture and politics of America in the critical watershed decade before the Civil War. The course explores how a range of writers—some avowedly literary, others more decidedly political—advanced their versions of America in the larger culture, at a time when all things American—democracy, religious destiny and nationality itself—were becoming profoundly problematic. Credit 4 units.

**History 4689. American Intellectual History to 1865**

*Same as Pol Sci 4689, Lw St 4689.*

This course presents an overview of American intellectual history from the early 17th century and the founding of the first English settlements in North America to the mid-19th century and the American Civil War. We will investigate how different thinkers responded to and helped shape key events and processes in colonial and early American history, concentrating in particular on developments in religious, political, social, scientific, and educational thought. We will cover major topics such as Puritanism, the Enlightenment, Evangelicalism, Romanticism, and the inner Civil War. We will address concepts central to the formation of the nation’s identity including those of the covenant, republicanism, citizenship, equality, freedom, liberty, natural law, transcendentalism, order, reason, progress, and democracy. Credit variable, maximum 4 units.

**A&S TH**

**History 469. American Intellectual History Since 1865***Same as Pol Sci 4690.*

This course provides an overview of major trends and figures in the history of American intellectuals from the end of the Civil War to the present. Topics covered will include pragmatism, the emergence of professional social science, differing reactions to the growth of a corporate-dominated mass production and mass consumption society, intellectuals' involvement with radical and reform movements from progressivism to the New Left, the efforts of intellectuals to theorize ethnic and racial diversity and discrimination, reactions to mass culture, and postmodernism. Credit 3 units.

**A&S TH****History 4693. East Asian Feminisms***Same as East Asia 469.***A&S SD, TH****History 4711. History of Modern Social Theory I: Marx and the Problem of Capitalism***Same as Pol Sci 4711.*

The first in a sequence of lecture/discussion courses on key terms and concepts in modern social theory. This course examines the definition of capitalism and the analysis of its structure and its logic of development as proposed in the work of Karl Marx (and his collaborator Friedrich Engels) as well as other thinkers in his wake. The course introduces students to Marx's understanding of the historically unique practices that characterize modern capitalism, its emergence in time and its changing form, its relation to the world market, its crisis tendencies, the significance of "class," and the conduct of politics in capitalist societies. We also follow significant trends and variants in Marxism after Marx. Credit variable, maximum 4 units.

**A&S TH****History 4712. History of Modern Social Theory II: Modernity and the Discovery of Society***Same as Lw St 4712, AMCS 4712.*

This course is the second in a sequence of three courses that will feature lecture/discussion on key terms and concepts in modern social theory and examines the very meaning of "modernity" in the sociological tradition. This course offers a historical survey of ideas that have constituted a tradition of sociology since the first formal treatises on the nature of "civil society" in the 18th century to the present. Intended for upper-division undergraduates and graduate students, the course features a considerable amount of reading in the primary literature of modern social theory. This course satisfies the modern course requirement for history majors. Credit variable, maximum 4 units.

**A&S TH****History 4730. The Cold War, 1945–1991**

This course presents an assessment of the Cold War from the perspective of its major participants, where possible using primary documents and recently released archival sources. Topics include: the origins of the Cold War in Europe and Asia; the Korean War; the Stalin regime; McCarthyism and the Red Scare; the nuclear arms race; the conflict over Berlin; Cold War film and literature; superpower rivalry in Guatemala, Cuba, Vietnam, Africa, and the Middle East; the rise and fall of détente; the Reagan years and the impact of Gorbachev; the East European Revolutions; and the end of the Cold War. Credit 3 units.

**A&S TH****History 4735. Modeling the Second World War***Same as AMCS 4735, IAS 4735.*

Models and simulations of trends, events, institutions, and processes are useful tools for historians and social scientists. They can illustrate complex interactions between individuals and groups, map

broad political and social trends, and possibly predict the outcome of specific events. Students in this research seminar will choose an aspect of the geographic, political, diplomatic, military, economic, or social history of World War II to research and model through computer simulation, multimedia presentations, or a role-play exercise. These models and simulations will be based on primary sources from the period. Credit variable, maximum 4 units.

**A&S TH****History 4742. Americans and Their Presidents***Same as AMCS 474.***A&S TH****History 4743. Imagining the West***Same as Art-Arch 4743.***A&S TH FA AH****History 4751. Intellectual History of Feminism***Same as WGSS 475.***A&S TH FA Lit****History 4752. American Culture: Traditions, Methods, and Visions***Same as AMCS 475.***A&S TH****History 481. History of Education in the United States***Same as Educ 481.***A&S TH FA SSP****History 4821. Theory and Methods in Literature and History***Same as Hum 405.***A&S TH****History 4841. Core Seminar in East Asian Studies: East Asia in Scholarly Literature***Same as East Asia 484.***A&S CD, TH FA SSP****History 4842. The Japanese Empire in Asia, 1874–1945***Same as East Asia 4842, ANECC 4842, IAS 4842.*

This course examines the expansion of the Japanese Empire in Asia from 1874 to 1945, focusing on Japan's acquisition of neighboring territory and the subsequent building of colonies in Taiwan, Korea, and Manchuria. The course will explore the concepts of imperialism and colonialism, how they functioned in East Asia, and how they intersect with other major developments in Asia, including ideas of civilization and race, the formation of the nation, and the growth of capitalism. Credit 3 units.

**A&S CD, TH****History 4844. Women and Confucian Culture***Same as IAS 4844.*

This course explores the lives of women in East Asia during a period when both local elites and central states sought to Confucianize society. While focusing on Ming (1368–1644) and Qing (1644–1911) China, this course also will examine these issues in two other early modern East Asian societies: Yi/Choson (1392–1910) Korea and Tokugawa (1600–1868) Japan. Course readings are designed to expose students both to a variety of theoretical approaches and to a wide range of topics, including: women's property rights; the medical construction of gender; technology, power and gender; and state regulations on sexuality. Credit 4 units.

**History 4872. Colonial Cities and the Making of Modernity***Same as URST 4872, JNE 4872, IAS 4872.*

Massive urban growth has been a central result of the incorporation of many areas—both central and peripheral—into the global economy in the 19th and 20th centuries. Scholars have long theorized urbanization as a key component of modernity, but

they have usually done so by looking at urbanization and modernization from the perspective of the West. This course will investigate the character of cities in the colony and then use these empirical and analytical entry points to examine critically some theories of modernity. The geographical focus of the course will be primarily on cities in the Middle East, North Africa, and South Asia. Credit 3 units.

**A&S CD, TH FA SSP****History 4890. Advanced Seminar: Latin America and the United States in the 20th Century***Same as IAS 4892, LatAm 4890.*

Social, economic, and political relations between Latin America and the United States in the 20th century. Emphasis on internal developments that help to explain international interaction. Topics include United States expansionism, Latin American nationalism, the Good Neighbor Policy, revolution in Mexico and Cuba, intervention in Central America, and issues involving drugs and free trade. Credit 4 units.

**A&S TH FA SSP****History 4905. Advanced Seminar: Issues in the History of American Medicine**

This seminar examines major issues and themes in the history of American medicine. Specific topics include the changing image of the physician, professional authority, and the rise in the status of the medical profession during the past 100 years. Credit 4 units.

**A&S TH FA SSP****History 4907. Advanced Seminar: Women and Social Movements in the United States***Same as Lw St 4907, WGSS 4908.*

In this course, we will examine U.S. women's participation in diverse movements during the 19th and 20th centuries, ranging from suffrage and feminism to the labor movement, civil rights activism, and conservative and queer movements. Among our questions: How does the social position of different groups of women shape their participation in social movements? Why are certain social movements successful, and how do we define success? What does looking at women's experience in particular tell us about social movements in general? Credit 4 units.

**A&S SD, TH FA SSP****History 4914. Advanced Seminar: Japan in World War II—History and Memory***Same as East Asia 4914, IAS 4914.*

This course examines the history of World War II in Asia and how it has been remembered in the post-war era. We will trace the war, from the first Japanese military attack on China in 1931 through the U.S. atomic bombings of Hiroshima and Nagasaki in 1945. We also will examine several post-war controversies concerning how the war has been forgotten and remembered in Japan, in the rest of Asia, and in the United States. Goals include grasping the empirical history of the war as a step to becoming familiar with the theories and methods of memory studies in history. Credit 4 units.

**A&S TH FA SSP****History 4918. Advanced Seminar: Sexuality in America***Same as WGSS 4918.*

Does sex have a history, and if so, how can we study it? This seminar examines important themes in the history of sexuality: the relationship between sexual ideologies and practices; racial hierarchy and sexuality; the policing of sexuality; construction of sexual identities and communities; and sexual politics at the end of the century. Students also spend time discussing theoretical approaches to the history of sexuality, as well as

methodological issues, including problems of source and interpretation. Credit 4 units.

**A&S TH FA SSP**

**History 4920. Advanced Seminar: American Education**

*Same as Educ 440.*

**A&S SD, TH FA SSP**

**History 4928. Advanced Seminar: Reading the Body Politic in Early Modern England**

*Same as LH 4928.*

The dominant metaphor in the England of Shakespeare and Milton, of Elizabeth I and Oliver Cromwell, was body politic. This metaphor asserted the interdependence of the polity and the coherence of society. It also integrated the body natural as well as the individual body into the larger whole, and by doing so, politicized it. Through texts major and minor, from Shakespeare's *Coriolanus* and Milton's divorce tracts to broadsheets and trials for scandal, this course explores the work of containment done by a figure of speech, and also its disruptive potential. It analyzes the implications of the dismemberment of the supreme body natural, that of King Charles I, in revolution, and it uses the writings of Andrew Marvell to examine further the incongruities of the body natural within the body politic. Prerequisite: see headline. Credit 4 units.

**A&S TH FA SSP**

**History 4942. Advanced Seminar: Europe's 'Jewish Problem': Anti-Semitism and Jewish-Christian Confrontation in European History**

*Same as Re St 486.*

Not every conflict in Europe's past involving Christians and Jews was predicated on religious intolerance, and not all hostility toward Jews constituted anti-Semitism. Yet since the high Middle Ages, the presence of Jewish communities in much of Europe and their place in European society was understood to be highly problematic. And Jews—real or imagined—came to represent a dangerous threat to the integrity of Christian notions of community. The course will *not* focus on the Holocaust. Credit 4 units.

**A&S TH FA SSP**

**History 4945. Advanced Seminar: U.S. History from 1920–1940: The Interwar Years**

*Same as AMCS 494.*

This course tackles the dramatic decades between World War I and World War II. Students investigate art and literature from the 1920s and 1930s as well as readings in the political, economic and social history of the era. The course offers an examination of how popular understandings of the past has reshaped our conceptions of history and academic study. Credit 4 units.

**A&S TH FA SSP**

**History 4946. Advanced Seminar: The Federalist and Its Critics**

*Same as Lw St 4946, Pol Sci 4946, AMCS 4946.*

The texts and contexts of the political debates surrounding the writing and ratification of the United States Constitution, concentrating on the 85 *Federalist* essays composed by Alexander Hamilton, James Madison, and John Jay under the collective pseudonym of "Publius." Written after the Philadelphia Constitutional Convention in 1787 for the purpose of urging ratification in New York, *The Federalist* papers demonstrate the power (and limits) of ideas and provide an ideal subject for the historical study of a text in context. For that reason, this course will study the interaction of political philosophy and the practical realities of politics. Credit 4 units.

**A&S TH FA SSP**

**History 4947. Advanced Seminar: World and Comparative History in Theory and Methods**

This seminar is an introduction to the methods and theoretical assumptions that historians have used to study global interactions among peoples, cultures, and nations. Topics will include world systems and other theoretical models; the Atlantic, Mediterranean, and Indian Ocean worlds; global and regional trade; imperialism; diaspora studies; ecological exchange; and evangelical religions. Credit 4 units.

**A&S TH FA SSP**

**History 4961. Advanced Seminar: Self-Interest and Self-Development in the Liberal Tradition**

*Same as IAS 4960, EuSt 4961.*

Since the French Revolution, the European liberal tradition has tried to reconcile two different ideas about what the individual wants and needs and about the forms of society and government necessary to achieve them. One is the idea that the individual is importantly motivated by material self-interest. It gave rise to the idea of a liberalism based on individual rights to life, liberty, and property, which saw the government as existing primarily to protect those rights. The other is the idea that individuals want and need the fullest possible development of all the faculties that make up their unique individuality. It demands that society and government create the conditions necessary for the flourishing of the whole personality. Credit 4 units.

**A&S TH FA SSP**

**History 4962. Advanced Seminar: African-American History**

*Same as AMCS 4962.*

This course traces community development, institution building, and family dynamics among African Americans post-emancipation. The course explores the broad themes of African-American history, among them slavery, emancipation, Reconstruction, the Jim Crow era, the Great Migration, the New Negro, and the beginnings of the long Civil Rights Movement, but also considers black intellectual thought, competing ideas about freedom, strategies of activism, and the complex internal dynamics of black America. Students should have some background in African-American history. Credit 4 units.

**A&S TH FA SSP**

**History 4963. Advanced Seminar: Encounter and Empire: European Colonialism, 1500–1800**

This seminar will examine the first age of European world empires, from the Spanish and Portuguese explorations and conquests in the Americas, Africa, and Asia, to the rise of the Dutch and English merchant empires, to the 18th-century exploration of the Pacific and revolutions in the Atlantic World. We will use primary sources to examine ideas about cultural diversity, colonial society, and the natural world, while we will examine, through secondary sources, themes of cultural transfer, economic development, political contestation and control, and scientific discovery. Credit 4 units.

**A&S TH**

**History 4967. Advanced Seminar: Migration and Travel in China, 1500–1900**

*Same as East Asia 4967, IAS 4967.*

Despite the growing importance of native-place identities during the late Imperial era, China had an increasingly mobile population. This course examines the movement of people in China approximately from 1500 to 1900, including voluntary and forced migration, travel associated with trade, travel for civil service examinations and official postings, exile, urban sojourning, religious pilgrimages, and touring. In addition, this course focuses on relations between locals and sojourners or migrants, as well as the perceived dangers that

geographical mobility posed for the state and the social order. Credit 4 units.

**A&S TH**

**History 4968. Advanced Seminar: War, Society, and Identity: The European Novel of the 1920s**

The 1920s saw the publication (or writing) of a disproportionately large number of the great novels of the 20th century, including James Joyce's *Ulysses*, Virginia Woolf's *Mrs. Dalloway* and *To the Lighthouse*, Thomas Mann's *Magic Mountain*, Robert Musil's *The Man Without Qualities*, Herman Hesse's *Steppenwolf*, and the last volume of Marcel Proust's *In Search of Time Past*. All of these novels reflect the impact of World War I, and many introduce, for the first time in history, self-conscious explorations of the idea of identity. Clearly, the war and its aftermath caused an immense upheaval in the previously unquestioned sources of selfhood and made personal identity a problem instead of a given. The seminar will examine these issues through a number of the decade's novels. Credit 4 units.

**A&S TH**

**History 4970. Advanced Seminar: Early Medieval History: Italy and France in the Early Middle Ages**

The topic of this seminar will be the kingdoms formed as successor states to the Western Roman empire by the Gothic, Frankish, and Lombard peoples in the territories of modern France and Italy. The course will compare the varied models used in these kingdoms for the accommodation of Roman and Germanic cultures. Credit 4 units.

**A&S TH FA SSP**

**History 4971. Advanced Seminar: Selected Topics in Anglo-American Legal History**

*Same as LAW 703A, AMCS 4971.*

A research and writing seminar on a specific topic chosen by the student. The course will introduce students to the scholarship on the history of law and will examine certain key cases or questions as examples of the field and its potential. Credit 4 units.

**A&S TH FA SSP**

**History 4974. Gender, Property, and Law in American Society**

*Same as WGSS 4974, Lw St 4974.*

This course aims to explore the intersections of gender relations, work and property in law, custom, and culture from the colonial period to the late 20th century. We will read a wide range of articles and books, all of which in some way address the relationships among gender ideologies, social practices, and property relations in American society. Credit 4 units.

**A&S TH FA SSP**

**History 4976. Advanced Seminar: The American Trauma: Representing the Civil War in Art, Literature, and Politics**

*Same as E Lit 4976, Art-Arch 4976.*

This seminar is an interdisciplinary examination of how Americans represented the Civil War during and after the titanic conflict, with special attention given to the period between 1865 and 1915. The course explores how painters, novelists, photographers, sculptors, essayists, journalists, philosophers, historians, and filmmakers engaged the problems of constructing narrative and reconstructing national and individual identity out of the physical and psychological wreckage of a war that demanded horrific sacrifice and the destruction of an enemy that could not be readily dissociated from the self. Credit 4 units.

**A&S TH**

**History 4978. Advanced Seminar: The Theory and Practice of the U.S. Left**

*Same as AMCS 498, Pol Sci 4978, Lw St 4978.*

This advanced seminar will introduce students to

the most salient developments and distinctions within the history of left-wing political organizations in the United States from the mid-19th century to the present. The “Left” includes militant trade unionism; anarchism; socialism; communism; black liberation; radical feminism; and some forms of pacifist, anti-imperialist, and anti-globalization organizing. The emphasis on theory and practice encourages students to understand the various theories and programs propounded by radical agitators, as well as the conduct of radical activists and groups in their practical historical contexts. Credit 4 units.

**A&S TH**

**History 4979. Advanced Seminar: Gender, Race, and Class in South Africa, 1880–Present**  
*Same as IAS 4979.*

By focusing on the complex historical dynamics of race, gender, and class in South Africa over the past 120 years, this course is aimed at understanding the development of segregation, apartheid, and racial capitalism, as well as the emergence of multiple forms of resistance to counter white minority rule. Topics include: white settler expansion and the defeat of the African peasantry; the rise of mining capital and the emergence of a racially divided working class; the origins of African and Afrikaner nationalisms; migrant labor and the subordination of African women; and the prospects for a nonracial, nonsexist democracy in a unified South Africa. Credit 4 units.

**A&S SD, TH**

**History 4981. Advanced Seminar: Historical Perspectives on Human Rights and Globalization**

*Same as Lw St 4981, IAS 4981.*

This course offers a historical perspective on the modern international human rights regime, using materials drawn from diplomatic, legal, political, and cultural studies. Successful completion of this seminar involves designing, researching, and writing a 25- to 30-page paper on a historically oriented, human rights-related topic of the student's choice. Credit 4 units.

**A&S TH**

**History 4982. Advanced Seminar: Women and Confucian Culture in Early Modern East Asia**  
*Same as IAS 4982, WGSS 4982, ANECC 4982, East Asia 4982.*

This course explores the lives of women in East Asia during a period when both local elites and central states sought to Confucianize society. While focusing on Ming (1368–1644) and Qing (1644–1911) China, this course also will examine these issues in two other early modern East Asian societies: Yi/Choson (1329–1910) Korea and Tokugawa (1600–1868) Japan. Credit 4 units.

**A&S TH**

**History 4983. Advanced Seminar: Renaissance Florence and Venice**

Venice was the most famously stable city-state in Renaissance Italy; Florence, the most notoriously unstable one. This course explores how those contrasting political environments and experiences shaped social relations and cultural production (and vice versa) in those two cities. Credit 4 units.

**A&S TH**

**History 4984. Advanced Seminar: The Problem of Freedom: The Age of Democratic Revolution in the Americas**

*Same as AMCS 4984, Lw St 4984.*

This seminar will focus on the history of freedom movements and debates over freedom in the United States from the American Revolution through the end of Reconstruction, but it will do so in a new and comparative way. The course will advance two related conjectures: first, that slave

rebellion, maroon politics (the often short-lived alliances among slaves, quasi-free blacks, and white allies), provincial secession and civil war were the widespread and normative conditions of post-colonial regimes throughout the New World; and second, that the problem of freedom—of how to establish permanently free democratic nations and political cultures—was especially challenging in a New World environment in which freedom was fleeting and tended to decompose. Credit 4 units.

**A&S SD, TH**

**History 4987. Advanced Seminar: Antislavery —The Legal Assault on Slavery in St. Louis**  
*Same as AFAS 4893, Pol Sci 4987, AMCS 4987.*

This seminar will begin with a survey of the legal and constitutional arguments made against slavery in English and American courts since the 1600s, and will examine the culture and tactics of anti-slavery as it emerged in antebellum America, as well as the meaning of the Dred Scott decision. Students will research a particular freedom suit from the online manuscript court records of the St. Louis Circuit Court. Credit 4 units.

**A&S SD, TH**

**History 4988. Advanced Seminar: The French Revolution**

*Same as EuSt 4988, IAS 4988.*

This course will function as both an advanced readings seminar and as a research paper colloquium. As a readings seminar, students will cover major scholarly debates on different aspects of the French Revolution. Other topics for the seminar will include such issues as the revolution and women, the reign of terror, and the Vendean civil war. As a research colloquium, each student will undertake research on an important aspect of the revolution and present a paper to the seminar. Credit 4 units.

**A&S TH**

**History 4990. Advanced Seminar: History of the Body**

*Same as WGSS 4990.*

Do bodies have a history? Recent research suggests that they do. Historians have tapped a wide variety of sources—including vital statistics, paintings and photographs, hospital records, and sex manuals—to reconstruct changes in how humans have conceptualized and experienced their own bodies. We will pay particular attention to the intersection of European cultural history and history of medicine since 1500. Credit 4 units.

**A&S SD, TH**

**History 4992. Advanced Seminar: Foucault, Habermas, and Liberal Humanism**

Michel Foucault is frequently depicted as the most powerful late-20th-century critic of Enlightenment humanism, and of its political form, liberal individualism. Jurgen Habermas, arguably contemporary Europe's most important living philosopher, has been the philosophies' most ardent and sophisticated philosophical defender, and in consequence, a sharp critic of Foucault. We will analyze the premises of Foucault's critique and Habermas's efforts to establish a viable philosophical and sociological foundation for a genuinely deliberative democracy in a culturally diverse world. Credit 4 units.

**A&S TH**

**History 4993. Advanced Seminar: Women and Religion in Medieval Europe**

*Same as WGSS 4993, Re St 4993.*

This course explores the religious experience of women in medieval Europe and attempts a gendered analysis of the Christian Middle Ages. We examine the religious experience of women in a variety of settings—from household to convent. In particular, we will try to understand how and why women came to assume public roles of unprece-

dent prominence in European religious culture between the 12th and the 16th centuries, even though the institutional church barred them from the priesthood and religious precepts remained a principal source of the ideology of female inferiority. Credit 4 units.

**A&S TH**

**History 4994. Advanced Seminar: Religion and Society in Modern Europe, 1750–1930**

*Same as EuSt 4994, IAS 4994.*

This course will explore the changing relationships of religion, society, and the state after the age of the Enlightenment and before the age of totalitarianism in Europe—a very long 19th century. This seminar will focus chiefly on changes in Christian society in Western Europe, but students may choose to write their seminar papers on religious minorities or other parts of Europe. Credit 4 units.

**A&S TH**

**History 4995. Advanced Seminar in History: The Dred Scott Case and Its Legacy after 150 Years**

*Same as Pol Sci 4995, AMCS 4995.*

March 2007 marked the 150th anniversary of what has been called “the worst decision ever rendered by the Supreme Court.” Chief Justice Roger B. Taney's opinion, which denied American citizenship to African Americans, also threatened to force the spread of slavery into every corner of the nation and to undermine the most basic principles of American justice. A bloody Civil War followed within four years, but, even with a Union victory and the passage of three amendments to the Constitution, one of the central issues of the case continued unsolved: full citizenship and equal justice before the law. Chattel slavery was abolished, but legal, social, and political equality remained unachieved. Credit 4 units.

**A&S TH**

**History 4996. Advanced Seminar: Islam in China**

*Same as IA 4996, East Asia 4996, JNE 4996, IAS 4996.*

This seminar examines the history of Islam and Muslim communities in China. While the course covers the entire history of Muslim communities in China, from the arrival of the first Muslims in China in the 7th century to the present, it primarily focuses on developments during late imperial and 20th-century China. Central themes of the course are cultural interactions, identity formation, and state–Muslim relations. We attempt to understand and analyze the above themes in the context of Chinese history and the history of the Islamic world. Credit 4 units.

**A&S CD, TH**

**History 4998. Advanced Seminar: Holy War**

This seminar will study the history of holy war in Christianity and Islam (and related notions in Judaism) in the Middle Ages. Readings and discussion will compare and contrast the theory and practice of holy war among Christians and Muslims from the 7th century until the 15th. What did it mean to perform jihad in the 12th century or to be a *crucignatus* in the 13th? How revolutionary was the First Crusade? Why did Latin Christianity and Sunni Islam elaborate theories of holy war against Christian and Muslim heretics? These and other questions will direct the reading and enliven the discussions of the seminar. Credit 4 units.

**A&S TH**

**History 500. Independent Work**

Prerequisite: permission of the chair of the department. Credit 4 units.

# Institutional Social Analysis

(under Center for New Institutional Social Sciences – CNISS)

## Director

**Itai Sened**, Professor  
(Political Science)  
Ph.D., University of Rochester

**Administrative Coordinator**  
**Alana Bame**

## Participating Faculty

**Lee Benham**, Professor  
(Economics)  
Ph.D., Stanford University

**Steven Fazzari**, Professor  
(Economics)  
Ph.D., Stanford University

**Sebastian Galiani**, Associate Professor  
(Economics)  
Ph.D., University of Oxford

**Clarissa Hayward**, Associate Professor  
(Political Science)  
Ph.D., Yale University

**Sukko Kim**, Associate Professor  
(Economics)  
Ph.D., University of California–Los Angeles

**Carolyn Lesorogol**, Assistant Professor  
(Social Work)  
Ph.D., Washington University in St. Louis

**Jackson Nickerson**  
Frahm Family Professor of Organization  
and Strategy  
(Business)  
Ph.D., University of California–Berkeley

**Douglass T. North**  
Spencer T. Olin Professor in Arts & Sciences  
(Economics)  
1993 Nobel Laureate in Economic Sciences  
Ph.D., University of California–Berkeley

**Andrew Rehfeld**, Associate Professor  
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Ph.D., University of Chicago

**Norman Schofield**  
Dr. William Taussig Professor of Political  
Economy  
Director, Center for Political Economy  
(Economics and Political Science)  
Ph.D., Essex University

**Andrew Sobel**, Associate Professor  
(Political Science)  
Ph.D., University of Michigan

**Robert Walker**, Assistant Professor  
(Political Science)  
Ph.D., University of Rochester

**Murray Weidenbaum**  
Mallinckrodt Distinguished University  
Professor  
(Economics)  
Ph.D., Princeton University

**Gautam Yadama**, Associate Professor  
Director of International Programs  
(Social Work)

Ph.D., Case Western Reserve University

**The Minor:** The Institutional Social Analysis minor is an interdisciplinary program that allows students to learn about fundamental institutions such as property rights, markets, social norms, and constitutional democracy. Students learn about the key role that these institutions play in economic development and political governance in particular. Those participating in this program gain a detailed understanding of the field of new institutional social sciences, taking courses that share a conceptual orientation and commitment to interdisciplinary social sciences. Additionally, students are strongly encouraged to apply to participate in a specialized research project with a faculty adviser. (See Research Experience section below).

For the minor, students are required to take a total of 15 units of credit of which at least 12 must be outside the department of the major. Courses for the ISA minor cannot be double-counted toward their major or any other minor. Each student pursuing the minor must receive credit for two of the following four core courses (there have been exceptions made in the past regarding these core requirements—those generally taken are listed below):

**General Studies 2292. Ideas, Institutions, and Economics**

**Pol Sci 333B. Individual, Family, and Community**

**Econ 426. Economic Systems in Theory and Practice**

**Pol Sci 4621. Politics and the Theory of Games**

The rest of the credit requirement comprises electives related to students' course work and individualized research agenda. Unlike most programs, this one allows students to carve their own path by determining their research agenda while mentoring with a faculty member in that field of study.

**Research Experience:** After completing two of the above core courses, students are encouraged to apply to participate in a research project with a faculty adviser. Students are chosen on the basis of their academic record and appropriateness of their research project. Once chosen, students are expected to devote at least 10 hours per week to their research and will receive three hours of credit for this course.

## Undergraduate Courses

**ISA 3103. Constitutional Politics in the United States**

*Same as Pol Sci 3103.*

**A&S SS FA SSP**

**ISA 326. American Economic History**

*Same as Econ 326.*

**A&S SS FA SSP**

**ISA 333. Individual, Family, and Community**

*Same as STA 301B.*

**A&S SD, SS FA SSP**

**ISA 353. Economics of the Law**

*Same as Econ 353.*

**A&S SS FA SSP**

**ISA 373. International Political Economy**

*Same as Pol Sci 373.*

**A&S SS FA SSP**

**ISA 400. Research Experience in Institutional Analysis**

*Same as Pol Sci 400.*

After completing two courses in the minor in Institutional Social Analysis, students may apply to participate in a research program with the participation of a faculty supervisor. Students will be chosen on the basis of their academic record and the appropriateness of the research project, as well as availability and interest of faculty members in the proposed project. Up to 10 students will be selected each year. Students will be expected to devote at least 10 hours per week for research. There also will be a possibility of continuing the participation as a paid research collaborator past the first semester. Prerequisites: approval of faculty adviser and coordinator of the ISA program. Credit 3 units.

**ISA 426. Economic Systems in Theory and Practice**

*Same as Econ 426.*

**A&S SS FA SSP**

**ISA 4503. Order, Diversity, and Rule of Law**

*Same as Pol Sci 4503.*

**A&S SD, SS, WI FA SSP**

**ISA 452. Industrial Organization**

*Same as Econ 452.*

**A&S SS FA SSP**

**ISA 458. Theory of Property Rights**

*Same as Econ 458.*

**A&S SS FA SSP**

**ISA 4621. Politics and the Theory of Games**

*Same as Pol Sci 4621.*

**A&S SS FA SSP**

**ISA 471. Development Economics**

*Same as Econ 471.*

**A&S SS**

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

**ISA 4761. Politics of International Finance***Same as Pol Sci 4761.*

A&amp;S SS FA SSP

**ISA 4792. Globalization and National Politics***Same as Pol Sci 4792.*

A&amp;S SS FA SSP

**ISA 480. Growth and Development***Same as Pol Sci 480.*

A&amp;S SS FA SSP

## Interdisciplinary Project in the Humanities (IPH)

**Director**

**Joseph F. Loewenstein**, Professor  
(English)  
Ph.D., Yale University

**Participating Faculty, 2008–10**

**Jami Ake**, Lecturer  
(English; Women, Gender, and Sexuality Studies)  
Ph.D., Indiana University

**Tili Boon Cuillé**, Associate Professor  
(Romance Languages and Literatures)  
Ph.D., University of Pennsylvania

**Eric Brown**, Associate Professor  
(Philosophy)  
Ph.D., University of Chicago

**Elizabeth Childs**, Associate Professor  
(Art History and Archaeology)  
Ph.D., Columbia University

**John J. Clancy**, Adjunct Professor  
(American Culture Studies, Engineering and Policy)  
Ph.D., Washington University

**Charly Coleman**, Assistant Professor  
(IPH, History)  
Ph.D., Duke University

**Dennis Des Chene**, Professor  
(Philosophy)  
Ph.D., Stanford University

**Lionel Cuillé**, Lecturer  
(Romance Languages and Literatures)  
ENS Lettres et Sciences Humaines, Lyon

**Gerald Early**  
Merle Kling Professor of Modern Letters  
(American literature, African-American culture)  
Ph.D., Cornell University

**Matt Erlin**, Assistant Professor  
(German)  
Ph.D., University of California–Berkeley

**Cathleen A. Fleck**, Assistant Dean  
College of Arts & Sciences  
Lecturer, Interdisciplinary Project in the Humanities  
Ph.D., Johns Hopkins University

**Steve Hause**, Professor  
(History)  
Ph.D., Washington University

**Gerald N. Izenberg**, Professor  
(History)  
Ph.D., Harvard University

**Christine Johnson**, Assistant Professor  
(History)  
Ph.D., Johns Hopkins University

**Cathy Keane**, Associate Professor  
(Classics)  
Ph.D., University of Pennsylvania

**Frank Lovett**, Assistant Professor  
(Political Science)  
Ph.D., Columbia University

**Max J. Okenfuss**, Associate Professor  
(History)  
Ph.D., Harvard University

**Anca Parvulescu**, Assistant Professor  
(IPH, English)  
Ph.D., University of Minnesota

**George Pepe**, Professor  
(Classics)  
Ph.D., Princeton University

**Carl Phillips**, Professor  
(English, African and African American Studies)  
M.A., Boston University

**Jim Poag**, Lecturer  
(IPH)  
Ph.D., University of Illinois

**Philip Purchase**, Postdoctoral  
Ph.D., University of Southern California

**Michael Sherberg**, Associate Professor  
(Italian)  
Ph.D., University of California–Los Angeles

**Lynne Tatlock**  
Hortense and Tobias Lewin Distinguished Professor in the Humanities  
(German)  
Ph.D., Indiana University

The Interdisciplinary Project in the Humanities (IPH) is a rigorous program for highly motivated students whose interests lead them beyond traditional academic categories. The major, which normally leads to a degree with honors, combines an introductory core—a concentrated study of texts central to the European and American philosophical, religious, and literary traditions—with an area of concentration: an advanced sequence of courses and research tailored to the special interests of each student in the program. For students pursuing concentrations in American intellectual history, in the European avant-garde in the 20th century, or in Renaissance political thought (to take three among many possible examples), the introductory core provides a crucial foundation for advanced interdisciplinary work; the core also provides a useful background for students undertaking comparative concentrations—for example, in Buddhist, Christian, and Muslim mystical literature, or in the influence of Russian fiction in East Asia.

All students in the major learn to write and speak clearly and flexibly; they are given broad exposure to a range of canonical texts; they are trained in the historical and formal analysis of those and other texts; they become skilled in at least one foreign language; and they are given considerable experience in independent research. Their work in the humanities bridges disciplines and fosters in them the two interpretive skills of contextualization and criticism. Students in the program will be well-prepared for a range of graduate programs in the humanities, for professional careers in law and public service, and for the vital work of critical citizenship and adult intellectual discovery.

**The Major:** Students typically enter the core program in the freshman year, but generally not later than the fall of the sophomore year. The core consists of either five courses drawn from the program in Text and Tradition or three courses in the Text and Tradition program in combination with a FOCUS program in the humanities. (The current FOCUS offerings in the Humanities include Cuba: From Colonialism to Communism; Literary Culture of Modern Ireland; Nationalism and Identity: The Making of Modern Europe. See FOCUS information on pages 133 to 136.) Students in the core program may apply for admission to the major during the sophomore year by submitting a portfolio of two or three essays.

Once admitted to the program, each student designs, in consultation with the IPH faculty, a program of advanced course work in an area of concentration. In the second semester of the sophomore year, students enroll in an upper-level course in social or political history or in the history of a literary or other aesthetic form (e.g., the novel, opera) or of some institution or cultural practice (e.g., history of science or history of philosophy); in this semester they also undertake their first sustained research projects under the mentorship of a member of the IPH faculty.

In the junior year, students take a cluster of two courses addressing a single historical period from the perspective of different disciplines. In the spring semester, they complete a writing-intensive Junior Colloquium and participate in a group thesis tutorial and a thesis-related course in anticipation of their capstone project. In April, students seeking Honors take the written and oral comprehensive exam.

In the senior year, students take the Theory and Methods seminar (fall) as well as the capstone colloquium (spring); in addition, they complete and present their capstone project under the mentorship of a member of the IPH faculty. By the middle of their senior year, students take at least one 400-level Textual and Historical (TH) course in a foreign language in order to secure their foreign-language competency.

### Areas of Concentration

Many students develop their own special areas of concentration. Recent concentrations have included modernism and politics, Moslem ethics and jurisprudence, philosophy of education, and the history of the novel. Some students will pursue concentrations that reflect the longstanding research interests of a number of faculty in the humanities. Among these latter, fully developed concentrations are the tracks in Renaissance Studies and Literature and History.

Students in the Renaissance Studies track enroll either in Text and Tradition or in the Renaissance FOCUS program during their first year. They have a wide range of courses from which to construct their period-specific cluster; as they develop their senior project, they are able to work closely with faculty from several different departments who make up Washington University's active

group of Renaissance scholars. Students in the Renaissance concentration are strongly encouraged to begin work on a second foreign language so that they have some experience both with Greek or Latin and with one of Western Europe's modern vernaculars.

Students in the Literature and History track are expected to complete 9 units of course work in history and 9 units in literature; most satisfy the bulk of this requirement in the course of completing their sophomore history course, their junior period cluster, their advanced foreign language course, and their thesis and thesis-related courses.

### The Minor: Text and Tradition

Text and Tradition is a minor open to first-year and sophomore students in the College of Arts & Sciences by special registration. It provides a compact, orderly sequence of five courses. In this program you read, reflect on, and analyze, both orally and in writing, the basic texts of Western literary, philosophical, scientific, and political culture.

If you are majoring in a science, the Text and Tradition minor gives you a firm grounding in the humanities. All courses in the program fulfill distribution requirements, and one of the teachers offering a course in the program also serves as your adviser. You fulfill the requirements of the program by completing five Text and Tradition courses, usually by the end of your sophomore year. This satisfies the requirements for an interdisciplinary minor in Text and Tradition.

### Undergraduate Courses

#### Hum 201A. Puzzles and Revolutions: Text and Tradition

*Same as History 201A.*

This course introduces students to the history and philosophy of science. It counts toward the minor in Text and Tradition (T&T) and serves as a gateway to the minor in History and Philosophy of Science (HPS). The course examines major episodes in the history of science from two of four periods: ancient, medieval, early modern, and modern. Possible topics include the Copernican, Newtonian, Darwinian, and Mendelian revolutions. In each case the questions under consideration include: What was the state of natural knowledge before this episode? What historical developments caused or enabled a transformation of that knowledge? What were the features and fortunes of the paradigm that emerged? By applying these questions to a few specific case studies, students learn about the content and context of scientific knowledge, while also becoming familiar with various explanations as to how and why that knowledge changes over time. Credit 3 units.

A&S TH FA NSM

#### Hum 201B. The Great Economists: Text and Tradition

Examination of the great economic thinkers, the problems they sought to solve, the historically conditioned assumptions that they bring to their work, and the moral issues they raise. The class will read from the works of Adam Smith, Ricardo, Malthus, Marx, Veblen, Keynes, Schumpeter, Galbraith, and others, as well as commentary from Heilbroner. These readings will be paired with selected texts on the social and moral issues of their times. Open only to participants in Text and Tradition. Credit 3 units.

A&S TH

#### Hum 201C. Classical to Renaissance

##### Literature: Text and Tradition

*Same as E Lit 201C.*

As we study some of the most influential of ancient works, we will address the basic questions of liberal education: Why ought the classics to be read in the first place? How is it that Western culture has come to value certain fundamental questions? Texts include selections from Homer, Aeschylus, Sophocles, Vergil, Ovid, Petrarch, Montaigne, and Shakespeare. Preference given to Text and Tradition and IPH students. Credit 3 units.

A&S TH FA Lit

#### Hum 203C. Early Political Thought: Text and Tradition

*Same as Pol Sci 203C, History 131C.*

A selected survey of the political and moral thought of Europe from the rise of Athenian democracy to the Renaissance, with emphasis on analysis and discussion of writers such as Thucydides, Plato, Aristotle, St. Augustine, Castiglione, and Machiavelli. The course aims to introduce students to basic texts in the intellectual history of Western Europe, understood both as products of a particular time and place and as self-contained arguments that strive to instruct and persuade. The texts are simultaneously used to chart the careers of such fundamental notions as liberty, virtue, and justice. Preference given to Text and Tradition and IPH students. Credit 3 units.

A&S TH FA SSP

#### Hum 204. Darwin and the Modern Ache

D.H. Lawrence reminds us how exciting and instructive it can be to watch the way our fictions take in a new cultural idea as important as Darwinism; as the theory shocks our defenseless bodies, our literature reacts with fresh forms and consciousness that enable us to feel the wound of moral, metaphysical, psychological, biological insecurity and humiliation without becoming merely helpless readers and carriers of our pain. We still feel longings for a creation by design in a post-Darwinian world shaped by thinkers most responsive to evolutionary theory: Nietzsche, Freud, and Marx. We will study some modern texts most sensitive and susceptible to what Hardy calls the "modern ache" of Darwin's thought, of Ibsen, Hardy, Conrad, Strindberg, Kafka, D.H. Lawrence, and Robert Frost. Preference given to Text and Tradition and IPH students. Credit 3 units.

A&S TH

#### Hum 205C. Literary Modernities: Text and Tradition

*Same as Comp Lit 255C, E Lit 205C.*

Through a wide sampling of Western literary works, the course explores themes and tones characteristic of the rise of modern consciousness from the Renaissance forward. We trace debates on aesthetics, the transformation of autobiography, writers' persistent distrust of books, and their relentless assaults on perversions of cultural idealism. Books by such authors as Cervantes, Diderot, Rousseau, Goethe, Balzac, Dostoevsky, Twain, Freud, Kafka, and Beckett. Preference given to Text and Tradition and IPH students. Credit 3 units.

A&S TH FA SSP

#### Hum 206. The Idea of America

Credit 3 units.

A&S TH

#### Hum 207C. The Rise of the European State: Text and Tradition

*Same as History 132C.*

A course in European history and thought since 1600 that addresses two themes: the search for a moral code, and the legitimate role of the state. Both are ancient inquiries, but they acquired important and novel interpretations in the West after

the Reformation and the gunpowder revolution, and the rise of the modern statecraft grounded in both. One uniquely Western approach to these questions was the search for the primitive or “natural” situation of mankind, and readings in this genre provide some of the texts for the course. Parallel to presentation of the political history of modern Europe, the class may discuss such writers as Locke from the 17th century, Montesquieu and Rousseau from the 18th, Marx and Darwin from the 19th, and the writings of anthropologists and philosophers from the 20th. Preference given to Text and Tradition and IPH students. Credit 3 units.

**A&S** TH **FA** SSP

**Hum 209. Scriptures and Cultural Traditions**  
*Same as Re St 207, JNE 2091.*

Certain books, “sacred scriptures,” have shaped human culture in powerful and complex ways. Religious communities believe that scriptures are ancient texts that are ever-flowing sources of timeless truths. We will do close readings of crucial scriptural texts and explore how they are interpreted and why they have had such a profound impact on human communities, in social organization, and in the behavior of individuals in literature, art, and politics. This year the course will focus on the canonical texts of Judaism, Christianity, and Islam. Preference given to Text and Tradition and IPH students. Credit 3 units.

**A&S** CD, TH

**Hum 211A. Digital Humanities: Information Representation, Analysis, and Modeling**

It is a truism that computers have changed our lives and the way we think, but in fact systematic efforts to apply current technologies to the thinking about history and culture have been rare. This course will enable students to consider how these technologies might transform the humanities. Students will explore the various ways that ideas and data in the humanities can be represented, analyzed, and communicated. Topics include forms of information, modeling and simulation, geospatial (GIS) and temporal representations of data, and ways of creating and using audio and visual information. Readings and classwork will be supplemented by small assigned digital projects culminating in a project chosen by the students themselves. Students should be comfortable with using the Internet and a word processor. No other special computing skills are required. Credit 3 units.

**Hum 214. Text and Tradition: Cross-Currents I**  
*Same as Comp Lit 2140.*

This course revisits the cultural and intellectual terrain of Classical to Renaissance Literature (Hum 201) and Early Political Thought (Hum 203), purposefully mixing a different set of texts of very different kinds. We’ll delve closely into how works belonging to the same cultural moment but to different genres can reflect upon one another, and we’ll address how works issuing from different periods can speak to one another. Along the way, we’ll work on refining our talents as close readers and careful writers, and we’ll think carefully about the critic’s role in creating canons and inventing intertextual dialogues. Authors studied include Aristophanes, Euripides, Plato, Seneca, Boethius, Dante, and Petrarch. Credit 3 units.

**A&S** TH

**Hum 220. Introduction to Research in the Humanities**

This course will give students interested in the humanities the opportunity to learn about areas of current faculty research in literature, history, philosophy, art history, music, and other areas of the humanities. What are the archives for research in the humanities? How do humanities scholars develop a research agenda, and what analytic tools do they bring to bear on their work? What are the

biographies of new ideas in literature, history, and the arts? Credit 1 unit.

**A&S** TH

**Hum 299. Research Internship in the Humanities**

Credit 0 units.

**Hum 301. Sophomore Research Tutorial**

A practical introduction to research in the humanities. Students develop and complete a project in a research area of possible long-term interest. Credit 2 units.

**A&S** TH

**Hum 3042. Two Renaissance Cities: Approaches to Early Modern Culture**

*Same as History 3042.*

**A&S** TH

**Hum 305. The Cultural History of the Robot**

This course will survey the history of the desire to perfect or eliminate what is most human through the creation of artificial men and women. Familiar questions—Can robots feel? Can we tell who is a robot?—will be considered alongside the traditional use of robots to understand or emblemize justice, sin, progress and modernity, self-awareness or simplicity, indifference, virtuosity, authorship, invention, and art itself. Examples will be drawn from both fictional and real robots in literature and in film. Texts will likely include: Homer, Hesiod, Spenser, Descartes, Hobbes, Vaucanson, Villiers de l’Isle-Adam, Shelley, Hoffmann, Capek, Filisberto-Hernandez, Lem, Lang, and Scott. This course is intended primarily for sophomores considering a major in the Interdisciplinary Project in the Humanities. Freshmen will be considered by permission of the instructor. Credit 3 units.

**A&S** TH

**Hum 306. Opera: Text and Context**

We will focus on operas drawn primarily from the French, Italian, and German traditions that served as watershed moments in the history of literature, music, philosophy, and criticism. We will read source texts (including famed literary works by Molière, Beaumarchais, Scott, Hugo, Bérour, Maeterlink, Mérimée, Hoffmann, and James); view performances in their entirety; discuss the literary works, philosophy, and criticism that the works inspired; and consider the American reception of the works, including their influence on pop culture. Students will gain a sense of opera’s vital role at the intersection of the arts (text, music, and dance) and the disciplines (history, philosophy, cultural studies, postcolonial studies, gender studies), learning to approach the study of the genre from multiple perspectives. Preference will be given to IPH majors and Text and Tradition students though others are welcome. Credit 3 units.

**A&S** TH

**Hum 310. An Intellectual History of Sex and Gender**

*Same as WGSS 3101.*

This course will concentrate on questions raised by the study of sexuality in ancient Greece and Rome. Its aim is threefold: to engage in a detailed study of the literary evidence we have for sexuality and modes of its interpretation in antiquity; to undertake a survey of contemporary scholarly approaches to the study of ancient sexuality; and to consider why recent thinkers return so often to the ancient world as they grapple with issues of ethics, politics, and aesthetics. A wide range of ancient texts will be read in translation, including lyric poetry, comedy, tragedy, philosophy, and fiction. We will pay particular attention to the ongoing impact of Platonic models of erotics (*Symposium* and *Phaedrus*) and the powerful claims of Michel Foucault’s *History of Sexuality*. We will be looking for continuities and ruptures in the con-

struction and representation of gay and lesbian identity, gendered desire, and Dionysiac models of liberation. Credit 3 units.

**A&S** SD, TH

**Hum 311. Sophomore Honors Tutorial I: Science, Religion, and the Humanities since Darwin**

**Hum 3191. The European Avant-Garde: Interdisciplinary Studies in the Humanities, 20th Century**

*Same as IAS 3190, EuSt 3191, E Lit 3192.*

The first half of the 20th century witnessed the emergence of artistic movements characterized by revolt against tradition, emphasis on radical experimentation, and redefinition of the art work. This course will familiarize students with the avant-garde’s main currents: Italian Futurism, English Vorticism, Russian Constructivism, “stateless” Dadaism, and French Surrealism. We will ask ourselves how to define the avant-garde, how it is related to modernity, and whether its aesthetic is necessarily political. Texts include *Futurist Manifestos*, Cendrars’s *Trans-Siberian Prose*, Stein’s *Tender Buttons*, Breton’s *Nadja*. We also will examine art works such as Duchamp’s *Large Glass* and films Buñuel’s *Un Chien Andalou*. Credit 3 units.

**A&S** TH

**Hum 3311. Laughter from Joubert to Bataille: Interdisciplinary Studies in the Humanities**

*Same as E Lit 3311.*

In this course, we will trace a tradition of writing on laughter. While we will read texts that might explain laughter by way of comedy or humor, we will be interested in laughter itself. What does the body in laughter look like? How does laughter sound? Where, when, and how does laughter happen? What is laughter’s relation to language, to song, to thought? What kind of communities does laughter form? We will read texts by Joubert, Erasmus, Hobbes, Descartes, Chesterfield, Kant, Bergson, Freud, Bataille, Sarraute, and Ellison. We will listen to music such as Louis Armstrong’s “Laughin’ Louie” and we will watch films such as *Laughing Gas*, *The Man Who Laughs*, and *A Question of Silence*. Credit 3 units.

**A&S** TH

**Hum 332. Visual Culture**

Contemporary culture is often understood as one privileging sight over other modes of perception. We live, it is said, in a society of images and all-encompassing spectacles. But the history of how images mediate what and how we see is, of course, much longer than our own present. In this interdisciplinary course, we explore this long history of vision and visual representation from antiquity to the present so as to shed light on how people at different moments have understood vision, have seen their own seeing, and have encoded this seeing in different artifacts and media. More specifically, we explore the role of the visual in the historical production of subjectivity and collectivity; the political, religious, and ideological uses and abuses of vision; the relation of images to words and stories; the implication of sight in competing systems of truth, enlightenment, and scientific progress; and the function of seeing within different media of art, entertainment, and virtualization—from ancient cave painting, medieval icons, and early modern church designs to modernist paintings and motion pictures. Credit 3 units.

**A&S** TH

**Hum 3584. From Freud to Postmodern and Feminist Psychoanalysis: A History of Psychoanalytic Ideas**

**Hum 401. IPH Thesis Prospectus Workshop**  
*Same as History 4000, Re St 4000, WGSS 4011.*  
 Credit variable, maximum 3 units.  
 A&S TH

**Hum 402. Senior Honors Thesis**  
 Independent research for undergraduate Honors, to be supervised by a faculty member. Student chooses topic and hands in a final paper of at least 45 pages. Credit variable, maximum 1 unit.

**Hum 403. Senior Thesis Tutorial**  
 Credit variable, maximum 3 units.

**Hum 405. Theory and Methods in the Humanities**  
*Same as History 4821, E Lit 469, E Lit 466.*  
 This course familiarizes advanced undergraduate and graduate students with some of the basic issues in humanistic study. It follows the conversations of Marxist, psychoanalytical, anthropological, historicist, and linguistic approaches. Our work highlights the boundaries between these fields and identifies incursions across them. Some of the questions that animate our discussions are: What does truth mean in the humanities? What is an object of study and how does one go about identifying it? Is it useful to view the past as a strange country? What is interpretation and what are its procedures? Preference given to Text and Tradition and IPH students. Credit 3 units.  
 A&S TH

**Hum 4111. Pastoral Literature: Interdisciplinary Studies in the Humanities, Antiquity**  
*Same as E Lit 4111.*  
 In the first half of the course, we will undertake an intensive reading of the classical tradition in pastoral/bucolic. We will consider questions of genre, intertextuality and ideology, and we will ask how “the lives and loves of herdsmen” became favored ground for literary meditation on issues of surface and depth, reality and illusion, artifice and sincerity. This portion will involve intensive reading in translation of Theocritus, Vergil, and Longus. After a survey of earlier English use of pastoral in Milton and Shakespeare, we will consider the survival, adaptation and deformation of ancient pastoral themes as well as forms and modes of thought in British and American writing from the 19th and 20th centuries. Authors will include Mark Twain, Kenneth Grahame, Thomas Hardy, and Tom Stoppard; 20th-century critics we will read include William Empson, Raymond Williams, and Leslie Fiedler. Credit 3 units.  
 A&S TH

**Hum 4171. Roman Remains: Traces of Classical Rome in Modern British Literature**  
*Same as MLA 4172, E Lit 4171, E Lit 4172.*  
 This course will examine the use of the Roman textual and material inheritance in poets, novelists, and critics of the late 19th and 20th centuries working in Britain, and will ask how modernity addresses the claims of the classical tradition. We will place Thomas Hardy’s *Poems of 1912–13* next to Vergil’s *Aeneid*, then survey Hardy’s relationship to the visible remainders of Rome and the people it conquered—roads, barrows, forts—in the landscape of Dorset. After examining the representation of the Celtic hill-fort in fiction and the legacy of Vergilian representations of the countryside in poetry, we will consider representations of Rome in light of modern imperialism (Joseph Conrad’s *Heart of Darkness* and Ezra Pound’s *Homage to Sextus Propertius*) and examine the place of Vergil in T. S. Eliot’s critical and poetic practice. Credit 3 units.  
 A&S TH

**Hum 419A. Economic Life in Modern Social and Cultural Theory**  
 Social and cultural theorists have developed many perspectives on economic life, ranging from actor-network theory to new institutionalism. Yet recent ethnographic work (for instance in consumption studies and in the anthropology of financial markets) has raised all sorts of problems for theorists. Our course will ask whether we really can generalize about economic life and, if so, how far such generalizations might extend into fields such as intimate relations or artistic production. Readings will include works by Bourdieu, Callon, Geertz, Hochschild, Mauss, and Zelizer. Credit 3 units.  
 A&S SS

**Hum 450. IPH Junior Colloquium: Interdisciplinary Topics in the Humanities**  
*Same as E Lit 4505.*  
 Credit 3 units.  
 A&S TH, WI

**Hum 455. IPH Senior Colloquium: Interdisciplinary Topics in the Humanities**  
 Credit 3 units.  
 A&S TH

## International and Area Studies

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**Eugene B. Shultz, Jr.**

(Engineering and Policy)  
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The International and Area Studies (IAS) major offers a broad, interdisciplinary ap-

proach to understanding the world, while also exploring the richness and diversity of its many cultures. One hallmark of our era is the complex relationship between globalization and local differences. New technologies and worldwide markets connect us to people, ideas, and products throughout the globe, yet we still have strong attachments to local languages, cultures, and social norms. Globalization has brought great prosperity to the highly industrialized nations of Asia, Europe, and North America, yet it also has increased pressures on nations still attempting to develop in Africa, Asia, Latin America, and the Middle East. The IAS program examines these tensions by combining a focus on contemporary international issues with a study of the histories and cultures of particular areas of the world.

IAS offers a wide selection of courses in a variety of disciplines. Faculty members who participate in the program are specialists both in their disciplines and in their geographic areas of concentration. While the major presently offers four areas of concentration, the program also has depth in African and Middle Eastern Studies as well as courses on the history of South Asia.

The IAS major combines well with a second major or a minor in a discipline such as anthropology, economics, history, languages and literatures, or political science. The major provides excellent preparation for many careers in both public and private sectors, including academia, law, government, and business, as well as work with international service organizations.

**The Major:** There are presently four tracks available to IAS majors, offering concentrations in International Studies, East Asian Studies, European Studies, or Latin American Studies. All four tracks require you to take two introductory courses (Crossing Borders I and II) for a total of 6 credits. Majors selecting the International Studies or European Studies track must also take IAS 200 for 1 credit; majors in the East Asian Studies track must take one core civilization course for 3 credits (East Asia 223, 226, or 227); and majors in the Latin American Studies track must take Lat Am 165 for 3 credits. Majors in the International Studies track must complete an area-focused civilization course and must include course work on at least two world areas. All majors must take an additional 18 units in advanced-level courses appropriate to their concentrations. At least 3 units must be at the 400 level and must be earned on campus or in Washington University courses taught abroad. Depending on the concentration, the 18 units must include courses representing at least three different disciplines. The East Asian Studies track also requires students to balance an emphasis on China or Japan with at least one course in the other area. Students whose primary major is IAS must complete a capstone experience (by writing a Senior Honors thesis, presenting a senior project, or successfully completing a specially designated 400-level course), and all majors must satisfy a language requirement by successfully completing the first four semesters

of instruction (or the equivalent) in a foreign language appropriate to the concentration. In the East Asian Studies concentration, no more than 6 credits in advanced language study may be counted toward the major, at the discretion of the adviser.

**The Minor:** As with the IAS major, there are four tracks available to IAS minors. All minors are required to complete a minimum of 18 graded credits appropriate to their concentration, including at least 12 units at the 300 and 400 level, and must satisfy a language requirement by successfully completing the first four semesters of instruction (or the equivalent) in a foreign language appropriate to the concentration. In the East Asian Studies concentration, some credits earned through advanced-level language study may be applied toward the minor at the discretion of the adviser. At the introductory level, students declaring a minor in the International Studies track must complete either Crossing Borders I or II; minors in the East Asian Studies track must choose from Crossing Borders I or II or Japanese, Chinese, or Korean Civilization; minors in the European Studies track must choose from Crossing Borders I or II or Introduction to European Studies; and minors in the Latin American Studies track must choose from Crossing Borders I or II or Survey of Latin American Culture. No more than 3 credits may be from directed readings, research, or internships.

**Internships:** Although internships are encouraged, only occasionally are they worthy of academic credit and never for upper-division credit toward the major. We offer the option of L97 IAS 250, or students may also consider L43 2991. Advance approval of the internship must be secured for credit to be granted. IAS will not award internship credit after the fact. Further guidance on internship options and credit is available from the Career Center.

**Study Abroad:** You are also encouraged to study abroad in one of Washington University's overseas programs during your junior year or the summer. Some credit for courses taken abroad may be applied to the major or minor.

**Senior Honors:** If you have a strong academic record, you may apply to work toward Honors by writing an Honors thesis during your senior year.

## Undergraduate Courses

### IAS 1501. Seminar for the International Leadership Program

This seminar, which is restricted to and required of participants in the International Leadership Program, is a continuation of the fall IAS 1502 course. Credit 1 unit.

### IAS 1502. Seminar for the International Leadership Program

This seminar, which is restricted to and required of participants in the International Leadership Program, is a companion to either of the two core ILP fall courses. The ILP seminar will foster critical thinking, provide leadership opportunities, and build community among students in the program. In seminar, students will craft an international awareness campaign and be visited by guest lecturers. Credit 1 unit.

### IAS 165C. Survey of Latin American Culture *Same as LatAm 165C, AMCS 165.*

This class is an introduction to contemporary Latin-American politics and cultures. At the end of the semester, students will be able to recognize some of the main issues in Latin-American politics, history, and culture and will develop research tools to approach the study of Latin America. The class will begin with an overview of Latin-American history, then go on to explore both current political issues and different dimensions of Latin-American cultures. The political topics include: violence in contemporary Colombia, Cuba after the fall of the Berlin Wall, the question of Southern Cone dictatorships, the Zapatismo movement in Mexico and the debates on Latin-American immigration to the United States. Cultural topics include the role of intellectuals in Latin America, pop and rock music, contemporary film, gender issues, and the distinction between popular and media culture. This class is required of IAS majors in the Latin-American Studies track. Credit 3 units.

A&S CD, TH FA SSP

### IAS 170. Is There a Global Culture?

Opponents of globalization have argued that a standardized, commercialized, and U.S.-dominated culture is supplanting local cultures around the world. This, they assert, will make the world into a boring place in which local artists are squashed by nondescript cultural products distributed by an all-powerful American commercial machine. This course will question whether any such thing is happening, and will suggest that there are far more interesting ways of considering what "global culture" might be. It will help provide skills in cultural observation and interpretation necessary for informed leadership in the globalizing world. This course is restricted to freshmen in the International Leadership Program. Credit 3 units.

A&S SS

### IAS 175. Understanding International Conflicts *Same as Pol Sci 1751.*

This course offers a general introduction to the study of international conflict. It begins by surveying some of the classic contributions to the study of war and peace by Thucydides, Aquinas, Hobbes, Machiavelli, Kant, and Keohane and Nye. The course then examines the historical development of the modern system of states from its origins in the Peace of Westphalia in 1648 until the end of the 19th century. The final section of the course looks at the origins of the major international conflicts of the 20th and 21st centuries, considering World War I, World War II, the Cuban Missile Crisis, and the crisis in trans-Atlantic relations that developed during the 2003 Iraq War. The emphasis throughout the course is on the relevance of the theoretical and empirical material for issues facing contemporary American foreign policy. This course is restricted to freshmen in the International Leadership Program. Credit 3 units.

A&S SS

### IAS 180. International Development

This course will address critical issues in international development through immersion in actual contemporary case studies. Examples of case studies, which will vary from year to year, include land redistribution in Zimbabwe, guest workers in Europe, oil and violence in Latin America, and family planning in China. Each case will be explored through interactive learning, with teams of students proposing and debating development plans. This is the core spring course for the International Leadership Program, and it is required of and restricted to ILP students. Credit 3 units.

A&S SS

### IAS 200. Introduction to International and Area Studies

An introduction to some of the key themes and approaches within International and Area Studies, with a focus on the interplay of global and local forces. The course will feature case studies from diverse world regions given by lecturers from International and Area Studies faculty, as well as a discussion of broader trends in the contemporary world system. Required of majors in International and Area Studies and the International Studies and European Studies tracks; optional for others.

Credit 1 unit.

A&S SS FA SSP

### IAS 202. Crossing Borders I

This course is an introduction to the International and Area Studies major from the viewpoint of the social sciences. We examine what it means to cross borders, including the geographical borders of territorial nation-states, but also the conceptual borders of class, culture, the rural urban divide, and the premodern-modern continuum. Students, as nascent social scientists, learn analytical skills and study ethical issues necessary for evaluating the world around them. Depending on the instructor, the class will emphasize overall scientific method or work through historical case studies to achieve these goals. IAS majors considering a junior year abroad should enroll freshman or sophomore year. Credit 3 units.

A&S CD, SS

### IAS 203. Crossing Borders II

*Same as AMCS 2031.*

This course will explore the idea of "crossing borders" in literature and film and their cultural contexts. We will explore ethnic and economic conflicts, nationalist projects, and cultural imperialism and resistance in the interactions between cultural objects (texts and other works of art) and their contexts. Because we will be approaching these topics from the perspective of the humanities, we will spend some time introducing students to the basic premises and methodologies of inquiry in cultural studies. This course is required of all IAS majors. IAS majors considering a junior year abroad should enroll freshman or sophomore year. Credit 3 units.

A&S CD, TH

### IAS 208. Introduction to Jewish Civilization

*Same as JNE 208F.*

A&S TH FA SSP

### IAS 210C. Introduction to Islamic Civilization

*Same as JNE 210C.*

A&S CD, TH FA SSP

### IAS 215C. Introduction to Russian Civilization

*Same as Russ 215C.*

A&S CD, TH FA SSP

### IAS 216. Introduction to South Asian Civilization

This course examines the historical development of the diverse cultures of India. The course begins by considering the geographical and social frameworks that have shaped Indian civilization. From this foundation, the course traces the development of Indian culture, placing particular emphasis on developments since the 16th century. We cover the growth of both the Mughal and British empires, exploring the ways in which these reshaped Indian political, cultural, and religious life. The rise of nationalism and the history of the nationalist movements (including the life and teachings of Gandhi) are the focus of the final section of the course, which culminates in a discussion of developments within the independent states of India, Pakistan, and Bangladesh. Throughout the course, students will be encouraged to think about the significance of kin, caste, religion, region, and gender

and the ways in which these have influenced the nature of Indian society. Credit 3 units.

**A&S** CD, TH

**IAS 223. Korean Civilization**

*Same as ANECC 223.*

**A&S** CD, SD, TH

**IAS 226C. Japanese Civilization**

*Same as ANECC 226.*

**A&S** CD, SD, TH **FA** SSP

**IAS 227C. Chinese Civilization**

*Same as ANECC 227.*

**A&S** CD, SD, TH

**IAS 250. Internships in International and Area Studies**

This course is designed as a venue to grant credit to IAS students who actively obtain an internship and are NOT paid for the experience. Before work begins, the student and faculty sponsor must agree on a final written project on which the student will be evaluated. Course may be taken only one time. Credit 3 units.

**IAS 300. Independent Study**

Prerequisite: permission of the director of the International and Area Studies program. Credit 3 units.

**IAS 3024. International Institutions**

*Same as Pol Sci 3024.*

**A&S** SS

**IAS 3030. The Taoist Tradition**

*Same as Re St 303.*

**A&S** CD, TH

**IAS 3033. Global Masculinities**

*Same as WGSS 3033.*

**A&S** CD, SS

**IAS 3034. Christianity in the Modern World**

*Same as Re St 3031.*

**A&S** TH

**IAS 3041. China and the International Political Economy**

*Same as Pol Sci 3041.*

**A&S** SS

**IAS 305. Music of the African Diaspora**

*Same as Music 3021.*

**A&S** CD, TH **FA** AH

**IAS 3050. Greater Central Asia in Crisis**

*Same as Anthro 305B.*

**A&S** CD, SS **FA** SSP

**IAS 3053. Anthropology of Tibet and the Himalayas**

*Same as Anthro 3051.*

**A&S** SS

**IAS 3057. Topics on Africa**

*Same as AFAS 304C.*

**A&S** SS

**IAS 306. Modern Jewish Writers**

*Same as Comp Lit 306.*

**A&S** TH

**IAS 3060. East Asia Since 1500**

*Same as History 3060.*

**A&S** CD, TH

**IAS 3061. Between Submission and Power: Women and Family in Islam**

*Same as WGSS 306.*

**A&S** CD, SS **FA** SSP

**IAS 306B. Africa: Peoples and Cultures**

*Same as Anthro 306B.*

**A&S** CD, SS **FA** SSP

**IAS 307. The Writing of the Indian Subcontinent**

*Same as E Lit 307.*

**A&S** CD, TH **FA** Lit

**IAS 3081. Topics in Asian-American Literature: Identity and Self-Image**

*Same as E Lit 308.*

**A&S** SD, TH **FA** Lit

**IAS 3090. Chinese Thought**

*Same as Re St 309.*

**A&S** CD, TH, WI

**IAS 3092. Indigenous Peoples and Movements in Latin America**

*Same as Anthro 3092.*

**A&S** CD, SD, SS

**IAS 3093. Anthropology of Modern Latin America**

*Same as Anthro 3093.*

**A&S** SS

**IAS 3094. Politics of the European Union**

*Same as Pol Sci 3093.*

**A&S** SS

**IAS 3095. Confucian Thought**

*Same as Re St 3091.*

**A&S** TH

**IAS 3101. Ancient Civilizations of the New World**

*Same as Anthro 310C.*

**A&S** CD, TH **FA** AH

**IAS 312. Globalization and Gender**

*Same as WGSS 312.*

**A&S** SD, SS

**IAS 3120. South Asian Traditions**

*Same as Re St 312.*

**A&S** TH

**IAS 313C. Islamic History, 622–1200**

*Same as History 313C.*

**A&S** TH **FA** SSP

**IAS 3140. Topics in Latin-American History and Politics**

*Same as Pol Sci 3140.*

**A&S** SS

**IAS 3149. The Late Ottoman Middle East**

*Same as History 3149.*

**A&S** CD, SD, TH

**IAS 315. Indian Barbie, Asian Tigers, and IT Dreams: Politics of Globalization and Development in South Asia**

*Same as Pol Sci 3115, Anthro 3154, WGSS 3151.*

This course will explore how South Asia is at the heart of current debates about globalization, development, empire, gender, sexuality, and ethnic identity. We'll raise questions like: What has led to sex trafficking in Nepal? Can information technology solve India's social problems and unemployment? What is biopiracy, and how are South Asian activists challenging the global corporatization of world food and water supplies? Readings, films, and discussions will take us to countries such as Bangladesh, Nepal, Pakistan, Sri Lanka, and India. Credit 3 units.

**A&S** CD, SD, SS

**IAS 3150. The Middle East in the 20th Century**

*Same as History 3150.*

**A&S** CD, TH

**IAS 3151. The Palestinian–Israeli Conflict, 1881–Present**

*Same as History 3151.*

**A&S** TH

**IAS 3152. The History of Iran from 1501 to the Present**

*Same as History 3152.*

**A&S** TH **FA** SSP

**IAS 3153. Russian Music**

*Same as Music 315.*

**A&S** TH

**IAS 3163. Early Modern China: 1350–1890**

*Same as History 3162.*

**A&S** CD, TH

**IAS 3164. Chinese Foreign Relations Since the Opium War**

*Same as History 3164.*

**A&S** TH

**IAS 316C. Modern China: 1890–present**

*Same as History 316C.*

**A&S** CD, TH **FA** SSP

**IAS 3190. Interdisciplinary Studies in the Humanities: The European Avant-Garde**

*Same as Hum 3191.*

**A&S** TH

**IAS 3192. Modern South Asia**

*Same as History 3192.*

**A&S** CD, TH **FA** SSP

**IAS 320. British Cinema: A History**

*Same as Film 320.*

**A&S** TH

**IAS 3200. An Introduction to Literature and Visual Culture in the Arab World**

*Same as ANECC 320.*

**A&S** TH

**IAS 3206. Global Gender Issues**

*Same as WGSS 3206.*

**A&S** CD, SS

**IAS 321. Comparative European Politics**

*Same as Pol Sci 321.*

**A&S** SS **FA** SSP

**IAS 321C. Latin America: From Colonialism to Neocolonialism, 1492–1890**

*Same as History 321C.*

**A&S** CD, TH **FA** SSP

**IAS 322. Contemporary East Asian Cinema**

*Same as Film 322.*

**A&S** CD, TH

**IAS 322C. Latin America in the 20th Century: Reform or Revolution**

*Same as History 322C.*

**A&S** CD, TH **FA** SSP

**IAS 323. The Cinema of Eastern Europe in the Cold War Era**

*Same as Film 323.*

**A&S** CD, TH

**IAS 3243. A User's Guide to Japanese Poetry**

*Same as Japan 324.*

**A&S** LA

**IAS 324C. Modern Japan—Japan Since 1868**

*Same as History 320C.*

**A&S** CD, TH **FA** SSP

**IAS 3250. French Film Culture**

*Same as Film 325.*

**A&S** TH

**IAS 3254. Vote for Pedro: A Critical Look at Youth and Popular Cultures**

*Same as Anthro 3254.*

**A&S** SS **FA** SSP

**IAS 325C. African Civilization to 1800**

*Same as AFAS 321C.*

**A&S** CD, TH **FA** SSP

**IAS 3260. Race, Class, and Gender: Cultural Readings of Brazil and Its Cities**

*Same as LatAm 3260, Anthro 3260, URST 3260.* Cities are spectacles of humanity. In Brazil, the construction and management of its metropolitan areas have been intended as a showcase of modernity and cultural development for the outside world (especially Europe and later the United States) to see. Brazilian cities are also the settings

and results of intense social relationships. In this course, we will try to understand the relationship between spatial design and sociocultural identity through particular discussions of (im)migration, globalization, architecture, history, and ideology. In our conversations about Sao Paulo, Rio de Janeiro, Brasilia, Salvador, and Porto Alegre, we will come to understand that places are always social and thus necessitate an analysis of race, class, gender, and sexuality. Credit 3 units.

**A&S SS**

**IAS 326B. Latin-American Politics**

*Same as Pol Sci 326B.*

**A&S SS FA SSP**

**IAS 3273. Introduction to Israel Studies**

*Same as JNE 3273.*

**A&S TH**

**IAS 327B. African Politics**

*Same as Pol Sci 327B.*

**A&S SS FA SSP**

**IAS 3280. Political Intolerance in World Politics**

*Same as Pol Sci 3280.*

**A&S SS**

**IAS 3282. Sexuality in Africa**

*Same as AFAS 3282.*

**A&S CD, SS FA SSP**

**IAS 3290. Italian Neorealism**

*Same as Film 329.*

**A&S TH**

**IAS 3291. History of German Cinema**

*Same as Film 328.*

**A&S TH**

**IAS 3292. Topics in Politics: Modern South Asian Politics**

*Same as Pol Sci 3292.*

**A&S SS FA SSP**

**IAS 3293. Religion and Society**

*Same as Anthro 3293.*

**A&S SS**

**IAS 3301. Topics in Chinese Literature and Culture**

*Same as Chinese 330.*

**A&S CD, TH**

**IAS 3313. Women and Islam**

*Same as Anthro 3313.*

**A&S CD, SS FA SSP**

**IAS 3317. Hispanic Art/Arte Hispano**

*Same as Span 331.*

**A&S TH FA AH**

**IAS 3318. Topics in Holocaust Studies**

*Same as German 331.*

**A&S TH FA Lit, SSP**

**IAS 332. Topics in Politics: Constitutionalism and Democracy**

*Same as Pol Sci 3321.*

**A&S SS**

**IAS 3321. Topics in Film Studies: Italian Cinema**

*Same as Ital 332.*

**A&S TH FA AH, Lit**

**IAS 3322. Brave New Crops**

*Same as Anthro 3322.*

**A&S SS FA NSM**

**IAS 3323. The Classical Voice in Japanese Literature**

*Same as Japan 332C.*

**A&S CD, TH FA Lit**

**IAS 332B. Environmental and Energy Issues**

*Same as Pol Sci 332B.*

**A&S SS FA SSP**

**IAS 333. The Holocaust: The Experience of European Jewry**

*Same as History 333.*

**A&S SD, TH FA SSP**

**IAS 3330. Economics of the European Union**

*Same as Econ 333.*

**A&S SS**

**IAS 3331. The Modern Voice in Japanese Literature**

*Same as Japan 333C.*

**A&S CD, TH FA Lit**

**IAS 3333. The Art and Archaeology of Japan and Korea**

*Same as Art-Arch 3333.*

**A&S TH**

**IAS 3350. The Jews in the Modern World**

*Same as History 335C.*

**A&S CD, TH FA SSP**

**IAS 3351. Spanish-American Literature I**

*Same as Span 335C.*

**A&S CD, TH FA Lit**

**IAS 3352. Topics in Italian Cinema: Pier Paolo Pasolini: Ideology, Sexuality, Representation**

*Same as Ital 334.*

**A&S TH FA AH**

**IAS 3360. The Floating World in Japanese Literature**

*Same as Japan 336.*

**A&S CD, SD, TH FA Lit**

**IAS 3361. Spanish-American Literature II**

*Same as Span 336C.*

**A&S CD, TH FA Lit**

**IAS 3365. Cinema and Ireland**

*Same as Film 336.*

**A&S CD, LA**

**IAS 3392. Topics in South Asian Religions: Tantric Traditions of South Asia**

*Same as Re St 3392.*

**IAS 3400. History of World Cinema**

*Same as Film 340.*

**A&S CD, TH FA AH**

**IAS 3401. Chinese Art and Culture**

*Same as Art-Arch 3401.*

**A&S CD, TH FA AH**

**IAS 3402. German Literature and the Modern Era**

*Same as German 340C.*

**A&S CD, TH FA Lit**

**IAS 3403. Topics in Politics**

*Same as Pol Sci 340.*

**A&S SS FA SSP**

**IAS 3410. Literature of Early and Imperial China**

*Same as Chinese 341.*

**A&S CD, SD, TH FA Lit**

**IAS 3411. Problems of Political, Legal, and Social Ethics**

*Same as Phil 341.*

**A&S TH**

**IAS 342. Literature of Modern and Contemporary China**

*Same as Chinese 342.*

**A&S CD, SD, TH FA Lit**

**IAS 3420. The Archaeology of Ancient China**

*Same as Art-Arch 3420.*

**A&S TH FA AH**

**IAS 3423. Ancient Worlds to Contemporary Practice**

*Same as Art-Arch 3423.*

**A&S TH**

**IAS 343. Text, Memory, and Identity**

*Same as Educ 343, Anthro 3431.*

This course will explore issues of collective memory and identity through the study of texts such as national myths and official histories taught in schools. The focus will be on texts themselves and how they are produced (e.g., by the state, popular culture) and consumed. The course will have two components: methodological and analytical. In the first, we will read a number of theoretical works devoted to definitions of the text from a historical and structural point of view. In the second, we will analyze various key works that have played a crucial role in the formation of communities of memory and identity and the borders that separate them. The course will be comparative, multidisciplinary, and international in its scope. Credit 3 units.

**A&S TH**

**IAS 344. Introduction to European Studies**

*Same as EuSt 344, History 3441.*

This course focuses on Europe since 1945, but it uses a historical approach to discuss the experiences, traditions, and ideas that have created contemporary European civilization. Students will spend the final weeks examining the European Union, but most of the semester will be spent on topics that reveal the nature of European civilization. Topics will include demography, religion, human rights, economic traditions, varieties of parliamentary government, labor and democratic socialism, and minority cultures and diversity. The approach used will be the analysis and discussion of historical texts and documents; these materials will not be limited to the contemporary era, but will stretch across several centuries. Course is highly recommended for IAS students in the European Studies track. Credit 3 units.

**A&S CD, TH**

**IAS 3453. Modern Germany**

*Same as History 3450.*

**A&S TH**

**IAS 3461. Zen Buddhism**

*Same as Re St 3461.*

**A&S TH FA SSP**

**IAS 350. Israeli Culture and Society**

*Same as JNE 350.*

**A&S CD, SD, TH FA SSP**

**IAS 3500. The 19th-Century Russian Novel**

*Same as Russ 350C.*

**A&S SD, TH, WI FA Lit**

**IAS 3501. Politics, Economics, and Welfare**

*Same as Econ 350.*

**A&S SS FA SSP**

**IAS 3520. Literature of Modern and Contemporary Korea**

*Same as Korean 352.*

**A&S CD, SD, TH**

**IAS 3521. Introduction to Postcolonial Literature and Theory**

*Same as E Lit 3520.*

**A&S CD, SD, TH**

**IAS 3522. Topics in Literature**

*Same as E Lit 3522.*

**A&S TH FA Lit**

**IAS 3550. Topics in Korean Literature and Culture**

*Same as Korean 355.*

**A&S CD, SD, TH**

**IAS 3552. Modern France Since 1870**

*Same as History 3552.*

**A&S TH**

**IAS 3553. Revolution and Empire: Modern France to 1870**

*Same as History 3553.*

**A&S TH**

**IAS 3560. Topics in Politics: Latin-American Politics Through Film**

*Same as Pol Sci 3561.*  
**A&S SS**

**IAS 356C. 20th-Century Russian History**

*Same as History 356C.*  
**A&S TH FA SSP**

**IAS 357B. Gender and Politics in Global Perspective**

*Same as Pol Sci 357B.*  
**A&S SD, SS FA SSP**

**IAS 3581. Chinese Art and Culture**

*Same as Art-Arch 3580.*  
**A&S TH**

**IAS 359. Topics in European History: Modern European Women**

*Same as History 359.*  
**A&S TH FA SSP**

**IAS 360. Directed Readings in International and Area Studies**

These courses are designed to offer a greater breadth for IAS majors in disciplines that typically require prerequisites at the advanced level. To be granted credit toward the IAS major, students must complete additional work as determined by the instructor. Credit 3 units.  
**A&S TH**

**IAS 361. Culture and Environment**

*Same as Anthro 361.*  
**A&S SS FA SSP**

**IAS 3612. Population and Society**

*Same as Anthro 3612.*  
**A&S SS**

**IAS 365. Theater Culture Studies III: Melodrama to Modernism**

*Same as Drama 365C.*  
**A&S TH FA Lit, SSP**

**IAS 366. Women in Film: From the Silent Feminists to *Thelma and Louise***

*Same as Film 366.*  
**A&S SD, TH**

**IAS 3670. Gurus, Saint, and Scientists: Religion in Modern South Asia**

*Same as Re St 3670.*  
**A&S CD, TH**

**IAS 3680. The Cold War: 1945–1991**

*Same as History 3680.*  
**A&S TH FA SSP**

**IAS 3681. Language and Society in Africa**

*Same as AFAS 368.*  
**A&S SS**

**IAS 3690. Politics of International Trade**

*Same as Pol Sci 3690.*  
**A&S SS**

**IAS 3691. Kill Assessment: An Investigation into Death, Genocide, and Other Forms of Violence**

*Same as Anthro 3691.*  
**A&S SS**

**IAS 372. Topics in International Politics: Global Political Economy**

*Same as Pol Sci 372.*  
**A&S SS FA SSP**

**IAS 373. International Political Economy**

*Same as Pol Sci 373.*  
**A&S SS FA SSP**

**IAS 3731. History of U.S. Foreign Relations to 1914**

*Same as History 373.*  
**A&S TH FA SSP**

**IAS 3741. History of U.S. Foreign Relations Since 1950**

*Same as History 3741.*  
**A&S TH FA SSP**

**IAS 375. Screening the Holocaust**

*Same as Film 375.*  
**A&S TH FA AH**

**IAS 3750. Topics in Russian Culture**

*Same as Russ St 375, EuSt 3750, Russ 375.*

Selected fiction, poetry, memoiristic literature, and journalism from the medieval period to the current war in Chechnya, with forays into pictorial arts and film; all considered in cultural and historical context. Key episodes in stories that have defined and redefined national identity in conflict with other peoples; shifting paradigms of heroism; militant provocations and profound arguments for pacifism; literary conventions, clichés, and meta-physical abstractions. All readings in translation. Credit 3 units.

**A&S TH, WI**

**IAS 3772. International Political Economy**

*Same as Econ 377.*  
**A&S SS FA SSP**

**IAS 3781. Topics in Politics: Israeli Politics**

*Same as Pol Sci 3781.*  
**A&S CD, SS FA SSP**

**IAS 3782. Topics in Comparative Politics: Terrorism and Political Violence**

*Same as Pol Sci 3782.*  
**A&S SS**

**IAS 3802. Sacred Shrines and Holy Places**

*Same as Re St 3802.*  
**A&S CD, TH FA SSP**

**IAS 382. Latin-American DissemiNations: Migrations and Identities in the 20th and 21st Centuries**

*Same as LatAm 382, AMCS 3820.*

Latin America has been, historically, a region defined by its migrations. Throughout its history, Latin America has received waves of immigrants from around the world and has been the site both of internal migrations (country to city and country to country) and a considerable diaspora that has created new communities in the United States and Europe. Through the reading of fiction, film, art, and memoirs, this class seeks to study the cultural impact that different waves of migration has had both in the establishment of political and imaginary borders and in the constitution of new national, regional, and transnational identities. The class approaches case studies that encompass the effect of internal migrations in the region (such as the racial politics of Bolivian immigration to Argentina), the social redefinitions of Latin American countries due to new waves of immigrants (such as the increasing Asian immigration to Panama), the articulation of a Latin-America in exile (for instance, through the experiences of exiles from the Southern Cone dictatorships), and the construction of new “Latino” identities in the United States and Europe (such as the debates around Chicano identity constructed on the works of Gloria Anzaldúa and Richard Rodríguez), among others. Through these case studies, students not only get snapshots of different “Latin-American Crossings,” but also tackle the question of new, fluid notions of Latin-American culture and identity, as well as changing notions of race, ethnicity, class, and gender, as they are being redefined in the contemporary world. Prerequisite: IAS 165C (Survey of Latin-American Culture). Credit 3 units.

**A&S SD, TH**

**IAS 383. Reading the Scores: Understanding Brazilian Music Through Social Categories**

*Same as Anthro 3831, LatAm 383, Music 319, URST 383.*

This course will examine Brazilian culture and history through the lens of music and music-making. This final term “music-making” will be a key term throughout the semester, as, for the purposes of this course, our interest in music is social and cultural. That is to say, we will concern ourselves with sound production as a contextualized social activity, not simply notes and arrangements printed on the page. We will discuss various genres of music—from folk to pop to traditional to elite “classical” pieces. Fundamentally speaking, this is a Writing-Intensive course, which means that we will dedicate a significant amount of time and energy to the task of writing (a lot of revising and editing) about music and culture. Credit 3 units.

**A&S SS, WI**

**IAS 3831. Art in the Age of Revolution, 1789–1848**

*Same as Art-Arch 3831.*  
**A&S TH FA AH**

**IAS 3833. Realism and Impressionism**

*Same as Art-Arch 3833.*  
**A&S TH FA AH**

**IAS 3838. Modern Art in Fin-de-Siècle Europe, 1880–1907**

*Same as Art-Arch 3838.*  
**A&S TH**

**IAS 385. Cultural Difference**

*Same as French 385.*  
**A&S TH FA SSP**

**IAS 3872. The History of Modern Britain**

*Same as History 3872.*  
**A&S TH**

**IAS 3874. An Embarrassment of Riches: 19th-Century Britain**

*Same as History 3874.*  
**A&S TH**

**IAS 3878. Britain and Its Empire From 1688 to 1870**

*Same as History 3878.*  
**A&S TH**

**IAS 3879. Britain and Its Empire Since 1870**

*Same as History 3879.*  
**A&S TH**

**IAS 3880. The Russian Revolution**

*Same as History 3880.*  
**A&S TH, WI**

**IAS 3881. Women, Men, and Gender in Africa**

*Same as History 38A8.*  
**A&S CD, TH, WI**

**IAS 3882. The Chinese Diaspora**

*Same as History 39B8.*  
**A&S CD, TH, WI**

**IAS 3891. East Asia Since 1945: From Empire to Cold War**

*Same as History 3891.*  
**A&S CD, TH**

**IAS 3892. Modern Sculpture: Canova to Koons**

*Same as Art-Arch 3892.*  
**A&S TH**

**IAS 3920. South Asian Traditions in Practice: Ritual, Spectacle, Self**

*Same as Re St 392.*  
**A&S CD, TH**

**IAS 395C. African Civilization: 1800 to the Present**

*Same as AFAS 322C.*  
**A&S CD, TH FA SSP**

**IAS 398. Rivers: A Comparative Approach to Chinese and World History, 1500–1900***Same as History 39S8.*

A&amp;S TH, WI

**IAS 399. To Russia and Return: Travel, Literature, and History***Same as History 39X9.*

A&amp;S TH, WI

**IAS 400. Independent Study**

Prerequisite: permission of the director of the International and Area Studies program. All tracks. Credit variable, maximum 3 units.

**IAS 401. Urban Education in Multiracial Societies***Same as URST 400.*

A&amp;S SS, WI

**IAS 402. ANELL Senior Seminar: Translation***Same as ANELL 400.*

A&amp;S CD, TH

**IAS 402. The Meaning of National Security in the 21st Century***Same as IA 4021, Russ St 402, Anthro 4021, Pol Sci 4024.*

The 21st century has brought new challenges to national security. Standard assumptions about nations and the borders that separate them have been brought into question, and one of the results of this is that the very meaning of national security is undergoing change. Instead of threats to security coming from outside national boundaries, they now often exist within and across borders. This course focuses on contemporary ideas about these issues. It includes a brief overview of current discussions of national security, but it is primarily devoted to examining the conceptual resources we have for making sense of national security in a new world. Credit 3 units.

A&amp;S SS

**IAS 403. Topics in East Asian Religions: Revisioning Japanese Religions***Same as Re St 403.*

A&amp;S CD, TH

**IAS 404. Germany Today***Same as German 404.*

A&amp;S CD, TH FA SSP

**IAS 404. Islam and Politics***Same as Anthro 4041.*

A&amp;S CD, SS FA SSP

**IAS 404. Islam Across Cultures***Same as Anthro 4042.*

A&amp;S CD, SS FA SSP

**IAS 404. Competing Ideologies and Nationalisms in the Arab–Israeli Arena***Same as JNE 4042.*

A&amp;S SS

**IAS 404. The Politics of Secularism***Same as Anthro 4044.*

A&amp;S SS

**IAS 405. Diaspora in Jewish and Islamic Experience***Same as JNE 405.*

A&amp;S TH

**IAS 405. Democracy and Society***Same as Pol Sci 405.*

A&amp;S SS FA SSP

**IAS 407. Global Justice***Same as Pol Sci 4070.*

A&amp;S SS

**IAS 409. Gender, Sexuality, and Change in Africa***Same as AFAS 409.*

A&amp;S SD, SS, WI FA SSP

**IAS 410. German Literature and Culture, 1750–1830***Same as Ger 4101.*

A&amp;S CD, TH, WI FA Lit

**IAS 410. Studies in Genre***Same as Ger 4104.*

A&amp;S CD, TH, WI FA SSP

**IAS 410. Topics in German Studies***Same as Ger 4105.*

A&amp;S CD, TH, WI FA SSP

**IAS 411. Afghanistan: Microcosm of International Crisis***Same as Pol Sci 4111.*

Afghanistan is at the center of the so-called “war on terror”; it is testing the solidarity of the NATO alliance; it shares complicated relationships with Iran, Pakistan, and Russia; it produces most of the world’s heroin; and U.S. policies there are inextricably tied to policies in Iraq. In this course, former special U.S. Ambassador to Afghanistan Thomas Schweich analyzes the prospects for success in this complicated, dangerous country; he asks students to help develop a road map for future U.S. involvement in Afghanistan. Credit 3 units.

A&amp;S SS

**IAS 413. The AIDS Epidemic: Inequalities, Ethnography, and Ethics***Same as Anthro 4134.*

A&amp;S SD, SS

**IAS 414. Readings in Classical Chinese***Philosophy**Same as Chinese 414.*

A&amp;S CD, TH

**IAS 415. Colonial South Asia: Society and Politics in British India***Same as History 4153.*

A&amp;S SD, TH FA SSP

**IAS 415. Postcolonial South Asia: Nations, Cultures, and Identities***Same as History 4154.*

A&amp;S SD, TH

**IAS 417. Topics in African History: Middle Passages: African Americans and South Africa***Same as AFAS 417.*

A&amp;S CD, TH

**IAS 418. Gender and Sexuality in East Asian Religions***Same as Re St 418.*

A&amp;S CD, SD, TH

**IAS 419. Tragedy and Farce in African Francophone Literature***Same as French 4192.*

A&amp;S TH

**IAS 420. Islam, Immigrants, and the Future of European Culture***Same as JNE 4201.*

Coming from Turkey, North and West Africa, Pakistan, and elsewhere, Muslim immigrants in Europe are changing what it means to be a European. In the process, they have brought questions of cultural identity into the international media. Examining literature, the press, and secondary studies, this writing-intensive course will study the ways in which national governments and institutions have chosen to deal with the arrival of large numbers of Muslims as permanent residents. We will consider what the various controversies and prejudices surrounding their presence mean for the future of European culture. Such issues as citizenship, assimilation, the right to cultural difference, and the use of cultural and religious symbols will be among our major interests. No foreign language background is assumed. Priority will be given to IAS majors for this writing-intensive course. Credit 3 units.

A&amp;S TH, WI

**IAS 422. Europe, An Imagined Community: Identity Discourses Since 1750 in Literature, Thought, Art, and Politics***Same as Comp Lit 4690, EuSt 422.*

Nation-states and their cultures have been changed by globalization. Within this process, continentalization has played an important role. The European Union is only half a century old, but continental unity has been discussed and demanded by European writers and thinkers for hundreds of years. We will read essays and poems on Europe (its identity, its cultural diversity and its cultural roots, contemporary problems, and future goals) by writers such as Coleridge, Madame de Staël, Novalis, Chateaubriand, Heine, Nerval, Hugo, Thomas Mann, Ernst Jünger, T.S. Eliot, Klaus Mann, de Madariaga, Kundera, Enzensberger, Frischmuth, and Drakulic; we will discuss studies re-inventing Europe by philosophers such as the Abbé de Saint-Pierre, Kant, Hegel, Nietzsche, and Ortega y Gasset; we will deal with the mythological figure of Europa and her resurrections in the world of art; we will study the Nazarene painters of the early 19th century in Rome and discuss portraits of Bonaparte by French painters of the time. Credit 3 units.

A&amp;S CD, TH

**IAS 423. Western Economic History***Same as Econ 423.*

A&amp;S SS FA SSP

**IAS 423. Contemporary Issues in Latin America***Same as Pol Sci 4231.*

A&amp;S SS FA SSP

**IAS 424. Topics in Comparative Politics: Nonformal Politics***Same as Pol Sci 424.*

A&amp;S SS FA SSP

**IAS 424. Social Movements***Same as Anthro 4242.*

A&amp;S CD, SD, SS FA SSP

**IAS 424. ‘Terrorism’ and ‘The Clash of Civilization’***Same as Anthro 4243.*

A&amp;S CD, SS

**IAS 425. Senior Project Seminar**

In this course, students undertake supervised research as part of their capstone experience, which may take the form of a senior project or an honors thesis. Seniors who choose to do their capstone experience in International and Area Studies enroll for this course in the spring semester. Students who are writing an honors thesis are encouraged to enroll in at least one independent study course prior to this as well. At the end of the semester, all students participate in a poster session in which they present the results of their projects and discuss the implications of their work for future research. All tracks. Credit variable, maximum 3 units.

A&amp;S SS

**IAS 425. Researching Fertility, Mortality, and Migration***Same as Anthro 4253.*

A&amp;S SS, WI

**IAS 426. Latin American Theater***Same as Span 426.*

A&amp;S SD, TH FA AH

**IAS 426. Economic Systems in Theory and Practice***Same as Econ 426.*

A&amp;S SS FA SSP

**IAS 426. Racialization, Engendering, and Articulation: Theories of Identity Formation***Same as Anthro 4262.*

A&amp;S SS

**IAS 4272. Topics in Comparative Politics***Same as Pol Sci 4271.***A&S** SS, WI **FA** SSP**IAS 4274. Palestine, Israel, and the****Arab-Israeli Conflict***Same as History 4274.***A&S** TH**IAS 4280. Spanish-American "Traditional"****Novel***Same as Span 4281.***A&S** SD, TH **FA** Lit**IAS 4281. Comparative Political Parties***Same as Pol Sci 4281.***A&S** SS **FA** SSP**IAS 4282. Political Ecology***Same as Anthro 4282.***A&S** SS **FA** SSP**IAS 4284. The New Sicilian School***Same as Ital 428.***A&S** TH **FA** Lit**IAS 430. Latin-American Essay***Same as Span 430.***A&S** TH **FA** Lit**IAS 431. Latin-American Poetry I***Same as Span 431.***A&S** TH **FA** Lit**IAS 4322. Topics in Comparative Politics:****Comparative Democratic Bureaucracies***Same as Pol Sci 432.***A&S** SS **FA** SSP**IAS 4323. Latin-American Poetry II***Same as Span 432.***A&S** TH **FA** Lit**IAS 4324. Divergent Voices: Italian Women****Writers***Same as Ital 432.***A&S** SD, TH, WI **FA** Lit**IAS 4330. Literature of the Italian****Enlightenment***Same as Ital 433.***A&S** TH, WI **FA** Lit**IAS 4335. Topics in Comparative Politics:****States and Markets in Comparative****Perspectives***Same as Pol Sci 4335.***A&S** SS **FA** SSP**IAS 4352. Open Economy Macroeconomics***Same as Econ 435.***A&S** SS **FA** SSP**IAS 4362. Local Genders, Global****Transformations***Same as Anthro 4362.***A&S** SS **FA** SSP**IAS 4370. Global Feminisms***Same as WGSS 437.***A&S** SD, SS**IAS 4371. Caffe, Cadavers, Comedy and****Castrati: Italy and the Age of the Grand Tour***Same as Ital 437.***A&S** TH**IAS 4372. Contemporary Korean I: Topics in****Korean Literature and Culture***Same as Korean 437.***A&S** LA**IAS 4380. Contemporary Korean II: Topics in****Korean Literature and Culture***Same as Korean 438.***A&S** LA**IAS 442. European Intellectual History:****1789–1890***Same as History 442.***A&S** TH **FA** SSP**IAS 4422. History, Memory, and Collective****Identities***Same as History 4422.***A&S** TH **FA** SSP**IAS 4425. European Cultures: Victorian****England to Weimar Germany***Same as History 4425.***A&S** TH**IAS 443. European Intellectual History:****1890–1930***Same as History 443.***A&S** TH **FA** SSP**IAS 444. European Intellectual History,****1930–2000***Same as History 444.***A&S** TH **FA** SSP**IAS 4442. The Jewish Experience in Eastern****Europe***Same as History 4442.***A&S** CD, TH **FA** SSP**IAS 4446. European Social History: 1750–1930***Same as History 4446.***A&S** TH**IAS 4450. Japanese Fiction***Same as Japan 445.***A&S** CD, TH, WI **FA** Lit**IAS 446. The Japanese Theater***Same as Japan 446.***A&S** CD, SD, TH **FA** Lit**IAS 4470. Japanese Film***Same as Japan 447.***A&S** TH **FA** Lit**IAS 4471. Spanish-American Women Writers I***Same as Span 4471.***A&S** SD, TH **FA** Lit**IAS 4472. Spanish-American Women Writers II***Same as Span 4472.***A&S** SD, TH **FA** Lit**IAS 448. Japanese Poetry***Same as Japan 448.***A&S** TH **FA** Lit**IAS 4485. Topics in Irish Literature***Same as E Lit 4485.***A&S** TH**IAS 4490. Modern Japanese Women Writers:****Madame Butterfly's Delinquent Daughters***Same as Japan 449.***A&S** CD, SD, TH, WI**IAS 4494. The Production of East Asian Art:****When Materials Become Media: Bronze, Silk,****and Porcelain***Same as Art-Arch 4493.***A&S** TH**IAS 449C. Imperial Russia***Same as History 449C.***A&S** TH **FA** SSP**IAS 4517. Anthropology and Development***Same as Anthro 4517.***A&S** SS, WI**IAS 452. Immigration, Identity, and New****Technology***Same as Pol Sci 4510, AMCS 4521.*

This course examines how immigration is being transformed by changes in information and communication technology. With these new technolo-

gies, immigrants can stay in contact with family and friends much more easily, travel to and maintain relationships in their home countries, and form bonds with other immigrants in the new country. How do these changes affect how immigrants view themselves in their new countries? Are they more or less likely to settle permanently? Do they change their patterns of political participation? We will answer these and other questions using literature from sociology, communication, psychology, anthropology, and political science. Students will be expected to explore Internet sources as well as traditional materials. Credit 3 units.

**A&S** SD, SS**IAS 4533. Narratives of Fear: Violence in****Latin-American Literature***Same as Span 4533.***A&S** TH**IAS 4560. English Novel of the 19th Century***Same as E Lit 456.***A&S** TH **FA** Lit**IAS 4562. Science and Empire***Same as History 4562.***A&S** TH**IAS 457. Gender and Modernity in Latin****America***Same as LatAm 457, WGSS 457.*

The purpose of this course is to introduce students to the particular forms modernity assumes in Latin-American countries and to the ways in which national cultures, identity politics, and gender issues interweave during the 20th century. The course will discuss three particular articulation of this topic: 1) Gender and the national question in Argentina: Eva Peron; 2) Gender and Visual Arts: Frida Kahlo; and 3) Gender and Ethnicity: Rigoberta Menchu. Through these iconic figures, students will be introduced to the specific features that characterized three very different but representative cultural scenarios in Latin America. In each case, the context for the emergence of these highly influential public figures will be studied from historical, social, and cultural perspectives. In order to explore the cultural and political significance of Eva Peron, Frida Kahlo, and Rigoberta Menchu, the course will utilize literary texts (speeches, letters, diaries, etc.), visual materials (photography, films, and paintings), and critical bibliography. Credit 3 units.

**A&S** TH**IAS 4580. British History: Beyond the****Beatles—Britain in the 1960s***Same as History 4580.***A&S** TH**IAS 459. Major Film Directors***Same as Film 458.***A&S** TH**IAS 460. Postmodern Narratives in Latin****America***Same as LatAm 460.*

This course will analyze some critical and theoretical texts on modernity/postmodernity, as well as representative novels and films of the post-boom era that illustrate the topics of urban violence, sexuality, and marginality in several Latin-American countries. Credit 3 units.

**IAS 461. Latin-American Cultural Studies:****Critical and Theoretical Approaches***Same as LatAm 461.*

The goal of the course is to provide students with critical and theoretical tools that could be used for the analysis of Latin-American cultural history from a transdisciplinary perspective, from colonial times to the present. Some of the concepts to be

discussed in class are: colonialism and coloniality, national culture, dependency theory, cultural antropofagia, lettered city, miscegenation, heterogeneity, hybridity, transculturation, peripheral modernity, media and mediation, postmodernity, postcoloniality, and collective memory. Credit 3 units.

**A&S TH**

**IAS 4610. English Literature Seminar in Postcolonial Studies: Caribbean Literature in English**

*Same as E Lit 461.*

**A&S TH FA Lit**

**IAS 4615. Caricature: The Culture and Politics of Satire**

*Same as Art-Arch 4615.*

**A&S TH**

**IAS 462. Latin America and the West**

*Same as LatAm 462.*

From the perspective of postcolonial theory, the course will cover different aspects related to Latin America's cultural history, from the discovery to the present. Some of the issues to be discussed in class are: the colonial encounter, Baroque culture and the emergence of Creole societies in the "New World;" the connections between Enlightenment and nationalism, as well as the interweaving of "coloniality" and modernity. Prerequisite: IAS 165C (Survey of Latin-American Culture) or an advanced-level course on Latin America. Credit 3 units.

**A&S TH**

**IAS 463. Seminar on Urban Cultures in Latin America**

*Same as URST 4631, LatAm 463.*

The course will focus on the key role urban development and urban cultures have had in Latin America with particular emphasis on contemporary times. The goal of the course is to discuss the connections between the formation and expansion of cities, the definitions of citizenship, and the role of modernity in the development of "high" and "popular" cultures within different historical and geocultural contexts. Particular attention will be paid to the issues of race, class, and gender. The course, which will use an interdisciplinary and comparative approach, also will focus on the phenomena of marginality, cultural resistance, nationalism, and consumerism, as well as on the role played by the media in contemporary Latin-American societies. Some of the cultural expressions to be analyzed in the course are music (rock, pop, rap), sports, film, and video. Prerequisite: IAS 165C (Survey of Latin-American Culture). Credit 3 units.

**A&S TH**

**IAS 464. Nation and Desire in Latin America**

*Same as LatAm 464.*

The purpose of this course is to analyze the process of nation formation in Latin America, since the imaginaries of the "Creole nation" to the first half of the 20th century. Class discussion will encompass the study of theories on nation formation and nationalism, as well as textual representations of national projects, such as Simon Bolivar's letters and discourses, selections from Facundo; *Civilization and Barbarism* by Domingo F. Sarmiento; selected texts by Andres Bello, Alfonso Reyes, et al; *Ariel*, by J. E. Rodo; Pedro Henriquez Urena's *Seis ensayos en busca de nuestra expresion*; Jose Vasconcelo's *La raza cosmica*; Jose Carlos Mariategui's *Siete ensayos de interpretacion de la realidad peruana*; Jose Marti's "Nuestra America" and other essays. Some of the main topics to be discussed are the leading role of Creole elites in the consolidation of national cultures; the marginalization of women as well as indigenous and Afro-Hispanic populations; and the

role of nationalism in the shaping of modern societies. Colonialism, Occidentalism, liberalism, positivism, nationalism, and modernity are some of the concepts that will be explored both theoretically and in their particular discursive usages. Finally, the concept of nation(alism) will be studied as a political/rhetorical device and as the resulting expression of agency, interest, and desire in peripheral societies. Credit 3 units.

**A&S TH**

**IAS 4641. Japanese Textual Analysis**

*Same as Japan 464.*

**A&S LA**

**IAS 467. The Chinese Theater**

*Same as Chinese 467.*

**A&S CD, SD, TH FA AH**

**IAS 4675. Beyond the Harem: Women, Gender, and Revolution**

*Same as History 4675.*

**A&S CD, SD, TH**

**IAS 469. East Asian Feminisms**

*Same as East Asia 469.*

**A&S SD, TH**

**IAS 4700. Readings in Chinese Literature**

*Same as Chinese 470.*

**A&S TH FA Lit**

**IAS 4710. Topics in Modern Arabic Literature in Translation: Modern Arabic Narratives: Self, Society, and Culture**

*Same as Arab 471.*

**A&S TH FA Lit**

**IAS 4711. Topics in Japanese Culture**

*Same as East Asia 471.*

**A&S TH FA SSP**

**IAS 4712. Topics in Religious Studies: Gender and Religion in China**

*Same as Re St 4711.*

**A&S TH FA SSP**

**IAS 4713. Development Economics**

*Same as Econ 471.*

**A&S SS**

**IAS 4730. Political Economy of Multinational Enterprises**

*Same as Pol Sci 4730.*

**A&S SS**

**IAS 4735. Modeling the Second World War**

*Same as History 4735.*

**A&S TH**

**IAS 4752. Topics in International Politics**

*Same as Pol Sci 475.*

**A&S SS FA SSP**

**IAS 4753. International Trade**

*Same as Econ 475.*

**A&S SS FA SSP**

**IAS 476. Reading Seminar in Chinese**

*Same as Chinese 476.*

**A&S TH FA Lit**

**IAS 4761. Politics of International Finance**

*Same as Pol Sci 4761.*

**A&S SS FA SSP**

**IAS 479. Reading Seminar in Modern Chinese Literature**

*Same as Chinese 479.*

**A&S CD, TH FA Lit**

**IAS 4790. Seminar in Religious Studies: Engendering Religious Studies**

*Same as Re St 479.*

**A&S SD, TH**

**IAS 4791. Topics in Politics: Political Economy of Development**

*Same as Pol Sci 4791.*

**A&S SS FA SSP**

**IAS 4792. Globalization and National Politics**

*Same as Pol Sci 4792.*

**A&S SS FA SSP**

**IAS 480. Topics in International Politics: Growth and Development**

*Same as Pol Sci 480.*

**A&S SS FA SSP**

**IAS 4801. Reading Seminar in Popular Literature and Culture: Writing Stories in Late Imperial China**

*Same as Chinese 480.*

**A&S TH FA Lit**

**IAS 481. Reading Seminar in Religion and Chinese Literature**

*Same as Chinese 481.*

**A&S TH FA Lit**

**IAS 4816. Art and Culture in Fin-de-Siècle Europe**

*Same as Art-Arch 4816.*

**A&S TH FA AH**

**IAS 482. Reading Seminar in Gender and Chinese Literature**

*Same as Chinese 482.*

**A&S TH FA Lit**

**IAS 484. Core Seminar in East Asian Studies**

*Same as East Asia 484.*

**A&S CD, TH FA SSP**

**IAS 4842. The Japanese Empire in Asia, 1874-1945**

*Same as History 4842.*

**A&S CD, TH**

**IAS 4844. Women and Confucian Culture**

*Same as History 4844.*

**A&S CD, TH**

**IAS 4864. Exoticism and Primitivism in Modern Art**

*Same as Art-Arch 4864.*

**A&S TH FA AH**

**IAS 4872. Colonial Cities and the Making of Modernity**

*Same as History 4872.*

**A&S CD, TH FA SSP**

**IAS 4882. Anthropology and Public Health**

*Same as Anthro 4882.*

**A&S SS FA SSP**

**IAS 4883. The Political Economy of Health**

*Same as Anthro 4883.*

**A&S SS FA SSP**

**IAS 489. Topics in Modern Chinese Literature**

*Same as Chinese 489.*

**A&S TH FA Lit**

**IAS 4892. Advanced Seminar in History: Latin America and the United States in the 20th Century**

*Same as History 4890.*

**A&S TH FA SSP**

**IAS 4895. Cities of the Past Future: Literary Institutions and Peripheral Modernity in the Latin-American Avant-Garde**

*Same as Span 489.*

**A&S TH**

**IAS 4910. Topics in Islam: Conceptualizing Islam**

*Same as Re St 490.*

**A&S TH**

**IAS 4912. The Nativist Dimension in Modern Japanese Culture***Same as East Asia 4911.*

A&amp;S TH

**IAS 4914. Advanced Seminar in History: Japan in WWII, History and Memory***Same as History 4914.*

A&amp;S TH FA SSP

**IAS 4918. Postmodernism***Same as Ital 491.*

A&amp;S TH, WI

**IAS 4920. The Italian Detective Novel***Same as Ital 492.*

A&amp;S TH, WI FA Lit

**IAS 4952. Seminar in Comparative Literature: 19th-Century European Novel: Ambition and Desire***Same as Comp Lit 495.*

A&amp;S TH FA Lit

**IAS 4960. Advanced Seminar in History: Self-Interest and Self-Development in the Liberal Tradition***Same as History 4961.*

A&amp;S TH FA SSP

**IAS 4967. Advanced Seminar in History: Migration and Travel in China***Same as History 4967.*

A&amp;S TH

**IAS 4970. Guided Readings in Korean***Same as Korean 497.*

A&amp;S LA

**IAS 4979. Advanced Seminar in History: Gender, Race, and Class in South Africa, 1880–Present***Same as History 4979.*

A&amp;S SD, TH

**IAS 4981. Advanced Seminar in History: Historical Perspectives on Human Rights and Globalization***Same as History 4981.*

A&amp;S TH

**IAS 4982. Advanced Seminar in History: Women and Confucian Culture in Early Modern East Asia***Same as History 4982.*

A&amp;S TH

**IAS 4988. Advanced Seminar in History: The French Revolution***Same as History 4988.*

A&amp;S TH

**IAS 499. Guided Readings in Japanese***Same as Japan 499.*

A&amp;S LA

**IAS 4994. Advanced Seminar in History: Religion and Society in Modern Europe, 1750–1930***Same as History 4994.*

A&amp;S TH

**IAS 4996. Advanced Seminar in History: Islam in China***Same as History 4996.*

A&amp;S CD, TH

## Jewish, Islamic, and Near Eastern Studies

**Director and Associate Professor of Hebrew Bible and Biblical Hebrew  
Pamela Barmash**

(Asian and Near Eastern Languages and Literatures)

Ph.D., Harvard University

**Endowed Professors****John R. Bowen**

Dunbar–Van Cleve Professor in Arts &amp; Sciences

(Anthropology)

Ph.D., University of Chicago

**Hillel J. Kieval**

Gloria M. Goldstein Professor of Jewish History and Thought

(History)

Ph.D., Harvard University

**Professors****Lois Beck**

(Anthropology)

Ph.D., University of Chicago

**Robert L. Canfield**

(Anthropology)

Ph.D., University of Michigan

**Gerald N. Izenberg**

(History)

Ph.D., Harvard University

**Ahmet T. Karamustafa**

(History and Religious Studies)

Ph.D., McGill University

**Fatemeh Keshavarz**

(Asian and Near Eastern Languages and Literatures)

Ph.D., University of London

**Timothy H. Parsons**

(History and African and African American Studies)

Ph.D., Johns Hopkins University

**Joseph Schraibman**

(Romance Languages)

Ph.D., University of Illinois at Urbana–Champaign

**Itai Sened**

(Political Science)

Ph.D., University of Rochester

**Associate Professors****Nancy E. Berg**

(Asian and Near Eastern Languages and Literatures)

Ph.D., University of Pennsylvania

**Martin Jacobs**

(Asian and Near Eastern Languages and Literatures; Jewish, Islamic and Near Eastern Studies)

Ph.D. and Habilitation, Free University of Berlin

**Erin McGlothlin**

(Germanic Languages and Literatures)

Ph.D., University of Virginia

**Mohaamed-Salah Omri**

(Asian and Near Eastern Languages and Literatures)

Ph.D., Washington University

**Jack Shapiro**

(Mathematics)

Ph.D., City University of New York

**Assistant Professors****Asad Ahmed**

(Asian and Near Eastern Languages and Literatures)

Ph.D., Princeton University

**Michael Frachetti**

(Anthropology)

Ph.D., University of Pennsylvania

**Seth Graebner**

(International and Area Studies; Romance Languages and Literatures)

Ph.D., Harvard University

**Tabea Alexa Linhard**

(Romance Languages and Literatures)

Ph.D., Duke University

**Nancy Reynolds**

(History)

Ph.D., Stanford University

**Lecturers****Housni Bennis**

Lecturer in Arabic Language

(Asian and Near Eastern Languages and Literatures)

Ph.D. candidate, Washington University

**Giore Etzion**

Senior Lecturer in Hebrew

(Asian and Near Eastern Languages and Literatures)

M.A., University of Michigan

**Cathleen Fleck**

Assistant Dean of the College of Arts &amp; Sciences and

Lecturer, Interdisciplinary Project in the Humanities

Ph.D., Johns Hopkins University

**Rami J. Pinsberg**

Senior Lecturer in Hebrew

(Asian and Near Eastern Languages and Literatures)

M.Ed., University of Missouri–St. Louis

**Younasse Tarbouni**

Lecturer in Arabic

(Asian and Near Eastern Languages and Literatures)

M.A., Carson-Newman College

**Mohammad Warsi**

Southeast Asian Languages and Literatures

(Asian and Near Eastern Languages and Literatures)

Ph.D. Aligarh Muslim University

**Professors Emeriti****Henry W. Berger**

(History)

Ph.D., University of Wisconsin

**Victor T. Le Vine**

(Political Science)

Ph.D., University of California–Los Angeles

**Joseph R. Rosenbloom**

(Jewish, Islamic, and Near Eastern Studies)  
D.H.L., Hebrew Union College

**Patty Jo Watson**

Edward Mallinckrodt Distinguished  
University Professor  
(Anthropology)

Ph.D., University of Chicago

Jewish, Islamic, and Near Eastern Studies is an interdisciplinary program whose purpose is to explore the historical experience; literary, religious, and cultural expression; and political and material life of the Jewish, Islamic and Near Eastern civilizations. Our program is unique in the United States because it integrates Islamic studies and Jewish studies. Whether you favor the study of language, literature, religion, history, or politics, you will find in our courses a way to deepen your appreciation of these complex and diverse societies and cultures. You will also be encouraged to explore the interaction of Jews and Muslims with neighboring societies and cultures in the Middle East, Europe, North Africa, and other parts of the world.

Our majors and minors have gone on to do many things after graduation. Many have entered professional schools in such fields as law, journalism, education, the ministry or rabbinate, government, and communal or social work. Others have gone on to do graduate work in either Jewish or Islamic studies or related disciplines. Still others have combined their interest in Jewish, Islamic, and Near Eastern studies with careers in business, medicine, or scientific research. All have found the major to have been an intellectually and emotionally rewarding experience and an important component of their overall development.

**The Major:** While the major emphasizes an integrated approach to the field, incorporating both Jewish and Islamic perspectives, students will be required to select one of two tracks: Jewish and Near Eastern Studies or Islamic and Near Eastern Studies. To complete a major in Jewish, Islamic, and Near Eastern Studies, a student must fulfill the following basic requirements:

- For Jewish and Near Eastern Studies: two years of Hebrew language.
- For Islamic and Near Eastern Studies: two years of Arabic language or Persian language.
- For all majors: JNE 208F: Introduction to Jewish Civilization and JNE 210C: Introduction to Islamic Civilization.

In addition, you must complete 21 units in the major at the 300 level or above, which includes:

- For Jewish and Near Eastern Studies: a minimum of 3 units in the Islamic experience.
- For Islamic and Near Eastern Studies: a minimum of 3 units in the Jewish experience.
- For all majors: a combined capstone course/senior seminar (normally 3 units). Required of all majors, even those writing an honors thesis.

- For all majors: of the remaining 15 units, students are strongly encouraged to take at least one course in history, one in literature or cultural studies, and one in religious studies.

Courses taken Pass/Fail may not count toward the major.

**The Minor:** Students wishing to minor in Jewish, Islamic, and Near Eastern Studies must complete 15 units in at least five courses, one of which must be JNE 208F: Introduction to Jewish Civilization, or JNE 210C: Introduction to Islamic Civilization.

At least nine units must be earned in courses at the 300 level or above. A maximum of six credit hours from language courses (Arabic, Hebrew, Persian) can be applied toward the minor. Please note that since 9 of the 15 units need to be at the 300 level or beyond for the minor, and because we also require either Islamic Civilization or Jewish Civilization, a student normally can apply three credits of first- or second-year language at most, and then possibly three more credits from higher language courses subject to the approval of his/her adviser.

A maximum of three units of lower-level course work and three units of advanced course work (300 level and above) may be applied toward the JINES minor from study abroad or from another university. Credit will only be awarded to those courses that have been approved by Washington University. No more than 3 units may be taken in Independent Study (JNE 500). Courses taken Pass-Fail may *not* count toward the minor.

**Study Abroad:** Students majoring in Jewish, Islamic, and Near Eastern Studies are encouraged to participate in the Washington University Study Abroad program. The University currently sponsors preapproved programs of study at the Hebrew University in Jerusalem, the University of Haifa, and the American University of Cairo. Study abroad options (which may require approval on a case-by-case basis) also exist for Prague (CET) and American University of Beirut (AUB). A maximum of nine units of advanced course work (300 level and above) may be applied toward the JINES major from study abroad or courses taken at another university. Credit will only be awarded to those courses that have been approved by the JINES study abroad adviser.

**Senior Honors:** Jewish, Islamic, and Near Eastern Studies majors who have a cumulative GPA of 3.5 or higher after six semesters are eligible to apply for candidacy for departmental senior honors. Once they receive departmental approval, candidates must satisfactorily complete a senior honors thesis in order to be recommended to the College for honors.

The senior honors thesis is a research project that is significantly larger than the usual term paper. It is usually about 50 to 60 pages long. In writing this thesis, the candidate is expected to make use of both primary and secondary sources and to demonstrate critical and analytic skills. The candidate also is encouraged to make use of any foreign language skills she/he may possess for

the research. Proper citation of sources and a clear and consistent stylistic format will be expected.

Candidates, in consultation with their advisers, should choose their area of interest and find an appropriate faculty member to serve as their thesis supervisor in the spring semester of their junior year. They then need to apply for the honors program in writing to the director of Jewish, Islamic, and Near Eastern Studies by September 1. The written application should contain a tentative description of the project, the supervisor's endorsement of the candidacy, and the candidate's unofficial transcript with the latest GPA clearly indicated. This early planning allows candidates to use the summer months to conduct preliminary research. Candidates must enroll in JNE 499: Independent Work for Senior Honors in both the fall and spring semesters of their senior year (normally for a total of six credit hours).

The responsibilities of the thesis supervisor include setting up regular meetings with the candidate, helping the candidate design a research and writing plan, monitoring the candidate's progress through meetings and periodic written drafts, and offering feedback in a timely fashion.

The responsibilities of the candidate include setting up regular meetings with the thesis supervisor, adhering to the research and writing plan jointly developed by the candidate and the supervisor, seeking out the supervisor for help when needed, and meeting agreed-upon deadlines and abiding by the guidelines outlined in the Statement of Student Academic Integrity.

The candidate needs to write a substantial progress report (a 20- to 30-page document with an outline of the thesis, a schedule of completion, and a bibliography) by the first day of the spring semester. No candidate will be allowed to continue the program unless this report is submitted on time and accepted as satisfactory by the supervisor. The student will receive a grade of I for the fall semester.

By the first week of March, candidates should submit a final draft of their thesis to their supervisor. The thesis will be evaluated by a committee of two faculty members, including the supervisor. It is extremely important that this draft be submitted on time: late submission will be sufficient cause for candidates to lose their chance to receive Honors.

Committee members may suggest revisions to the thesis. They will also decide whether to forward their recommendation to the director of Jewish, Islamic, and Near Eastern Studies that the candidate be awarded Honors.

By or before April 15, the candidate should submit the completed thesis, with revisions if necessary, to the program office. The final draft should be typed (please use 12-point font), double-spaced, with one-inch margins all around. It should be either bound or placed in a notebook, so that it may be shelved in the program office along with other theses and dissertations. The supervisor

will then submit the grade for both semesters of JNE 499.

Please note that awards of A.B. *cum laude*, *magna cum laude*, and *summa cum laude* currently require cumulative averages of 3.5, 3.65, and 3.8, respectively. Also, transfer students must have earned at least 60 graded units within the five residential undergraduate schools of the University prior to the final semester; grades earned at other institutions do not figure in the calculation of minimum averages required for eligibility for Honors.

## Undergraduate Courses

**JNE 105D. Beginning Modern Hebrew I**  
*Same as MHBR 105D.*  
A&S LA

**JNE 106D. Beginning Modern Hebrew II**  
*Same as MHBR 106D.*  
A&S LA

**JNE 107D. Beginning Arabic I**  
*Same as Arab 107D.*  
A&S LA

**JNE 108D. Beginning Arabic II**  
*Same as Arab 108D.*  
A&S LA

**JNE 111D. Beginning Hindi I**  
*Same as Hindi 111D.*  
A&S LA

**JNE 112D. Beginning Hindi II**  
*Same as Hindi 112D.*  
A&S LA

**JNE 116D. Beginning Persian I**  
*Same as Pers 116D.*  
A&S LA

**JNE 117D. Beginning Persian II**  
*Same as Pers 117D.*  
A&S LA

**JNE 151D. Advanced Beginning Modern Hebrew I**  
*Same as MHBR 151D.*  
A&S LA

**JNE 175. Discovering the Other and the Self: Jewish Travel Literature and Autobiographical Writing, 1200–1800**

Travel literature usually describes “other” places and peoples—otherness and the unfamiliar are its major themes. At the same time, travel writers reflect on notions of the self and the home. Autobiography is a representation of one’s self. However, the self can only be explored in relation to others. Reading early Jewish travel accounts and autobiographies from the Middle Ages to the 18th century, this class will address questions such as: How did premodern Jews perceive themselves in a world dominated by Christians and Muslims? Where did they locate themselves between East and West? Did Jewish travelers going from the lands of Christendom to those of Islam share certain “Western” perceptions of the Islamic world? How did a Jew from Renaissance Italy negotiate between Jewish and Italian identities? Were Egyptian Jews to him distant relatives, or ultimately foreigners, “Orientals”? How did a German Jewish businesswoman view her role within a rapidly changing, yet male-dominated society? All primary sources will be read in translation. In the course of their study, attention will be paid to peculiarities of literary genre and the problem of how to differentiate between fact and fiction. Throughout the semester, we will devote time to discussing practical questions such as how to use the library’s catalogue and (electronic) reference

sources, as well as techniques for structuring and writing students’ essays. Credit 3 units.

A&S CD, TH

**JNE 200. Internship**

For students with at least one course in Jewish, Islamic, and Near Eastern Studies who wish to do an internship. Prerequisite: permission of the director of the program. A “learning agreement” must be submitted and approved prior to beginning internship work. Credit 3 units.

**JNE 200I. Asian and Near Eastern Languages and Literatures**

*Same as ANELL 200.*

A&S CD, TH

**JNE 201I. Intermediate Hindi I**

*Same as Hindi 201.*

A&S LA

**JNE 202. Introduction to Religious Traditions I: Judaism, Christianity, and Islam**

*Same as Re St 202.*

A&S TH

**JNE 202I. Intermediate Hindi II**

*Same as Hindi 202.*

A&S LA

**JNE 205I. Literature and Film from Asia and the Near East**

*Same as ANELL 205.*

A&S CD, TH

**JNE 207D. Intermediate Arabic I**

*Same as Arab 207D.*

A&S LA

**JNE 208D. Intermediate Arabic II**

*Same as Arab 208D.*

A&S LA

**JNE 208F. Introduction to Jewish Civilization**  
*Same as History 208I, IAS 208, Re St 208F.*

This course is a selective survey of the historical, religious, cultural, literary, and political development of Judaism from antiquity to the present. Topics include the development of the Bible and subsequent textual tradition of Judaism, the basic concepts of Jewish religious thought, Jewish law, custom and ritual, and art. The course will highlight a variety of Jewish communities in different cultural and geographical settings, such as the Jews in the Roman Empire; Jewish life under medieval Islam and Christianity; and the Jewish experience in modern Europe, the United States, and Israel. Each week a different topic will be studied through primary and secondary readings (in translation), to be supplemented by audiovisual materials. Credit 3 units.

A&S TH FA SSP

**JNE 209I. Scriptures and Cultural Traditions**

*Same as Hum 209.*

A&S CD, TH

**JNE 210C. Introduction to Islamic Civilization**

*Same as IAS 210C, Re St 210C, History 214C, ANECC 210C.*

This course is a selective survey of Islamic civilization from its beginnings in the Near East during the 7th century CE to the present. Readings are chosen from primary sources as well as secondary literature; various audiovisual materials are also used. Topics covered include: Qur’an and Muhammad; early Islamic history; science, medicine, and technology; art and architecture; philosophy, theology, and law; Islamdom and Christendom; sultanates and gunpowder empires; spread of Islamic civilization to Central, South, and Southeast Asia, and to sub-Saharan Africa; European colonialism and the emergence of modern Islamic states; Muslims in Europe and North America; trends in contemporary Islam. Credit 3 units.

A&S CD, TH FA SSP

**JNE 213D. Intermediate Modern Hebrew I**

*Same as MHBR 213D.*

A&S LA

**JNE 214D. Intermediate Modern Hebrew II**

*Same as MHBR 214D.*

A&S LA

**JNE 216D. Intermediate Persian I**

*Same as Pers 216D.*

A&S LA

**JNE 217D. Intermediate Persian II**

*Same as Pers 217D.*

A&S LA

**JNE 225C. Introduction to Indic Culture and Civilization**

Credit 3 units.

A&S TH FA SSP

**JNE 300. Introduction to the Hebrew Bible/Old Testament**

*Same as Re St 300.*

A&S TH FA SSP

**JNE 3010. Topics in Art History: Islamic Art**

**JNE 301C. The Jews in the Ancient World**

*Same as JNE 501C, BHBR 301C, Re St 374C, History 310C.*

Jewish history through the biblical and rabbinic periods; emphasis on political, cultural, and religious life and ideas. Credit 3 units.

A&S CD, TH FA SSP

**JNE 302. Introduction to the History and Culture of Ancient Mesopotamia**

*Same as History 302I, BHBR 302.*

This course will introduce students to the first great human civilization, Ancient Mesopotamia. Combining textual evidence and material remains, we will survey all major facets of Mesopotamian culture: the environment, political history, and “everyday life,” including portraits of several material, social, and economic aspects of society, such as religion, myth, art, science, and medicine. The course will focus on helping the student to understand empathetically the Mesopotamian worldview, to interact with primary materials (in translation), and to evaluate the ideas of historians dedicated to investigating this culture. As some of the practices of this ancient culture are quite different from our own (e.g. magic, divination, the gods), yet others have made important contributions to world civilization (including the West, e.g., writing and astronomy), the course also will be an important experience in cross-cultural learning. Credit 3 units.

A&S TH

**JNE 3053. Nomadic Strategies and Extreme Ecologies**

*Same as Anthro 3053.*

A&S SS FA SSP

**JNE 305B. Greater Central Asia in Crisis**

*Same as Anthro 305B.*

A&S CD, SS FA SSP

**JNE 306. Between Submission and Power: Women and Family in Islam**

*Same as WGSS 306.*

A&S CD, SS FA SSP

**JNE 306I. Modern Jewish Writers**

*Same as Comp Lit 306.*

A&S TH

**JNE 307D. Advanced Arabic I**

*Same as Arab 307D.*

A&S LA

**JNE 3082. Introduction to Rabbinic Judaism**

*Same as Re St 3082.*

A&S TH FA SSP

**JNE 308D. Advanced Arabic II***Same as Arab 308D.***A&S** LA**JNE 309. Classical Jewish Philosophy**

The history of Jewish philosophy, from the ancient world through medieval thinkers such as Maimonides and Halevi surveyed in the context of the development of Western philosophy. Credit 3 units.

**A&S** TH **FA** SSP**JNE 310. Contemporary Jewish Thought***Same as Phil 310.*

A study of the representative figures and problems of modern Jewish thought from Spinoza to the present. Other topics include: the impact of the European Enlightenment, Zionism, Buber, Rosenzweig, Kaplan, and Soloveitchik. Prerequisite: JNE 208F or the equivalent. Credit 3 units.

**A&S** TH **FA** Lit, SSP**JNE 310I. The Problem of Evil***Same as Re St 310I.***A&S** TH**JNE 3103. Topics in Politics: Middle East Politics****JNE 3122. From Country to Heavy Metal: Ancient Civilizations of the Old World***Same as Anthro 3122.***A&S** SS**JNE 313C. Islamic History 622–1200***Same as History 313C.***A&S** TH **FA** SSP**JNE 3149. The Late Ottoman Middle East***Same as History 3149.***A&S** CD, SD, TH**JNE 314C. Islamic History: 1200–1800***Same as History 314C.***A&S** TH **FA** SSP**JNE 3150. The Middle East in the 20th Century***Same as History 3150.***A&S** CD, TH**JNE 3152. The History of Iran from 1501 to the Present***Same as History 3152.***A&S** TH **FA** SSP**JNE 316. Advanced Persian I***Same as Pers 316.***A&S** LA**JNE 320D. Advanced Modern Hebrew I***Same as MHBR 320D.***A&S** LA**JNE 322C. African Civilization: 1800 to the Present***Same as AFAS 322C.***A&S** CD, TH **FA** SSP**JNE 322D. Modern Jewish Literature in Hebrew***Same as MHBR 322D.***A&S** LA**JNE 324I. Hebrew of the Media***Same as MHBR 324.***A&S** LA**JNE 3273. Introduction to Israel Studies***Same as IAS 3273, JNE 5273, Pol Sci 3273.*

An exploration of Israel in the Jewish experience from antiquity to modernity and in the history and culture of the Middle East. Special attention will be paid to the modern state of Israel and current issues in its politics, economy, and society. JNE 5273 is intended for graduate students only. Credit 3 units.

**A&S** TH**JNE 3313. Women and Islam***Same as Anthro 3313.***A&S** CD, SS **FA** SSP**JNE 3331. The Holocaust***Same as History 333.***A&S** SD, TH **FA** SSP**JNE 334C. History of the Jews in Christian Europe to 1789***Same as History 334C.***A&S** CD, TH **FA** SSP**JNE 335C. The Jews in the Modern World***Same as History 335C.***A&S** CD, TH **FA** SSP**JNE 336C. History of the Jews in Islamic Lands***Same as History 336C.***A&S** TH **FA** SSP**JNE 340. Israeli Women Writers***Same as MHBR 340.***A&S** CD, SD, TH, WI **FA** Lit**JNE 341. The Jewish People in America***Same as History 341, JNE 541, AMCS 3410.*

History of the Jews in North America from the colonial era to the present. Close reading of primary sources, with an emphasis on the central issues and tensions in American Jewish life; political, social, and economic transformations; and religious trends. Credit 3 units.

**A&S** TH**JNE 3415. Jewish-Gentile Relations in the United States, 1830–1970***Same as AMCS 3415, History 3415.*

Throughout their history, Jews faced non-Jewish majorities, and America was no different. Yet unlike Europe, the United States has been, overall, a very hospitable place for Jews, and many of them came to see their new country as “the Promised Land.” The course focuses on the relations between Jews and their non-Jewish neighbors from the beginning of a significant Jewish immigration to the United States in the 1830s. The course ends in the 1970s in order to analyze what most historians interpret as a rightward and inward turn of American Jewry (especially after 1967) and link it to the larger wave of ethnic revival in America. As a whole, the course looks at the interethnic and interreligious dimensions of American Jewish life and relates them to the larger American context. How did American Jews view their fellow countrymen and how did these opinions, in turn, affect Jewish integration into the larger society? How did the gamut of relations with other groups, which ran from animosity to coalition building and amity, change the country’s political and cultural landscape? How did political and class differences within Jewish communities influence the character of interaction with other communities? Can we learn from the Jewish case about more general patterns of majority-minority relations in America? Credit 3 units.

**A&S** TH**JNE 342C. Modern Near Eastern Literature****JNE 344. Imagining the Holocaust in Contemporary Jewish Literature**

Recent public discourse has displayed an anxiety that, with the gradual dying out of the survivor generation, the Holocaust will soon pass into oblivion and one day be forgotten. Accompanying this anxiety about the vanishing eyewitness and the crisis of forgetting is often a parallel skepticism about narratives of the Holocaust that are not rooted in the direct experience of the survivor. Despite an injunction against fictional and imaginative representations of the Holocaust by survivors such as Elie Wiesel, however, the past 20 years have seen a wave of imaginative literature about the Holocaust written by nonsurvivors. This

course will examine recent post-Holocaust literature, both fictional and autobiographical, by contemporary Jewish writers from Europe, Israel, and the United States, including works by Art Spiegelman, David Grossman, Aharon Appelfeld, Nathan Englander, Anne Michaels, Nava Semal, Patrick Modiano, Jurek Becker, and others. Central to our inquiry into this literature will be the questions of language, narrative structure, referentiality, artistic representation, intergenerational trauma, vicarious memory, and post-Holocaust Jewish identity. Credit 3 units.

**A&S** TH**JNE 345. Mesopotamian Mythology: Stories from Ancient Iraq***Same as JNE 545.*

In this course, we will read, explore, and interpret various ancient myths originating from the Fertile Crescent, especially ancient Iraq, between the years 2500 and 400 BCE. The Epic of G. Lgamesh, the Enuma Elish, myths of the goddess Ishtar, as well as various flood and creation accounts, will be among those we read. Cultural background information will be examined to situate each myth in its ancient context. Various theories of interpreting myth will also be explored in order to appreciate the power and the many uses of these multivalent stories. Several basic questions will underlie all that we do throughout the semester: What is myth? How should we understand the conceptualization of the category “myth” (in other words, how does myth work)? Does myth still play a role in our own modern cultures? Credit 3 units.

**A&S** CD, TH**JNE 348. Medieval Jewish Travelogues, Chronicles, and Biographies***Same as BHBR 348.***A&S** TH**JNE 349. Yiddishkayt: Yiddish Literature in English Translation***Same as JNE 549.*

This course will trace the emergence, development, flourish, and decline of Yiddish literature, beginning with some of the earliest writings to appear in Yiddish, continuing with 19th-century attempts to establish a modern Yiddish literature and the emergence of both a classical canon and a literary avant-garde, and ending with post-Holocaust attempts to retain a Yiddish literary culture in the near absence of Yiddish-speaking communities. Focusing on the role of Yiddish as the “national” language of Ashkenaz, the course will examine the ways in which Yiddish literature has responded to the social conditions of European Jewish life, exploring among others the relationships between Yiddish and the non-Jewish cultures in which it existed, the tensions between secular trends and religious tradition, life in the shtetl and in the metropolis, immigration from the old world to the new, and Yiddish literary responses to the Holocaust. Credit 3 units.

**A&S** TH**JNE 350. Israeli Culture and Society***Same as IAS 350, MHBR 350.*

An examination of critical issues in contemporary Israeli culture and society, such as ethnicity, speech, religious identity, and the Arab population. Readings in English translation from a variety of disciplines: folklore, literary criticism, political science, sociology, psychology, anthropology. Prerequisite: sophomore standing or permission of instructor. Credit 3 units.

**A&S** CD, SD, TH **FA** SSP**JNE 355C. The Flowering of Islamic Literature, 500–1200***Same as Comp Lit 355C.***A&S** CD, TH **FA** Lit

**JNE 362. Approaches to the Qu'ran***Same as Re St 366.***A&S** CD, TH**JNE 365F. The Bible as Literature***Same as E Lit 365F.***A&S** TH **FA** Lit**JNE 375. How the World Began: Creation Myths of the Ancient World***Same as Re St 375.***A&S** CD, TH, WI **FA** SSP**JNE 378I. Israeli Politics***Same as Pol Sci 378I.***A&S** CD, SS **FA** SSP**JNE 380. Screening the Holocaust***Same as Film 375.***A&S** TH **FA** AH**JNE 381. Topics in Religious Studies: From Chaos to Cosmos: Myth, Ritual, and Magic in the Ancient World****JNE 384I. Introduction to Biblical Hebrew***Same as BHBR 384.***A&S** LA**JNE 385D. Topics in Biblical Hebrew Texts:***Same as BHBR 385D.***A&S** TH**JNE 386. Topics in Jewish History**Consult *Course Listings* for current topics. Prerequisite: permission of instructor. Credit 3 units.**A&S** TH **FA** SSP**JNE 387C. Topics in Hebrew Literature***Same as MHBR 387C.***A&S** TH **FA** Lit**JNE 390I. Lyrics of Mystical Love, East and West***Same as Comp Lit 390.***A&S** CD, TH, WI **FA** Lit**JNE 39T8. Sufism: Mystics in Islamic History: Writing-Intensive Seminar***Same as History 39T8.***A&S** CD, TH, WI**JNE 400B. Asian & Near Eastern Languages & Literatures Senior Seminar: Translation***Same as ANELL 400.***A&S** CD, TH**JNE 4010. Fourth-Level Modern Hebrew I***Same as MHBR 4010.***A&S** LA, WI**JNE 402. Fourth-Level Modern Hebrew II***Same as MHBR 402.***A&S** LA**JNE 4020. Jerusalem, the Holy City***Same as MLA 4020, ARC 4020, BHBR 4020, Re St 4020, History 4020.*

An examination of the role that Jerusalem has played in three religious traditions—Judaism, Christianity, and Islam—through a study of archaeology, history, literature, politics, and theology from antiquity to contemporary times. A senior seminar in Jewish, Islamic, and Near Eastern Studies. During winter break, the class will go to Jerusalem as part of the course. Student portion of travel costs TBA. Students unable to make the trip will receive a reduction to four units of course credit. Preference given to seniors majoring in Jewish, Islamic, and Near Eastern Studies. Others may enroll with instructor's permission. Credit 5 units.

**A&S** CD, SD, TH**JNE 403. Gender and Sexuality in Judaism***Same as WGSS 403I.*

A critical inquiry into the Jewish sociocultural construction of gender, past and present. Topics

will include the nature of the Jewish covenantal community and male circumcision as a sign of membership; the matrilineal principle of ancestry; gender emissions and purity; marriage and divorce; and male and female roles, including leadership roles. Documents by and about Jewish women, their daily lives, and their sacred lives will be among the materials explored. JNE 208F is recommended. Credit 3 units.

**A&S** SD, TH **FA** SSP**JNE 404. Islam Across Cultures***Same as Anthro 4042.***A&S** CD, SS **FA** SSP**JNE 404I. Islam and Politics***Same as Anthro 404I.***A&S** CD, SS **FA** SSP**JNE 4042. Competing Ideologies and Nationalisms in the Arab-Israeli Arena***Same as IA 4042, IAS 4043, Pol Sci 4042, History 4042.*

We will trace the roots of modern ideologies and nationalisms in the Middle East and analyze how they have developed in modern times under the influence of both secular and religious ideas. We will examine how international politics have exerted their influence and how Arab and Israeli nationalism have affected one another. Among the topics to be discussed are Shi'ism, Nasserism, Zionism, and fundamentalism. Credit 3 units.

**A&S** SS**JNE 405. Diaspora in Jewish and Islamic Experience***Same as History 4051, Re St 405, IAS 4050.*

The polarities of diaspora and home—periphery and center, wandering and rest, exile and return—have played important roles in the historical experience and religious culture of both Jews and Muslims. For long stretches of time, Jewish culture has been marked by the historical condition of statelessness combined with a theology of redemptive return. Paradoxically, it was the significant political and military success of Islam in its first millennium that helped to create a far-flung diaspora well removed from its center in Arabia. The institution of pilgrimage to Mecca counterbalanced a sense of distance and remove. More recently, modern nationalisms, war, and postcolonial politics—including the Israeli-Palestinian conflict—have done much to underscore the continuing dilemmas of diaspora and home in both Jewish and Islamic identity. The goal of the seminar is to offer a comparative, historical perspective on this theme and to encourage students to examine an aspect of the diaspora experience in depth. Credit 4 units.

**A&S** TH**JNE 405I. Colloquial Arabic***Same as Arab 405.***A&S** LA**JNE 4060. Convivencia or Reconquista? Muslims, Jews, and Christians in Medieval Iberia***Same as Re St 4060, History 4040.*

Senior Seminar. This seminar will provide an opportunity to explore in some depth various facets of the *convivencia* ("dwelling together," coexistence) of Muslims, Jews, and Christians in medieval Iberia. While we will pick up the timeline with the emergence of an Ibero-Islamic society in the 8th century, the seminar's historical horizon stretches up to the turn of the 15th to the 16th century, when Spanish Jews and Muslims were equally faced with the choice between exile and conversion to Christianity. Until about the mid-11th century, Muslims dominated most of the Iberian Peninsula. From roughly the mid-11th through 15th centuries, Christians ruled much and eventually all of Spain and Portugal. Through a

process termed, from a Christian perspective, as *reconquista* (reconquest), Catholic kingdoms acquired large Muslim enclaves. As borders moved, Jewish communities found themselves under varying Muslim or Christian dominion, or migrated from one realm to the other. Interactions between the three ethno-religious communities occurred throughout, some characterized by mutual respect and shared creativity and others by rivalry and strife. The course focuses on these religious and cultural contacts, placing them in various historical and geographic contexts. It raises questions concerning the ambiguities of religious change and concerning the interplay of persecution and toleration. Methodologically, the seminar emphasizes the study of primary sources, including documentary, historiographical, literary, and poetic texts. In the course of their study, attention is paid to peculiarities of genre and difficulties involved in formulating historical assessments. In this sense, we also aim at developing critical reading skills in relation to secondary literature. Seniors in Jewish, Islamic, and Near Eastern Studies will be given preference in admission; advanced students in other fields will be asked to contact the instructor prior to enrollment. Credit 3 units.

**A&S** CD, TH**JNE 406I. Translation***Same as Comp Lit 406.***A&S** TH**JNE 407. Fourth-Level Arabic I***Same as Arab 407.***A&S** LA **FA** Lit**JNE 4070. Judaism and Islam in Comparative Perspective***Same as Re St 4070.*

The historical trajectories of Rabbinic Judaism and Islam are intimately intertwined. Moreover, a strong argument can be made that Rabbinic Judaism and Islam bear some obvious affinities with one another. Nevertheless, the two traditions generally continue to be studied in isolation from one another. The goals of this seminar are (1) to foster better understanding of areas of historical contact and intersections between Jewish and Islamic civilizations and (2) to start the work of developing a common framework for the comparative study of the two traditions. We will examine examples of sustained and meaningful contact such as Muslim-Jewish symbiosis in early Islam, as well as interaction on the level of philosophical and theological discourses between medieval Jews and Muslims. We also will attempt to identify instances of affinity between the two traditions through comparative study of their exegetical, messianic, legal, and mystical dimensions. Seniors in Jewish, Islamic, and Near Eastern Studies will be given preference in admission; advanced students from other departments and programs should contact the instructor prior to enrollment. Credit 3 units.

**A&S** TH**JNE 408I. Fourth-Level Modern Arabic II***Same as Arab 408.***A&S** LA **FA** Lit**JNE 4100. The Ottoman Empire: 1300–1800**

Credit 3 units.

**A&S** TH**JNE 412. Islamic Theology***Same as Re St 412.***A&S** TH **FA** SSP**JNE 415. Topics in Judaism***Same as Re St 415, Phil 492.*

Prerequisite: permission of instructor. Credit 3 units.

**A&S** TH**JNE 420. Topics in the Israeli Short Story***Same as MHBR 420.***A&S** LA **FA** Lit

**JNE 4201. Islam, Immigrants, and the Future of European Culture***Same as IAS 420.***A&S** TH, WI**JNE 4243. "Terrorism" and "The Clash of Civilizations"***Same as Anthro 4243.***A&S** CD, SS**JNE 4274. Palestine, Israel, and the Arab-Israeli Conflict***Same as History 4274.***A&S** TH**JNE 440. Topics in Rabbinic Texts: Mishnah and Gemara***Same as BHRB 440.***A&S** TH**JNE 4442. The Jewish Experience in Eastern Europe***Same as History 4442.***A&S** CD, TH **FA** SSP**JNE 445. Topics in Islam***Same as Re St 413.*

Saintly mediators between God and man play a central role in Islamic piety. A focus on major aspects of saintly mediation, such as the emergence and spread of the cult of saints, its place within Islamic religiosity in comparison with prophecy, and the institutional framework within which such mediation occurs. Related issues such as conversion to Islam and Islamization of originally non-Islamic beliefs and practices addressed. Prerequisite: JNE 210CQ or permission of instructor. Credit 3 units.

**A&S** TH **FA** SSP**JNE 4512. Kings, Caliphs, and Emperors: Images of Authority in the Era of the Crusades***Same as Art-Arch 4512.***A&S** TH**JNE 4675. Beyond the Harem: Women, Gender, and Revolution in the Modern Middle East***Same as History 4675.***A&S** CD, SD, TH**JNE 471. Topics in Modern Arabic Literature in Translation***Same as Arab 471.***A&S** TH **FA** Lit**JNE 485. Topics in Jewish Studies**

Consult *Course Listings* for current topic. Prerequisite: permission of instructor. Credit 3 units.

**A&S** TH**JNE 4851. Topics in American Jewish Studies***Same as AMCS 4851.*

Credit 3 units.

**A&S** TH**JNE 487. Topics in Jewish and Near Eastern Studies: Readings in Midrash**

The aim of this course is to learn to read Midrash, the literature of classical Rabbinic Biblical interpretation. Addressing the literary, historical, and cultural context in which rabbinic Midrash developed, we will get to know a variety of Midrashic collections covering a time span from late antiquity to the Islamic Middle Ages. These works were composed according to a complex set of exegetical and literary rules to be illustrated by the selected readings. Certain Midrashic genres reflect their origins in academic discourses, while others were delivered as public sermons, drawing on parables, legends, and folklore. Among the topics to be studied are: How did the Rabbis read the Bible? What is the relationship between the plain meaning of the Biblical text and the polyphone interpretations of Midrash? Is Midrash a commentary or a literary discourse in its own right? Initially the Midrashic logic may seem elusive from

the viewpoint of a modern Western reader, in turn its creative thinking will prove to be smart, playful, at times even slippery, and yet substantial. All texts will be read in translation. Credit 3 units.

**A&S** TH**JNE 4872. Colonial Cities and the Making of Modernity***Same as History 4872.***A&S** CD, TH **FA** SSP**JNE 4901. Topics in Islamic Thought: Proseminar in Methods and Approaches in Islamic Studies***Same as Re St 4901.*

This seminar is an introduction to the methods, research tools, and theoretical assumptions that Islamicists have used to study diverse aspects of Islamic societies and civilizations, past and present. Critical reading and discussion of scholarly works will be paired with bibliographical research assignments. Prerequisite: permission of the instructor. Credit 3 units.

**A&S** TH**JNE 497. Guided Readings in Arabic***Same as Arab 497.***A&S** LA**JNE 4972. Guided Readings in Persian***Same as Pers 4972.***A&S** LA**JNE 4973. Guided Readings in Hebrew***Same as MHRB 4973.***A&S** LA**JNE 498. Guided Readings in Arabic***Same as Arab 498.***A&S** LA**JNE 4982. Guided Readings in Persian II***Same as Pers 4982.***A&S** LA**JNE 4983. Guided Readings in Modern Hebrew***Same as MHRB 4983.***A&S** LA**JNE 4984. Guided Readings in Aramaic***Same as BHRB 4984.***A&S** TH**JNE 4985. Guided Readings in Biblical Hebrew***Same as BHRB 4985.***A&S** LA**JNE 4986. Guided Readings in Talmudic Aramaic and Rabbinic Texts**

Prerequisite: instructor's permission. Credit variable, maximum 6 units.

**A&S** LA**JNE 4987. Guided Readings in Akkadian***Same as BHRB 4983.***A&S** LA**JNE 499. Study for Honors in Jewish, Islamic, and Near Eastern Studies**

Prerequisites: senior standing and permission of the chair of Jewish, Islamic, and Near Eastern Studies. Credit 3 units.

**A&S** TH**JNE 4996. Advanced Seminar in History: Islam in China***Same as History 4996.***A&S** CD, TH

## Latin American Studies

**Chair****Mabel Moraña**

William H. Gass Professor in Arts & Sciences

(Romance Languages and Literatures, IAS)  
Ph.D., University of Minnesota

**Endowed Professor****Elzbieta Skłodowska**

Randolph Family Professor  
in Arts & Science

(Romance Languages and Literatures)  
Ph.D., Washington University

**Professors****David L. Browman**

(Anthropology)

Ph.D., Harvard University

**Richard J. Walter**

(History)

Ph.D., Stanford University

**Associate Professor****Brian Crisp**

(Political Science)

Ph.D., University of Michigan

**Assistant Professors****J. Andrew Brown**

(Romance Languages and Literatures)

Ph.D., University of Virginia

**Bret Gustafson**

(Anthropology)

Ph.D., Harvard University

**Stephanie Kirk**

(Romance Languages and Literatures)

Ph.D., New York University

**Tabea Linhard**

(Romance Languages and Literatures)

Ph.D., Duke University

**Derek Pardue**

(Anthropology, IAS)

Ph.D., University of Illinois at

Urbana-Champaign

**Ignacio Sánchez Prado**

(Romance Languages and Literatures, IAS)

Ph.D., University of Pittsburgh

**Guillermo Rosas**

(Political Science)

Ph.D., Duke University

**Professors Emeriti****Pedro C. Cavalcanti**

(Anthropology)

Ph.D., University of Warsaw

**John F. Garganigo**

(Romance Languages)

Ph.D., University of Illinois

If you have particular interest in the cultures and societies of Latin America, but would like to study them from a comparative, inter-

disciplinary perspective, you may major in International and Area Studies (IAS) with a concentration in Latin American Studies. This program offers a wide range of courses, covering different aspects of pre-Hispanic, colonial, and modern cultures, and connecting the study of ancient traditions with contemporary debates. Survey courses and seminars incorporate approaches from cultural theory; historical, political, and anthropological analysis; and cultural studies. Washington University, with its Latin American Studies program, was one of the 10 founding institutions funded by a Ford Foundation grant in 1964. Students in this track generally acquire a high level of competency in Spanish and/or Portuguese, depending on field of specialization. Our overseas programs in Chile, Ecuador, and Mexico would be especially appropriate for students of Spanish, as well as for those interested in conducting fieldwork in these regions. For requirements for a major in International and Area Studies with a Latin American Studies concentration, please refer to International and Area Studies.

### Undergraduate Courses

#### LatAm 165C. Survey of Latin-American Culture

*Same as IAS 165C.*  
A&S CD, TH FA SSP

#### LatAm 3092. Indigenous Peoples and Movements in Latin America

*Same as Anthro 3092.*  
A&S CD, SD, SS

#### LatAm 3093. Anthropology of Modern Latin America

*Same as Anthro 3093.*  
A&S SS

#### LatAm 310C. Ancient Civilizations of the New World

*Same as Anthro 310C.*  
A&S CD, TH FA AH

#### LatAm 312. Hispanic Culture and Civilization II

*Same as Span 312.*  
A&S CD, TH FA SSP

#### LatAm 3140. Topics in Latin-American History and Politics

*Same as Pol Sci 3140.*  
A&S SS

#### LatAm 321C. Latin America: From Colonialism to Neocolonialism, 1492–1890

*Same as History 321C.*  
A&S CD, TH FA SSP

#### LatAm 322C. Latin America in the 20th Century

*Same as History 322C.*  
A&S CD, TH FA SSP

#### LatAm 3254. Vote for Pedro: A Critical Look at Youth and Popular Cultures

*Same as Anthro 3254.*  
A&S SS FA SSP

#### LatAm 3260. Race, Class and Gender: Cultural Readings of Brazil and Its Cities

*Same as IAS 3260.*  
A&S SS

#### LatAm 326B. Latin-American Politics

*Same as Pol Sci 326B.*  
A&S SS FA SSP

#### LatAm 331. Hispanic Art/Arte Hispano

*Same as Span 331.*  
A&S TH FA AH

#### LatAm 335C. Spanish-American Literature I

*Same as Span 335C.*  
A&S CD, TH FA Lit

#### LatAm 336C. Spanish-American Literature II

*Same as Span 336C.*  
A&S CD, TH FA Lit

#### LatAm 382. Latin-American DissemiNations: Migrations and Identities in the 20th and 21st Centuries

*Same as IAS 382.*  
A&S SD, TH

#### LatAm 383. Reading the Scores: Understanding Brazilian Music through Social Categories

*Same as IAS 383.*  
A&S SS, WI

#### LatAm 416. Latin-American Theater

*Same as Span 426.*  
A&S SD, TH FA AH

#### LatAm 4231. Contemporary Issues in Latin America

*Same as Pol Sci 4231.*  
A&S SS FA SSP

#### LatAm 428. Spanish-American 'Traditional' Novel

*Same as Span 4281.*  
A&S SD, TH FA Lit

#### LatAm 430. Latin-American Essay

*Same as Span 430.*  
A&S TH FA Lit

#### LatAm 431. Latin-American Poetry I

*Same as Span 431.*  
A&S TH FA Lit

#### LatAm 432. Latin-American Poetry II

*Same as Span 432.*  
A&S TH FA Lit

#### LatAm 4517. Anthropology and Development

*Same as Anthro 4517.*  
A&S SS, WI

#### LatAm 4533. Narratives of Fear: Violence in Latin-American Literature

*Same as Span 4533.*  
A&S TH

#### LatAm 457. Gender and Modernity in Latin America

*Same as IAS 457.*  
A&S TH

#### LatAm 460. Postmodern Narratives in Latin America

*Same as IAS 460.*

#### LatAm 461. Latin-American Cultural Studies: Critical and Theoretical Approaches

*Same as IAS 461.*  
A&S TH

#### LatAm 462. Latin America and the West

*Same as IAS 462.*  
A&S TH

#### LatAm 463. Seminar on Urban Cultures in Latin America

*Same as IAS 463.*  
A&S TH

#### LatAm 464. Nation and Desire in Latin America

*Same as IAS 464.*  
A&S TH

#### LatAm 4791. Topics in Politics: Political Economy of Development

*Same as Pol Sci 4791.*  
A&S SS FA SSP

#### LatAm 489. Cities of the Past Future: Literary Institutions and Peripheral Modernity in the Latin American Avant Garde

*Same as Span 489.*  
A&S TH

#### LatAm 4890. Advanced Seminar: Latin America and the United States in the 20th Century

*Same as History 4890.*  
A&S TH FA SSP

## Legal Studies

### Chair

**David T. Konig**, Professor  
(History and Law)  
Ph.D., Harvard University

### Endowed Professors

**John R. Bowen**  
Dunbar–Van Cleve Professor  
in Arts & Sciences  
(Anthropology)  
Ph.D., University of Chicago

### Douglass C. North

Spencer T. Olin Professor in Arts & Sciences  
(Economics)  
Ph.D., University of California–Berkeley

### Professors

**William R. Lowry**  
(Political Science)  
Ph.D., Stanford University

**Larry M. May**  
(Philosophy)  
Ph.D., New School for Social Research

### Associate Professors

**Elizabeth K. Borgwardt**  
(History)  
J.D., Harvard University  
Ph.D., Stanford University

**Margaret C. Garb**  
(History)  
Ph.D., Columbia University

### Professors Emeriti

**Marvin J. Cummins**  
(Political Science)  
Ph.D., University of Colorado

**Carl P. Wellman**  
Hortense and Tobias Lewin Distinguished  
University Professor Emeritus in the  
Humanities  
(Philosophy)  
Ph.D., Harvard University

The Legal Studies minor is an interdisciplinary program that allows you to study the role of law and legal institutions in society. It is an academic program about law rather than vocational training in law.

When you minor in Legal Studies, you study about law in courses from anthropology, economics, history, philosophy, political science, and other liberal arts disciplines. The curriculum emphasizes the forces that shape law and the ways that peoples of different cultures and from different historical periods have used and interpreted the law.

Because Legal Studies is interdisciplinary in nature and offers a variety of courses, you can design a course of study that addresses your individual needs and interests. You may choose to take advantage of internships available in law and government.

Legal Studies is an excellent prelaw program. It also prepares you well for other graduate study, as well as for a career in academia, business, politics, or social services.

**The Minor:** You are required to take a total of 18 units of credit, of which 12 must be outside the department of your major. Courses on legal studies topics, which are offered each semester by the various departments of the College of Arts & Sciences that participate in the program, are cross-listed below. Your minor must include at least three advanced courses (300 level and above).

### Undergraduate Courses

**Lw St 0001. Legal Studies Elective**  
Credit variable, maximum 3 units.

**Lw St 101B. American Politics**  
*Same as Pol Sci 101B.*  
A&S SS FA SSP

**Lw St 102B. Comparative Politics**  
*Same as Pol Sci 102B.*  
A&S SS FA SSP

**Lw St 103B. Introduction to Political Economics: Microeconomics**  
*Same as Econ 103B.*  
A&S QA, SS FA SSP

**Lw St 104B. Introduction to Political Economics: Macroeconomics**  
*Same as Econ 104B.*  
A&S QA, SS FA SSP

**Lw St 105G. Introduction to Logic and Critical Analysis**  
*Same as Phil 100G.*  
A&S LA, QA FA SSP

**Lw St 107B. Introduction to Women's Studies**  
*Same as WGSS 100B.*  
A&S SD, TH FA SSP

**Lw St 120. Social Problems and Social Issues**  
*Same as AMCS 120.*  
A&S SS

**Lw St 131F. Present Moral Problems**  
*Same as Phil 131F.*  
A&S TH FA SSP

**Lw St 1ABR. Legal Studies Course Work Completed Abroad**  
This course number is for students who plan to study abroad. Credit variable, maximum 12 units.

**Lw St 2020. The Immigrant Experience**  
*Same as AMCS 202.*  
A&S CD, SS FA SSP

**Lw St 2051. History of American Radicalism: From the Abolitionists to the Battle of Seattle**  
*Same as History 2051.*  
A&S TH

**Lw St 208B. Introduction to African-American Studies**  
*Same as AFAS 208B.*  
A&S SD, TH FA SSP

**Lw St 2101. Freshman Seminar: Gender and Citizenship**  
*Same as WGSS 210.*  
A&S SD, TH FA SSP

**Lw St 2152. The Theory and Practice of Justice: The American Historical Experience**  
*Same as History 2152.*  
A&S SD, TH FA SSP

**Lw St 221. Seminar in Law and Society**

**Lw St 222. Seminar in Law and Society**

**Lw St 233F. Biomedical Ethics**  
*Same as Phil 233F.*  
A&S TH FA SSP

**Lw St 235F. Introduction to Environmental Ethics**  
*Same as Phil 235F.*  
A&S TH FA SSP

**Lw St 2776. Sexuality, Courtship, and Marriage in U.S. History**  
*Same as History 2776 and WGSS 2776.*

**Lw St 299. Undergraduate Internship in Legal Studies**

Students receive credit for a faculty-directed and approved internship. Registration requires completion of the Learning Agreement that the student obtains from the Career Center and that must be filled out and signed by the Career Center and the faculty sponsor prior to beginning internship work. Credit should correspond to actual time spent in work activities, e.g., eight to 10 hours a week for 13 or 14 weeks to receive 3 units of credit; 1 or 2 credits for fewer hours. Students may not receive credit for work done for pay but are encouraged to obtain written evaluations about such work for the student's academic adviser and career placement file. Credit variable, maximum 3 units.

FA SSP

**Lw St 3061. Between Submission and Power: Women and the Family in Islam**  
*Same as WGSS 306.*  
A&S CD, SS FA SSP

**Lw St 3070. Politics and Policy Making in the American States**  
*Same as Pol Sci 3070.*  
A&S SS

**Lw St 3072. Cracks in the Republic: Discontent, Dissent, and Protest in America, 1950–1975**  
*Same as History 3072.*  
A&S SD, TH FA SSP

**Lw St 307C. English and Colonial Foundations of American Law to 1776**  
*Same as History 307C.*  
A&S TH FA SSP

**Lw St 3103. Topics in Politics: Constitutional Politics in the United States**

**Lw St 312. Argumentation**  
*Same as E Comp 312.*  
A&S LA, WI

**Lw St 314. Islamic History: 1200–1800**  
*Same as History 314C.*  
A&S TH FA SSP

**Lw St 315. Introduction to Social Psychology**  
*Same as Psych 315.*  
A&S SS FA SSP

**Lw St 316B. African-American Politics**  
*Same as Pol Sci 316B.*  
A&S SS

**Lw St 320. Poverty and Social Problems**  
Credit 3 units.

**Lw St 326. American Economic History**  
*Same as Econ 326.*  
A&S SS FA SSP

**Lw St 3280. Political Intolerance in World Politics**  
*Same as Pol Sci 3280.*  
A&S SS

**Lw St 331. Theories of Justice**

Same as Pol Sci 331.

A&S SS FA SSP

**Lw St 3310. Gender and American Politics**

Same as Pol Sci 331B.

A&S SD, SS FA SSP

**Lw St 3311. Environmental and Energy Issues**  
Credit 3 units.

**Lw St 331F. Classical Ethical Theories**

Same as Phil 331F.

A&S TH FA SSP

**Lw St 3321. Constitutionalism and Democracy**

Same as Pol Sci 3321.

A&S SS

**Lw St 3325. Constitutional Politics**

Same as Pol Sci 3325.

A&S SS FA SSP

**Lw St 332B. Environmental and Energy Issues**

Same as Pol Sci 332B.

A&S SS FA SSP

**Lw St 334B. Black Social Sciences**

**Lw St 3360. Topics in Politics: American**

Elections and Voting Behavior

Same as Pol Sci 336.

A&S SS FA SSP

**Lw St 3371. Topics in Legal Studies:**

Management and Politics in the Legal Sector

Same as Pol Sci 3371.

A&S SS FA SSP

**Lw St 3381. National Security, Civil Liberties,**  
**and the Law**

Same as Pol Sci 3381.

A&S SS FA SSP

**Lw St 3382. Urban Politics and Administration**

**Lw St 3400. Topics in Political Thought: Ethics**  
**and Politics**

Same as Pol Sci 3401.

A&S SS FA SSP

**Lw St 3401. Money and Morals in the Age**  
**of Merchant Capital**

Same as History 3402.

A&S TH FA SSP

**Lw St 3402. Topics in Legal Studies:**

Democratic Theory

Same as Pol Sci 3402.

A&S SS FA SSP

**Lw St 340F. Social and Political Philosophy**

Same as Phil 340F.

A&S TH FA SSP

**Lw St 341F. Social and Political Philosophy**

Credit 3 units.

A&S TH FA SSP

**Lw St 344. Civil Liberties**

Same as Pol Sci 344.

A&S SS FA SSP

**Lw St 3440. Courts and Civil Liberties**

**Lw St 3441. Defendant's Rights**

Same as Pol Sci 3441.

A&S SS FA SSP

**Lw St 345. Issues in Applied Ethics**

Same as Phil 345F.

A&S TH FA SSP

**Lw St 346. Philosophy of Law**

Same as Phil 346.

A&S TH FA SSP

**Lw St 350. Politics, Ethics, and Welfare**

Same as Econ 350.

A&S SS FA SSP

**Lw St 353. The Economics of Law**

Same as Econ 353.

A&S SS FA SSP

**Lw St 3531. Law and Economics**

Same as Econ 3531.

**Lw St 354. Abnormal Psychology**

Same as Psych 354.

A&S SS FA SSP

**Lw St 3560. Introduction to Forensic**  
**Psychology**

**Lw St 3561. Women and the Law**

Same as WGSS 3561.

**Lw St 358. Law, Politics, and Society**

Same as Pol Sci 358.

A&S SS FA SSP

**Lw St 3610. Legislative Politics**

Same as Pol Sci 3610.

A&S SS

**Lw St 365. The New Republic**

Same as History 365.

A&S TH FA SSP

**Lw St 367. Modern America, 1877–1929**

Same as History 367.

A&S TH FA SSP

**Lw St 372C. Law in American Life: 1776**  
**to the Present**

Same as History 372C.

A&S SD, TH FA SSP

**Lw St 3802. The Supreme Court in American**  
**Life, 1789–2006**

Same as History 3802.

A&S TH

**Lw St 387C. Black America to the Civil War**

Same as History 387C.

A&S SD, TH FA SSP

**Lw St 389. Poverty, Justice, and the City**

Same as Pol Sci 389.

A&S SD, SS, WI

**Lw St 390. Violence Against Women: Current**  
**Issues and Responses**

Same as WGSS 393.

A&S SD, SS FA SSP

**Lw St 391. History of Political Thought I:**  
**Justice, Virtue, and the Soul**

Same as Pol Sci 391.

A&S SS

**Lw St 3912. Social Construction of Female**  
**Sexuality**

Same as WGSS 391.

A&S SS FA SSP

**Lw St 393. History of Political Thought III:**  
**Liberty, Democracy, and Revolution**

Same as Pol Sci 393.

A&S SS

**Lw St 39G9. American Society and Culture:**  
**1945–1991**

Same as History 39G9.

A&S TH, WI

**Lw St 3ABR. Legal Studies Course Work**  
**Completed Abroad**

Credit variable, maximum 12 units.

**Lw St 4002. Directed Fieldwork in Legal**  
**Research**

A fieldwork project in empirical and/or archival legal research under the direction of a member of the Washington University faculty. The fieldwork may be planned and undertaken individually or as part of a formal project. Permission of supervising faculty member and director of the program is required. Credit variable, maximum 6 units.

A&S TH

**Lw St 4010. Pluralism, Liberalism, and**  
**Education**

Same as Pol Sci 4010.

A&S SS

**Lw St 4013. Negotiating Major Legislation in**  
**Congress**

Same as Pol Sci 4013.

A&S SS

**Lw St 4020. The Legal Landscape in a**  
**Changing American Society**

Same as Pol Sci 4020.

A&S SS

**Lw St 4050. Political Representation**

Same as Pol Sci 4050.

A&S SS

**Lw St 408. Household Finance, Bankruptcy,**  
**and Credit**

Same as Econ 408W.

A&S SS, WI FA SSP

**Lw St 418. Law and Individual Liberties**

See Department. Credit 3 units.

A&S SS FA SSP

**Lw St 4230. Religion and the Public Sphere**  
**in Early America**

**Lw St 4232. Slavery and the American Literary**  
**Imagination**

Same as AFAS 435 and E Lit 4232.

Credit 3 units.

**Lw St 425. Poverty in America**

Same as URST 4251.

Credit 3 units.

A&S SS

**Lw St 426. Economic Systems in Theory and**  
**Practice**

Same as Econ 426.

A&S SS FA SSP

**Lw St 430. The Age of Integration: African-**  
**American Life and Culture, 1950–1954**

See Department. Credit 3 units.

A&S TH FA SSP

**Lw St 433. Topics in Comparative Politics:**  
**Equality and Public Policy**

See Department. Credit 3 units.

A&S SS FA SSP

**Lw St 434. Law and Individual Liberties**

See Department. Credit 3 units.

A&S SS FA SSP

**Lw St 4400. Advanced Social and Political**  
**Philosophy**

Same as Phil 4400.

A&S TH FA SSP

**Lw St 4401. Drugs and Behavior**

See Department. Credit 3 units.

A&S SS FA SSP

**Lw St 442. European Intellectual History,**  
**1789–1890**

Same as History 442.

A&S TH FA SSP

**Lw St 4431. Egalitarianism and Political**  
**Institutions**

See Department. Credit 3 units.

A&S SS FA SSP

**Lw St 4461. The Rule of Law**

Same as Phil 4461.

A&S TH

**Lw St 448. Law and Individual Liberties**

See Department. Credit 3 units.

A&S SS FA SSP

**Lw St 4502. Topics in Legal History: Rationality, Law, and Legal Process***Same as Pol Sci 4502.*

A&amp;S SS FA SSP

**Lw St 4503. Topics in Legal Studies: Order, Diversity, and the Rule of Law***Same as Pol Sci 4503.*

A&amp;S SD, SS, WI FA SSP

**Lw St 4511. Topics in American Politics: The Supreme Court***Same as Pol Sci 451.*

A&amp;S SS FA SSP

**Lw St 4513. Topics in Legal Studies: Criminal Law and Criminal Justice—Homicide***Same as Pol Sci 4513.*

A&amp;S SS, WI FA SSP

**Lw St 458. The Theory of Property Rights***Same as Econ 458.*

A&amp;S SS FA SSP

**Lw St 461. Introduction to Environmental Law and Policy****Lw St 467. Game Theory***Same as Econ 467.*

A&amp;S SS FA SSP

**Lw St 4689. American Intellectual History to 1865***Same as History 4689.*

A&amp;S TH

**Lw St 4712. History of Modern Social Theory II: Modernity and the Discovery of Society***Same as History 4712.*

A&amp;S TH

**Lw St 472. Social Theory and Anthropology***Same as Anthro 472.*

A&amp;S SS FA SSP

**Lw St 485. Labor–Management Relations in Modern Economies***Same as Econ 485.*

A&amp;S SS FA SSP

**Lw St 4907. Advanced Seminar: Women and Social Movements in the United States***Same as History 4907.*

A&amp;S SD, TH FA SSP

**Lw St 4946. The Federalist Papers: Politics and Philosophy in the Creation of the American Republic***Same as History 4946.*

A&amp;S TH FA SSP

**Lw St 4974. Advanced Seminar in History: Gender, Work, and Property Law***Same as History 4974.*

A&amp;S TH FA SSP

**Lw St 4978. Advanced Seminar: The Theory and Practice of the U.S. Left***Same as History 4978.*

A&amp;S TH

**Lw St 4981. Advanced Seminar: Historical Perspectives on Human Rights and Globalization***Same as History 4981.*

A&amp;S TH

**Lw St 4984. Advanced Seminar: The Problem of New World Freedom: The Age of Democratic Revolution in the United States***Same as History 4984.*

A&amp;S SD, TH

**Lw St 500. Independent Study**

Credit variable, maximum 6 units.

## Linguistics

**Director****David A. Balota**, Professor  
(Psychology)  
Ph.D., University of South Carolina**Assistant Professors****Brett D. Hyde**  
(Philosophy, PNP, Linguistics)  
Ph.D., Rutgers University**Brett Kessler**  
(Psychology, PNP, Linguistics)  
Ph.D., Stanford University**Lecturer****Joachim Faust**  
(Linguistics)  
Ph.D., University of Kansas**Participating Faculty****Joe Barcroft**, Associate Professor  
(Romance Languages and Literatures)  
Ph.D., University of Illinois at  
Urbana–Champaign**John Baugh**  
Margaret Bush Wilson Professor  
in Arts & Sciences  
(Psychology, Director of African and African  
American Studies)  
Ph.D., University of Pennsylvania**John R. Bowen**  
Dunbar–Van Cleve Professor  
in Arts & Sciences  
(Anthropology)  
Ph.D., University of Chicago**Cindy A. Brantmeier**, Associate Professor  
(Romance Languages and Literatures)  
Ph.D., Indiana University–Bloomington**Garrett A. Duncan**, Associate Professor  
(Education)  
Ph.D., The Claremont Graduate School**Johanna G. Nicholas**, Associate Professor  
(Speech and Hearing)  
Ph.D., Washington University**Steven E. Petersen**  
James S. McDonnell Professor of Cognitive  
Neuroscience  
(Neurology and Neurological Surgery)  
Ph.D., California Institute of Technology**R. Keith Sawyer**, Associate Professor  
(Education)  
Ph.D., University of Chicago**Mitchell S. Sommers**, Associate Professor  
(Psychology)  
Ph.D., University of Michigan**Rebecca A. Treiman**  
Burke and Elizabeth High Baker Professor  
of Child Developmental Psychology  
(Psychology)  
Ph.D., University of Pennsylvania

Linguistics is an interdisciplinary program that offers introductory and advanced courses in linguistics and also provides access to a variety of perspectives on language

by cross-listing courses from other departments and programs. You may choose Linguistics as a minor, propose a special major in Linguistics, or enroll in the Language, Cognition, and Culture track of the major in Philosophy–Neuroscience–Psychology (see page 204).

The program focuses on the core areas of linguistics: how humans use sounds (phonetics and phonology) to convey meaning (semantics) by constructing words, phrases, and sentences (syntax). You will also have the opportunity to investigate several closely related areas: how languages relate to culture and society (sociolinguistics), how languages change and form families (historical linguistics), how languages are acquired, and how language is processed in the brain and by computers (psycholinguistics and computational linguistics).

**The Minor:** You are required to complete 15 units in linguistics, 9 of which must be at the 300 level or above. Three units must be satisfied by Ling 170D or an approved equivalent, and 6 units must be satisfied by two of the following courses: Ling 309, Ling 311, Ling 312, Ling 313, Ling 317, and Ling 320. Units counted toward a major or another minor cannot also count toward the linguistics minor.

You can learn more about the Linguistics Program by visiting our web site at <http://artsci.wustl.edu/~ling/>. You can also contact Brett Kessler at [bkessler@wustl.edu](mailto:bkessler@wustl.edu) for more information about a minor in linguistics, or Brett Hyde at [bhyde@wustl.edu](mailto:bhyde@wustl.edu) for more information about a special major in linguistics.

## Undergraduate Courses

**Ling 170D. Introduction to Linguistics***Same as Anthro 170D.*

Language is one of the fundamental capacities of the human species, and there are many interesting and meaningful ways in which it can be studied. This course explores the core components of linguistic theory: speech sounds (phonetics and phonology), word formation (morphology), sentence structure (syntax), and meaning (semantics). It also provides an overview of interdisciplinary ideas and research on how language is acquired and processed, its relation to the mind-brain and to society, and the question of whether the essential properties of language can be replicated outside the human mind (specifically, in chimpanzees or computer programs). Credit 3 units.

A&amp;S LA

**Ling 225D. Latin and Greek in Current English***Same as Classics 225D.*

A&amp;S LA

**Ling 234. Introduction to Speech and Hearing Sciences and Disorders***Same as Sphr 234 and Educ 234.***Ling 301G. Symbolic Logic***Same as Phil 301G.*

A&amp;S LA FA SSP

**Ling 306G. Philosophy of Language***Same as Phil 306G.*

A&amp;S LA FA SSP

**Ling 309. Syntactic Analysis***Same as PNP 309.*

The ability to produce and understand an infinite number of sentences is perhaps the most fascinat-

ing aspect of the human language faculty. Syntax is the study of how the brain organizes sentences from smaller phrases and words. This course explores syntactic analysis from several perspectives within generative linguistics, focusing primarily on the government and binding framework but also introducing minimalist and optimality theoretic approaches. Topics to be discussed include phrase structure, transformations, case theory, thematic roles, and anaphora. Assignments will help students learn to construct and compare analyses of syntactic problems in English and other languages. Prerequisite: Ling 170D or permission of instructor. Credit 3 units.

**A&S LA**

**Ling 311. Introduction to Semantics**

*Same as Phil 308, PNP 3111.*

Examination of various approaches to semantics; the field's relationship to theories of grammar, transformational and other. Prerequisite: Ling 170D or permission of instructor. Credit 3 units.

**A&S LA**

**Ling 312. Phonetics**

Phonetics is the study of the sounds of the languages of the world. The primary goal of the course is to learn how speech sounds are produced, so that the student can describe them in articulatory terms, write them out in a standard notational system, and produce them accurately. Other topics include a basic introduction to the acoustics of speech and the use of personal computers to display, analyze, and synthesize human speech. The course should prove useful to students desiring a deeper understanding of one of the fundamental underpinnings of linguistics, but also has practical applications in such fields as foreign language learning and the appreciation and acquisition of new dialects and accents. Prerequisite: Ling 170D or permission of instructor. Credit 3 units.

**A&S LA**

**Ling 313. Phonological Analysis**

*Same as PNP 313.*

There are several important abilities involved in the use of human language, one of these being the ability to organize speech sounds. The system that the brain uses to accomplish this task is the subject matter of phonology. This course will explore phonology from several perspectives within generative linguistics, including both traditional rule-based and current optimality theoretic approaches. Topics to be discussed include phonological features, lexical phonology, prosodic morphology, tone, and metrical stress. Assignments will help students learn to analyze phonological problems in a variety of languages and to evaluate the consequences of using different analytic approaches. Prerequisite: Ling 170D or permission of instructor. Credit 3 units.

**A&S LA**

**Ling 314. Sociolinguistics, Literacies, and Communities**

*Same as Educ 314.*

**A&S LA**

**Ling 317. Introduction to Computational Linguistics**

Use of computers to analyze, understand, and generate human language. Emphasis on appreciating practical applications such as text analysis, search and creation of dictionaries and corpora, information retrieval, machine translation, and speech interfaces. Survey of rule-based and statistical techniques. Students will acquire programming skills appropriate for solving small- to medium-scale

problems in linguistics and text processing, using a language such as Python. Students will have regular programming assignments and will complete a semester project. No previous knowledge of programming required. Prerequisites: Ling 170D or permission of instructor. Credit 3 units.

**A&S LA**

**Ling 320. Historical and Comparative Linguistics**

*Same as E Lit 3581, French 3201, Span 3201, PNP 320.*

Historical linguistics focuses on how languages change over time. Comparative linguistics focuses on their similarities and differences. In this course, we will trace some of the differences and changes in sound (phonetics and phonology) word formation (morphology), sentence structure (syntax), and meaning (semantics). Topics include linguistic universals, the structural and genetic classification of languages, the techniques of reconstructing proto-languages, and the causes of language change. Examples from Indo-European languages (for example, Greek, English, and Spanish) and from Native American languages (for example, Navaho, Choctaw, and Lakota) will be emphasized. Prerequisite: Ling 170D or permission of instructor. Credit 3 units.

**A&S LA FA Lit**

**Ling 358. Language Acquisition**

*Same as Psych 358.*

**A&S SS FA SSP**

**Ling 396. Linguistics Seminar:**

*Same as PNP 396.*

Readings on a selected topic in theoretical linguistics with an emphasis on discussion, presentation, and writing. Prerequisite: varies with topic. Credit 3 units.

**A&S TH**

**Ling 401. Set Theory**

*Same as Phil 401.*

**A&S TH FA SSP**

**Ling 402. Anatomical and Physiological Bases of Speech and Hearing**

*Same as PACS 401.*

**Ling 403. Mathematical Logic I**

*Same as Phil 403.*

**A&S TH FA SSP**

**Ling 404. Mathematical Logic II**

*Same as Phil 404.*

**A&S TH FA SSP**

**Ling 4065. Advanced Philosophy of Language**

*Same as Phil 4065.*

**A&S LA FA SSP**

**Ling 408. Psychology of Language**

*Same as Psych 433.*

**A&S SS FA SSP**

**Ling 412. Sociolinguistics: Ethnography of Communications**

*Same as Anthro 412.*

**A&S SS FA SSP**

**Ling 4130. Curriculum and Instruction in Modern Foreign Languages: Linguistics and Language Learning Curriculum**

*Same as Span 413.*

**A&S LA FA SSP**

**Ling 4161. Introduction to Hispanic Linguistics**

*Same as Span 416.*

**A&S LA**

**Ling 4171. Phonology and Second-Language Acquisition**

*Same as Span 417.*

**A&S LA**

**Ling 4315. Culture, Language, and the Education of Black Students**

*Same as Educ 4315.*

**A&S CD, SS FA SSP**

**Ling 433. Acoustical Phonetics and Speech Perception**

*Same as Sphr 433.*

**Ling 4341. Normal Language Development**

*Same as Sphr 434.*

**Ling 453. History of the French Language**

*Same as French 453.* Credit 3 units.

**A&S LA**

**Ling 455. Romance Philology**

*Same as French 456.*

**A&S LA**

**Ling 4651. German Language Seminar**

*Same as German 414.*

**A&S LA**

**Ling 466. Second-Language Acquisition**

*Same as French 466, Span 466, PNP 466, Educ 4661, Ling 466.*

There are many ways in which a second language can be learned: from infancy as the child of bilingual parents, or later through formal instruction, immersion in a new culture, or through a particular work or social situation. This class is an inquiry into the processes by which acquisition occurs. Topics include the nature of language learning within the scope of other types of human learning; the relationship between first- and second-language acquisition; the role of linguistic, cognitive, and sociocultural factors; insights gained from analyzing learners' errors; key concepts such as interlanguage and communicative competence; bilingualism; the optimal age for second-language acquisition; and a critical appraisal of different theories of second-language acquisition. Both theoretical and instructional implications of second-language acquisition research are considered. This course can be used toward certification in TESOL and is a required course for the graduate certificate in language instruction. Prerequisite: Ling 170D or equivalent is recommended, especially for undergraduates, but not required. Credit 3 units.

**A&S LA**

**Ling 467. Grammar and Vocabulary Acquisition**

*Same as Span 467.*

**A&S LA**

**Ling 469. Reading and Writing in a Second Language**

*Same as Span 469.*

**A&S TH**

**Ling 472. History of the English Language**

*Same as E Lit 472.*

**A&S LA FA Lit**

**Ling 478. Topics in Linguistics**

Meets with Ling 170D or other designated linguistic courses but with additional writing and research required for graduate credit and certification. Credit 3 units.

**A&S LA**

## Literature and History

### Steering Committee

**Gerald N. Izenberg**, Professor  
(History)  
Ph.D., Harvard University

**Joseph Loewenstein**, Professor  
(English and Interdisciplinary Project in the Humanities)  
Ph.D., Yale University

**Steven Zwicker**  
Stanley Elkin Professor in the Humanities  
(English)  
Ph.D., Brown University

Literature and History offers the opportunity to explore an integrated program of literary, political, and historical studies under the auspices of the Interdisciplinary Project in the Humanities (IPH). Students interested in Literature and History can pursue it as a fully developed track within the IPH. (A full description of the requirements for completing the Literature and History program may be found in the general listing for the IPH.) This rigorous major emphasizes the interconnectedness of these disciplines and draws on the disciplinary methods of literary analysis and historical investigation.

Studying literature and history can bring a greater coherence, substantively and methodologically, to work in the humanities and social sciences. Because the program is small, it affords the opportunity to work closely with the faculty adviser. You also can take advantage of courses from other interdisciplinary programs, such as American Culture Studies and European Studies.

## Mathematics

### Chair and Professor

**David Wright**  
Ph.D., Columbia University

### Endowed Professor

**Guido Weiss**  
Elinor Anheuser Professor  
Ph.D., University of Chicago

### Professors

**Albert Baernstein II**  
Ph.D., University of Wisconsin

**Quo-Shin Chi**  
Ph.D., Stanford University

**Renato Feres**  
Ph.D., California Institute of Technology

**Ronald Freiwald**  
Ph.D., University of Rochester

**Gary R. Jensen**  
Ph.D., University of California–Berkeley

**Steven Krantz**  
Ph.D., Princeton University

**John McCarthy**  
Ph.D., University of California–Berkeley

**Mohan Kumar Neithalath**  
Ph.D., Bombay University

**Rachel Roberts**  
Ph.D., Cornell University

**Richard Rochberg**  
Ph.D., Harvard University

**Stanley Sawyer**  
Ph.D., California Institute of Technology

**John Shreshian**  
Ph.D., Rutgers University

**Edward L. Spitznagel**  
Ph.D., University of Chicago

**Nik Weaver**  
Ph.D., University of California–Berkeley

**Victor Wickerhauser**  
Ph.D., Yale University

**Edward Wilson**  
Ph.D., Washington University

### Associate Professors

**Brian Blank**  
Ph.D., Cornell University

**Jack Shapiro**  
Ph.D., City University of New York

**Cleon R. Yohe**  
Ph.D., University of Chicago

### Assistant Professors

**Roya Beheshti**  
Ph.D., Massachusetts Institute of Technology

**Jimin Ding**  
Ph.D., University of California–Davis

**Nan Lin**  
Ph.D., University of Illinois

**Xiang Tang**  
Ph.D., University of California–Berkeley

### Professors Emeriti

**W. M. Boothby**  
Ph.D., University of Michigan

**Lawrence Conlon**  
Ph.D., Harvard University

**James A. Jenkins**  
Ph.D., Harvard University

**Robert H. McDowell**  
Ph.D., Purdue University

**A. Edward Nussbaum**  
Ph.D., Columbia University

In the study of mathematics, you are exploring the “language of science”—not just the traditional engineering and physical sciences, but all of the social, economic, biological, and behavioral sciences. Mathematics is also used in those parts of the humanities that employ analytical modeling techniques or rely heavily on data analysis.

The mathematics program is versatile and broad and provides opportunity to explore the major areas of the discipline. When you major in mathematics, you select a course of study that emphasizes a specific area of your choice. Areas include mathematical theory (preparation for graduate training in mathematics), probability and statistics (preparation for a career as an actuary or statistician), applications of mathematics, mathematics education (preparation for secondary school teaching), or mathematics and economics emphasis (preparation for advanced work in finance or economics).

You may choose to major in mathematics as a primary major or combine a mathematics major or minor with a second major from another department.

As a mathematics student, you may apply for independent study under the direction of faculty members. The Undergraduate Math Club, along with the mathematics department, sponsors lectures, refreshments, and films for students. In addition, you are invited to join in weekly coaching sessions for the nationwide Putnam Competition.

Although it is not necessary to declare your major until the end of the sophomore year, you are invited to consult with a department adviser early in your undergraduate career.

With a degree in mathematics, you can pursue graduate work in mathematics or other professional degree programs or pursue a career in business (actuarial and information systems/data analysis positions) or teaching. Additional information about the department and its programs is available at [www.math.wustl.edu](http://www.math.wustl.edu).

**Math Requirements:** Some departments require students to take part or all of the basic calculus–differential equations sequence, Math 131, 132, 233, and 217. A solid high school mathematics background through precalculus (including trigonometry) is sufficient preparation for Math 131. Previous study of calculus may prepare you to enter Math 132, 233, 217, or 318.

Some departments require Math 2200 (or accept it in lieu of their own statistics courses), for which Math 131 is a prerequi-

site. Math 322 and 420 are available if you are interested in further study of basic statistics.

**The Major:** In addition to the requirements of the College of Arts & Sciences, you must fulfill the requirements of one of the major plans listed below. Because different plans have overlapping requirements, you may choose a plan as late as the beginning of your junior year. An earlier decision allows you to develop the most coherent program possible.

*Plan A, Traditional:* Math 310, 4111, 4121, 429, 430, 3200, or 493, and two additional advanced courses (Math 417 and 418 recommended).

*Plan B, Probability and Statistics:* CSE 126 or 131, Math 309, 310, 318 (or 308), 493, 494, and two additional advanced probability and statistics courses.

*Plan C, Applied:* Physics 117A and 118A, or CSE 126 followed by a second computer science course; Math 217, 309, 310, 318 (or 308), 449, 450; and two additional advanced math courses (one emphasizing applications).

*Plan D, Secondary Education* (in conjunction with a major in secondary education): CSE 126 or 131; Math 302, 309, 310, 318, 3200, 331, and one additional advanced math course.

*Plan E, Mathematics (Economics Emphasis)* Math 309, 310, 3200 (or 493), 4111, 4121, and two other upper-level mathematics electives from a specified list, together with Economics 103, 104, 401 (or 402), and 413 (Econometrics).

With prior approval, you may sometimes make substitutions in the plans. Certain courses from other departments, chosen with the approval of your adviser, may satisfy requirements for advanced courses.

With prior approval of your adviser, you may enroll in supervised independent study if you have a coherent plan and a faculty member who will supervise your work. Introductory graduate-level courses (Math 5021-5022, 5031-5032, 5041-5042, 5051-5052) are also available to you as an undergraduate if you satisfy the prerequisites.

**Senior Honors:** You are encouraged to consider working toward Honors. Students in Arts & Sciences seeking Honors must have a minimum overall average of 3.50. In addition, students must complete (with grades of B or better in each):

1. At least one of the four sequences 4111-4121, 429-430, 449-450, or 493-494, and
2. At least three additional regular mathematics courses (not independent studies) numbered 400 or higher. In the case of probability/statistics track majors, at least two of these courses must be advanced courses in probability/statistics, and learning to use SAS is also strongly recommended. In the case of applied track majors, at least two of these courses must be application-oriented courses taught by the mathematics department or officially cross-listed with mathematics.

Honors candidates must also successfully complete a written Honors Project under the guidance of a faculty member and make an

oral presentation of the work to a faculty Honors Committee. Your application for Honors work should be submitted to the department's undergraduate committee chair no later than the beginning of your senior year.

If you have a plan for an independent study or project to unify the experience of your major ("a capstone project"), you can also arrange such work through the department (independent from work toward honors).

## Undergraduate Courses

### Math 100. Foundations for Calculus

A limited enrollment class for students planning to take calculus, but who need additional precalculus preparation. The course aims to build both the technical skills and the conceptual understanding needed to succeed in calculus. Course emphasizes links between the graphical, numeric, and algebraic viewpoints. A variety of approaches are used to present the material. Prerequisites: two years of high school algebra and a course in geometry (or the equivalent). Credit 3 units.

A&S NS FA NSM

### Math 101I. Introduction to Statistics

Basic concepts of statistics. Data collection (sampling, designing experiments), data organization (tables, graphs, frequency distributions, numerical summarization of data), statistical inference (elementary probability and hypothesis testing). Prerequisites: two years of high school algebra. Credit 3 units.

A&S NS, QA FA NSM

### Math 109. Mathematics and Music

*Same as Music 109M.*

An elementary introduction to the connections between mathematics and musical sound. Review of integers, ratios, prime numbers, functions, rationality, exponents, logarithms, trigonometry. Review of scales, clefs, key signatures, intervals, time signatures. Frequency and pitch. The connection between intervals and logarithms. Tuning and temperament, just intonation. Scales and modular arithmetic. The mathematics of harmony; the sound of the low prime numbers and their roles in harmony. Harmonics, partials, and overtones. Numerical integration and basic Fourier analysis. The nature of complex tones. Analysis of instrument sounds. Human vowels and formants. Prerequisites: two years of high school algebra and trigonometry. Credit 3 units.

A&S NS, QA FA NSM

### Math 127. Calculus I for the Life, Managerial, and Social Sciences

An introduction to calculus of algebraic, logarithmic, and exponential functions. Functions and graphs, the derivative, techniques of differentiation, applications of the derivative to rates of change, max/min problems, and curve sketching. The definite integral, the Fundamental Theorem of Calculus, integration by substitution, applications of the integral. Intended for students in business, economics, and the social sciences who wish a one- or two-semester introduction to the subject. Students planning to take Math 233 should enroll instead in Math 131, followed by Math 132. Prerequisites: high school algebra and precalculus. Credit 3 units.

A&S NS, QA

### Math 128. Calculus II for the Life, Managerial, and Social Sciences

Continuation of Math 127. Additional techniques of integration, introduction to partial derivatives and multiple integrals. Topics in differential equations, approximation by polynomials, probability,

and calculus of trigonometric functions. Intended for students in business, economics, and social sciences who wish a one- or two-semester introduction to the subject. Students planning to take Math 233 should enroll instead in Math 132. Prerequisite: Math 127 or the equivalent. Credit 3 units.

A&S NS, QA

### Math 130C. Introduction to Computing

*Same as CSE 131.*

### Math 130S. Calculus I

Special short summer course for incoming students. Derivatives of algebraic, trigonometric, and transcendental function; techniques of differentiation and applications of the derivative. The definite integral and Fundamental Theorem of Calculus. Areas. Simpler integration techniques. Prerequisites: high school algebra and precalculus (including trigonometry). Credit 3 units.

A&S NS, QA

### Math 131. Calculus I

*Same as Math 131.*

Derivatives of algebraic, trigonometric, and transcendental functions; techniques of differentiation and applications of the derivative. The definite integral and Fundamental Theorem of Calculus. Areas. Simpler integration techniques. Prerequisites: high school algebra and precalculus, including trigonometry. Credit 3 units.

A&S NS, QA FA NSM

### Math 132. Calculus II

*Same as Math 132.*

Continuation of Math 131. A brief review of the definite integral and Fundamental Theorem of Calculus. Techniques of integration, applications of the integral, sequences and series, and some material on differential equations. Prerequisite: Math 131, or a B or better grade in a one-year high school calculus course, or permission of the department. Credit 3 units.

A&S NS, QA FA NSM

### Math 201. Freshman Seminar: How

#### Mathematics Thinks: Multivariable Calculus

An introduction to multivariable calculus covering most of the material in Math 233, but at a greater level of rigor. For purposes of major requirements, this course can replace Math 233. Enrollment limited to 15. Open only to freshmen with a score of 5 on the AP Calculus Exam (BC version). However, some students with this score may nevertheless be better served by Math 233. Consultation with the department or instructor recommended before enrolling. Students cannot receive credit for both Math 201 and Math 233. Credit 4 units.

A&S NS, QA

### Math 217. Differential Equations

Introduction to ordinary differential equations: first-order equations, linear equations, systems of equations, series solutions, Fourier series methods, Laplace transform methods, numerical solutions, computer-aided study of differential equations, graphics phase planes. Prerequisite: Math 233 (or Math 233 concurrently). Credit 4 units.

A&S NS, QA FA NSM

### Math 220. Finite Mathematics

Topics selected from number theory, combinatorics and graph theory. Methods of proof and practical applications: for example, calendars, scheduling, communications, encryption. Prerequisite: high school algebra. Credit 3 units.

A&S NS, QA FA NSM

### Math 220O. Elementary Probability and Statistics

*Same as ASTAT 220O.*

An introduction to probability and statistics. Discrete and continuous random variables, mean and variance, hypothesis testing and confidence limits,

nonparametric methods, Student's *t*, analysis of variance, regression and contingency tables. Graphing calculator with statistical distribution functions (such as the TI-83) may be required. Prerequisite: Math 131. Credit 3 units.

**A&S** NS, QA

### Math 233. Calculus III

*Same as Math 233.*

Differential and integral calculus for functions of two and three variables. Vectors, curves, and surfaces in space; partial derivatives; multiple integrals; line integrals; vector calculus through Green's Theorem. Prerequisite: Math 132 or score of 5 on Advanced Placement BC Calculus exam, or permission of the department. Credit 4 units.

**A&S** NS, QA **FA** NSM

### Math 266. Math for Elementary School Teachers

A review of the elementary school mathematics at a level beyond its usual presentation in the schools. Applications of all concepts are given in abundance. Designed for future elementary school teachers. Prerequisite: two years of high school mathematics. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Math 302. Elementary Geometry from an Advanced Point of View

A rigorous modern treatment of Euclidean geometry and an introduction to non-Euclidean geometry. Prerequisite: Math 310 or permission of instructor. Credit 3 units.

**A&S** NS **FA** NSM

### Math 308. Mathematics for the Physical Sciences

Continuation of Math 233 emphasizing topics of interest in the physical sciences. Topics in multi-variable and vector calculus (div, grad, curl); line, surface integrals, and connections to electromagnetism; Fourier series and integrals; boundary value problems (diffusion and wave equations); additional topics if time permits. Students may not receive credit for both Math 308 and Math 318. Prerequisite: Math 233 or permission of instructor. Credit 3 units.

**A&S** NS **FA** NSM

### Math 309. Matrix Algebra

*Same as ESE 309.*

An introductory course in linear algebra that focuses on Euclidean *n*-space, matrices, and related computations. Topics include: systems of linear equations, row reduction, matrix operations, determinants, linear independence, dimension, rank, change of basis, diagonalization, eigenvalues, eigenvectors, orthogonality, symmetric matrices, least square approximation, quadratic forms. Introduction to abstract vector spaces. Prerequisite: Math 132. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Math 310. Foundations for Higher Mathematics

*Same as Math 3101.*

Introduction to the rigorous techniques used in more advanced mathematics. Topics include basic logic, use of quantifiers, set theory, methods of proof and disproof (counterexamples), foundations of mathematics. Use of these methods in areas such as construction of number systems, simple number theory, combinatorial arguments, and elementary proofs in analysis. Prerequisite: Math 233. Credit 3 units.

**A&S** NS **FA** NSM

### Math 310W. Foundations for Higher Mathematics with Writing

This is a writing-intensive version of Math 310. Students participate in the regular Math 310 lectures and are responsible for all the exams and assignments associated with Math 310. Students in

Math 310W have one additional meeting each week to deal with writing issues. At least three papers (4 to 5 pages in length) will be required, each with at least one revision. Prerequisite: Math 233 or permission of instructor. Credit 4 units.

**A&S** NS, WI

### Math 312. Differential Equations and Dynamical Systems

Qualitative theory of ordinary differential equations. Picard's existence and uniqueness theorem, the phase plane, Poincare-Bendixon theory, stationary points, attractors and repellers, graphical methods. Physical applications, including chaos, are indicated. Prerequisite: Math 217. Credit 3 units.

**A&S** NS **FA** NSM

### Math 318. Introduction to Calculus of Several Variables

Differential and integral calculus for functions of *n*-variables making some use of matrix algebra, and at a level of rigor intermediate between that of Calculus III and higher-level analysis courses. Students may not receive credit for both Math 308 and 318. Prerequisites: Math 309 and 233. Credit 3 units.

**A&S** NS **FA** NSM

### Math 3200. Elementary to Intermediate Statistics and Data Analysis

*Same as ASTAT 5200.*

An introduction to probability and statistics. Discrete and continuous random variables, mean and variance, hypothesis testing and confidence limits, Bayesian inference, nonparametric methods, Student's *t*, contingency tables, multifactor analysis of variance, fixed effects, random effects, mixed models, multiple regression, maximum likelihood, and logistic regression. Graphing calculator with Z, *t*, chi-square, and F distribution functions (such as the TI-83 series) required. Calculus and the SAS software package are both used in an essential way. Prerequisite: Math 233 or consent of the instructor. Credit 3 units.

**A&S** NS, QA

### Math 322. Biostatistics

*Same as Math 322.*

A second course in elementary statistics with applications to life sciences and medicine. Review of basic statistics using biological and medical examples. New topics include incidence and prevalence, medical diagnosis, sensitivity and specificity, Bayes' rule, decision making, maximum likelihood, logistic regression, ROC curves, and survival analysis. Prerequisite: Math 3200 or a strong performance in Math 2200 and permission of the instructor. Credit 3 units.

**A&S** NS **FA** NSM

### Math 331. Algebraic Systems

*Same as Math 3311.*

Polynomials, binomial expansions, factoring, rings (integers and polynomials), unique factorization, and other topics relevant to the high school curriculum. Useful for future secondary school teachers and also for math majors seeking a course in algebra at a less abstract level than Math 430. Prerequisite: Math 310 or permission of instructor. Credit 3 units.

**A&S** NS **FA** NSM

### Math 3351. Elementary Theory of Numbers

Divisibility properties of integers, congruences, quadratic reciprocity, Diophantine equations. Introduction to continued fractions, and a brief discussion of public key cryptography. Prerequisite: Math 310 or permission of instructor. Credit 3 units.

**A&S** NS **FA** NSM

### Math 350. Topics in Applied Mathematics

Topics change with each offering of the course.

Past topics have included Mathematics and Multimedia, mathematics and chemistry of reaction-diffusion systems, and mathematical biology. Prerequisites may vary with the topic, but always include at least Math 233. Credit 3 units.

**A&S** NS **FA** NSM

### Math 370. Introduction to Combinatorics

Basics of enumeration (combinations, permutations, and enumeration of functions between finite sets), generating functions; the inclusion-exclusion principle, partition theory, and introductory graph theory. As time permits, additional topics may include Ramsey's Theorem, probabilistic methods in combinatorics and algebraic methods in combinatorics. Prerequisites: Math 132, 309, and 310, or permission of the instructor. Credit 3 units.

**A&S** NS, QA

### Math 400. Undergraduate Independent Study

Approval of instructor required. Credit variable, maximum 3 units.

### Math 407. An Introduction to Differential Geometry

A study of properties of curves and surfaces in 3-dimensional Euclidean space. The course is essentially a modern recount of a seminal paper of Gauss. Prerequisites: Math 233 and Math 309. Credit 3 units.

**A&S** NS

### Math 408. Nonparametric Statistics

*Same as Math 408.*

Statistical methods that make no or almost no assumptions about the data distribution. Permutation tests of different types; nonparametric confidence intervals and correlation coefficients; jackknife and bootstrap resampling; nonparametric regressions. As time permits, topics chosen from density estimation and kernel regression. Short computer programs will be written in a language such as R or C. Prerequisite: Math 420 or 493. Credit 3 units.

**A&S** NS **FA** NSM

### Math 410. Introduction to Fourier Series and Integrals

The basic theory of Fourier series and Fourier integrals, including different types of convergence. Applications to certain differential equations. Prerequisites: Math 233 and 309. Credit 3 units.

**A&S** NS

### Math 4111. Introduction to Analysis

The real number system and the least upper-bound property; metric spaces (completeness, compactness, and connectedness); continuous functions (in  $\mathbb{R}^n$ ; on compact spaces; on connected spaces);  $C(X)$  (pointwise and uniform convergence, Weierstrass approximation theorem), differentiation (mean value theorem, Taylor's theorem), the contraction mapping theorem, the inverse and implicit function theorems. Prerequisite: Math 310 or permission of instructor. Credit 3 units.

**A&S** NS, QA

### Math 4121. Introduction to Lebesgue Integration

Riemann integration, measurable functions, measures, Lebesgue measure, the Lebesgue integral, integrable functions,  $L^p$  spaces, modes of convergence, decomposition of measures, product measures. Prerequisite: Math 4111 or permission of the instructor. Credit 3 units.

**A&S** NS

### Math 415. Partial Differential Equations

*Same as Math 415.*

Introduction to the theory of PDEs with applications to selected classical problems in physics and engineering. Linear and quasilinear first order equations, derivation of some of the classical PDEs of physics, and standard solution techniques for boundary and initial value problems. Preliminary topics such as orthogonal functions, Fourier

series, and variational methods introduced as needed. Prerequisites: Math 217 and 309 or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 416. Complex Variables

*Same as Math 416.*

Analytic functions, elementary functions and their properties, line integrals, the Cauchy integral formula, power series, residues, poles, conformal mapping and applications. Prerequisite: Math 318, Math 308, or ESE 317, or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 417. Introduction to Topology and Modern Analysis I

*Same as Math 4171.*

An introduction to set theory, metric spaces, and general topology. Connections to analysis are made as appropriate. Prerequisite: Math 4111. Credit 3 units.

**A&S NS FA NSM**

#### Math 418. Introduction to Topology and Modern Analysis II

Continuation of Math 417. May include some algebraic topology (depending on material covered in 417). Prerequisite: Math 417. Credit 3 units.

**A&S NS FA NSM**

#### Math 420. Experimental Design

*Same as Math 420.*

A first course in the design and analysis of experiments, from the point of view of regression. Factorial, randomized block, split-plot, Latin square, and similar design. Prerequisite: Math 3200 or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 429. Linear Algebra

Introduction to the linear algebra of finite-dimensional vector spaces. Includes systems of equations, matrices, determinants, inner product spaces, spectral theory. Prerequisite: Math 310 or permission of instructor. Credit 3 units.

**A&S NS, QA FA NSM**

#### Math 430. Modern Algebra

Introduction to groups, rings, and fields. Includes permutation groups, group and ring homomorphisms, field extensions, connections with linear algebra. Prerequisite: Math 429 or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 434. Survival Analysis

*Same as Math 434.*

Life table analysis and testing, mortality and failure rates, Kaplan-Meier or product-limit estimators, hypothesis testing and estimation in the presence of random arrivals and departures, and the Cox proportional hazards model. Techniques of survival analysis are used in medical research, industrial planning, and the insurance industry. Prerequisites: Math 309 and 3200 or the equivalent. Credit 3 units.

**A&S NS FA NSM**

#### Math 436. Algebraic Geometry

Introduction to affine and projective algebraic varieties, the Zariski topology, regular and rational mappings, simple and singular points, divisors and differential forms, genus, the Riemann-Roch theorem. Prerequisites: Math 318, 429, and 430, or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 439. Linear Statistical Models

*Same as Math 439.*

Introduction to statistical methods based in linear algebra. Topics include multivariate normal distributions; the distribution of quadratic forms; linear regression and ANOVAs; general linear hypotheses; principal component and linear discriminant

models; multivariate linear regressions and MANOVAs; canonical correlations. If time allows, additional topics such as factor analysis, variance component and mixed model, factorial and fractional factorial models. Short computer programs will be written in a language such as SAS or R. Prerequisites: Math 309 (or 429) and Math 3200 or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 440C. Advanced Algorithms

*Same as CSE 441T.*

#### Math 449. Numerical Applied Mathematics

Computer arithmetic, error propagation, condition number and stability; mathematical modeling, approximation, and convergence; roots of functions; calculus of finite differences; implicit and explicit methods for initial value and boundary value problems; numerical integration; numerical solution of linear systems, matrix equations, and eigensystems; Fourier transforms; optimization. Various software packages are introduced and used. Prerequisites: CSE 126, 131, or 200 (or other computer background with permission of the instructor); Math 217 and 309. Credit 3 units.

**A&S NS**

#### Math 450. Topics in Applied Mathematics

*Same as Math 450.*

Topic may vary with each offering of the course. Prerequisite: Math 449 or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 456. Topics in Financial Mathematics

Topic may vary with each offering. Credit 3 units.

**A&S NS**

#### Math 459. Bayesian Statistics

An introduction to the Bayesian approach to statistical inference for data analysis in a variety of applications. Topics include: comparison of Bayesian and frequentist methods, Bayesian model specification, choice of priors, computational methods, empirical Bayes method, hands-on Bayesian data analysis using appropriate software. Prerequisite: Math 493 or permission of the instructor. Credit 3 units.

**A&S NS**

#### Math 475. Statistical Computation

*Same as Math 475.*

Applied statistics using SAS. An introduction to SAS and SAS programming; contingency tables and Mantel-Haenszel tests; general linear models and matrix operations; simple, multilinear, and stepwise regressions; ANOVAs with nested and crossed interactions; ANOVAs and regressions with vector-valued data (MANOVAs). Topics chosen from discriminant analysis, principal components analysis, logistic regression, survival analysis, and generalized linear models. Prerequisite: Math 3200 and 493 (or 493 concurrently). Credit 3 units.

**A&S NS FA NSM**

#### Math 481. Group Representations

Ideas and techniques in representation theory of finite groups and Lie groups. Credit 3 units.

**A&S NS**

#### Math 493. Probability

*Same as Math 493, ESE 428.*

A calculus-based introduction to the mathematical theory of probability at the advanced undergraduate level. Topics include the computational basics of probability theory; combinatorial methods; conditional probability including Bayes' theorem, random variables and distributions; expectations and moments; the classical distributions; and the central limit theorem. Prerequisite: Math 318 or 308, or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 494. Mathematical Statistics

*Same as Math 494.*

Theory of estimation, minimum variance and unbiased estimators, maximum likelihood theory, Bayesian estimation, prior and posterior distributions, confidence intervals for general estimators, standard estimators and distributions such as the Student-t and F-distribution from a more advanced viewpoint, hypothesis testing, the Neymann-Pearson Lemma (about best possible tests), linear models, and other topics as time permits. Prerequisite: Math 493 or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 495. Stochastic Processes

*Same as Math 495.*

Content varies with each offering of the course. Past offerings have included such topics as random walks, Markov chains, Gaussian processes, empirical processes, Markov jump processes, and a short introduction to martingales, Brownian motion, and stochastic integrals. Prerequisites: Math 318 and 493 or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

#### Math 496. Topics in Statistics

Topic varies with each offering. Credit 3 units.

**A&S NS FA NSM**

#### Math 496A. Topics in Algebra

Topic varies with each offering. Credit 3 units.

**A&S NS**

#### Math 499. Study for Honors

Prerequisites: junior or senior standing, eligibility for honors work in mathematics, and permission of the department's director of undergraduate studies. Credit 3 units.

**FA NSM**

#### Math 500. Independent Work

Prerequisites: senior or graduate standing and (for undergraduates) permission of the department's director of undergraduate studies. Credit variable, maximum 6 units.

#### Math 501C. Methods of Theoretical Physics I

*Same as Physics 501.*

#### Math 502C. Methods of Theoretical Physics II

*Same as Physics 502.*

# Medicine and Society

## Participating Faculty, 2008–10

### Director

**Bradley P. Stoner**

Associate Professor  
(Anthropology)  
M.D., Ph.D., Indiana University

### Assistant Director

**Rebecca J. Lester**

Assistant Professor  
(Anthropology)  
Ph.D., University of California–San Diego

### Endowed Professors

**Richard J. Smith**

Ralph E. Morrow Distinguished University Professor  
(Anthropology)  
Ph.D., Yale University

### Professors

**Kenneth H. Ludmerer**

(History)  
M.D., Johns Hopkins University

**Carolyn Sargent**

(Women, Gender, and Sexuality Studies; Anthropology)  
Ph.D., Michigan State University

**Glenn D. Stone**

(Anthropology)  
Ph.D., University of Arizona

**L. Lewis Wall**

(Anthropology)  
M.D., University of Kansas  
D.Phil., University of Oxford

### Associate Professor

**Geoff Childs**

(Anthropology)  
Ph.D., Indiana University

### Assistant Professors

**Peter Benson**

(Anthropology)  
Ph.D., Harvard University

**Shanti A. Parikh**

(African and African American Studies; Anthropology)  
Ph.D., Yale University

### Lecturer

**Barbara A Baumgartner**

(Women, Gender, and Sexuality Studies)  
Ph.D. Northwestern University

The Medicine and Society Program is an exciting opportunity for undergraduate students in Arts & Sciences who are interested in exploring the interface of culture, behavior, and health from a social science perspective. The program addresses the important social and cultural foundations of health and illness in human societies, with a specific emphasis upon service and research opportunities. Students also may seek a minor in public health

through the Medicine and Society Program. The program is supported by a grant from the Danforth Foundation.

Medicine and Society has its intellectual and programmatic roots in the field of medical anthropology, which is broadly defined as the study of human health and illness across culture, time, and space. Medical anthropologists examine the role of culture and society in shaping illness experiences. The discipline also provides a focus for understanding societal responses to health threats. In this regard, individual health is seen within a broader framework of social networks and the larger public and private efforts to prevent disease and promote health, both domestically and internationally.

Medical anthropologists working in cross-cultural settings may focus on such issues as traditional health beliefs and practices; cultural clashes between traditional medicine and biomedicine; political and economic foundations of health disparities; alternative and complementary medicine; social and behavioral factors affecting disease rates; and public health responses to emerging health problems. These topics all share a focus on community as a primary area of inquiry and population as a primary unit of analysis. The program will particularly appeal to students with a long-term commitment to careers in the health professions and related areas.

More recently, Medicine and Society has grown to include an emphasis on public health, and opportunities now exist for students to develop a minor concentration in this area. Students participating in the Minor in Public Health track of Medicine and Society take a required sequence of course work in public health theory and practice, coupled with elective courses in various associated disciplines such as biology, economics history, mathematics, philosophy, psychology, or Women, Gender, and Sexuality Studies.

**The Program:** Medicine and Society offers two tracks for student participation. The Four-Year Track is open to incoming freshmen with an interest in social, behavioral, and ethical dimensions of health and illness; it is limited to 20 students per year who participate in the Freshman Seminar in Medicine and Society. The Minor in Public Health Track is open to all undergraduate students with an interest in community and population health, broadly defined.

**Four-Year Track:** Upon acceptance to Washington University in the spring, students may apply for admission to the Medicine and Society Four-Year Track. Students are evaluated on the basis of academic credentials, aptitude and interest in a health-related career, and a personal statement. Students who are accepted into the Four-Year Track are enrolled in a year-long Freshman Seminar on culture, health and society in the Department of Anthropology. This seminar provides the academic foundation for future community health work in St. Louis. Beginning in the sophomore year, students identify and select a community health site for the longitudinal internship placement. The internship opportunity provides students with a

location for focusing their interest and involvement in community health, and allows students to participate in the work of the host organization. Appropriate internship sites include local health departments, various nongovernmental health aid agencies, sites for delivery of clinical care and research, and health philanthropic foundations. During the junior and senior years, academic and service activities intensify at internship and other community-based sites, culminating in a Senior Honors thesis or capstone project based upon original research and investigation. All students in the Medicine and Society Four-Year Track are encouraged to graduate with honors, based upon their independent research and academic achievement. This course of study provides an excellent foundation for future graduate work in medicine, public health, or any of the allied health professions such as nursing or physical and occupation therapy. Students who complete the program also will be highly competitive for admission to other professional schools such as law, business, or social work.

**Minor in Public Health Track:** The Minor in Public Health is administered by the Medicine and Society Program within the Department of Anthropology. The minor offers a directed course of study in public and community health, emphasizing the biological, social, and behavioral underpinnings of human health and illness at the population level. All students in Arts & Sciences are eligible to participate in the Minor in Public Health track, regardless of their major course of study. Students may enroll as early as the sophomore year. The Minor in Public Health consists of 15 credit hours of study, including three required courses (Introduction to Public Health, Public Health Research and Practice, Anthropology and Public Health) and two elective courses in related disciplines. Electives may be drawn from an approved list of courses in anthropology, biology, economics, history, mathematics, psychology, or women, gender, and sexuality studies. Students also may be eligible to participate in internships at community and population health agencies, on a space-available basis. Students who complete the Minor in Public Health will have excellent preparation for graduate-level professional study in public health, medicine, social work, law, or other areas.

**Personnel:** Medicine and Society is directed by Bradley Stoner, a medical anthropologist and infectious disease physician at Washington University. Dr. Stoner has extensive experience as a physician and public health researcher, and holds a joint appointment in the Department of Internal Medicine at Washington University School of Medicine. He oversees student training in medical anthropology and placement in the community internship sites. Dr. Stoner is assisted in these efforts by Rebecca Lester, who serves as assistant director of the program.

Students also have full access to other faculty in Anthropology and related disciplines who offer courses of relevance and interest, including:

Richard Smith—Anthropology  
 Kenneth Ludmerer—History  
 Carolyn Sargent—Women, Gender, and Sexuality Studies; Anthropology  
 Glenn Stone—Anthropology  
 Lewis Wall—Anthropology  
 Peter Benson—Anthropology  
 Geoff Childs—Anthropology  
 Shanti Parikh—African and African American Studies; Anthropology  
 Barbara Baumgartner—Women, Gender, and Sexuality Studies

## Medieval and Renaissance Studies

### Steering Committee

**Derek M. Hirst**  
 William Eliot Smith Professor  
 (History)  
 Ph.D., Cambridge University

**Joseph Loewenstein**, Professor  
 (English)  
 Ph.D., Yale University

**William E. Wallace**  
 Barbara Murphy Bryant Distinguished Professor of Art History  
 (Art History and Archaeology)  
 Ph.D., Columbia University

**Gerhild Scholz Williams**  
 Barbara Schaps Thomas and David M. Thomas Professor in the Humanities  
 (German)  
 Ph.D., University of Washington

**Steven Zwicker**  
 Stanley Elkin Professor in the Humanities  
 (English)  
 Ph.D., Brown University

### Professors

**Daniel E. Bornstein**  
 (History and Religious Studies)  
 Ph.D., University of Chicago

**David Lawton**  
 (English)  
 Ph.D., University of York

**Craig Monson**  
 (Music)  
 Ph.D., University of California–Berkeley

**Dolores Pesce**  
 (Music)  
 Ph.D., University of Maryland

**Mark S. Weil**  
 E. Desmond Lee Professor for Collaboration in the Arts  
 (Art History and Archaeology)  
 Ph.D., Columbia University

**Colette H. Winn**  
 (Romance Languages)  
 Ph.D., University of Missouri–Columbia

### Associate Professors

**Nina Cox Davis**  
 (Romance Languages)  
 Ph.D., Johns Hopkins University

**Robert K. Henke**  
 (Performing Arts)  
 Ph.D., University of California–Berkeley

**Ahmet T. Karamustafa**  
 (History)  
 Ph.D., McGill University

**Fatemeh Keshavarz Karamustafa**  
 (Asian and Near Eastern Languages)  
 Ph.D., University of London

**Eloísa Palafox**  
 (Romance Languages and Literatures)  
 Ph.D., Michigan State University  
 Doctorado, El Colegio de Mexico

**Mark Pegg**  
 (History)  
 Ph.D., Princeton University

**Michael Sherberg**  
 (Romance Languages and Literatures)  
 Ph.D., University of California–Los Angeles

### Assistant Professors

**Paul Crenshaw**  
 (Art History and Archaeology)  
 Ph.D., New York University

**Christine Johnson**  
 (History)  
 Ph.D., Johns Hopkins University

**William Layher**  
 (Germanic Languages and Literatures)  
 Ph.D., Harvard University

**Jessica A. Rosenfeld**  
 (English)  
 Ph.D., University of Pennsylvania

**Alicia W. Walker**  
 (Art History and Archaeology)  
 Ph.D., Harvard University

### Lecturer

**Jami L. Ake**, Assistant Dean and Lecturer  
 (College of Arts & Sciences; English; Women, Gender, and Sexuality Studies; IPH)  
 Ph.D., Indiana University

The faculty engaged in work in Medieval and Renaissance Studies supervises a number of interdisciplinary clusters within the Arts & Sciences curriculum. Interested students may pursue a major in Renaissance Studies under the auspices of the Interdisciplinary Project in the Humanities. The major offers you the opportunity to gain a broad understanding of the early modern world, the seedbed of modern Western civilization, through the integrated study of Renaissance literature, history, philosophy, art history, and music. (A full description of the requirements for completing the Renaissance Studies track in the Interdisciplinary Project in the Humanities may be found in the general listing for the IPH.)

Courses in the major are drawn from a wide range of departments. This allows you to develop your own course of study, to select areas of concentration that are of particular interest to you, and to work closely with faculty from different areas. You study the themes and social issues of the period through art, history, literature, and popular culture. Topics examined include the rise of urban life, the flowering of vernacular languages and new literary genres, the growing emphasis on education, the reconceiving of pictorial representation and architectural space, the expression and subversion of power in politics and culture, and the transformation of religious doctrines and institutions.

**The Minor in Renaissance Studies:** You must complete Med-Ren 110C or Humanities 203C, together with Med-Ren 318C, plus an additional 12 units in the minor, of which at least 3 units must be at the 400 level.

You may initiate your work in Medieval and Renaissance Studies by enrolling in an interdisciplinary FOCUS program linking the history department's course in Western Civilization with a special seminar that examines a special topic and theme. Some Medieval and Renaissance Studies FOCUS programs include a trip to the European sites under investigation in the core seminar.

## Mind, Brain, and Behavior

### Participating Faculty, 2008–10

**David A. Balota**, Professor  
(Psychology)  
Ph.D., University of South Carolina

**José L. Bermúdez**, Professor  
(Philosophy and Philosophy–  
Neuroscience–Psychology)  
Ph.D., University of Cambridge

**Carl Craver**, Assistant Professor  
(Philosophy and Philosophy–  
Neuroscience–Psychology)  
Ph.D., University of Pittsburgh

**John Doris**, Associate Professor  
(Philosophy and Philosophy–  
Neuroscience–Psychology)  
Ph.D., The University of Michigan–  
Ann Arbor

**Janet M. Duchek**, Associate Professor  
(Psychology)  
Ph.D., University of South Carolina

**Steven E. Petersen**  
James S. McDonnell Professor  
of Cognitive Neuroscience  
(Neurology and Neurological Surgery)  
Ph.D., California Institute of Technology

**Mark Rollins**, Associate Professor  
(Philosophy and Philosophy–  
Neuroscience–Psychology)  
Ph.D., Columbia University

How do we think? What is human consciousness? What is the relationship between the mind and the brain? During the past few decades, an explosive growth of knowledge in the cognitive sciences has begun to yield answers to fundamental mysteries about the nature of human thought. Students in this two-year program investigate new theories and problems emerging from this interdisciplinary area of study.

The Mind, Brain, and Behavior (MBB) program, which is open to students entering any of the University's undergraduate schools, is a two-year program that engages students with the research culture of the University. The program builds upon areas of research strength and increasing faculty collaboration within the University. It brings together faculty from several departments and students who share an interest in an area of study to create a lively intellectual and social community; to foster a culture of inquiry; and to enable students, early in their undergraduate career, to participate in research.

During the first year, freshmen take two core courses that provide an introduction to the interdisciplinary study of the mind-brain (MBB 120 and MBB 122). These courses are taught collaboratively by faculty mem-

bers from different disciplines. In the sophomore year students are able to undertake research under the supervision of one or more of the participating faculty members (MBB 300). Sophomores may choose among several research options, each combining independent work with opportunities to work collaboratively.

Participation in Mind, Brain, and Behavior is fully compatible with all majors and preprofessional programs. Entering students from all schools are welcome to apply for admission. Enrollment in Mind, Brain, and Behavior is limited to 45 students each year.

### Undergraduate Courses

#### **MBB 120A. Introduction to Study of the Mind-Brain: Psychological, Biological, and Philosophical Perspectives**

A consideration of three primary areas of research in cognitive science: attention, memory, and language. These topics are used to illustrate the techniques by which mental abilities are investigated and explained in psychology and neuroscience: the focus, in particular, is on the use of reaction time studies, brain imaging, and cell recordings to isolate the basic components that make up complex functions. In addition to the central concepts and theories in each area, the course will address philosophical implications of this research concerning how the mind and brain are related, how the mind-brain encodes or represents information, and the nature of consciousness. And there will be an emphasis on applying these findings to important problems, such as Alzheimer's disease and deficits due to brain damage. The class will be taught by three members of the faculty from different disciplines and combines a whole-group lecture with small discussion classes. The goal is to give students a good understanding of the interdisciplinary nature of cognitive science and to help them develop the ability to think and write critically about scientific research into the mind-brain. Prerequisite: admission to the Mind, Brain, and Behavior program. Credit 3 units.

**A&S** NS  
SB:> SCI

#### **MBB 122. Introduction to the Study of the Mind Brain II**

In this course, participants in the Mind, Brain, and Behavior program will continue their exploration of cognitive science. We will explore different frameworks for thinking about how the different branches of cognitive science relate to each other. The course will contain an introduction to relevant topics in the philosophy of science and the philosophy of mind. Prerequisite: MBB/PNP 120. Credit 3 units.

**A&S** SS

#### **MBB 300. Research in Mind, Brain, and Behavior**

*Same as PNP 3001.*

An introduction to research for students in the Mind, Brain and Behavior program. Students work under the supervision of a mentor. Prerequisites: admission to the Mind, Brain, and Behavior program, completion of MBB/PNP 122, and permission of the mentor. Credit variable, maximum 3 units.

**A&S** NS

## Music

### Chair

#### Dolores Pesce

Ph.D., University of Maryland

### Endowed Professor

#### Hugh Macdonald

Avis Blewett Professor of Music  
Ph.D., Cambridge University

### Professors

#### Seth Carlin

M.S., Juilliard School of Music

#### Jeffrey Kurtzman

Ph.D., University of Illinois

#### Craig Monson

Ph.D., University of California–Berkeley

### Associate Professor

#### Robert Snarrenberg

Ph.D., University of Michigan

### Visiting Associate Professors

#### Darrell Berg

Ph.D., State University of New York–Buffalo

#### Paul DeMarinis

M.M., Webster University

### Assistant Professors

#### Patrick Burke

Ph.D., University of Wisconsin

#### Todd Decker

Ph.D., University of Michigan

#### Bruce Durazzi

Ph.D., Yale University

#### Martin Kennedy

D.M.A., Juilliard School of Music

#### John Turci-Escobar

Ph.D., Yale University

#### Peter Schmelz

Ph.D., University of California–Berkeley

### Visiting Assistant Professor

#### Kenneth Mitchell

Ph.D., Washington University

### Senior Lecturer

#### Christine Armistead

M.M., Washington University

### Lecturers

#### William Lenihan

B.Mus., University of Missouri–St. Louis

#### Dan Presgrave

M.M., Washington University

### Opera Director

#### Julia Stewart

M.A., Mozarteum, Salzburg

### Director of Vocal Activities

#### John Stewart

M.A., Brown University

### Professors Emeriti

#### Harold Blumenfeld

M.M., Yale University

#### Kathleen Bolduan

Ph.D., Washington University

#### Roland Jordan

Ph.D., Washington University

#### John Perkins

M.F.A., Brandeis University

#### William Schatzkamer

Diploma, Juilliard School of Music

#### Robert Wykes

D.M.A., University of Illinois

The Department of Music offers a music program of exceptional quality and diversity. In this varied course of study, where music is approached as a liberal and fine art, rather than as an isolated, separate subject, you may pursue practical and creative music making or study musical traditions and individual works. Music courses are open to all students in the University.

We offer you the opportunity to develop performance skills in voice or instruments through private instruction or through participation in small or large ensembles. Private music lessons with our prominent faculty, including members of the Saint Louis Symphony Orchestra, are available in voice, piano, organ, harpsichord, guitar, lute, and all orchestral and jazz instruments.

As a music major, you can explore critical issues of tradition, individual composers, compositional craft, aesthetic interpretation, and music's social and cultural significance through a wide range of courses from introductory classes to highly specialized seminars. Instruction is available in jazz and ragtime, popular music, world musics, the history and literature of Western music, ethnomusicology, music theory and analysis, musical composition, and electronic music. All performance, creative, and academic endeavors in music are supported by a thorough grounding in musicianship and keyboard skills.

Music majors may take advantage of study abroad programs in music in England, France, Ireland, and South Africa. Summer research projects under faculty direction are also available.

Several options are available for students interested in music: the Bachelor of Arts degree with a major in music, the Bachelor of Music degree, a minor in music, and a minor in jazz studies. You may take the A.B. degree in combination with a major in another field or as your primary major in a broad liberal arts education. Majoring in music can prepare you well for graduate work and for a variety of musical careers and other professions. Details of major course requirements are available through the Department of Music.

**Becoming a Music Major:** If you plan to declare a major in music, you should consult with the department as early as possible. You should apply to the department by the spring of your sophomore year. Students interested in pursuing a music major should begin the

appropriate course sequences in music theory, music history, keyboard skills, and musicianship.

**The Bachelor of Arts in Music Major:** You are required to complete a minimum of 15 units in advanced courses: Music 3011, 3012, and 3013; an additional 3 units of music history; and a senior project. Other requirements include 12 units of music theory (Music 103E-104E, 221-222, 1091-1092), 2 units each of musicianship (Music 1231-1241) and keyboard skills (Music 1232-1242), and 14 units of electives (courses, applied music, or ensembles), for a total of 45 units.

**The Bachelor of Music Major:** Declaration of this major must be approved by the department before the end of your sophomore year. You are required to complete a minimum of 27 to 39 units in advanced courses, depending on your area of concentration. You may earn the B.Mus. degree with concentration in performance, composition, music theory, or music history and literature, or you may pursue a general program combining two or more areas.

Each concentration requires a major senior project, such as a thesis, recital, lecture-demonstration, or composition portfolio. You must also pass a keyboard proficiency examination.

Core courses for the B.Mus. consist of 27–32 units of courses: 12 units of music theory (Music 103E-104E, 221-222, 1091-1092), 9 units of music history (Music 3011-3012-3013), 5 units of musicianship (Music 1231-1241 plus one advanced musicianship course), and 1 unit of keyboard skills per semester once the major is declared, as necessary to complete Music 3242. In addition, students must register for applied music lessons and at least one ensemble every semester once the major has been declared. The additional requirements for each concentration are specified in the department handbook.

**The Minor in Music:** You must complete a minimum of 18 units, which include 6 units of music theory (Music 103E-104E or 1091-1092) and 3 of music history (selected from Music 3011, 3012, and 3013). Of the remaining 9 units, 6 must be at the 300 or 400 level. Students whose interests are not served by these requirements may apply to the department chair with an alternative proposal.

**The Minor in Jazz Studies:** You must complete a minimum of 20 units, which include 3 units of jazz history (Music 105), 6 units of music theory (Music 1091-1092 or 103-104), 3 units of jazz improvisation (Music 3091), 3 units of Jazz in American Culture (Music 3023P), and two semesters of participation in a jazz ensemble or combo (2 units). The remaining 3 units are to be selected from a list of advanced music courses.

**Ensembles:** The department sponsors numerous performing ensembles that draw members from the University and the surrounding community. You must audition for admission to the ensembles. All ensembles are available for graded credit, for credit/no credit, or off roster. Ensembles give one or

more public performances each semester. If you are enrolled for credit in one of the department's ensembles, you may be entitled to a scholarship that covers a portion of the fee for lessons.

**Vocal Ensembles:** Concert Choir, Opera Production.

**Instrumental Ensembles:** Flute Choir, Jazz Band, small chamber ensembles, Symphony Orchestra, Chamber Winds, jazz combos.

**Applied Music:** You may take voice, piano, organ, harpsichord, guitar, lute, and all orchestral and jazz instruments in the appropriate sequences. You must take at least two terms of applied music for the units to count toward graduation. A separate fee is charged for private instruction. As a music major or minor, you will receive an applied music scholarship to cover all or a portion of the fee, respectively. If you enroll for credit in one of the department's ensembles, you are entitled to a scholarship for a portion of the fee for lessons each semester you are enrolled. In addition, the department has a limited number of partial scholarships based on need and merit.

**Senior Honors:** You are encouraged to work toward Honors. To qualify, you must have an outstanding academic record and satisfactorily complete a Senior Honors project (in Music 499) and an oral examination with a faculty committee. Your project proposal is due at the end of your junior year.

## Ensemble Performance

### Music 133-134, 333-334, 4533-4534. Symphony Orchestra

A select ensemble of about 75 players that performs a repertoire from the Baroque to the modern periods in four public concerts a year. May be repeated for credit. Prerequisite: admission by audition. Three rehearsal hours a week. Credit 1 unit a semester.

**A&S** LA

### Music 137-138, 337-338, 4537-4538. Small Chamber Ensembles

Students interested in performance of chamber music are organized into various ensembles for weekly coaching sessions. May be repeated for credit. Prerequisite: permission of the department. Special fee applicable. One class hour a week. Credit 1 unit a semester.

**A&S** LA

### Music 1371-1381, 3371-3381. Woodwind and Brass Choir

A group of select woodwind and brass players who form brass and woodwind choirs and smaller ensembles such as quintets and quartets. The weekly rehearsals are coached. The ensembles perform on student recitals and at various campus functions. Credit 1 unit.

**A&S** LA

### Music 1372-1382, 3372-3382. Flute Choir

Weekly rehearsals of flute ensemble literature of many styles, Bach to bop. Developing skills of tone production, technique, intonation, sight reading, and musicianship. One performance per semester required. Prerequisite: admission by audition. Special fee applicable. Two class hours a week. Credit 1 unit a semester.

**A&S** LA

### Music 1376-1386, 3376-3386. Jazz Combo

Students are placed in small combos for regular, weekly coaching. May be repeated for credit. Prerequisite: permission of the department. Special fee applicable. Credit 1 unit a semester.

**A&S** LA

### Music 233-234, 3331-3341. Jazz Band

Study of the literature of big band jazz. Concerts presented each semester. May be repeated for credit. Prerequisite: admission by audition. Two and one-half rehearsal hours a week. Credit 1 unit a semester.

**A&S** LA

### Music 237-238, 435-436. Concert Choir

A study of the repertoire of the vocal ensemble from the Renaissance to the 20th century, with performance in public concerts. May be repeated for credit. Prerequisite: audition and consent of instructor. Four class hours per week. Credit 2 units a semester.

**A&S** LA

## Applied Music

Weekly private lessons are available for either 1.5 units of credit (half-hour lesson) or 3 units of credit (hour lesson). Students in voice, piano, and guitar are required to attend a regularly scheduled master class in addition to private lessons. Interested students should inquire at the department for further details prior to registration. Nonmusic majors may register credit/no credit. Credit toward graduation is contingent upon the completion of at least two semesters of study. Students must pass a jury to advance from one level to the next. See *Course Listings* for details.

### Music 1511. Introductory Guitar

### Music 159, 160. Introductory Piano Class

### Music 1711. Introductory Voice

### Music 161, 162; 261, 262; 361, 362; 461, 462. Piano

### Music 1612, 1622; 2612, 2622; 3612, 3622; 4612, 4622. Jazz Piano

### Music 163, 164; 263, 264; 363, 364; 463, 464. Harpsichord

### Music 165, 166; 265, 266; 365, 366; 465, 466. Organ

### Music 167, 168; 267, 268; 367, 368; 467, 468. Woodwinds

### Music 167J, 168J; 367J, 368J. Jazz Woodwinds

### Music 169, 170; 269, 270; 369, 370; 469, 470. Brass

### Music 169J, 170J; 369J, 370J. Jazz Brass

### Music 171, 172; 271, 272; 371, 372; 471, 472. Percussion

### Music 171J, 172J; 371J, 372J. Jazz Percussion

### Music 173, 174; 273, 274; 373, 374; 473, 474. Strings

### Music 173J, 174J; 373J, 374J. Jazz Strings

### Music 1731, 1741; 2731, 2741; 3731, 3741; 4731, 4741. Lute

### Music 175, 176; 275, 276; 375, 376; 475, 476. Guitar

### Music 1754, 1764; 2754, 2764; 3754, 3764; 4754, 4764. Jazz Guitar

### Music 1755, 1765. Banjo and Mandolin

### Music 177, 178; 277, 278; 377, 378; 477, 478. Voice

### Music 3613, 3623; 4613, 4623. Fortepiano

## Undergraduate Courses

**Music 101E, 102E. Introduction to Music I, II** Surveys of "art" music in Western culture from the Middle Ages to the mid-18th century and from the middle of the 18th century to the present. Emphasis in the first term is on sacred and secular music of the church, court, and middle-class society in its historical and cultural context; in the second semester, emphasis is on music by composers from Haydn and Mozart to George Crumb and John Cage. Regular listening and writing assignments are designed to develop the capacity to hear perceptively and write critically about the music studied. No prior knowledge of musical notation required. This course is not recommended for music minors or majors. For a one-semester course covering Western classical and popular music and music from other cultures, see 114E, Exploring Music. Credit 3 units a semester.

**A&S** LA

### Music 1021. Musics of the World

*Same as IS 1021, AFAS 1277.*

This course provides an introduction to the field of ethnomusicology as well as a survey of selected musics from around the world. We will investigate not only musical sound itself, but how music interacts with other cultural domains, such as religion/cosmology, politics, economics, and social structure. The course will use case studies from regions around the world (such as Indonesia, India, the Middle East, sub-Saharan Africa, and Latin America) to illustrate the conceptual problems and methodologies raised by the cross-cultural study of music, as well as acquaint you with the rich variety of music around the globe. Credit 3 units.

**A&S** CD, TH

### Music 1022. Popular Music in American Culture

*Same as AFAS 127, AFAS 127, AMCS 127.*

Developments in American and African-American popular music since WWII, with special emphasis on the role of popular music in social and political contexts. Among the genres to be studied are rhythm-and-blues, rock 'n' roll, country, rock, fusion, soul, funk, heavy metal, alternative, and rap. Credit 3 units.

**A&S** LA, SD

### Music 103E. Music Theory I: Introduction to Music Theory

Vocabularies and skills basic to music theory introduced through concentrated work in notation, the development of specific compositional skills, and musical analysis. Concepts of musical structure and the relationship between music and other creative fields explored through the study of music from three periods of the Western tradition: medieval liturgical chant, music of the Classical period, and music of the early 20th century. Ability to read musical notation required. Keyboard skills desirable. Music 103E is the entry-level course for all music majors and minors. Credit 3 units.

**A&S** LA

### Music 104E. Music Theory II

A systematic introduction to the basic principles of tonality as manifested in western European music of the 18th and early 19th centuries. Topics include pitch, time, line and linear elaboration, counterpoint, harmony, phrase, form, and chromaticism. The principles are explored through both musical composition and interpretation of

musical artworks. Prerequisite: Music 103E. Credit 3 units.

**A&S LA**

**Music 105. History of Jazz**

*Same as AFAS 1055, AMCS 105.*

History of jazz to the present, including its African elements. Credit 3 units.

**A&S LA**

**Music 109. Ragtime**

*Same as AFAS 1096, AMCS 109.*

A history of ragtime music: survey of composers and performers. Emphasis on St. Louis and the music of Scott Joplin. Credit 2 units.

**A&S LA**

**Music 109I. Jazz Theory I**

Jazz Theory I introduces the jazz music language as a preparation for the study of improvisation. The course study consists of basic music theory, including music-reading skills and notation, scales, intervals, and triads. Courses is an introduction to extended tertian chords as derived from the 21 modes of the major, melodic, and harmonic minor scales that form the basis of the jazz harmonic language. The study of chord progression and chord substitution, song form, and the blues prepares the student for a detailed study of the modern jazz language. Credit 3 units.

**Music 1092. Jazz Theory II**

Jazz Theory II outlines the harmonic, rhythmic, and improvisational practices from the Bebop period of the late 1940s to the jazz music of the present. Discussions include intermediate to advanced chord substitution, quartal and bitonal harmony, modal improvisation, pentatonic scales, and polyrhythmic drumming, concentrating on the work of the major improvisers of the 1950s–1970s. Prerequisite: Music 1091. Credit 3 units.

**Music 109M. Mathematics and Music**

*Same as Math 109.*

**Music 113. Fundamentals of Music**

This course provides a broad overview of music fundamentals designed to enhance the student's experience of music, as well as provide a foundation for further study in music theory. Students become acquainted with the basic vocabulary and building blocks of music: intervals, rhythms, scales, triads, chords, and harmony. Credit 2 units.

**Music 114E. Exploring Music**

A wide-ranging introduction to music in its many forms. Western classical and popular music is studied along with music from other cultures to highlight the varied conceptions, functions, and practices of music in different times and places. Discussion of specific pieces facilitates growth in basic musical skills and provides insights into music's multifaceted historical/cultural resonances. No previous musical background required. Includes regular reading and listening assignments. Credit 3 units.

**A&S LA**

**Music 115. Reading Music**

Elements of music notation for those with little or no music reading skill. Designed to develop a basic acquaintance with the principles of notation for students enrolled in introductory courses, applied music, and ensembles, as well as those with a general interest in learning to read music. Credit 1 unit.

**A&S LA**

**Music 116I. Freshman Seminar: Writing About Music**

This course explores the various ways in which writers from the 18th century to the present discuss music. Issues include respect for a tried-and-true musical "canon," music as an imitative vs. absolute art form, and a focus on performing virtuos-

ity/spectacle vs. musical content. In addition to reading what previous authors have written, students will write on a regular basis about examples from classical, popular, and non-Western music and critique each others' work. Ability to read music is not required. Credit 3 units.

**Music 1231, 1241. Musicianship I, II**

Basic ear training, sight singing, and dictation skills. Prerequisite: permission of instructor for nonmajors. Three and one-half hours a week. Credit 1 unit a semester.

**A&S LA**

**Music 1232, 1242. Keyboard Skills I, II**

An introduction to basic techniques of keyboard harmony using intervals, scales, and root position chords. Transposition and sight-reading skills developed. Prerequisite: permission of instructor for nonmajors. One and one-half class hours a week. Credit 1 unit a semester.

**A&S LA**

**Music 128. Selected Area for Special Study**

In-depth study in areas of special interest. Credit 3 units.

**A&S LA**

**Music 129, 130. Composition Workshop**

Introduction to certain compositional techniques of the 20th century in a workshop combining writing and performance. Prerequisite: permission of instructor. Two and one-half class hours a week. Credit 1 unit a semester.

**A&S LA**

**Music 221. Music Theory III**

Concentrated study of the principles of tonal counterpoint and their application to the interpretation of Bach keyboard suites. Class work includes both writing and analysis. Prerequisite: Music 104E. Three class hours a week. Credit 3 units.

**A&S LA**

**Music 2210. Topics in Musical Theater**

*Same as Drama 221.*

**A&S LA**

**Music 2211, 2212. Opera Projects**

*Same as ART 2212.*

Students may contract with a faculty supervisor for credit for work on opera productions or research. Contracts must be signed by the student and the faculty supervisor before the work commences. Prerequisite: permission of the instructor. Credit variable, maximum 2 units a semester.

**A&S LA**

**Music 222. Music Theory IV**

Continuation of Music 221 with study of 18th- and 19th-century harmonic, textural, and structural procedures (Bach through Brahms). Prerequisite: Music 221. Credit 3 units.

**A&S LA**

**Music 2231, 2241. Musicianship III, IV**

Intermediate-level ear training, sight singing, and dictation skills. Prerequisites: Music 1241 and permission of instructor for nonmajors. Three and one-half class hours a week. Credit 1 unit a semester.

**A&S LA**

**Music 2232, 2242. Keyboard Skills III, IV**

Intermediate skills in score reading, as well as the introduction of inversions, figured bass, and improvising melodies. Prerequisites: Music 1242 and permission of instructor for nonmajors. One and one-half class hours a week. Credit 1 unit a semester.

**A&S LA**

**Music 227, 228. Selected Area for Special Study**

In-depth study in areas of special interest. Prerequisite: permission of instructor. Credit 3 units a se-

mester.

**A&S LA**

**Music 229, 230. Composition I, II**

Beginning work in free composition for undergraduates. Conducted as independent study. May be repeated for credit. Prerequisite: permission of instructor. Credit variable, maximum 3 units a semester.

**A&S LA**

**Music 295, 296. Independent Study**

Supervised independent study in areas in which there are no current course offerings. Student must submit to the department chair an outline of the work to be covered, the number of credit hours requested for the work, and the name of the instructor who will be asked to supervise the work. Class hours variable, depending on credit. Credit variable, maximum 3 units.

**Music 298. Directed Internship**

Students receive credit for a faculty-directed and -approved internship, usually with a music professional or musical organization. The primary objective of the internship is to obtain professional experience outside the classroom. Students obtain a Learning Agreement from the Career Center and have it signed by the Career Center, the faculty sponsor, and the site supervisor, if appropriate. A final written project is to be agreed upon before work begins and will be evaluated by the faculty sponsor at the end of the internship. Students may not receive credit for work done for pay, but are encouraged to obtain written evaluations of such work for the student's academic adviser and career placement file. Credit should correspond to actual time spent in work activities; e.g., 8 to 10 hours per week for 13 or 14 weeks to receive 3 units of credit; 1 or 2 credits for fewer hours. Credit variable, maximum 3 units.

**Music 299. Performance Project**

Students may contract with a faculty supervisor for credit for work on musical performance projects or research on musical performance. Contracts must be signed by the student, the faculty supervisor, and the department chair before the student's work on the project commences. Credit variable, maximum 3 units.

**A&S LA**

**Music 3011. Music History I**

*Same as Med-Ren 3011.*

A study of music history and literature from the Middle Ages to 1650. Composers treated include Machaut, Dufay, Josquin, Palestrina, Byrd, and Monteverdi. Prerequisite: Music 103E. Credit 3 units.

**A&S TH**

**Music 3012. Music History II**

A study of music history and literature from 1650 to 1850. Composers treated include Corelli, Handel, Vivaldi, J.S. Bach and his sons, Mozart, Haydn, Beethoven, and Schumann and his contemporaries. Prerequisite: Music 3011 or 104E. Credit 3 units.

**A&S TH, WI**

**Music 3013. Music History III**

A study of music history and literature from 1850 to the present. Composers treated include Brahms, Liszt, Wagner, Verdi, Mahler, Debussy, Stravinsky, Schoenberg, Babbitt, Boulez, Stockhausen, Cage, Glass, and Reich. Prerequisite: Music 3012 or 104E. Credit 3 units.

**A&S TH, WI**

**Music 3021. Music of the African Diaspora**

*Same as IS 305, AFAS 3031.*

This course explores musical cross-fertilization among the African continent and South America, the Caribbean, and Europe. Beginning with tradi-

tional musics from selected regions of the African continent, the course examines the cultural and musical implications of transnational musical flows on peoples of the African diaspora and their multicultural audiences. Credit 3 units.

**A&S** CD, TH

**Music 3022. Native American Musical Traditions of the Western United States**  
*Same as AMCS 3022.*

Exploration of music and its historical and contemporary contexts among Native American cultures of the Southwest and the Northern Plains, chiefly Navajo and Lakota, but with some considerations of Pueblo, Shoshone, and other nations. Examinations of intertribal pow-wow movements, crossover musics, European appropriation, and re-fashioning of Native American culture in Hollywood and elsewhere. Credit 3 units.

**A&S** CD, TH

**Music 3023. Jazz in American Culture**  
*Same as AMCS 3023, AFAS 3152*

With emphasis on the major innovators in jazz from the 1940s to the present, jazz history is placed within the context of African-American and American cultural history, with particular emphasis on the effects of the Civil Rights Movement and African independence on the development of the post-WWII jazz canon. This course is not a survey. You are expected to be familiar with basic jazz history and ready to undertake more in-depth study of major figures such as Charlie Parker, Thelonius Monk, Miles Davis, Charles Mingus, Ornette Coleman, and Wynton Marsalis. The course also considers the effects of rock 'n' roll, gospel, and funk on jazz. Prerequisites: Music 105, ability to read music, or permission of instructor. Credit 3 units.

**A&S** SD, TH, WI

**Music 3024. From Cage to Glass and Beyond**

Explores the various directions composers took in the second half of the 20th century, including "chance" music of John Cage, minimalism of Philip Glass, and postmodernism. Includes concert attendance. Prerequisite: ability to read music is advisable but not required. Credit 3 units.

**A&S** TH

**Music 3025. Women of Music**

*Same as WS 3205*

Popular music and art music around the world, from the perspective of women. The roles of women as creators, performers, sponsors, and consumers. The representation of women in music, and how it relates to cultures of the past and present. Credit 3 units.

**Music 3091. Jazz Improvisation I**

An introduction to improvising music in the jazz tradition, including diatonic and chromatic harmony, extended chords, modes, and jazz scales. Exercises in basic aspects of the blues and in the styles of bebop and modern jazz. Prerequisite: Music 1091. Credit 3 units.

**A&S** LA

**Music 315, 317. Selected Area for Special Study**  
In-depth study in areas of special interest. Credit 3 units.

**Music 319. Reading the Scores: Understanding Brazilian Music through Social Categories**  
*Same as IAS 383.*

**Music 320. The American Musical Film**  
*Same as Film 359.*

**Music 321. Music Theory V**

Problems in writing and analysis defined through the study of 19th-century works. Prerequisite: Music 222. Credit 3 units.

**A&S** TH

**Music 3231, 3241. Musicianship V, VI**

Advanced ear training, sight singing, and dictation skills. Prerequisite: Music 2241. Three and one-half class hours a week. Credit 1 unit a semester.

**A&S** LA

**Music 3232, 3242. Keyboard Skills V, VI**

Advanced skills in score reading, figured bass, and improvisation, as well as drills, including seventh chords and modulation. Prerequisite: Music 2242. One and one-half class hours a week. Credit 1 unit a semester.

**A&S** LA

**Music 325. Instrumentation and Orchestration**

A study of the science of instrumentation and the art of orchestration. In-class performances of student compositions will aid in the understanding of instrumental capabilities and limitations. Analysis of orchestral scores by Ravel, Stravinsky, et al. will provide insight into efficient and creative use of the orchestra. In addition, scoring for both vocal and chamber ensembles will be covered. Prerequisite: Music 103E or permission of instructor. Credit 3 units.

**A&S** LA

**Music 328. History of the Film Score**

*Same as FILM 360.*

**Music 329, 330. Advanced Composition Workshop I, II**

Continuation of Music 129-130. Prerequisite: Music 130. Credit 1 unit a semester.

**A&S** LA

**Music 339, 340. Introduction to Conducting I, II**

Fundamentals of conducting, including the study of transposing instruments and practice in score reading. Prerequisite: permission of instructor. Credit 2 units a semester.

**A&S** LA

**Music 3951, 3961. Independent Study**

Supervised independent study in areas in which there are no current course offerings. Student must submit to the department chair an outline of the work to be covered, the number of credit hours requested for the work, and the name of the instructor who will be asked to supervise the work. Class hours variable, depending on credit. Credit variable, maximum 3 units.

**Music 401, 402. Techniques of Electronic Music**

Individual and small group instruction in "classical" procedures and relevant electronic technology. Practical composition studies to build technique in electronic music. Prerequisite: open to music majors and to others by permission of instructor. Credit 3 units a semester.

**A&S** LA

**Music 411. Music of the Medieval Period**

*Same as Med-Ren 409*

An intensive survey of Western monophonic and polyphonic music from the beginnings of Christian chant to circa 1450. Prerequisites: Music 3011 or permission of instructor. Credit 3 units.

**A&S** TH

**Music 412. Music of the Renaissance Period**

*Same as Med-Ren 412*

A survey of music literature from circa 1450 to circa 1600. Prerequisites: Music 3011 or permission of instructor. Credit 3 units.

**A&S** TH

**Music 413. Music of the Baroque Period**

An intensive survey of the primary musical forms and styles in 17th-century Italy, France, Germany, and England. Prerequisite: Music 3012 or permission of instructor. Credit 3 units.

**A&S** TH

**Music 4131. Music in the 18th Century**

Musical activity in Europe during the 18th century is the subject of this course, which brings the high baroque, gallant, and classical eras into a single narrative. Patronage, publishing, star performers, and highly specific musical publics were central to music-making across the century. How these forces shaped the professional and creative lives of the major 18th-century instrumental and vocal music will be surveyed, including works by Corelli, F. Couperin, Vivaldi, Rameau, Telemann, Handel, Hasse, Haydn, Mozart, D. Scarlatti, and several members of the Bach family. Extensive listening assignments and score analysis will be supplemented by readings drawn from recent scholarship and examination of 18th-century music publishing and other period sources in facsimile. Prerequisite: Music 3012 or permission of instructor. Credit 3 units.

**Music 414. Music of the Classic Period**

An intensive survey of music literature from c. 1750 to ca. 1830, with attention to the music of Haydn, Mozart, Beethoven, and some of their predecessors. Prerequisite: Music 3012 or permission of instructor. Credit 3 units.

**A&S** TH

**Music 416. Contemporary Music**

An intensive survey of the most significant moments in 20th-century music in the United States and Europe, focusing on issues of compositional style, performance, and politics. Special emphasis on collaborations between music and other artistic genres, especially the visual arts and dance. Particular attention also paid to primary sources, including original recordings. Prerequisite: Music 3013 or permission of instructor. Credit 3 units.

**A&S** TH

**Music 4221. Introduction to the Analysis of 20th-Century Music**

An introduction to theory and analysis of music from the 20th-century repertoire. In-class analysis and individual assignments emphasize aural understanding and tools for modeling pitch structures in post-tonal and 12-tone works. In the latter portion of the course, our focus turns toward works in which pitch structures play a smaller role. Prerequisite: Music 222 (undergraduates) or Music 423 (graduates). Credit 3 units.

**A&S** TH

**Music 423. Analysis I**

A study of structural principles underlying music of all periods: motivic usage, melodic shape, varieties of texture and structure with an emphasis on fugue, variation forms, and proportional forms such as rondo and sonata-allegro. Prerequisite: graduate standing or permission of instructor. Credit 3 units.

**A&S** TH

**Music 424. Analysis II**

Continuation of Music 423, concentrating on approaches to larger and more complex works of classically tonal music, including 18th-century symphonies and string quartets, late works by Beethoven, chamber music and symphonies of Brahms, and symphonies of Mahler. Prerequisite: Music 423 or permission of instructor. Credit 3 units.

**A&S** TH

**Music 425. Counterpoint I**

*Same as Med-Ren 426*

Concentrated independent study in 16th-century contrapuntal composition. Prerequisite: Music 222. Credit 3 units.

**A&S** LA

**Music 426. Counterpoint II**

Concentrated independent study in 18th-century contrapuntal composition Prerequisite: Music 222. Credit 3 units.

**A&S LA**

**Music 427, 428. Selected Areas for Special Study I, II**

In-depth study in areas of special interest. Prerequisite: senior or graduate standing, or permission of instructor. Credit 3 units a semester.

**A&S LA**

**Music 429, 430. Composition III, IV**

Concentrated independent work in composition for experienced undergraduate composers. May be repeated for credit. Prerequisite: permission of instructor. Credit variable, maximum 3 units a semester.

**A&S LA**

**Music 437, 438. Piano Pedagogy I, II**

The study of the fundamentals of teaching from beginning to advanced levels. A syllabus is developed through discussion of lesson plans for each level. The class participates actively in demonstrations. Credit 3 units a semester.

**A&S LA**

**Music 4371. Opera Production**

Intensive training in the principles and techniques of the opera stage. Prerequisites: two years of vocal training and audition or Drama 343. Credit variable, maximum 3 units.

**A&S LA**

**Music 4372. Voice Pedagogy**

Preparation of participants to train the singing voice through examinations of physical, phonological, neurological, and psychological aspects of vocal function, followed by observation and practice teaching. Prerequisite: permission of instructor. Credit 3 units.

**A&S LA**

**Music 4375. Vocal Literature**

A survey of song literature through listening and performing. Prerequisite: permission of instructor. Credit 3 units.

**A&S TH**

**Music 4376. Opera Literature: Various Composers**

A study of a composer's principal stage masterpieces, with an emphasis on the different genres and theatrical conventions to which the composer belongs, and on the writings for voices. Composers vary each semester. Credit 3 units.

**A&S TH**

**Music 4381. Literature of the Piano**

Concentrated study of a major piano composer and/or genre (e.g., the piano concertos of Mozart, Chopin's piano works, etc.). Although the ap-

proach is primarily analytical, historical and performance practice issues are considered as well. Prerequisite: senior standing, graduate standing, or permission of instructor. Credit 3 units.

**A&S TH**

**Music 439, 440. Diction I, II**

Principles of Italian, French, and German pronunciation covered in an interrelated approach; application of these principles to songs. Prerequisite: permission of instructor. Credit 3 units a semester.

**A&S LA**

**Music 4539, 4540. Advanced Conducting I, II**

Advanced training in conducting skills, including opportunities to conduct ensembles on campus. Prerequisite: graduate standing or permission of instructor. Credit 2 units for Music 4539, 3 units for 4540.

**A&S LA**

**Music 4991. Senior Project: Musicology or Analysis**

Supervised research in music history or theory culminating in a major paper. Required of Bachelor of Music majors with history or theory emphasis. Prerequisite: senior standing. Credit 3 units.

**A&S TH**

**Music 4992. Senior Project: Performance, Composition, or Theory**

Independent work culminating in a paper, composition, and/or performance. Projects by Bachelor of Music majors with general emphasis must combine work in two or more areas. Prerequisite: senior standing. Credit 3 units.

**A&S LA**

**Music 4993. Honors Project: Musicology or Analysis**

Prerequisite: senior standing; grade point average of 3.0 or higher; and permission of the faculty supervisor, director of undergraduate studies, and the chair of the department. Credit 3 units.

**A&S TH**

**Music 4994. Honors Project: Performance, Composition, or Theory**

Prerequisites: senior standing; grade point average of 3.0 or higher; and permission of the faculty supervisor, the director of undergraduate studies, and the chair of the department. Credit 3 units.

**A&S LA**

**Music 500. Independent Study**

Supervised independent study in areas in which there are no course offerings. Students must submit to the department chair an outline of work to be covered, the number of hours of credit requested, and the name of the instructor to supervise the research. Prerequisites: permission of instructor and department chair. Credit variable, maximum 6 units.

# Pathfinder Program in Environmental Sustainability

## Participating Faculty, 2008–2010

**Raymond E. Arvidson**

James S. McDonnell Distinguished University Professor (Earth and Planetary Sciences) Ph.D., Brown University

The Pathfinder Program in Environmental Sustainability gives participating students a chance to engage in interactive study of the environment with a small group of motivated undergraduates and a senior faculty member while fulfilling some of the breadth requirements required of undergraduates at Washington University. Through case studies and field trips, students examine the issues surrounding environmental sustainability and the preservation of the environment for future generations. While participating in the Pathfinder program, you may pursue any major in biology, chemistry, or earth and planetary sciences in the College of Arts & Science. The Pathfinder program supports the concept that taking interrelated courses and learning both analytical and technical skills helps prepare for a Pathfinder-based senior year capstone research experience and prepares one for graduate studies or the work force.

## Undergraduate Courses

**Path 201. Land Dynamics and the Environment**

Use of case studies such as anthropogenic changes to the Lower Missouri River, effects of mining in the Ozarks, and excessive uses of water in arid terrains in the southwestern United States to explore key issues associated with environmental sustainability. Scientific concepts related to the dynamics of the environment and development of policies needed to maintain land and resource sustainability. Lectures, discussion sessions, interactive computer exercises using simulation models, appropriate field trips, and student presentations. Prerequisite: admission to the Pathfinder Program in Environmental Sustainability. Credit 3 units.

**A&S NS FA NSM**

**Path 202. Case Study: Southwestern United States**

Issues associated with the Mojave Desert's environmental sustainability. Investigation of the fragile desert environment and its degradation from anthropogenic uses. Politics associated with the Mojave National Preserve. Fieldwork conducted during spring break. Prerequisite: admission to Pathfinder Program in Environmental Sustainability. Credit 2 units.

**A&S SS FA NSM**

**Path 301B. Case Study: Hawaii**

Issues in environmental sustainability and hazards of the Hawaiian Islands. Volcanism, earthquakes, tsunamis, issues related to agricultural encroachment on the subtropical rainforests. Exploration of both scientific and societal contexts. Fieldwork conducted during winter break. Prerequisites: Path 201, Path 202. Credit 1 unit.

**A&S SS FA NSM**

## Performing Arts

### Chair

**Robert K. Henke**, Professor  
Ph.D., University of California–Berkeley

### Professors

**William J. Paul**  
Ph.D., Columbia University

**Henry I. Schvey**  
Ph.D., Indiana University

### Associate Professor

**Mary-Jean Cowell**  
Ph.D., Columbia University

### Assistant Professor

**Phillip Sewell**  
Ph.D., University of Wisconsin–Madison

### Artist in Residence

**Ron Himes**  
Henry E. Hampton, Jr. Artist in Residence

### Senior Lecturers

**Richard Chapman**  
**Christine Knoblauch-O'Neal**  
M.A.L.S., Wesleyan University

**Bonnie J. Kruger**  
M.F.A., University of Illinois

**David W. Marchant**  
M.F.A., University of Iowa

**Pier Marton**  
M.F.A., University of California–Los Angeles

**Jeffery S. Matthews**  
M.F.A., Virginia Commonwealth University

**Annamaria Pileggi**  
M.F.A., Brandeis University

**Cecil Slaughter**  
M.F.A., University of Iowa

**Andrea Urice**  
M.F.A., University of Virginia

**William Whitaker**  
M.F.A., Florida Atlantic University

### Lecturers

**Angela Bengford**  
M.F.A., University of Idaho

**Julie Jordan**  
Ph.D., City University of New York

**Sean Savoie**  
M.F.A., University of Cincinnati, College Conservatory of Music

### Playwright in Residence/Lecturer

**Carter W. Lewis**  
M.A., University of Oklahoma

### Professor Emerita

**Annelise Mertz**  
M.F.A. equivalent, Folkswangschule,  
Essen, Germany

The Performing Arts Department (PAD) comprises theater, dance, and film and media

studies. For a detailed description of the Film and Media Studies program, see the separate entry on pages 129–133.

### Dance

You may select dance as a major through the Performing Arts Department. This course of study combines intensive studio work in technique and theory of modern dance, ballet, and composition with seminars examining dance as a global phenomenon with culturally specific historical, aesthetic, and anthropological aspects. The program also includes courses in stagecraft; anatomy for dancers; pedagogy; musical theater dance; and tap, jazz, and world dance forms.

When you study dance at Washington University, you learn from faculty members who have professional experience in addition to their academic degrees. You also have the opportunity to study with guest artists in residence who teach master classes and set choreography.

You may audition for the Washington University Dance Theatre, which holds annual auditions for students. If selected, you will appear in faculty and guest artist choreographed concerts in Edison Theatre. You also may participate in student choreography productions and drama productions. Each year, students attend the regional American College Dance Festival to perform and take master classes.

Dance majors take acting, stagecraft, and dance composition, as well as courses in technique and theory of modern dance and ballet. Other required courses include dance history and ethnology seminars such as From Romantic to Postmodern Dance and Ballet as Ethnic Dance and Classical Art, and electives chosen from dance accompaniment and music resources, arts management, pedagogy, applied anatomy, musical theater, jazz, and world dance (West African and Bharata Natyam) courses.

You may also choose to minor in dance. The minor in world music, dance, and theater is interdisciplinary, drawing on the distinctive methodologies and training inherent in several disciplines. This minor encourages the student already interested in the performing arts to explore those outside Euroamerican traditions. You may also minor in modern dance or ballet.

The summer program, MADE in France, is an innovative, five-week course integrating dance and design that meets for two weeks in Paris, featuring museum outings and the viewing of dance performances, and then goes to the French countryside (Burgundy) for a three-week period of training and performance workshops coordinating dance and design. The program is taught by seasoned professors in dance and design from Washington University and Connecticut College, and enhanced by several residencies of French dance troupes.

For additional information regarding majors and minors in the Performing Arts Department, please see the *Performing Arts Department Handbook*.

## Undergraduate Courses

### Dance

#### Dance 104. Body Conditioning

A complete body conditioning program designed to increase strength and flexibility. Will use some floor barre and Pilates-related floor exercises. Credit variable, maximum 2 units.

#### Dance 106E. Introduction to Dance as a Contemporary Art Form

Introduction to dance as a creative art form. Through practical work in the studio, students gain an understanding of the human body as an instrument of expression and of motion as the medium of dance. Technique, analysis, and creative work. Not open to majors. May be repeated once for credit. Credit 2 units.

**A&S** LA **FA** AH

#### Dance 111. Contemporary Dance for the Male Dancer

For men who may have athletic or other physical kinesthetic skills, but little to no formal dance training. This course is designed to meet the specific needs of the male body in its capacity for dynamic, aesthetic, expressive movement. Introduction to dance as a creative art form using the body as the instrument of expression and motion as the medium of dance. Technique, analysis, and creative work. Credit 2 units.

**A&S** LA

#### Dance 120. Yoga and Relaxation Techniques

Systematic introduction to the methods and theory of yoga as a means of stretching, strengthening, energizing, and relaxing the body. Incorporates meditation, massage, and other release techniques to help sharpen both body and mind. Students should wear comfortable clothing permitting freedom of movement and bring a mat or towel. Related readings assigned. For beginning students of all ages. Credit 2 units.

#### Dance 200. Tutorial

Supplementary work at the low-intermediate level in ballet and modern dance and intermediate-advanced work in ballet and modern dance at times to be announced. Prerequisites: sophomore standing and permission of the coordinator of the Dance Division. Credit to be determined in each case. Credit variable, maximum 6 units.

**A&S** LA

#### Dance 201E. Theory and Technique of Modern Dance I

Fundamental theory and techniques of American modern dance. Studio work investigating the expressive potential of human movement and developing individual rhythmic and kinesthetic awareness, coordination, and breadth of movement vocabulary. Related readings and videotapes expand on theory embodied in the class work and give a historical overview of modern dance in the United States. Attendance of two to three performances required. Prerequisite: some previous dance training or permission of instructor. Credit 3 units.

**A&S** LA

#### Dance 202. Theory and Technique of Modern Dance II

A course for students familiar with the basic concepts and technique of modern dance. Emphasis on expanding individual movement versatility with increasing difficulty of choreographic phrase materials. Related readings and videos, some focused on American postmodern dance. Attendance at two to three performances required. Prerequisite: Dance 201 or permission of the instructor. Credit 3 units.

**A&S** LA

**Dance 203. Composition I**

Finding personal movement and transforming it into dance. Through a series of class projects, the formal elements of composition are introduced. Prerequisite: Dance 201 or permission of the instructor. Concurrent registration in a technique class required. Credit variable, maximum 3 units. **A&S LA**

**Dance 208. Composition and Technique**

Introduction to dance composition supported by two technique classes each week at the level appropriate to the individual student. Work on composition assignments outside of class will be expected. Prerequisite: Dance 201E or permission of instructor. Credit 4 units. **A&S LA**

**Dance 211. Yoga and Relaxation Techniques II**

A more vigorous yoga discipline incorporating flow series and held postures. This class will concentrate on the movement and distribution of energy throughout the body. Prior yoga experience recommended. Credit 2 units. **A&S LA**

**Dance 212E. Introduction to Theater Production**

*Same as Drama 212E.*  
**A&S LA**

**Dance 213. Improvisation I**

This course will explore the process and art form of creative, expressive, spontaneous dancemaking. Students learn to simultaneously move and respond in the moment, developing skills of communication, observation, performance, and composition in the language of movement. Open to dancers of all levels. Light reading; in-class and out-of-class projects. Credit 1 unit. **A&S LA**

**Dance 221. Fundamentals of Classical Ballet**

Designed for dancers with no previous training or knowledge of the development of ballet in America. A systematic introduction to the ballet technique, including traditional terminology and introductory readings on American Ballet Theatre as a repository for classical and modern ballet repertoire of both American and European choreographers. Attention to basic anatomical concerns and body alignment, as well as to the classical movement vocabulary. No prerequisites. Credit 2 units. **A&S LA**

**Dance 222. Fundamentals of Classical Ballet**

Designed for dancers with no previous training or knowledge of the development of ballet in America, a systematic introduction to the ballet technique, including traditional terminology and introductory readings on New York City Ballet as a repository for the choreography of George Balanchine. Attention to basic anatomical concerns and body alignment, as well as to the classical movement vocabulary. Credit 2 units. **A&S LA**

**Dance 223. Topics in Theater: Introduction to the American Musical Theater**

*Same as Drama 221.*  
**A&S LA FA AH**

**Dance 2340. Classical Dances of India**

An introduction to the classical dance of South India in its cultural context. Students learn to appreciate the Bharata Natyam style and to perform its basic movements. May be repeated once for credit. Credit 2 units. **A&S LA**

**Dance 257. Dance Theater Production**

*Same as Drama 257.*  
Experience in technical production. Required stage work includes two studio dance productions. Prerequisite: Dance 212E. Credit 1 unit. **A&S LA**

**Dance 258A. Dance Workshop**

Theory and technique of modern dance, including some improvisation and fundamental principles of movement. May be repeated for credit with consent of instructor. Credit 1 unit.

**Dance 280. Hip Hop-Jazz**

Hip Hop-Jazz and music video dance combine in this exciting, high-energy course. Students learn elements from each of these dance styles and focus on how they have been adapted into pop culture choreography. This course is designed for students with at least one year of dance training. It is expected that, by the end of the course, students will have a greater knowledge of dance and dance terminology, and an increased ability to perform set choreography. Primarily a studio course; some related reading assigned. Credit 2 units.

**Dance 296. Internship**

Students may receive up to 3 units of credit for an approved internship with an organization in which the primary objective is to obtain professional experience outside the classroom. Students must file a Learning Agreement with the Career Center, a faculty sponsor, and the site supervisor. This must be approved by all three constituencies before proceeding. A final written project is to be agreed upon between the student and faculty sponsor before work begins, and will be evaluated by the faculty sponsor at the end of the internship. Credit variable, maximum 3 units. **A&S LA**

**Dance 297. Fundamentals of Jazz Dance**

*Same as Dance 297.*  
This course introduces the basic principles and vocabulary of traditional jazz dance as influenced by American social dances and its relationship to the rise in popularity of jazz music. Both are unique to America and are rooted in African-American and European-American culture. Prerequisite: one year of training in ballet technique or modern dance. Credit 2 units. **A&S LA**

**Dance 300. Jazz Dance II**

Intermediate-advanced work in jazz dance technique, including choreographic phrases emphasizing stylistic clarity and more complex rhythmic structure. Prerequisite: Dance 297 or permission of instructor. Credit 1 unit. **A&S LA**

**Dance 301. Theory and Technique of Modern Dance III**

*Same as Dance 301.*  
Technique and related concepts for the intermediate student. Greater emphasis on the ability to accurately replicate or individually interpret choreographic material. Related readings and video assignments on contemporary dance developments and attendance at two to three performances required. Variable content; may be repeated for credit in a subsequent semester. Prerequisites: Dance 202 and permission of the instructor. Credit 3 units. **A&S LA**

**Dance 3021. Theory and Technique of Modern Dance IV**

*Same as Dance 3021.*  
Continuation of Dance 301. Variable content; may be repeated for credit in a subsequent semester. Prerequisites: Dance 301 and permission of instructor. Credit 3 units. **A&S LA**

**Dance 303. Composition II**

A workshop for students with experience in choreography. Study of approaches to dance composition with related improvisation problems. Work outside of studio hours expected. Prerequisite: Dance 203 or 208 and permission of the instructor.

Concurrent registration in a technique course required. Credit 3 units.

**A&S LA**

**Dance 305Z. Music Resources for Dance**

*Same as Dance 305Z.*  
Analysis of Western (Europe, America), world (Africa, India, Indonesia), and global popular musics. Emphasis on rhythm/form, style/genre, instrumentation, and function/context. Basic music theory: notation, time signatures, subdivisions, and polyrhythms. Major composers for dance (Lully, Tchaikovsky, Debussy, Ravel, Stravinsky, Cage, etc.). Introduction to percussion techniques for dance accompaniment using hand drums, drumset, and hand-held instruments. Introduction to basic studio techniques, including microphones, recording and editing equipment, and the use of synthesizer and drum machines. Prerequisites: for dance students at the intermediate or advanced level. Credit 2 units. **A&S LA**

**Dance 307. Costume Design and History**

*Same as Drama 307.*  
**A&S LA FA AH**

**Dance 308. Dance Composition Projects**

Choreography juried by dance faculty or supervised choreography on themes assigned by the instructor or formulated by the student and approved by the instructor. Prerequisite: minimum of one semester course work in composition or permission of the instructor. Credit variable, maximum 3 units. **A&S LA**

**Dance 309. Composition and Technique II**

Continuing work in dance composition supported by two technique classes each week at the level appropriate to the individual student. Work on composition assignments outside of class will be expected. Prerequisite: Dance 201, Dance 203, or permission of instructor. Credit 4 units. **A&S LA**

**Dance 310. Dance Improvisation II**

Continuation of Dance 213. Prerequisite: Dance 213 or permission of instructor. Concurrent registration in a dance technique course at the 300 level or higher is required. May be repeated once for credit. Credit 1 unit. **A&S LA**

**Dance 311. Modern Dance and the African-American Legacy**

*Same as Dance 311.*  
This course will examine the works of several African-American choreographers and their contributions to the field of modern dance in America. These works, considered modern-day classics, depict important historical events and reveal cultural influences that people of African descent have impressed upon our society. Through the medium of dance, aided by discussions, video, and class reading assignments, the choreographers' works will be analyzed for form, content, and social relevance. Studio work will include technique to support learning the repertoire. Prerequisite: one to two years training in modern, jazz or ballet. Credit 2 units. **A&S LA FA AH**

**Dance 312. Accompaniment Techniques for Dance**

*Same as Dance 312.*  
A wide variety of percussion instruments and techniques are studied to determine what makes effective dance accompaniment. The course includes: examples and discussion of dance musics from Western and non-Western cultures, basic notation of rhythm and form, demonstrations of musical styles, and discussion of social contexts. Students will have opportunities to assist in accompanying modern dance classes. Minimum of two to

three hours a week of individual practice and/or listening to recordings expected. Credit 2 units.

**A&S LA**

### Dance 315E. Dance Spectrum

Introductory consideration of dance as a human activity with culturally specific forms and functions. The course material is multicultural and organized both thematically and chronologically. Topics include: dance as ritual and art, dance and politics, dance as reflection and subversion of gender norms, classical Asian dance forms, and a brief overview of the development of Euro-American theatrical dancing, especially ballet and modern dance. Seminar format with emphasis on discussion based on readings and extensive video materials. Credit 3 units.

**A&S CD, TH FA AH**

### Dance 316E. From Romantic to Postmodern Dance

*Same as Dance 316.*

An overview of European and American theater dance from the late 19th century to the present. Topics include: Isadora Duncan's work as transition and revolution, Orientalism in early modern dance and the Diaghilev Ballet Russes, the "reconstruction" of the dancer's body, gender issues in movement vocabulary, choreographic content and professional working conditions, the emergence of modernism and postmodernism in dance. Seminar format emphasizing discussion of extensive readings and dance videos. Credit 3 units.

**A&S TH FA AH**

### Dance 319. Stage Lighting

*Same as Drama 310.*

**A&S LA**

### Dance 321. Classical Ballet: Intermediate I

*Same as Dance 321.*

A course designed for those with a solid foundation in the fundamentals of ballet technique. Related reading and video assignments; attendance at one to two ballet performances. Variable content; may be repeated in a subsequent semester. Prerequisites: permission of the instructor and B+ or better in Dance 221 and 222. Credit 2 units.

**A&S LA**

### Dance 322I. Classical Ballet: Intermediate II

Special emphasis on the development of adagio, allegro, and turn sequences. Variable content; may be repeated in a subsequent semester. Prerequisites: permission of instructor and B+ or better in Dance 221 and 222. Credit 2 units.

**A&S LA**

### Dance 323. Topics in Theater

*Same as Drama 321.*

**A&S LA**

### Dance 327. Ivory Coast Dance

A West African dance course specifically focused on the Ivorian dance traditions of the Baule, Bete, Dan, Lobi, Malinke, and Senufo peoples. Students will learn the drum rhythms and cultural background of the dances. A studio course with related reading material. Previous training in West African dance recommended. Credit 2 units.

**A&S LA**

### Dance 332. Mind-Body: Integral Practices

The mind and the body are not only connected, they are a fundamental unity, always functioning in a coordinated state. Whether we coordinate them well or badly is a choice we make, conscious or not. Many so-called "physical" exercises, activities, and arts suffer from a lack of adequate skills of sensation, attention, perception, and conscious control. Conversely, many so-called "mental" activities lack adequate awareness of the physiological, bodily underpinnings of thought. Like a person learning to play a musical instrument, one's

ability to coordinate the mental and physical aspects of self toward one's best personal potential is a skill requiring study of strategies and techniques for good practice in "being well." Such ideas and methods are not "new age," but can be traced back through more than a century in the work of investigators such as F.M. Alexander, progressive educator John Dewey, anthropologist Raymond Dart, and many others. Through direct experience and related readings, this class will introduce students to "somatic," or "integral" practices—activities that are inherently more effective at developing the aspects of self in a coordinated and authentically holistic manner. We then learn to apply our understanding to all kinds of activities, both mental and physical, from chores to exercise, from arts to sports, from hobbies to vocations. Some kind of prior movement training (e.g., athletics, martial arts, dance, etc.) is preferable, but not required. Credit 2 units.

**A&S LA**

### Dance 340. Ballet as Ethnic Dance and Classical Art

This course examines the origins and major developments in ballet theory, technique, and production practice, emphasizing their relationship to concepts of ethnicity and classicism. Issues to be considered include: the influence of classic Greco-Roman theater on the themes, aesthetic ideals, and theorization of ballet; analysis of ethnic content not only in thematic material, but in ballet movement vocabulary and training process; the conscious reformulation in the United States of European ballet as an equally American art form; the expansion of Euro-American "classical ballet" in the work of Balanchine and Tudor; the appropriation of ballet by non-Western countries (such as China and Japan) and its impact on native dance genres; typical construction of the ballet dancer's body and movement, including gender definition, in relationship to a specific ethnic community context. Seminar format with lectures, discussion, and video materials. Three five- to seven-page papers and final. No prerequisites. Credit 3 units.

**A&S SD, TH, WI**

### Dance 345. Dancing the Nations: Identity and Aesthetic

This course is designed for upper-level undergraduate students. Students will explore dance as the agency of national identity in the era of globalization: how the dancing body negotiates cultural, gender, social, political memories; how dance productions explore intercultural, transnational, and diaspora issues. Students also will examine these issues through theories of nationalism and transnationalism, essays on various cultural performances, and videos of dance works related to the topics. Credit 3 units.

**A&S TH**

### Dance 400. Dance Production Projects

Students may receive credit for work on special dance-related production projects conceived by students and supervised by faculty. Contracts must be signed by the student, faculty supervisor, and the coordinator of Dance 400 before work on the project commences. Students should register for this course after work is completed. Prerequisite: permission of the dance faculty. Credit to be determined in each case. Credit variable, maximum 3 units.

**A&S LA**

### Dance 401. Theory and Technique of Modern Dance V

*Same as Dance 401.*

Emphasis on versatility in movement vocabulary and on more complex and intensive technical work with discussion of theory inherent in the studio work. Related readings and projects. Variable

content: may be repeated for credit in a subsequent semester. Prerequisite: Dance 302 or permission of the instructor. Credit 3 units.

**A&S LA**

### Dance 402I. Theory and Technique of Modern Dance VI

*Same as Dance 402I.*

Continuation of Dance 401 with emphasis on more complex and intensive technical work. Variable content; may be repeated for credit in a subsequent semester. Prerequisites: Dance 401 and permission of the instructor. Credit 3 units.

**A&S LA**

### Dance 404I. Composition III

The exploration of choreographic problems for small and large groups. Prerequisite: senior standing or permission of instructor. Previous or concurrent registration in Dance 402I recommended. Credit variable, maximum 3 units.

**A&S LA**

### Dance 414. Advanced Stage Lighting

*Same as Drama 410.*

**A&S LA**

### Dance 415. High Intermediate Ballet I

A course designed as preparation for the advanced level. Emphasis on vocabulary review and individual technique assessment, including placement, movement quality, and musicality. Related readings and video assignments; attendance at and critical analysis of one to two ballet performances. Variable content; may be repeated in a subsequent semester. Prerequisite: permission of instructor. Credit 2 units.

**A&S LA**

### Dance 416. High Intermediate Ballet II

A course designed for the high intermediate dancer in preparation for Dance 4281/429. Emphasis on placement, movement quality, and musicality. Related readings and projects supplement the classical vocabulary. Prerequisite: B+ or better in 221, 222, 321, 322 and/or permission of instructor. Credit 2 units.

**A&S LA**

### Dance 418. Variations in the Ballet

Introduces classical choreography within various ballets. Prerequisites: Dance 321 or 4281 with some pointe training and permission of instructor. Credit 1 unit.

**A&S LA**

### Dance 423. Pointe Technique

Designed for dancers with a basic foundation in pointe work. Variable content; may be repeated for credit in a subsequent semester. Prerequisites: concurrent registration in Dance 321 or 4281 and permission of instructor. Credit 1 unit.

**A&S LA**

### Dance 424. Pointe Technique

Designed for dancers with a basic foundation in pointe work. Prerequisites: Concurrent registration in Dance 321, 322, 4281, or 4291 and permission of instructor. Credit 1 unit.

**A&S LA**

### Dance 428I. Classical Ballet III

*Same as Dance 428I.*

Designed for dancers with a solid foundation in beginning and intermediate ballet technique. Related readings, research paper/discussion, video assignments; attendance at one to two ballet performances. Variable content; may be repeated for credit in a subsequent semester. Prerequisites: permission of instructor and B+ or better in Dance 322I and 415 or 416. Credit 2 units.

**A&S LA**

**Dance 4291. Classical Ballet IV***Same as Dance 4291.*

A course designed for dancers with a solid foundation in beginning and intermediate ballet technique. Variable content; may be repeated for credit in a subsequent semester. Prerequisites: permission of instructor and B+ or better in Dance 3221 and 416. Credit 2 units.

A&amp;S LA

**Dance 430. Dance Pedagogy**

Introduction to the theory and methods of dance instruction. Primarily focused on teaching modern dance, but may also be useful for those interested in teaching ballet or jazz dance. Course work will include readings and discussion of the objectives, components, and organization of a dance class; an introduction to musical terminology and rhythmic analysis; assignments to formulate components and plan classes; ultimately, supervised teaching of entire classes to others in the course. Prerequisite: minimum of two semesters of upper-level course work in dance technique. Credit 2 units.

A&amp;S TH

**Dance 435. Creative Movement for the Elementary Grades**

This class will offer methods for group and individual exploration in movement, and discover its creative possibilities in and out of the classroom. Teachers in the arts, sciences, language, and physical education, as well as parents, will gather tools to expand the horizons of kinesthetic experience; experiment with concepts of time, space, weight, and energy; and integrate a physical component into classroom projects for the elementary grades in an effort to teach the whole student. This is an experiential class; please wear clothes allowing freedom of movement. Credit 2 units.

**Dance 457. Dance Repertory***Same as Dance 457.*

Under the direction of an experienced choreographer, students rehearse and perfect repertory concert dances. All students perform or understudy the choreographies. May be repeated for credit. Enrollment by audition. Prerequisite: concurrent registration in a technique class required. Credit 1 unit.

A&amp;S LA

**Dance 458. Dance Repertory***Same as Dance 458.*

Under the direction of an experienced choreographer, students rehearse and perfect repertory concert dances. May be repeated once for credit. Enrollment by audition. Concurrent registration in a technique class is required. Credit 1 unit.

A&amp;S LA

**Dance 479. Fundamentals of Sound Design***Same as Drama 479.*

A&amp;S LA

**Dance 493. Senior Project**

Specialized project in a selected area in dance. The student will work individually under the supervision of a faculty member. Prerequisite: permission of the coordinator of the Dance Division. Credit variable, maximum 3 units.

**Dance 499. Study for Honors**

An Honors thesis or performance and thesis project designed by the student, and supervised and assessed by a faculty committee. Prerequisites: senior standing, grade point of 3.5 and 3.5 in dance classes, and permission of the coordinator of the Dance Division. Credit variable, maximum 6 units.

**Dance 500. Independent Work**

Prerequisites: senior standing and permission of the coordinator of the Dance Division. Credit variable, maximum 10 units.

**Drama**

This major combines the historical, cultural, and literary study of theater and performance with a full array of courses regarding theatrical production, including acting, directing, performance art, design (set, costume, lighting, sound), and playwriting.

The theater and performance studies faculty offer courses in theater history, performance studies, and dramatic and performance theory. Majors may also take, for credit, drama-centered courses in such departments as African and African American Studies, Classics, English, and Asian and Near Eastern Languages and Literatures, and several courses in the Film and Media Studies program are cross-listed with Drama. Our courses analyze theater and performance as resonant and significant cultural practices, both historically and currently. Courses combine rigorous critical analysis with attention to the corporeal and material embodiment of actual performance.

In small, individualized classes (capped by a maximum of 16 students) characterized by a high number of weekly contact hours (generally six), professionally and academically experienced faculty teach a rigorous system of production courses. A carefully graduated four-semester sequence in acting culminates in a capstone class for seniors (Acting IV) focused on individual projects. A two-tiered directing sequence issues into a public showing of student-directed work, and some students have chosen to direct a fully designed production as their Senior Honors thesis. Recent graduates of the acting and directing sequence have been placed in prestigious M.F.A. programs, internships and jobs in regional American theaters, as well as in various professional schools and graduate programs. A nationally recognized program in design and technical theater works students through a structure of costume, scene, lighting, and sound design courses, with several electives on such topics as maskmaking and baroque costume that are informed by historical and cultural study. A highly successful playwriting program, enriched by the annual A.E. Hotchner Playwriting competition and annual workshops run by leading American dramaturges, has produced playwrights whose work is now being performed in nationally recognized venues such as Chicago's Steppenwolf Theater.

The culture of performance is abundantly rich at Washington University. The OVA-TIONS! series of Edison Theatre brings professional theater, dance, and music productions to campus, frequently enhanced by workshops especially designed for students. A wide array of student theater groups, with a particular focus on improvisation, provide many opportunities for student-generated performance on campus.

Since 1991, the Performing Arts Department and Globe Education (London) has been running a national summer program held at Shakespeare's Globe, in London. This four-week program includes a three-unit course on the textual, historical, and cultural study of Shakespeare; a three-unit

course on acting Shakespeare (with particular attention to acting on the Globe stage); master classes taught by Globe personnel; playgoing in London and Stratford; and more.

**Undergraduate Courses****Drama****Drama 200. Theater Projects**

Independent study. Students may contract with a faculty supervisor for credit for their work on theatrical productions or research. Contracts must be signed by the student, the faculty supervisor, and the coordinator of Drama 200 before the student's work on the project commences. Credit and grade option to be determined in each case. Credit variable, maximum 3 units.

**Drama 2001. Acting**

Independent study. Credit variable, maximum 3 units.

**Drama 2002. Directing**

Independent study. Credit variable, maximum 3 units.

**Drama 2003. Technical Theater**

Independent study. Credit variable, maximum 3 units.

**Drama 2004. Voice, Speech**

Independent study. Credit variable, maximum 3 units.

**Drama 2005. Literature, Theory, Criticism**

Independent study. Credit variable, maximum 3 units.

**Drama 212E. Introduction to Theater Production***Same as Dance 212E.*

An introductory study of the major elements involved with mounting a theatrical production. Topics range from scenic, costume, and lighting design to production organization, management, and procedures. Students are required to serve as a crew member on one departmental production and attend various events offered by both Edison Theatre and the Performing Arts Department. Credit 3 units.

A&amp;S LA

**Drama 214. Introductory Public Speaking**

Study of speech composition, psychology of persuasion, and the technique of effective delivery; preparation for participation in action groups, committee meetings, informal gatherings, public occasions. Enrollment limited to 15. Preference given to seniors. Credit 3 units.

A&amp;S LA

**Drama 215I. Introduction to Comparative Practice I**

Credit 3 units.

**Drama 216C. Introduction to Comparative Practice II: Politics in 20th-Century Theater**

Credit 3 units.

A&amp;S TH FA Lit

**Drama 221. Topics in Theater: Introduction to American Musical Theater***Same as Music 2210, Dance 223, AMCS 221.*

Students will be taught basic interpretation of musical theater repertoire. The student will learn to analyze and perform songs in regard to melody and musical form. Acting techniques will be developed through lyric interpretation. Students will also be introduced to basic audition practice and etiquette. Prerequisite: permission of instructor. \$25 lab fee. Credit 2 units.

A&amp;S LA FA AH

**Drama 222E. Introduction to Theater: The Magic of the Stage**

Interdisciplinary course that introduces students to the art of the stage from a multitude of perspectives. Regardless of previous experience either on-stage or backstage, students will be exposed to new elements of the theater's magic, including script analysis; theater history and architecture; acting; directing; playwriting; scenic, lighting, sound, and costume design; and reviewing. Students will explore different periods; attend a variety of theatrical events in and around St. Louis as well as in Performing Arts; and meet with prominent directors, designers, reviewers, and playwrights to gain a unique, hands-on perspective into the world of the stage. This course must be taken in conjunction with FOCUS 215. Credit 3 units.

**A&S** LA

**Drama 223. Cross-Cultural Women Playwrights**

This course will provide an introductory survey of the work of African-American, Caribbean-American, Asian-American, and Native American women playwrights. We will explore the playwrights' strategies for creating work that is by turns beautiful, fascinating, humorous, moving, and occasionally terrifying, as they chart for contemporary theater the intersection of race and gender in performative terms. Playwrights to be addressed include Adrienne Kennedy, Ntozake Shange, Suzan-Lori Parks, Anna Deavere Smith, Diana Son, Jessica Hagedorn, Cherie Moraga, Wakako Yamauchi, Migdalia Cruz, Spiderwoman Theatre, Marga Gomez, and Velina Hasu Houston. Credit 3 units.

**A&S** SD, TH **FA** AH, Lit

**Drama 227. Playwriting**

*Same as E Comp 224.*

**A&S** LA

**Drama 228C. Theater Culture Studies I: Antiquity to Medieval**

*Same as E Lit 228, Classics 228, Comp Lit 226C.*

The first course in an interdisciplinary, four-semester sequence that examines Western and non-Western dramatic literature and theater history from its known origins to the present. With attention to both primary historical documents and dramatic texts, this course examines ancient Near Eastern theater, Greek tragedy, classical comedy, classical Sanskrit theater, and medieval European theater. Credit 3 units.

**A&S** TH **FA** AH

**Drama 229C. Theater Culture Studies II: From Renaissance to Romanticism**

*Same as E Lit 229C, Comp Lit 227C.*

The second course in an interdisciplinary, four-semester sequence that examines Western and non-Western dramatic literature and theater history from its known origins to the present. Course covers the theaters of the English Renaissance, the Spanish Golden Age, the French neoclassical period, the English restoration, the 18th century, and the German Romantic period, and examines one non-Western theater, usually that of 16th-century China. Credit 3 units.

**A&S** TH **FA** AH

**Drama 230. Topics in Theater**

Explores a variety of special interest topics in theater not included in the Theater Culture Studies sequence. Consult the *Course Listings*. Credit 3 units.

**A&S** LA

**Drama 233. Improvisation for the Actor**

Work on improvisational games and techniques with the goal of using these techniques to enhance scripted and nonscripted performance on stage. Work based on sports, Commedia Dell'Arte, and

movement exercises. Prerequisite: Drama 240E.

Credit 3 units.

**A&S** LA

**Drama 235. Feminist Theater Survey**

The course is a literature survey, designed to complement the current four-semester Theater Culture Studies series. During the course of the semester, students will read a variety of Western plays written by women beginning in the Renaissance and continuing through to contemporary plays and performance art not treated in other courses.

Through readings, viewings, and discussion, students will be encouraged to find their own positions vis-a-vis "feminist" theatrical practices. The class emphasizes the performative aspect of drama. Credit 3 units.

**A&S** TH **FA** Lit

**Drama 237. The American Dream: History or Myth?**

*Same as E Lit 237.*

This course will examine the origins and history of "The American Dream" from its origins to the present. What do we mean when we use this term? How does this phrase resonate and impact our politics, advertising, and especially the arts. Included in our discussion will be the experience of immigration and assimilation into American society from other countries and cultures. Beginning with the implications of the image of America as a "brave new world" in European thought and philosophy (including Shakespeare's *The Tempest*), and the prescient ideas on our culture by de Tocqueville and others, we will examine how the dream of success and wealth has been depicted and employed in the theater, fiction, cinema, and the visual arts. Among the texts we will examine together in this course are: Fitzgerald's *The Great Gatsby*, Williams' *The Glass Menagerie*, Miller's *Death of a Salesman*, West's *Day of the Locust*, Lorraine Hansberry's *A Raisin in the Sun*, Albee's *The Zoo Story* and *The American Dream*, and John Guare's *The House of Blue Leaves*. We also will consider modern painters whose work seems to have been intended as a commentary on the dream, such as Edward Hopper and Andy Warhol, and cinematic innovators from Charlie Chaplin to Orson Welles and Francis Ford Coppola who have used "The American Dream" as significant elements in their work. Credit 3 units.

**A&S** TH

**Drama 239. Performance and Culture**

*Same as AMCS 239.*

What does putting on a play have to do with having a wedding? What's the difference between St. Louis sports fans and primates at the St. Louis Zoo? What does the "Mr. WashU" pageant say about the Washington University community?

How is a dance concert like a Native American Pow-Wow? In this course, we will explore the vocabulary and concepts of performance studies to address these and other questions. We will bring the vital lens of performance to focus on an array of cultural activities through readings, field trips, and activities. Three short essays, a midterm, and a take-home final will be required. Credit 3 units.

**A&S** LA

**Drama 240E. Acting I**

Improvisation, exercises, and beginning scene work designed to acquaint the student with the fundamentals of acting. No previous training or experience necessary. Six hours a week. Preference given to majors. Credit 3 units.

**A&S** LA

**Drama 2503. Introduction to Performance Art**

*Same as F20 Art 2503.*

The focus of this course will be on history, theory, and practice of performance art and performance theater. The class will engage in exercises that

generate text, movement, sound, and performance scores. Students will create original performances that incorporate contemporary critical concepts. Performance production will be supplemented by readings and videos that introduce the history and theory of experimental performance and work by specific performance artists. Credit 3 units.

**A&S** LA

**Drama 257. Dance Theater Production**

*Same as Dance 257.*

**A&S** LA

**Drama 296. Internship**

Students may receive up to 3 units of credit for an approved internship with an organization in which the primary objective is to obtain professional experience outside the classroom. Students must file a Learning Agreement with the Career Center, a faculty sponsor, and the site supervisor. This must be approved by all three constituencies before proceeding. A final written project is to be agreed upon between the student and faculty sponsor before work begins and will be evaluated by the faculty sponsor at the end of the internship. Credit variable, maximum 3 units.

**Drama 300. Production Practicum**

Practicum experience in technical theater. Positions such as stage manager; publicist; assistant designer for costumes, scenery, or lighting; or crew head of props, sound, and makeup design are available. Credit variable, maximum 2 units.

**Drama 304. Makeup for the Stage**

Introduction to techniques for the alteration of the face through makeup to create convincing illusions of character. Individualized selection and personal application of makeup appropriate to the actor's face. Students are required to purchase a makeup kit. Credit 2 units.

**A&S** LA

**Drama 307. Stage Costumes: Prehistoric to 1800**

Basic presentation of costume design from conception through final renderings, development of drawing and painting techniques for the costume plate, and the history of stage costume in the principal periods and styles of drama from prehistoric periods through 1800. Credit 3 units.

**A&S** LA **FA** AH

**Drama 307I. 19th- and 20th-Century Costume Design and History II**

*Same as F20 Art 3507.*

Basic presentation of costume design from initial conception through final renderings. Development of drawing and painting techniques on design projects taken from plays set in the 19th and 20th centuries. History of costume and fashion silhouette will be illuminated through slide and video presentation of primary and secondary source materials. Credit 3 units.

**A&S** TH **FA** AH

**Drama 309. Stage Technology**

Practical study of technical theater procedures and scene shop; production techniques. Course outline includes lectures, demonstrations of equipment, production assignments, and research-oriented project work. Prerequisite: Drama 212E or permission of instructor. Credit 3 units.

**A&S** LA

**Drama 310. Stage Lighting**

*Same as Dance 319.*

Study of the aesthetics and technology of lighting design from the basic principles of designing with light through the execution of finished design projects. Prerequisite: Drama 212E or permission of instructor. Credit 3 units.

**A&S** LA

**Drama 311M. Scene Design**

An introduction to the process of scene design, as it relates to aesthetics, dramatic literature, collaboration, and production. Projects involve design conceptualization, documentation, graphics, and realization. Prerequisites: Drama 212E or permission of instructor. Credit 3 units.

**A&S LA**

**Drama 314. Voice-Speech Laboratory**

Fundamentals of speech for the stage, approached through Kristin Linklater's technique of freeing the natural voice. Concentration on breath support, resonance, articulation, and speech as an expression of an individual's needs. Preference given to majors. Credit 3 units.

**A&S LA**

**Drama 321. Topics in Theater**

*Same as Dance 323.*

Explores a variety of special interest topics in theater not included in the Theater Culture Studies sequence. Consult *Course Listings*. Credit 3 units.

**A&S LA**

**Drama 3212. Topics in Theater: Management for the Theater**

A practical approach to the study of theater management focusing on organizational skills. This class will be centered around the training required to effectively stage manage a theatrical production with additional training in the field of production management. Workshops, lectures, discussion and guest speakers will cover the pre-production, rehearsal, and performance periods; labor relations/performing arts unions; career opportunities; and support of the vision of the artistic team. Prerequisites: Drama 212, Drama 240. Credit 3 units.

**A&S TH**

**Drama 3221. Traditions of Italian Theater**

*Same as Ital 322.*

**A&S TH**

**Drama 323. Topics in American Drama**

A rotating topics course on various subjects relating to the history and theatrical practice of modern American drama. Credit 3 units.

**A&S TH**

**Drama 331C. Tragedy**

*Same as Comp Lit 331C.*

**A&S TH FA Lit**

**Drama 332. Comedy**

*Same as Classics 386.*

**A&S TH FA SSP**

**Drama 338. Physical Theater: An Exploration of Viewpoints and Suzuki Training**

In this course, students will study two very different, but complementary, styles of movement training. Developed by the Saratoga International Theatre Institute, this method of actor training combines the improvisational exploration of time and space through "Viewpoints" with the rigid structure and physical demands of the Suzuki method. This combined approach is designed to develop heightened awareness and acute focus in the performer. In addition, it fosters greater impulsiveness and freedom in the moment while maintaining discipline and control. Students will gain flexibility and strength and will enhance their creative potential by balancing these seemingly opposing methods. Prerequisite: Drama 341 or Dance 106E. Credit 3 units.

**A&S LA**

**Drama 340. Topics in Stage Movement**

Exploration of a variety of theatrical and movement concepts with emphasis on process rather than product. Concentrates on developing the expressive flexibility of the body and linking the imaginative impulse with physical movement. Preliminary work in relaxation and efficient self-use. Prerequisite: Drama 240E or permission of in-

structor. Credit 3 units.

**A&S LA**

**Drama 341. Acting II**

Fundamental scene study using texts with emphasis on integration of voice and body and the playing of actions. Students are encouraged to precede this course with Drama 207C. Prerequisite:

Drama 240E. Preference given to majors. Credit 3 units.

**A&S LA**

**Drama 342. Acting III**

Emphasis on characterization while working with a diversity of playwrighting styles. Prerequisites: Drama 341, either Drama 207C or 208C, and permission of instructor. Credit 3 units.

**A&S LA**

**Drama 343. Fundamentals of Directing**

*Same as Film 343.*

The process of play directing from the selection of a script through production. Prerequisites: Drama 212E and 240E, and permission of instructor. Preference given to drama majors. Credit 3 units.

**A&S LA**

**Drama 347. Shakespeare Globe Program: Acting**

This acting course is paired with Drama 3472 as part of a four-week summer intensive program held at the Shakespeare's Globe Education Centre in London. This course, as well as the companion Text and History course (Drama 3472), is taught by a Washington University faculty member; the program also heavily draws on British theater professionals and educators from Globe Education, who teach a set of short courses on movement, voice, textual analysis, historical context, monologue performance, and stage combat. Frequent access to the Globe stage allows actors to work in a spatial configuration very similar to that once used by Shakespeare's company itself. The course culminates with performances of scenes and monologues on the Globe stage. Application process must initiate through the Performing Arts Department office. Credit 6 units.

**A&S LA**

**Drama 3472. Shakespeare's Birthplace and Workplace: Text and History**

A companion to Drama 347, this course on the textual, cultural, and historical dimensions of Shakespeare's work takes place at the Globe Education Centre in London, with a three-day trip to Stratford-upon-Avon included, along with viewings of seven plays at Shakespeare's Globe, other London theaters, and the Royal Shakespeare Theatre in Stratford, as well as visits to sites in London such as the National Gallery and the British Library. The course is based on close readings of the plays seen by the class in London and Stratford, with special attention to speaking and understanding Shakespeare's language (meter, figurative language, rhetoric, etc.). The course also examines historical and cultural pressures on Shakespeare's plays, with the rich cultural memories of London continually evoked. Credit 3 units.

**Drama 3491. Media Cultures**

*Same as Film 349.*

**A&S TH**

**Drama 351. Intermediate Playwriting**

*Same as E Comp 351.*

This is a workshop for the exploration and development of theatrical text. Prerequisites: Drama 227, or students must submit a writing sample (not necessarily a dramatic text) and interview with the instructor. Credit 3 units.

**A&S LA FA Lit**

**Drama 3521. Introduction to Screenwriting**

*Same as Film 352.*

**A&S LA**

**Drama 365C. Theater Culture Studies III: Melodrama to Modernism**

*Same as E Lit 363C, IAS 365.*

The third course in an interdisciplinary, four-semester sequence that examines Western and non-Western dramatic literature and theater history from its known origins to the present. This class traces the origins of modern theater, moving from Romanticism at the beginning of the 19th century, through melodrama and other popular mid-century theatricals to the rise of modernist drama in Western Europe and the United States from about 1880-1930. We will consider the rise of realism in playwrights such as Ibsen, Chekhov, Crothers, and Shaw; we also will examine theatrical experimentation in the works of Bonner, Pirandello, Treadwell, O'Neill, and Brecht. Emphasis will be placed on key developments in history, art, and literature, as well as on expanding the traditional canon with plays by women and minority playwrights. Credit 3 units.

**A&S TH FA Lit, SSP**

**Drama 367. Introduction to Drafting for the Theater**

This course will provide the student with a basic understanding of all the various types of technical drawings needed to successfully execute a scenic design. Throughout the course, the student will master all the technical and aesthetic skills needed to produce clean and effective draftings for the theater. In order to successfully complete this class, the student will be required to purchase a drafting board and related drafting materials. Credit variable, maximum 3 units.

**A&S LA**

**Drama 368. Black Theater Workshop III**

*Same as AFAS 302, AFAS 302, Drama 368.*

A performance-oriented course that explores the black experience through acting, directing, and playwrighting. Students will do short performances during the semester. They also will be required to attend three to five plays. Each student must participate in a final performance in lieu of a written final examination. Credit 3 units.

**A&S LA, SD**

**Drama 393. The Tragic Muse**

*Same as Classics 393.*

**A&S TH**

**Drama 3950. American Musical Film**

*Same as Film 359.*

**A&S LA**

**Drama 395C. Shakespeare**

*Same as E Lit 395C.*

**A&S TH FA Lit**

**Drama 400. Theatrical Rendering for Scenery**

An exploration of media and rendering techniques used for presentation of design ideas in scenery. A variety of stage sets, still lifes, and figure drawing will be rendered during a two-hour studio format with some additional studio time required. Materials to be provided by students. Credit 3 units.

**A&S LA**

**Drama 403. Dramaturgical Workshop**

*Same as E Comp 403.*

Laboratory course that investigates the increasingly nontraditional structure of theater in contemporary American drama. Plays read, analyzed, and explored in class from the point of view of the future writer, actor, director, designer, critic, and enlightened audience, while adhering to the playwright's vision. Prerequisite: Drama 343. Credit 3 units.

**A&S LA**

**Drama 4031. Black and White in American Drama**

*Same as E Lit 403.*

**A&S TH FA Lit**

**Drama 404. Topics for Writers: Beckett***Same as E Lit 404.***A&S** LA **FA** Lit**Drama 409. The Modernist Revolution in the Arts**

This course will examine the remarkably influential period between 1890–1920 in European and American literature and the arts known as Modernism. Our investigation will focus on major literary and artistic movements, including Naturalism, Impressionism, Symbolism, Dada, Surrealism, Futurism, and Expressionism. We will examine in detail those literary manifestoes that help to illuminate the periods under discussion, as well as the individual works themselves. In addition, we will investigate key figures who resisted being identified with any literary or artistic movement or manifesto. Central to our approach in the course will be an interdisciplinary perspective. This will be particularly important in cases such as Surrealism and Expressionism, which feature many artists who were themselves “Doppelbegabungen” (doubly gifted) and for whom the specific medium of artistic expression was less important than what was being expressed. Among the key figures whose work will be discussed are: Ibsen, Strindberg, Zola, Chekhov, Stein, Hemingway, Artaud, Kafka, Brecht, Joyce, Kokoschka, Schiele, Kandinsky, and Picasso. Credit 3 units.

**A&S** LA**Drama 410. Advanced Stage Lighting***Same as Dance 414.*

An advanced-level continuation of Drama 310. Emphasis is placed on design aesthetics and their application in a laboratory setting. Students will explore color theory, lightboard programming, and design analyses, as well as execute a variety of finished projects. These projects will cover a wide range of production styles and performance venues. Prerequisite: permission of instructor. Credit 3 units.

**A&S** LA**Drama 411. Topics in Technical Theater**

Introductory drawing, watercolor, and illustration techniques for the theatrical designer. Projects include presentation styling, modelmaking, and portfolio preparation. Prerequisite: permission of instructor. Credit 3 units.

**A&S** LA**Drama 412. Advanced Practicum in Technical Theater**

Independent Study. Intensive practical experience in scenic design building and painting; lighting design and installation; costume design, coordination, and construction; makeup; and audio production. Prerequisites: Drama 212E, credits on at least two productions, and permission of staff. Credit variable, maximum 3 units.

**A&S** LA**Drama 412I. Advanced Practicum in Technical Theater: Scene Painting**

Exploration of the skills and traditions of theatrical scene painting in a laboratory setting. Projects involve color theory, basic surface treatment techniques, representational depiction, and advanced problems. Realized paint work on Performing Arts production will be part of the course. Prerequisite: permission of instructor. Credit 3 units.

**A&S** LA**Drama 413. Costume Rendering and Design**

An exploration of media and rendering techniques used in producing an effective costume design. Basic figure drawing, proportion, color, concepts, exaggeration, and period style. Drawing and painting materials to be provided by student. Credit 3 units.

**A&S** LA**Drama 416. Period Style and Design History***Same as F20 Art 4507.*

Examination of period styles as they relate to theatrical design and history. Study of architecture, furniture, props, and costumes from Greek to contemporary periods. Prerequisite: Drama 212E. Credit 3 units.

**A&S** TH **FA** AH**Drama 419. Technical Direction: Stage Rigging**

Practicum experience in the skills of technical direction: budgeting, reading blueprints, stage rigging, time management, problem solving. Prerequisite: Drama 212E or permission of instructor. Credit 3 units.

**A&S** LA**Drama 421. Costume Construction and Design**

Practical techniques in theatrical costume construction, including patternmaking, cutting and draping, and execution of design concepts. Research and design projects culminate in finished period garments and related accessories. Topics to be explored include corsetry and foundation garments, millinery, maskmaking, and dyeing and painting. Prerequisite: Drama 307 or permission of instructor. Credit 3 units.

**A&S** LA**Drama 431. English Drama Exclusive of Shakespeare to 1642***Same as E Lit 431.***A&S** TH **FA** Lit**Drama 432. Topics in Renaissance Drama***Same as E Lit 432.***A&S** TH **FA** Lit**Drama 435. Expressionism in the Arts**

A close study of Expressionism as an international phenomenon in the arts, from the anti-Naturalist movements of the 1890s to Hitler's condemnation of Expressionism as decadent. The evolution of expressionist theater from Wedekind to Toller and Kaiser; such composers as Schoenberg and Berg; such visual arts groups as Der blaue Reiter and Die Brücke; such independents as Kokoschka; such cinema figures as Pabst, Murnau, Von Sternberg, Lang. Prerequisite: Drama 208E, Drama 336, or permission of instructor. Credit 3 units.

**A&S** TH **FA** AH**Drama 436. Seminar in Comparative Drama***Same as Comp Lit 436.***A&S** TH **FA** Lit**Drama 438. American Feminism and the Theater 1960 to the Present***Same as WGSS 438.*

This course will offer an introductory study of the relationship between feminism and theater over the past 30 years in the United States. We will look at writers, performers, directors, scholars, and especially playwrights who embody women as the subject of their experiences or who use the performance of gender to intervene, subvert, or challenge assumptions concerning race, class, ethnicity, and sexual preference. Assignments will include oral reports, active class discussions, journals, brief dramatic writing exercises, and field trips to see performances. Prerequisite: sophomore standing and permission of instructor. Credit 3 units.

**A&S** TH **FA** AH**Drama 438I. American Feminism and the Theater, 1900–1960**

While the study of contemporary American feminism and theater is alive and well, the study of feminist playwriting in the United States before 1960 has been slow to develop. At first hampered by the assumption that feminist playwrights, like feminist activists, had lost their “edge” during the quietism between the first and second waves of

the Women's Movement, studies are now advancing these dramatists as significant contributors to a tradition of American feminist theater. In a time of upheaval marked by two world wars, suffrage, and a global depression, women sought to grasp the full implications of their changing place in society. This feminist drama reflects the excitement and fear accompanying such change, and answers those media stereotypes designed to keep women in their place. We will spend the bulk of the course focusing on the women who wrote at a time usually only identified with playwrights like O'Neill, Williams, and Miller. Although these women enjoyed varying degrees of success as authors, actresses, and directors, they all made it their mission to provide early feminist challenges to preconceived notions of gender, class, race, and sexuality. They laid the groundwork for the feminist interventions in subject matter and form that would explode onto the theater scene after 1960, and include the playwrights of our study: Rachel Crothers, Alice Gerstenberg, Susan Glaspell, Sophie Treadwell, Zoe Akins, Lillian Hellman, Mae West, Dorothy Parker, Georgia Douglas Johnson, Marita Bonner, Rose Franken, Zona Gale, Gertrude Stein, Clare Boothe Luce, Zora Neal Hurston, May Miller, and others. Credit 3 units.

**A&S** SD, TH**Drama 440. Acting IV**

Emphasis on scene study from classical plays. Preparation for professional and graduate school auditions also stressed. Prerequisites: either Drama 335 or 336, Drama 342, and Dance 101E. Admission by audition; see chair of department for details. Credit 3 units.

**A&S** LA**Drama 441. Seminar: Styles in Theatrical Performance**

Application of historical, literary, and critical scholarship to the mounting of a production. Prerequisite: one semester of acting, directing, or theatrical design at the 300 level, or permission of instructor. Credit 3 units.

**A&S** LA**Drama 444. Directing II: Coaching the Actor**

Further study in the fundamentals of directing. Emphasis on the director's work with actors, designers, and a realized metaphorical concept. Prerequisites: Drama 343 and permission of instructor. Credit 3 units.

**A&S** LA**Drama 445. Seminar***Same as AMCS 444, MLA 445.*

Rotating upper-level seminar. Credit 3 units.

**A&S** LA**Drama 447. Seminar in Theater History****A&S** TH **FA** Lit**Drama 448. The History of Theater Design**

Survey course covering the history of the performance space and the scenic design elements contained within that space. The visual elements and theater architecture of each period are examined in relationship to the art and technology of the time. Prerequisites: Drama 207C or 208C, and Drama 212E. Credit 3 units.

**A&S** TH **FA** AH**Drama 450. Advanced Scene Design**

Advanced projects in scene design including drafting, rendering, model-building, and conception. Prerequisite: Drama 311M or permission of instructor. Credit 3 units.

**A&S** LA**Drama 451. Topics in Period Style: Baroque Opera and Neoclassical Style**

An exploration of the dynamic interplay between high Baroque culture and the perceived style of

the ancient Greeks and Romans. Primary sources used will be paintings, sculpture, and renderings of Baroque operas as well as rare artifacts that exist from that time, as these sources relate to classical evidence extant in that period. Secondary sources will be journal articles and records of fully staged productions of intervening years. Primary interest is retracing the thought processes of the designers of Baroque opera. Focus will be on Purcell's *Dido and Aeneas*, looking at the libretto, its relationship to source texts both ancient and contemporary, and its place within the cultural history of the theater. Projects include: in-class presentations and a research paper or fully realized design project. Credit 3 units.

**A&S** LA **FA** AH

#### **Drama 4511. American Television Genres**

*Same as Film 451.*

**A&S** TH

#### **Drama 453. American Drama**

*Same as E Lit 4331, E Lit 4531, AMCS 4501, AMCS 4501.*

Topics in American drama. Credit 3 units.

**A&S** TH **FA** Lit

#### **Drama 455. Practicum in Arts Management**

Assigned work and projects under faculty supervision in Washington University's Edison Theatre or off-campus cooperating institutions. Prerequisite: permission of instructor. Credit variable, maximum 3 units.

#### **Drama 456. A Madman in the Theater: The History of Insanity on Stage from Sophocles to Shaffer**

*Same as E Lit 390.*

The image of the madman and the theme of insanity have been extraordinarily captivating to theater artists from the Greeks to the present. In this course, we will consider some of the most remarkable examples from the classical period, including Sophocles' *Ajax* and Euripides' *Medea* and *The Bacchae*, and the Renaissance (*Hamlet*, *Othello*, *The Spanish Tragedy*, *The Duchess of Malfi*, *Life is a Dream*). We will investigate these works both for what they tell us about the image of the madman in the historical period and culture in which they were written, as well as in order to closely examine the texts themselves. We also will examine plays from the 19th and 20th centuries, including Buchner's *Woyzeck*, O'Neill's *Emperor Jones*, Anouilh's *The Madwoman of Chaillot*, Miller's *Death of a Salesman*, and Shaffer's *Equus*. Finally, the course will make extensive use of the Performing Arts Department's production of Peter Weiss' extraordinary work *Marat/Sade* and incorporate theoretical writings such as Michael Foucault's *Madness and Civilization* into discussions. Credit 3 units.

**A&S** TH **FA** Lit

#### **Drama 459. The Filmed Stage Play**

Close textual analyses of stage plays and their film adaptations, examining structural parameters such as space, time, point of view, spectator position, and performance in the two art forms. Prerequisite: permission of the instructor. Credit 3 units.

**A&S** TH

#### **Drama 465. The Chinese Theater**

*Same as Chinese 467.*

**A&S** CD, SD, TH **FA** AH

#### **Drama 466. From Shakespeare to Shepard: Autobiography and the Theater**

From Shakespeare's *The Tempest* to contemporary performance art, some plays are autobiographical or confessional in nature. Controversial examples of dramatizing the self on stage: Ibsen (*The Master Builder*), Strindberg (*The Dance of Death*), Chekhov (*Uncle Vanya*), O'Neill (*Long Day's*

*Journey Into Night*), Williams (*The Glass Menagerie*), Miller (*After the Fall*); contemporary works by Amiri Baraka, Brian Friel, Sam Shepard, and Wendy Wasserstein; performance artists/mnologists such as Karen Finley and Spalding Gray. Prerequisite: Drama 207E or 208E. Credit 3 units.

**A&S** TH **FA** Lit

#### **Drama 469. Topics in Shakespearean Production**

*Same as Med-Ren 4691, E Lit 4969.*

This course will examine Shakespeare's comedies in performance. Combining scene work and production history, students will gain access to the world of the comedies from both a hands-on theoretical and historical perspective. Prerequisite: Drama 395C or permission of instructor. Credit 3 units.

**A&S** LA

#### **Drama 471. Millinery Design and Construction**

*Same as F20 Art 424F.*

A practical course exploring the basic techniques and different methods of constructing hats and accessories. Students will work with a variety of materials, including buckram, straw, felt, and wire that they will purchase. Research and design projects will culminate in the construction of several projects in class. Prerequisite: Drama 307 or 421, or permission of instructor. Credit 3 units.

**A&S** LA

#### **Drama 473. Advanced Playwriting**

*Same as E Comp 4731.*

This course is for writers with writing experience, but not necessarily experience in playwriting. The course will explore the relationship between the writer and the page. Exercises will dispel any lingering doctrine that presupposes a certain style of writing. Craft will enter the course through writing exercises and games. A large percentage of the class will be spent writing; the remainder of the time, sharing. The informal moments between will look at the process beyond the first draft—i.e., the maintaining of “the work” through rewrites, developmental readings, workshops, productions, agents, and critics. Credit 3 units.

**A&S** LA

#### **Drama 474. Acting Theories**

This course will explore in depth the major theoretical texts on acting and performance theory. Pertinent philosophical texts, dramatic theories, acting systems, and methodologies will be studied. The survey will operate chronologically from early documents on acting (Greek, Roman, Italian Renaissance) through modern and contemporary documents that inform acting and acting training today (Stanislavsky, Brecht, Grotowski, Meisner, Spolin, Suzuki). Methodologies and practices of select major stage actors will be explored as well. In some cases, directing theories that have had major influence on acting theory will be examined. Credit 3 units.

**A&S** TH

#### **Drama 478. The Eye of the Mask: A Multicultural History of the Theater Through Maskmaking and Design**

An exploration of the history of masks used in the theater. Topics will include drama of ancient Greece; the ancient No Theatre of Japan; the Italian theater of Commedia dell'Arte; the dance drama of Bali; the Venetian and Mardi Gras Carnival celebrations; and ritual and ceremonial masks of other cultures (Africa, Latin America, and Asia), using the instructor's extensive collection of masks as primary research subjects. Projects include: an in-class presentation and research paper with three to five fully realized mask designs to be constructed within class and at an additional lab time to be discussed on the first day. Credit 3 units.

**A&S** TH

#### **Drama 479. Fundamentals of Sound Design** *Same as Dance 479.*

Encompassing both creative and technical aspects of sound in the performing arts, the course will give theoretical knowledge of, and practical experience in, the following areas: fundamental rules of physics and electronics related to sound, use of standard digital recording studio equipment, “training” of the ear, and basic techniques of sound montage. Students will be expected to participate in a variety of conceptual and research-oriented exercises, as well as to complete several lab projects. Sound-related work on Performing Arts Department productions may be required. Prerequisites: Drama 212 and permission of instructor. Credit 3 units.

**A&S** LA

#### **Drama 480. Screenwriting**

*Same as E Lit 4801, E Comp 4801.*

Examination of essentials necessary for the development of a good screenplay. In order to create the “blueprint” for telling a story with pictures, we will study story construction; development of a workable premise; creation of dimensional characters; dramatic conflict; exposition; back story; subplots; “high concept” formulas; and genres. Prerequisite: Drama 351 or permission of instructor. Credit 3 units.

**A&S** LA

#### **Drama 486. The Theater and Politics: The Politics of War**

This course will examine political perspectives on war as seen on the stage from the Greeks to the present. Beginning with masterpieces such as Aeschylus' tragedy *Agamemnon* and Aristophanes' satirical comedy *Lysistrata*, we will consider the political strategies of classical Greek drama. Turning to modern approaches to the subject, we will move from Shakespeare (*Troilus and Cressida*, *Coriolanus*) through Brecht (*Mother Courage*) to consider the dramatists' political perspective and its relation to theatrical form. Asking questions about the relationship between art and politics, we will consider whether we are entitled to use the same standards in evaluating political theater as we would in discussing other, less engaged works of art. We will discuss contemporary political theater in the United States and abroad, including playwright David Rabe's trilogy on the Vietnam War. Finally, the course will examine the Arab-Israeli conflict. Credit 3 units.

**A&S** TH

#### **Drama 487. Theater Culture Studies Seminar**

*Same as AMCS 486.*

Rotating upper-level topics course. Topics will come from Theater Culture Studies sequence. Credit 3 units.

**A&S** TH, WI **FA** AH

#### **Drama 489. The Battle of the Sexes: Sexual Conflict on Stage from Aeschylus to Albee**

*Same as WGSS 489.*

Recently, the issue of sexual equality came back into the news with a vengeance when former Harvard University President Lawrence H. Summers suggested that there are innate, measurable differences between the sexes. However, the firestorm that followed Summers' “transgression” is not new. Playwrights from ancient Greece to the present have explored the question of sexual difference in plays from *Agamemnon* to *Who's Afraid of Virginia Woolf?* When Euripides' *Medea* argues that she would go to battle three times rather than give birth to a single child, or Aristophanes' *Lysistrata* advocates putting a stop to war by having women of Athens deny their husband's sex, they are commenting on questions that have preoccupied us for thousands of years. In this course, we will trace the origins and history of sexual conflict through the ages, in works as controversial and

revolutionary as Shakespeare's *The Taming of the Shrew* and Ibsen's *A Doll's House*. To what extent have artists in the past endorsed or taken issue with the sexual and societal norms of their ages? To what extent have these and other artists tried to alter our preconceptions in their plays? By examining a series of dramatic texts from different historical periods, we will ask ourselves how perceptions have evolved over time, and how artists have historically responded to this age-old question.

Credit 3 units.

**A&S TH**

#### **Drama 493. Senior Project**

Specialized study in a selected area in drama. Required of all drama majors not taking Drama 499. Prerequisite: 15 units of advanced work in drama at the 300 or 400 level. Credit 3 units.

#### **Drama 499. Study for Honors**

Prerequisite: senior standing, a cumulative and a major GPA of 3.5, and permission of the chair of the Performing Arts Department. Credit variable, maximum 6 units.

#### **Drama 500. Independent Work**

Prerequisite: permission of the department. Credit to be determined in each case. Credit variable, maximum 6 units.

#### **Drama 5001. Acting**

Independent study. Credit variable, maximum 3 units.

#### **Drama 5002. Directing**

Independent study. Credit variable, maximum 3 units.

#### **Drama 5003. Technical Theater**

Independent study. Credit variable, maximum 3 units.

#### **Drama 5004. Voice, Speech**

Independent study. Credit variable, maximum 3 units.

#### **Drama 5005. Literature, Theory, Criticism**

Independent study. Credit variable, maximum 3 units.

## Philosophy

### Chair

#### **Mark Rollins**

Ph.D., Columbia University

### Professors

#### **José Luis Bermúdez**

Ph.D., Cambridge University

#### **Dennis DesChene**

Ph.D., Stanford University

#### **Julia Driver**

Ph.D., Johns Hopkins University

#### **J. Claude Evans**

Ph.D., State University of New York–Stony Brook

#### **Marilyn Friedman**

Ph.D., University of Western Ontario

#### **Roger Gibson**

Ph.D., University of Missouri

#### **John Heil**

Ph.D., Vanderbilt University

#### **Larry M. May**

Ph.D., New School for Social Research  
J.D., Washington University

#### **Stanley L. Paulson**

J.D., Harvard University  
Ph.D., University of Wisconsin

#### **Roy Sorensen**

Ph.D., Michigan State University

#### **Christopher Wellman**

Ph.D., University of Arizona

### Associate Professors

#### **Eric Brown**

Ph.D., University of Chicago

#### **Carl Craver**

Ph.D., University of Pittsburgh

#### **John Doris**

Ph.D., University of Michigan

#### **Clare Palmer**

Ph.D., Oxford University

### Assistant Professors

#### **Anne Margaret Baxley**

Ph.D., University of California–San Diego

#### **Frederick Eberhardt**

Ph.D., Carnegie Mellon University

#### **Brett Hyde**

Ph.D., Rutgers University

#### **Mariska Leunissen**

Ph.D., Leiden University

#### **Gillian Russell**

Ph.D., Princeton University

#### **Thomas Sattig**

Ph.D., Oxford University

### Adjunct Professors

#### **John Bruer**

Ph.D., Rockefeller University

#### **Linda J. Nicholson**

Susan E. and William P. Stirtz  
Distinguished Professor  
of Women's Studies  
Ph.D., Brandeis University

### Professors Emeriti

#### **Robert B. Barrett, Jr.**

Ph.D., Johns Hopkins University

#### **William H. Gass**

David May Distinguished University  
Professor Emeritus in the Humanities  
Ph.D., Cornell University

#### **Lucian W. Krukowski**

Ph.D., Washington University

#### **Jerome P. Schiller**

Ph.D., Harvard University

#### **Joyce Trebilcot**

Ph.D., University of California–Santa  
Barbara

#### **Joseph S. Ullian**

Ph.D., Harvard University

#### **Richard A. Watson**

Ph.D., University of Iowa

#### **Carl P. Wellman**

Hortense and Tobias Lewin Distinguished  
University Professor Emeritus in the  
Humanities  
Ph.D., Harvard University

Philosophy tackles central questions in human life, such as: *What counts as human knowledge? How should I live? What is truth? How is the mind related to the body? What is a just society?* These difficult but fundamental questions are rigorously explored in philosophy, and worked through by drawing on the historical tradition and utilizing careful reasoning. Because philosophers have shaped many of the central ideas on which Western civilization is based, the study of philosophy plays a vital role in a well-rounded liberal arts education.

Philosophy courses at Washington University provide opportunities to gain deeper knowledge of the history of philosophy, from the work of the ancient philosophers Plato and Aristotle through key thinkers such as Descartes and Kant to the present. Students can study the interface between philosophy and other disciplines (such as psychology, environmental studies, women's studies, law, and political science); they can also examine the methods of inquiry and underlying conceptual frameworks of scientific work itself. Courses in logic equip students to think and argue clearly and rigorously, while courses in analytic philosophy allow for the exploration of fundamental questions about knowledge and metaphysics. A variety of courses in ethics, where students can consider different theoretical approaches to current political, social, medical and environmental problems, are offered.

For more information about majoring or minoring in philosophy, consult the departmental Web site:

[artsci.wustl.edu/~philos/undergrad](http://artsci.wustl.edu/~philos/undergrad).

**The Major:** Majors must complete 27 units of course work in philosophy, of which at least 6 units must be at the 400 level and an additional 15 units must be at the 300 level or above. Majors are encouraged to take more than this minimum number of courses, especially if they are considering graduate

work in philosophy. Majors and minors are encouraged to fulfill the Writing-Intensive requirement by taking Phil 390 (Philosophical Writing). All majors are required to complete a capstone experience in philosophy, either an Honors thesis (Phil 499) or the Philosophy Capstone Course (Phil 3991). Majors who are planning to do graduate work in philosophy should attain at least reading proficiency in German, Greek, Latin, or French.

Majors must complete at least one Core Course in each of the three areas below. Students who do not take Phil 390 will be required to take one additional Core Course. The Core Courses, by area, are:

1. *Contemporary/analytic philosophy*: Phil 301G, 306G, 307, 315, 321G.
2. *History of philosophy*: Phil 347C, 349C, 357C.
3. *Value theory*: Phil 331F, 339F, 340F, 345F, 346.

On occasion it may be appropriate to substitute a 400-level course in one of these areas for a 300-level core course; individual petitions for substitutions will be considered by the undergraduate director. Generally, for a course to count either as "core" or as partly satisfying the requirement for 6 units at the 400 level, it must be home-based in Philosophy. At most 3 units of credit in Phil 499 or 500 can be counted toward the required 6 units of 400-level course work.

**The Minor:** To earn a minor in philosophy, students are required to complete 18 units in philosophy, including at least 12 units at the 300 level or above. These 12 units must include at least one Core Course in each of the three designated areas listed above. Many philosophy courses can also be taken as part of a History and Philosophy of Science minor or a Legal Studies minor.

**Senior Honors:** Eligible majors are encouraged to work toward Senior Honors. To qualify, students must have the agreement of a faculty member to serve as thesis adviser. In addition, they must have, at the end of the junior year, at least a 3.5 GPA in the major, a 3.5 GPA in advanced philosophy courses (300 level and above), and a 3.5 overall GPA. For important additional information regarding Senior Honors, consult the Web page.

**Study Abroad:** Students can pursue the philosophy major while studying abroad. The department has special study abroad arrangements with University College, London (UK); Kings College, London (UK); Trinity College, Dublin (Ireland); Sussex University (UK); Utrecht University (the Netherlands); and the University of Auckland (New Zealand). Information about study abroad and about specific overseas programs is available from the departmental Web page and the Study Abroad adviser.

## Undergraduate Courses

### Phil 100G. Logic and Critical Analysis

*Same as Lw St 105G.*

Introduction to the elementary tools of logic required for constructing and critically evaluating arguments and the claims they support. Topics in-

clude the nature of an argument; argument structure; how arguments can fail both in structure and in content; formal and informal fallacies; propositional logic and predicate calculus; and critical analysis of rhetorical strategies for presenting arguments. Students will be encouraged to develop critical reasoning skills that can be widely applied. Credit 3 units.

**A&S LA, QA (FA) SSP**

### Phil 120F. Problems in Philosophy

Introduction to philosophical methods and concepts through an investigation of major issues in Western philosophy such as: what counts as knowledge; truth and belief; the existence of God; the mind-body problem; materialism and idealism; moral theory and concepts of justice. A range of historical and contemporary views on these issues will be considered. The aim of the course is to prepare students to think and write about philosophical problems on their own. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 125C. Great Philosophers

In this course, we focus on some of the most important texts in the history of Western philosophy in order to discuss a wide range of central philosophical problems. We typically consider, for example, the existence of God, the justification of claims to knowledge, and the requirements of a good human life, including the demands of morality. Among the philosophers most likely to be studied are Plato, Aristotle, Descartes, Hume, Kant, Marx, Nietzsche, and Wittgenstein. Our goal is not just to appreciate the genius of some great philosophers, but also to grapple with the current philosophical problems they have bequeathed to us. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 127F. Introduction to Philosophy of Religion

There is a fundamental tension between Western philosophical thought, which emphasizes the import and efficacy of reasoned argument, and religious traditions, which stress the primacy of faith over reason. This conflict is the focus of this course. Topics to be considered include: the existence of God; atheism and agnosticism; the immortality of the soul; freedom of the will; the possibility of miracles; and, more generally, the nature of religious knowledge and the significance of religious diversity. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 131F. Present Moral Problems

*Same as Lw St 131F, AMCS 131I.*

An investigation of a range of contemporary moral issues and controversies that draws on philosophical ethics and culturewide moral considerations. Topics may include: racism, world hunger, war and terrorism, the distribution of income and wealth, gender discrimination, pornography, lesbian and gay rights, abortion, euthanasia, and capital punishment. The aim of the course is to present diverse points of view regarding these topics and to provide conceptual and theoretical tools that enable the student to make headway in thinking carefully and critically about the issues. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 208F. Introduction to Philosophy of Cognitive Science

This course will introduce key philosophical issues raised by the advent of cognitive scientific studies of mind. Topics may include: mental imagery, concepts, rationality, consciousness and emotion, language and thought, machine intelligence, robotics, free will. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 211F. Introduction to Metaphysics and Epistemology

Introduction to the study of the nature of reality (metaphysics) and the scope and limits of human knowledge (epistemology). Some of the most pressing problems traditionally encountered in these two areas are introduced and subjected to critical scrutiny via the tools of contemporary analytical philosophy. Credit 3 units.

### Phil 224. East Asian Philosophies

Credit 3 units.

**A&S TH (FA) AH**

### Phil 233F. Biomedical Ethics

*Same as Lw St 233F, AMCS 233.*

A critical examination, in the light of contemporary moral disagreements and traditional ethical theories, of some of the moral issues arising out of medical practice and experimentation in our society. Issues that might be discussed include euthanasia, genetic engineering, organ transplants, medical malpractice, the allocation of medical resources, and the rights of the patient. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 234. Business Ethics

Credit 3 units.

### Phil 235F. Introduction to Environmental Ethics

*Same as EnSt 335F, Lw St 235F, AMCS 235, Phil 2350.*

A general survey of current issues in environmental ethics, focusing on problems such as the obligation to future generations, protection of endangered species, animal rights, problems of energy and pollution, wilderness, global justice, and business obligations. Students will also learn some ethical and political theory. Credit 3 units.

**A&S TH (FA) SSP**

### Phil 237F. Introduction to Aesthetics

Study of characteristic problems in aesthetics and the philosophy of art, e.g., the nature of aesthetic entities, of aesthetic experience, and of individual differences in the various arts. Primary emphasis on solutions various theories offer to these problems. Credit 3 units.

**A&S TH (FA) AH, SSP**

### Phil 297. Undergraduate Independent Study

Prerequisite: permission of the department. Credit variable, maximum 6 units.

### Phil 299. Internship in Philosophy

Students receive credit for a faculty-directed and -approved internship. Registration requires completion of the Learning Agreement, which the student obtains from the Career Center and which must be filled out and signed by the Career Center, the site supervisor, and the faculty sponsor prior to beginning internship work. Credit should correspond to actual time spent in work activities, e.g., 8 to 10 hours a week for 13 or 14 weeks to receive 3 units of credit; 1 or 2 credits for fewer hours. Credit variable, maximum 3 units.

**(FA) SSP**

### Phil 301G. Symbolic Logic

*Same as Ling 301G, PNP 301.*

In this course, students learn notation that reflects the building blocks of deductive reasoning and facilitates its study. Sentential calculus and quantification theory are developed, emphasizing both their formal properties and their application to arguments. The central concept is validity. Some theoretical questions are considered; the completeness of quantification theory is established. Credit 3 units.

**A&S LA (FA) SSP**

**Phil 306G. Philosophy of Language***Same as PNP 306, Ling 306G.*

A survey of major philosophical problems concerning meaning, reference, and truth as they have been addressed within the analytic tradition. Readings that represent diverse positions on these focal issues will be selected from the work of leading philosophers in the field, for example: Frege, Russell, Wittgenstein, Davidson, Quine, Kripke, and Putnam. Students are encouraged to engage critically the ideas and arguments presented, and to develop and defend their own views on the core topics. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S LA FA SSP****Phil 307. Metaphysics and Epistemology***Same as PNP 307.*

An introduction to the philosophical study of the nature of reality (metaphysics) and of human knowledge (epistemology) that relies on techniques of contemporary analytic philosophy. Metaphysical issues may include: the problem of universals, the nature of necessity, and the mind-body problem. Epistemological issues may include: correspondence and coherence theories of truth, the quest for certainty, and the nature of skepticism. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 308. Introduction to Semantics***Same as Ling 311.***A&S LA****Phil 310. Contemporary Jewish Thought***Same as JNE 310.***A&S TH FA Lit, SSP****Phil 310I. Topics in Philosophy of Religion***Same as Re St 310I.***A&S TH****Phil 315. Philosophy of Mind***Same as Phil 315, PNP 315.*

An introduction to philosophical analyses of the nature of mind, especially those developed by contemporary philosophers. The focus will be on questions such as: What is a mind? How does it relate to a person's brain? How does it relate to a person's body and the external world? Can a mind exist in a very different kind of body (e.g., a computer or a robot)? Does thinking require a language-like code? If so, can non-linguistic species think? What is it to have a mental image or to experience pain? Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 316. Mind and Morals***Same as PNP 316.*

This course explores a number of issues at the intersection of ethics and cognitive science. Possible topics include: Are we rational? Do we know our own thoughts and motivations? Can one believe that one ought to do something without being motivated to do it? Do emotions impair or enhance our ability to reason? How do moral beliefs develop through childhood? Are traits such as intelligence and character unchangeable, and what implications follow if they are (or are not)? Does retaining my identity over time require having the same mind, and, if so, am I the same person now as I was as a child? Are nonhuman animals worthy of moral consideration? If brain activity is determined by causal laws, can we have free will? Prerequisite: one course in Philosophy at the 100 or 200 level or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 321G. Philosophy of Science***Same as Phil 321, PNP 321, ASTAT 521G, ASTAT 321G.*

Pivotal concepts common to empirical sciences are examined and clarified. These include: explanation, confirmation, prediction, systematization, empirical significance, and the relationship of all these concepts to the structure of scientific theory. Examples may be drawn from both contemporary and historical science, including the social, biological, and physical sciences. Students with a background in science are particularly encouraged to consider this course. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 331F. Classical Ethical Theories***Same as Lw St 331F, Phil 331.*

Intensive readings of great works in the history of ethics, especially by Plato, Aristotle, Hume, Kant, and Mill. Topics may include: the sources of moral knowledge, the nature of practical moral judgment, the moral role of emotion and desire, weakness of will, moral autonomy, and the universality of moral norms. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 332I. Feminist Philosophy**

This course will focus on vital normative issues of government, community, culture, and interpersonal relationships that bear on women's lives in distinctive ways. We will consider diverse topics from varied feminist perspectives. Probable topics include: race/ethnicity and gender, care and justice, varieties of oppression, lesbianism, sexuality, radical democracy, violence against women, and whether philosophical modes of investigation are biased against women. Credit 3 units.

**A&S SD, TH****Phil 335. Topics in Feminist Thought**

Credit 3 units.

**A&S SD, TH FA SSP****Phil 339F. Philosophy of the Arts**

An examination both of general issues that apply to all types of art and of issues specific to particular art forms. For example, What is art? What are the central artistic values: beauty, truth, emotional expressiveness, representational power, or something else? Does art have a moral or political function? How can we account for the history of art and for different artistic styles? In regard to selected forms, there are important questions concerning how pictures represent, whether music and dance are forms of "language," and the nature of literary interpretation. Some consideration is given to the relation of psychology and theories of the mind to art. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA AH, SSP****Phil 340F. Social and Political Philosophy***Same as Pol Sci 3400, Lw St 340F, AMCS 3403, Phil 340.*

Study of certain fundamental issues concerning government, society, and culture. For example: What are the nature and limits of legitimate political authority? Are ordinary human beings capable of governing themselves justly? Do citizens have a duty to obey the state? If so, to what extent, if at all, is that duty grounded in consent or contract? Should the state limit or regulate the personal relationships of citizens, such as marriage, family, and sexuality? How should social institutions rectify a history of political or social injustice against oppressed groups? Readings from historical and contemporary sources. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 341. Problems of Moral, Legal, and Social Ethics***Same as IAS 3411.*

Credit 3 units.

**A&S TH****Phil 345F. Issues in Applied Ethics***Same as Lw St 345, AMCS 345I.*

Advanced study of a selected topic in applied ethics. Abstract ethical theories and methods are brought to bear on the moral problems that arise in an area of social and professional practice such as medicine, business, law, journalism, engineering, or scientific and humanistic research. Possible topics include: reproductive health care and policy, the just distribution of medical resources, the social responsibilities of corporations, accountability in the media and public office, and the ethics of research on or affecting human subjects. Prerequisite: one course at the 100 or 200 level in applied ethics, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 346. Philosophy of Law***Same as Phil 346, AMCS 3460, Lw St 346.*

This course will first focus on the philosophical foundations of law, examining both the relationship between law and rules, as well as the types of legal reasoning. Second, the course will focus on philosophical issues that arise in the key substantive areas of law: contracts, torts, property, criminal law, and constitutional law, as well in specialized areas such as family and employment law. The course will end with a brief discussion of several problems in legal ethics. Prerequisite: one previous Philosophy course or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 347C. Ancient Philosophy***Same as Classics 347C.*

An examination of the high-water marks of philosophy in ancient Greece and Rome, focusing primarily on Plato and Aristotle. A wide range of philosophical problems will be discussed, including the nature of the good life, the justification of knowledge, and the ultimate nature of mind and world. Attention will be paid to how these problems unfolded in their historical context and to how the ancient treatments of them compare to contemporary efforts. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 349C. Descartes to Hume***Same as Phil 349C, PNP 349.*

An examination of major philosophical systems and problems in modern philosophy as presented in the original writings of the 17th and 18th centuries. Topics may include rationalism and empiricism, idealism, materialism, and skepticism. Readings will be selected from the continental rationalists—Descartes, Spinoza, and Leibniz—and from the British empiricists—Locke, Berkeley, and Hume. Central problems will include the mind-body problem, representationalism, and transcendentalism. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 357C. Kant and 19th-Century Philosophy**

Examination of Kant and 19th-century philosophy. We will discuss Kant's Copernican Turn in metaphysics and epistemology, as well as his moral philosophy, and we will study works of selected 19th-century philosophers such as those of Hegel, Marx, Mill, and Nietzsche. Prerequisite: one course in Philosophy at the 100 or 200 level or the permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 366. Art and the Mind-Brain***Same as PNP 366.*

In recent years, there has been a growing interest in the bearing of cognitive science on the perception and understanding of art. This interest has roots in tradition: historically, art, aesthetics, and vision science have often been linked. But the growth of knowledge in cognitive science has opened up new opportunities for understanding art and addressing philosophical questions. The converse is also true: The production, perception, and understanding of art are human capacities that can shed light on the workings of the mind and brain. This course considers questions such as: What is art? How do pictures represent? Does art express emotion? Why does art have a history? Credit 3 units.

**A&S TH FA AH, SSP****Phil 371F. Contemporary Continental Philosophy**

An examination of central texts of 20th-century philosophical thought in France and Germany. The work of Hegel and Heidegger will be considered, as well as that of thinkers they have influenced such as Adorno, Gadamer, and Habermas (in Germany), and Sartre, Foucault, Derrida, and Irigaray (in France). These philosophers reject any idea of "pure" knowledge and experience, and have reconceptualized human existence and understanding as fundamentally historicized, embodied, and linguistic. A focal question that this raises is:

What does this reconceptualization mean for ideals of humanism? Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 375. Existentialism***Same as Phil 375.*

The philosophical systems of selected philosophers such as Kierkegaard, Nietzsche, and Sartre are examined to determine their historical origins, their ontological and epistemological ramifications, and their relationships to contemporary philosophy. Prerequisite: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 378F. Philosophy of Literature**

What is a literary work? Do certain interpretations of literary works (e.g., the author's) have more authority than others? What makes a literary work good? Is the answer to this question culturally relative? Why do we react emotionally to fiction even when we know that it isn't true? What do metaphors teach us about the nature of meaning and thinking? In this course, we will examine these and other questions. Most of the readings will be drawn from philosophy, but we will also have occasion to read some fiction, poetry, and literary criticism. Prerequisites: one course in Philosophy at the 100 or 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 381. Pragmatism**

The focus of this course is the classical pragmatist movement, a cluster of then-highly controversial ideas developed from the 1870s through the 1940s by Peirce, James, Dewey, Meade, and C. I. Lewis. Widely regarded as the distinctively American contribution to the history of philosophy, it has been profoundly influential in shaping much subsequent American philosophical theory, especially the work of recent and contemporary analytically oriented philosophers. We'll concentrate on classical pragmatism in the writings of its early proponents, but pay some attention also to the prominence of pragmatic elements in the thought of Carnap, Quine, Davidson, Rorty, Putnam, and Goodman. Credit 3 units.

**A&S SS****Phil 382. Early 20th-Century Philosophy**

The philosophy of the early 20th century represents a watershed in the history of Western philosophy, as the point when analytic and "Continental" approaches went their separate ways (despite common roots in Kantian philosophy) and also as the point at which philosophy of language and philosophy of science emerged as central fields of philosophy. Against the background of the work of Frege, Husserl, and the neo-Kantians, this course will examine the exchanges among the philosophers of this period (including Russell, Wittgenstein, Moore, and the Vienna Circle), which set much of the analytic agenda for the rest of the century on such topics as meaning, reference, the unity of science, and the fact-value distinction. Prerequisite: one course in philosophy at the 100 and 200 level, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 390. Philosophical Writing**

This seminar will have a different topic of central philosophical importance each semester. Significant attention will also be devoted to conceiving, researching, writing, revising, critiquing, and presenting philosophical essays. Limited to 15 students. Priority will be given to philosophy majors and minors who have not yet completed their writing-intensive requirement. Credit 3 units.

**A&S TH, WI****Phil 397. Undergraduate Independent Study**

Credit variable, maximum 6 units.

**Phil 399I. Philosophy Capstone Course**

This course will focus either on classic writings from the past century or on contemporary writings that address a major philosophical concern, such as "the meaning of life" or "the concept of self." In either case, the course will draw together a variety of philosophical specializations. Must be taken by all philosophy majors who are not writing an Honors project. Work for the course will typically consist of one written project, one oral presentation, and one commentary on another student's oral presentation. Prerequisites: senior standing, major in philosophy; preference given to those majors not pursuing Honors. Credit 3 units.

**A&S TH****Phil 401. Set Theory***Same as Ling 401.*

An introduction to Zermelo-Fraenkel set theory and the foundations of mathematics. A framework is constructed in which standard mathematics can be embedded. Topics include relations, functions, the systems of natural numbers, rationals and reals, finite and infinite sets, ordinals and cardinals, and the axiom of choice and its equivalents. Prerequisite: Phil 301G or equivalent, or background in pure mathematics. Credit 3 units.

**A&S TH FA SSP****Phil 4023. Models of Social Science****Phil 403. Mathematical Logic I***Same as Ling 403.*

A first course in mathematical logic, an introduction to both proof theory and model theory. The structure and properties of first-order logic are studied in detail, with attention to such notions as axiomatic theory, proof, model, completeness, compactness, and decidability. Prerequisite: Phil 301G or equivalent, or a background in mathematics. Credit 3 units.

**A&S TH FA SSP****Phil 404. Mathematical Logic II***Same as Ling 404.*

Godel's Incompleteness Theorem: its proof, its consequences, its reverberations. Prerequisite: Philosophy 403 or a strong background in mathematics. Credit 3 units.

**A&S TH FA SSP****Phil 405. Philosophical Logic***Same as PNP 405.*

What the philosophy student needs to know of logic, its techniques, and its use as a tool in philosophical analysis. Some attention to the history of the subject and to its metatheory. Prerequisite: previous exposure to formal logic or permission of instructor. Credit 3 units.

**A&S LA FA SSP****Phil 405I. Philosophy of Logic***Same as PNP 405I.*

This course surveys some important issues in the philosophy of logic. We begin with basic foundational issues in classical logic, including the relation of logic to psychological reasoning and Tarski's definition of logical consequence, and gradually go on to consider the motivations and status of well-known extensions (sometimes regarded as neo-classical logics) such as modal logics and second-order logic. In the last weeks of the course, we'll examine some outright challenges, including intuitionistic and paraconsistent logics. After evaluating the arguments for and against these challenges, we'll examine one recent, controversial view—logical pluralism—that suggests that we might not need to choose among the rival systems. Many of the readings for this course are classics of contemporary philosophy, and the subject is likely to be of special interest to students who have interests in logic, and in the philosophy and foundations of mathematics and language. Some of the important ideas in the course presuppose at least a basic acquaintance with formal logic, and hence either Phil 100 or Phil 301 (or permission of the instructor) are prerequisites. Credit 3 units.

**A&S TH****Phil 406I. Topics in the Philosophy of Language**

Focus on the work of a single philosopher of language such as Carnap, Chomsky, Foucault, or Kripke, or on a central topic such as the theory of reference, the theory of meaning, or the problem of cross-cultural translation. Prerequisite: one course in epistemology, philosophy of language, or analytic philosophy; or permission of instructor. Credit 3 units.

**A&S TH****Phil 4065. Advanced Philosophy of Language***Same as Ling 4065.*

An advanced-level treatment of basic topics in the philosophy of language as this discipline is understood in the analytic tradition. The main positions and the problems they pose will be surveyed; focal themes include meaning, reference, and truth. The aim of the course is to help students develop effective expository techniques and to provide them with the necessary conceptual resources to analyze and criticize different theoretical views. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S LA FA SSP****Phil 410. Theories of Perception***Same as PNP 410I.*

A consideration of recent work in philosophy and cognitive science on the nature of perception and its contribution to thought, knowledge, and behavior. Special attention will be paid to two questions: To what extent can perceptual experience be changed through learning? In what sense do perceptual states have content? The relation of these issues to more general theories of mental content, to the possibility of objective and theory-neutral observation in science, and to the directness or indirectness of perception will be discussed. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 4141. Advanced Epistemology***Same as PNP 4141.*

Competing theories of knowledge and belief justification will be considered. Careful attention will be given to selected problems such as skepticism, certainty, foundations, coherence, perception, induction. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4142. Advanced Metaphysics***Same as PNP 4142.*

Through readings from both classical and contemporary sources, a single traditional metaphysical concern will be made the subject of careful and detailed analytic attention. Possible topics include such concepts as substance, category, cause, identity, reality, and possibility, and such positions as metaphysical realism, idealism, materialism, relativism, and irrealism. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 416. Aesthetics**

The philosophical and methodological questions raised by connectionist approaches to natural language processing are discussed. Focusing on the issues of representation and learning, the psychological reality of rule-based grammars is addressed as well as the idea of an innate universal grammar. In addition, the seminar involves hands-on experience with the simulation of natural language processing in connectionist networks. Prerequisite: 6 units in philosophy or permission of instructor. Credit 3 units.

**Phil 418. Current Controversies in Cognitive Science***Same as PNP 418.***A&S TH****Phil 419. Philosophy of Psychology***Same as PNP 419.*

An investigation of the philosophical presuppositions and implications of various traditions in psychology, including behaviorism, Gestalt, and cognitivism, with a special emphasis on the development of the information-processing approach of contemporary cognitivism. The conception of psychological phenomena, data, and explanation central to each of these traditions will be examined, and typical topics will include the debates between propositional and imagistic models of representation, different accounts of concepts and categorization, and the relation of psychology to ethics. Prerequisite: one previous course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4202. Contemporary Feminisms***Same as WGSS 420.***A&S SD, TH FA SSP****Phil 4210. Advanced Philosophy of Science**

An advanced survey of debates central to contemporary philosophy of science. These include the controversies generated by critiques of 20th-century logical positivism and logical empiricism, and by a range of contextualist alternatives to this "received view"; the ongoing debate between scientific realists and anti-realists, irrealists, and constructive empiricists; competing proposals for naturalizing philosophical studies of science; and recent reassessments of concepts of objectivity, theories of evidence, models of explanation, and unity of science theses. Examples will be drawn from a range of sciences, contemporary and his-

torical. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4212. Philosophy of Neuroscience***Same as PNP 4212.*

This course focuses on the historical roots of neuroscience as well as its contemporary developments. Topics include: 1) the nature of explanatory strategies in neuroscience, 2) the relation between neuroscience research and higher-level disciplines such as psychology, and 3) the epistemology of the investigatory tools of neuroscience. Prerequisite: one previous course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 423. Philosophy of Biological Science***Same as PNP 423.*

This course examines a number of theoretical, conceptual, and methodological issues that arise in the attempts of biologists to explain living systems. One sort of problem concerns the relations among biology (and biological descriptions and explanations) and physics and chemistry. Biological phenomena have often seemed very different from ordinary physical phenomena in being teleological or goal-oriented. Vitalists, accordingly, resisted the attempt to invoke physics and chemistry in the attempt to explain biological phenomena. But recently biology has come more and more to draw upon physics and chemistry; we will examine the conceptual frameworks that underlie these efforts. Another sort of problem concerns the adaptiveness of living organisms. Charles Darwin offered one naturalistic explanation of this feature, an explanation that was further developed in this century as the synthetic theory of evolution. A number of controversial issues have arisen within this context of adaptation, and the range of levels at which selection can occur. The ubiquity of evolution, moreover, has been challenged in recent years, as a number of nonselectionist explanations have recently been put forward. We will consider the arguments for the synthetic theory and these alternatives. Credit 3 units.

**A&S TH FA SSP****Phil 426. Theories of Concepts***Same as PNP 426.*

Concepts are the building blocks of thought. They are implicated in just about every cognitive task. Beyond that, there is little consensus. What information do concepts encode? How are they acquired? How are they combined to form thoughts? How are they related to perception and imagery? Each of these questions has been answered in numerous ways. In this course, we will explore competing theories of concepts that have been proposed by philosophers, psychologists, and other cognitive scientists. No prior acquaintance with these issues is required. Prerequisite: one previous course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4310. 20th-Century Metaethics**

An examination of metaphysical and epistemological issues in ethics. Topics include: the nature of the good and the right, the meaning of ethical terms, the logic of moral argument, and the status of moral knowledge. We will consider philosophical works written since 1900 by such authors as Moore, Ross, Stevenson, Ayer, Foot, Hare, Brink, Harmon, Blackburn, and McDowell. Prerequisite: one previous course in Philosophy at the 300

level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4315. Normative Ethical Theory**

An exploration of the three major normative ethical theories debated by philosophers in the past hundred years: Kantian ethics, utilitarianism, and virtue theory. Authors covered in the course may include: Henry Sidgwick, R.M. Hare, R.B. Brandt, John Rawls, Bernard Williams, Philippa Foot, Thomas Nagel, Christine Korsgaard, Michael Slote, and Barbara Herman. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4320. British Moralists**

An investigation of the work of the great British moral philosophers of the 17th–19th centuries, especially Hobbes, Hume, and Mill. Other figures may include Reid, Butler, Hutcheson, Bentham, and Sidgwick. In considering these philosophers, we will explore the relations between normative ethics, moral psychology, and political philosophy, and may include a discussion of legal, social, and economic philosophies as well. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 4332. Cognition and Computation***Same as PNP 4332.***A&S SS****Phil 438. Aesthetics**

A careful consideration of selected issues regarding the experience of visual art, architecture, music, or literature, as well as of the power or beauty of nature, people, and artifacts. For example, is there a special form of aesthetic experience or aesthetic attitude? In what do aesthetic power and beauty consist? Are they different in art and nature? Do the artists' intentions matter? Some central concerns are: How do visual art and literary texts have "meaning," what role do the viewer's or reader's interpretations play, and how might recent work in cognitive science and social theory shed light on these issues? Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA AH, SSP****Phil 4400. Advanced Social and Political Philosophy***Same as Pol Sci 4400, Lw St 4400.*

A selective investigation of one or two advanced topics in the philosophical understanding of society, government, and culture. Readings may include both historical and contemporary materials. Possible topics include: liberalism, socialism, communitarianism, citizenship, nationalism, cosmopolitanism, social contract theory, anarchism, and the rights of cultural minorities. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP****Phil 442. Social and Political Philosophy**

Credit 3 units.

**A&S TH****Phil 445. Topics in Philosophy of Law***Same as Pol Sci 4450.*

Selected concepts and problems in the philosophy of law. Special attention to their explication and resolution in terms of classical and contemporary theories of the nature of law. Prerequisite: senior

standing or permission of instructor. Credit 3 units.

**A&S TH**

**Phil 446. Philosophy of Law**

This course considers such topics as the nature of law and its relationship to systems of norms; the legal enforcement of morals; and the nature of harm and its role in punishment. We will consider such theorists as John Stuart Mill, Patrick Devlin, H.L.A. Hart, Joel Feinberg, Michael Moore, and Ronald Dworkin. Prerequisite: senior standing or permission of instructor. Credit 3 units.

**Phil 4461. The Rule of Law**

*Same as Pol Sci 4461, Lw St 4461.*

Credit 3 units.

**A&S TH**

**Phil 447. Topics in Metaphysics: Persons, Time, and Consciousness.**

The course will survey a number of related issues about personal identity. What are persons? Do persons really exist? Are persons metaphysically different from tables and chairs? How do persons persist over time, if at all? Does consciousness have a special role to play in determining personal identity? Does consciousness have a certain unity? Credit 3 units.

**A&S TH**

**Phil 451. Plato**

*Same as Classics 451.*

An examination of some of Plato's most important dialogues, typically including the *Gorgias*, *Phaedo*, and *Republic*, with the aim of grasping the development of Plato's most influential thoughts in ethics and in metaphysics and epistemology. In order to provide both historical understanding and philosophical evaluation, attention will be paid to the context and structure of the dialogues and to the best of recent secondary literature. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 452. Aristotle**

*Same as Classics 452.*

This course offers a maximally full and detailed introduction to the works of Aristotle. His logic, natural philosophy, psychology, metaphysics, ethics, and political philosophy will be discussed, and stress will be laid on the interpretive problems facing contemporary philosophers seeking to understand Aristotle's achievement. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 4530. Hellenistic Philosophy**

*Same as Classics 4350.*

The Hellenistic Age, traditionally dated from the death of Alexander and his (Macedonian) Empire at 323 BCE to the birth of Augustus' (Roman) Em-

pire in 31 BCE, gave the West three of its most innovative and influential schools of philosophy: Epicureanism, Skepticism, and Stoicism. This course investigates the central features of their thought. Special attention is paid to the still-relevant debates between the Stoics and Skeptics about the possibility of knowledge, to the disagreements among all three schools about the issues of freedom, responsibility, and determinism, and to their ethical theories. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 4550. Continental Rationalism**

A rationalist is a philosopher for whom at least one certain truth is inborn or comes from reason rather than from empirical or sensory experience. The major systemic writings of Descartes, Spinoza, and Leibniz will be examined with a focus on the question: Does the epistemology determine the ontology of these philosophical systems or vice versa? The lines of development connecting these philosophers will be traced, and such enduring problems as the relation of mind to body will be examined. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 456. Empiricist Philosophies**

Major writings of Locke, Berkeley, Hume, and others are read and discussed for the purpose of discerning interrelations between ontological and epistemological principles. The stress is on problems that are crucial in the history of Western philosophy. Prerequisite: 6 units in philosophy or permission of instructor. Credit 3 units.

**Phil 4570. Kant's Critique of Pure Reason**

An in-depth investigation of Kant's *Critique of Pure Reason*, one of the most important books in the history of Western philosophy. Some supplementary readings from other philosophers will be used to situate Kant's work in a systematic and historical context, to present some Kantian positions in current philosophy, and to bring in some important contrasting views and criticisms. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 4575. Kant and Kantian Practical Philosophy**

An in-depth examination of Kant's practical philosophy: his moral and political theory. Readings include the *Critique of Practical Reason*, parts of the *Metaphysics of Morals*, *Perpetual Peace*, and other writings. Supplementary readings will be used to situate Kant's work in its systematic and historical context, to provide orientation in the world of Kant scholarship, and to introduce important contrasting views and criticisms. We also will discuss recent reformulations of Kantian

themes in the works of contemporary philosophers. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 464. Advanced Continental Philosophy**

A study of selected texts by such major figures of 20th-century Continental philosophy as Husserl, Heidegger, Merleau-Ponty, Sartre, de Beauvoir, Levinas, Habermas, Foucault, Derrida, and Irigaray. Such topics as phenomenology, hermeneutics, existentialism, critical theory, structuralism, and poststructuralism will be investigated. Prerequisite: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH FA SSP**

**Phil 465. Topics in the History of Philosophy**

Study of individual philosophers or themes from the ancient, medieval, and/or modern periods. Examples: Spinoza, St. Thomas Aquinas, neo-Platonism, universals in ancient and medieval thought, and ancient and modern theories of space and time. Prerequisite: 6 units in philosophy or permission of instructor. Credit 3 units.

**A&S TH**

**Phil 4751. Intellectual History of Feminism**

*Same as WGSS 475.*

**A&S TH FA Lit**

**Phil 484. Topics in Analytic Philosophy**

Focus on the work of a single contemporary analytic philosopher such as Davidson, Putnam, or Strawson or on a central problem area such as epistemological relativism or the problem of the identity of physical objects. Prerequisite: one course in epistemology, philosophy of language, or analytic philosophy, or permission of instructor. Credit 3 units.

**A&S TH**

**Phil 492. Honors Seminar in Jewish Studies**

*Same as JNE 415.*

**A&S TH**

**Phil 497. Undergraduate Independent Study**

Prerequisite: permission of the department. Credit variable, maximum 6 units.

**Phil 499. Study for Honors**

Prerequisites: senior standing, a 3.5 minimum grade point average overall, a 3.5 minimum grade point average in philosophy courses, and the permission of the department. Applications and further information are available in the Department of Philosophy. See further: [artsci.wustl.edu/~philos/undergraduate/honors.html](http://artsci.wustl.edu/~philos/undergraduate/honors.html). Credit 3 units.

**A&S TH FA SSP**

# Philosophy– Neuroscience– Psychology

## Director

**José Luis Bermúdez**, Professor  
(Philosophy and Philosophy–  
Neuroscience–Psychology)  
Ph.D., Cambridge University

## Endowed Professors

### John Baugh

Margaret Bush Wilson Professor in Arts & Sciences  
(African and African American Studies, American Culture Studies, Anthropology, Education, English, and Psychology)  
Ph.D., University of Pennsylvania

### Pascal R. Boyer

Henry Luce Professor of Collective and Individual Memory  
(Anthropology and Religious Studies)  
Ph.D., University of Paris–Nanterre

### Steven E. Petersen

James S. McDonnell Professor of Cognitive Neuroscience  
(Neurology, Neurological Surgery, and Psychology)  
Ph.D., California Institute of Technology

### Henry L. Roediger, III

James S. McDonnell Distinguished University Professor  
(Psychology and American Culture Studies)  
Ph.D., Yale University

### Rebecca Treiman

Burke and Elizabeth High Baker Professor of Child Developmental Psychology  
(Psychology)  
Ph.D., University of Pennsylvania

### David C. van Essen

Edison Professor of Neurobiology  
(Anatomy and Neurobiology)  
Ph.D., Harvard Medical School

### James V. Wertsch

Marshall S. Snow Professor in Arts & Sciences  
(Anthropology, American Culture Studies, Education, and International and Area Studies)  
Ph.D., University of Chicago

## Participating Faculty

### Richard A. Abrams

Professor  
(Psychology)  
Ph.D., University of Michigan

**Charles Anderson**, Research Professor  
(Anatomy and Neurobiology, Biomedical Computing, Physics)  
Ph.D., Harvard University

**David A. Balota**, Professor  
(Psychology)  
Ph.D., University of South Carolina

**Deanna M. Barch**, Professor  
(Psychology)  
Ph.D., University of Illinois

**Joe Barcroft**, Associate Professor  
(Romance Languages and Literatures)  
Ph.D., University of Illinois at Urbana–Champaign

**Cindy Brantmeier**, Associate Professor  
(Romance Languages and Literatures and Education)  
Ph.D., Indiana University

**Todd S. Braver**, Associate Professor  
(Psychology)  
Ph.D., Carnegie Mellon University

**John Bruer**, Adjunct Professor  
(Philosophy)  
Ph.D., Rockefeller University

**Carl F. Craver**, Associate Professor  
(Philosophy and Philosophy–Neuroscience–Psychology)  
Ph.D., University of Pittsburgh

**Dennis Des Chene**, Professor  
(Philosophy and Interdisciplinary Program in the Humanities)  
Ph.D., Stanford

**John Doris**, Associate Professor  
(Philosophy and Philosophy–Neuroscience–Psychology)  
Ph.D., University of Michigan

**Janet M. Duchek**, Associate Professor  
(Psychology)  
Ph.D., Washington University

**Frederick Eberhardt**, Assistant Professor  
(Philosophy–Neuroscience–Psychology and Philosophy)  
Ph.D., Carnegie Mellon University

**Stanley Finger**, Professor  
(Psychology)  
Ph.D., Indiana University

**Leonard S. Green**, Professor  
(Psychology)  
Ph.D., State University of New York–Stony Brook

**John Heil**, Professor  
(Philosophy and Philosophy–Neuroscience–Psychology)  
Ph.D., Vanderbilt

**Brett D. Hyde**, Assistant Professor  
(Philosophy, Linguistics, and Philosophy–Neuroscience–Psychology)  
Ph.D., Rutgers University

**Larry L. Jacoby**, Professor  
(Psychology)  
Ph.D., Southern Illinois University–Carbondale

**Brett Kessler**, Assistant Professor  
(Psychology, Linguistics, and Philosophy–Neuroscience–Psychology)  
Ph.D., Stanford University

**Joseph L. Price**, Professor  
(Anatomy and Neurobiology)  
D. Phil., Oxford University

**Marcus E. Raichle**, Professor  
(Radiology)  
M.D., University of Washington

**Mark Rollins**, Professor  
(Philosophy and Philosophy–Neuroscience–Psychology)  
Ph.D., Columbia University

**R. Keith Sawyer**, Associate Professor  
(Education and Psychology)  
Ph.D., University of Chicago

**Mitchell S. Sommers**, Associate Professor  
(Psychology)  
Ph.D., University of Michigan

**Paul S. G. Stein**, Professor  
(Biology)  
Ph.D., Stanford University

**Desirée A. White**, Associate Professor  
(Psychology)  
Ph.D., Washington University

**Jeffrey M. Zacks**, Associate Professor  
(Psychology)  
Ph.D., Stanford University

Philosophy–Neuroscience–Psychology (PNP) is an interdisciplinary program that provides an opportunity to examine the mind from multiple perspectives. If you choose to major in PNP, you will learn to bring some of the newest findings in science to bear on some of the oldest questions in philosophy; equally important, you will see new questions emerge and learn to pursue those as well. Examples include: Is the mind–brain a single entity, or does having a mind involve something over and above the activity of a brain? What assumptions are made by cognitive psychologists when they divide mental activity into separate processes and use response times or other measures of task performance to describe those processes? What assumptions are made by neuroscientists when they use imaging techniques to determine where in the brain a cognitive process is carried out? What are we to make of Chomsky’s claim that language is an innate mental organ designed to generate an infinite number of sentences? As a PNP major you will seek answers to questions such as these in courses offered by PNP and PNP’s affiliated departments.

**The Major:** You may choose between two tracks in the PNP major. Students interested in the biological underpinnings of the mind may choose the Cognitive Neuroscience (CN) Track, which integrates the study of higher brain functioning with behavioral research directed at understanding activities such as perceiving, attending, remembering, and acting. The Language, Cognition, and Culture (LCC) Track addresses the importance of language in human cognition and the integration of cognition with one’s cultural environment.

PNP pulls together course work from five academic areas. All majors take courses in philosophy and psychology. CN students take additional courses in neuroscience, and LCC students take additional courses in linguistics and/or anthropology.

1. *Introductory courses:* The major begins with a sequence designed to lay the foundations for interdisciplinary inquiry. This is

normally PNP 200 and 201 (you may substitute for the latter Psych 301, which has Psych 100B and 300 as prerequisites). The PNP 200/201 sequence has the prerequisite of a 100 or 200 level Philosophy course or Psych 100B. If you have been admitted to the Mind, Brain, and Behavior Program, MBB 120A and 122 serves as the introductory sequence; you may substitute PNP 200 for the latter course.

You must also take introductory courses in the main areas of PNP:

**Philosophy:** a Philosophy course at the 100 or 200 level, preferably Phil 100G, Phil 120F, or Phil 125C.

**Psychology:** Psych 100B

**Track-specific:** If you are on the LCC Track, you must take Ling 170D and at least one of Anthro 2151 or 160B. If you are on the CN Track, you must take Biol 2960 (which in turn has Chem 111A as prerequisite and Chem 112A as concurrent); an alternative is to take Psych 3401 after you complete Psych 100B.

2. **Distributional requirements:** You must take upper-level courses fulfilling each of these distributional requirements. See below for a list of approved PNP courses for each of the five areas.

**Philosophy:** 6 credits

**Psychology:** 6 credits

**Track-specific:** If you are on the LCC Track, 6 credits of anthropology and/or linguistics courses. If you are on the CN Track, 6 credits of neuroscience.

You must also take specific upper-level classes. Each of these required courses may be applied to a single distributional or depth requirement:

**Philosophy:** Phil 306G or Phil 315

**Psychology:** Unless you passed MBB 120 with a B or better, you must take either Psych 360 or Psych 433.

**Track-specific:** If you are on the CN Track, you must take Biol 3411 and Psych 3604. There are no requirements for specific upper-level courses for the LCC Track.

3. **Depth requirement:** In addition, you must take 9 credits in a single area, selected from exactly one of the five area lists below. All majors may choose philosophy or psychology as their in-depth area. CN students have neuroscience as an additional option, and LCC students have anthropology or linguistics as additional options. At least 3 credits must be from a course numbered 400 or higher. Please note that a course may not simultaneously be applied to the distributional requirements and the depth requirement; these are non-overlapping requirements.

4. **Capstone:** The final stage of the PNP major is a capstone experience. This allows you to engage in a seminar or independent project that draws together different strands of the major. A Senior Honors thesis (see below) is an excellent capstone. Another option is to combine PNP 390 with either PNP 495 or 3 to 6 units of Independent Work, such as PNP 500. Courses such as PNP 495 and 500 often simultaneously fulfill some of the distributional or depth requirements. Capstones

are required only for primary majors but are strongly encouraged for all PNP majors.

A PNP major thus requires at least 40 units of classwork, depending on which options are chosen. However, only 18 units of upper-level courses (those numbered 300 or higher) need to be applied exclusively to your PNP major. Other units can be applied simultaneously to minors or to other majors. **Area lists.** The following courses may be applied to specific distributional and depth areas. Please be sure to check this bulletin and online course listings for prerequisites and course availability.

**Anthropology:** Anthro 3383, 362, 3661, 406, 4121, 4122, 419, 4191

**Linguistics:** Anthro 4122; Educ 4315; Ling 309, 311, 313, 320, 396, 466; Phil 301G, 306G; Psych 358, 433; Span 416, 467

**Neuroscience:** Biol 3058, 3411, 4031; Physics 350, 355; Psych 3401, 3604, 4001, 4047, 4450, 488

**Philosophy:** PNP 4332; AMCS 4023; Phil 301G, 306G, 307, 315, 316, 321G, 349C, 366, 403, 404, 405, 4061, 410, 4141, 4142, 418, 419, 4212, 423, 426

**Psychology:** Educ 337, 366; Psych 301, 315, 321, 326, 330, 3401, 345, 353, 354, 358, 360, 361, 374, 380, 4046, 4047, 4182, 4301, 4302, 433, 4625, 4651

Other courses whose topic varies from semester to semester may occasionally fill PNP area requirements. They include seminars such as PNP 495 as well as independent-work courses such as MBB 300, PNP 500, and equivalent courses in affiliated departments. Please contact the PNP office to apply for permission to count a course toward a particular area.

For more information about the PNP major, please consult the PNP Web page at <http://artsci.wustl.edu/~pnp/undergrad.index.html> or visit the PNP Office in 208 Wilson Hall.

**The Minor:** The minor is composed of an introductory sequence: PNP 200 and 201, or MBB 120A and 122. You must also take at least one of these courses in each of the following three areas:

**Philosophy:** Phil 306G or 315

**Neuroscience:** Biol 3411 or Psych 3604

**Psychology:** Psych 360 or 433

**Senior Honors (Latin Honors):** You are encouraged to work toward Senior Honors (Latin Honors) in PNP. You must have an overall GPA of 3.5 and apply to the PNP office at the end of your junior year. Your application should include an abstract of the interdisciplinary work you propose to undertake for your thesis and the agreement of a PNP faculty member who will be your primary adviser. If permission is secured, you enroll in PNP 499 for the fall and spring semester of your senior year and work toward producing a written thesis, which is presented and defended during the spring semester. For specific details, see our Web site: <http://artsci.wustl.edu/~pnp/undergrad/HONORS/honors.html>

## Undergraduate Courses

### PNP 199. Thought and Structures

Team-taught by a number of the University's most popular and well-known faculty members, this six-week, one-unit course for incoming freshmen provides a unique opportunity for students to learn about similarities and differences across academic disciplines and the ways in which scholars tackle discipline-based and interdisciplinary inquiry. Students will learn and discuss different structures of thought and think about academic fields of study in an interdisciplinary way, as a connected whole rather than an unrelated collection of parts. This course will help students in many different majors understand how individual academic disciplines fit into a larger context. Students will discuss readings and lectures in study groups, work closely with writing fellows in revising their writing assignment, and consider in depth the connections among different ways of thinking about discipline-based problems. The grade will be based upon a short paper. Prerequisite: freshman standing. Credit 1 unit.

### PNP 200. Introduction to Cognitive Science

We will seek to understand the mind-brain by integrating findings from several of the cognitive sciences, including philosophy, psychology, neuroscience, linguistics, anthropology, and artificial intelligence. This course will consider multiple perspectives on such topics as mental imagery, concepts, rationality, consciousness, emotion, language, thought, memory, attention, and machine intelligence. Prerequisite: completion of at least one of the following courses: Psych 100B, Phil 120F, Phil 125C, Biol 296A, MBB 120A, or Ling 170D. Credit 3 units.

**A&S SS**

### PNP 201. Inquiry in the Cognitive Sciences

Understanding the mind-brain involves orchestrating a variety of conceptual tools and modes of inquiry from the cognitive sciences. This course offers a hands-on introduction to a variety of research tactics used in the behavioral and biological sciences and emphasizes the advantages of combining them. For example, neuroimaging can enhance the interpretation of experiments by cognitive psychologists, and modeling can be used to simulate and understand the effects of brain lesions. Prerequisite: completion of at least one of the following courses: Psych 100B, Phil 120F, Phil 125C, Biol 296A, MBB 120, or Ling 170D. Credit 3 units.

**A&S NS, QA**

### PNP 3001. Research in the Mind-Brain

*Same as MBB 300.*

**A&S NS**

### PNP 301. Symbolic Logic

*Same as Phil 301G.*

**A&S LA FA SSP**

### PNP 306. Philosophy of Language

*Same as Phil 306G.*

**A&S LA FA SSP**

### PNP 307. Metaphysics and Epistemology

*Same as Phil 307.*

**A&S TH FA SSP**

### PNP 309. Syntactic Analysis

*Same as Ling 309.*

**A&S LA**

### PNP 3111. Introduction to Semantics

*Same as Ling 311.*

**A&S LA**

### PNP 313. Phonological Analysis

*Same as Ling 313.*

**A&S LA**

**PNP 315. Philosophy of Mind***Same as Phil 315.***A&S TH FA SSP****PNP 315I. Introduction to Social Psychology***Same as Psych 315.***A&S SS FA SSP****PNP 316. Mind and Morals***Same as Phil 316.***A&S TH FA SSP****PNP 317I. Introduction to Computational Linguistics***Same as Phil 317.***A&S LA****PNP 320. Historical and Comparative Linguistics***Same as Ling 320.***A&S LA FA Lit****PNP 321. Philosophy of Science***Same as Phil 321G.***A&S TH FA SSP****PNP 321I. Developmental Psychology***Same as Psych 321.***A&S SS FA SSP****PNP 323. Play and Development***Same as Educ 337.***A&S SS****PNP 330. Sensation and Perception***Same as Psych 330.***A&S NS FA NSM****PNP 3383. Cognition and Culture***Same as Anthro 3383.***A&S SS FA SSP****PNP 340I. Biological Psychology***Same as Psych 340I.***A&S NS FA NSM****PNP 341I. Principles of the Nervous System***Same as Biol 341I.***A&S NS FA NSM****PNP 345I. Genes, Environment, and Human Behavior***Same as Psych 345.***A&S SS FA SSP****PNP 349. Descartes to Hume***Same as Phil 349C.***A&S TH FA SSP****PNP 350. Physics of the Brain***Same as Physics 350.***A&S NS FA NSM****PNP 353I. Psychology of Personality***Same as Psych 353.***A&S SS FA SSP****PNP 354I. Abnormal Psychology***Same as Psych 354.***A&S SS FA SSP****PNP 355. Physics of Vision***Same as Physics 355.***A&S NS FA NSM****PNP 358. Language Acquisition***Same as Psych 358.***A&S SS FA SSP****PNP 360. Cognitive Psychology***Same as Psych 360.***A&S NS FA NSM****PNP 361. Psychology of Learning***Same as Psych 361.***A&S NS FA NSM****PNP 362. The Biological Basis of Human Behavior***Same as Anthro 362.***A&S CD, NS, SD FA NSM****PNP 366. Art and the Mind-Brain***Same as Phil 366.***A&S TH FA AH, SSP****PNP 366I. Psychology of Creativity***Same as Educ 366.***A&S SS FA SSP****PNP 3662. Primate Biology***Same as Anthro 3661.***A&S NS FA NSM****PNP 368I. Language and Society in Africa***Same as AFAS 368.***PNP 380. Human Learning and Memory***Same as Psych 380.***A&S NS FA NSM, SSP****PNP 390. PNP Book Club**

Each time this course is offered a book will be selected that does an exemplary job of bringing together insights and results from multiple disciplines in targeting an important topic. We will read and discuss the book and possibly a small amount of supplementary reading. A short presentation and paper will be required. Credit 1 unit.

**A&S SS****PNP 396. Linguistics Seminar: Metrical Stress Theory***Same as Ling 396.***A&S TH****PNP 400I. Introduction to Neuropsychology***Same as Psych 400I.***A&S NS FA NSM****PNP 4023. Models of Social Science***Same as AMCS 4023.***A&S SS****PNP 404. Laboratory of Neurophysiology***Same as Biol 404.***A&S NS, WI FA NSM****PNP 4047. History of Neuroscience***Same as Psych 4047.***A&S SS FA SSP****PNP 405. Philosophical Logic***Same as Phil 405.***A&S LA FA SSP****PNP 4051. Philosophy of Logic***Same as Phil 4051.***A&S TH****PNP 406. Primate Ecology and Social Structure***Same as Anthro 406.***A&S NS FA NSM****PNP 406I. Topics in the Philosophy of Language***Same as Phil 406I.***A&S TH****PNP 4065. Advanced Philosophy of Language***Same as Phil 4065.***A&S LA FA SSP****PNP 408. Psychology of Language***Same as Psych 433.***A&S SS FA SSP****PNP 410I. Theories of Perception***Same as Phil 410.***A&S TH FA SSP****PNP 414I. Advanced Epistemology***Same as Phil 414I.***A&S TH FA SSP****PNP 4142. Advanced Metaphysics***Same as Phil 4142.***A&S TH FA SSP****PNP 416I. Introduction to Hispanic Linguistics***Same as Span 416.***A&S LA****PNP 418. Current Controversies in Cognitive Science***Same as Phil 418.*

An advanced survey of current debates in cognitive science with an emphasis on the philosophical issues raised by these debates. Topics may include evolutionary psychology; innateness and neural plasticity; perception and action; consciousness; connectionism; robotics; embodied cognition; moral reason; emergence and artificial life; concepts and content; animal cognition. Prerequisites: one course in Philosophy at the 300 level, graduate standing, or permission of the instructor. Credit 3 units.

**A&S TH****PNP 419. Philosophy of Psychology***Same as Phil 419.***A&S TH FA SSP****PNP 4190. Primate Behavior***Same as Anthro 419.***A&S NS FA NSM****PNP 4192. Primate Cognition***Same as Anthro 4191.***A&S NS****PNP 4212. Philosophy of Neuroscience***Same as Phil 4212.***A&S TH FA SSP****PNP 423. Philosophy of Biological Science***Same as Phil 423.***A&S TH FA SSP****PNP 426. Theories of Concepts***Same as Phil 426.***A&S TH FA SSP****PNP 430I. Contemporary Topics in Cognitive Development***Same as Psych 430I.***A&S SS, WI FA SSP****PNP 4302. Cognitive Psychology Applied to Education***Same as Psych 4302.***A&S SS****PNP 4315. Culture, Language, and the Education of Black Students***Same as Educ 4315.***A&S CD, SS FA SSP****PNP 4332. Cognition and Computation***Same as Phil 4332.*

This course introduces students to some of the key frameworks for thinking about the mind in computational terms. We will be looking at some basic topics in the theory of computation, in addition to considering philosophical issues raised by computational models of cognitive processes. This course is required for graduate students in the PNP Ph.D. program. Prerequisites: at least two 400-level PNP courses cross-listed in Philosophy. Credit 3 units.

**A&S SS****PNP 4450. Functional Neuroimaging Methods***Same as Psych 4450.***A&S SS FA SSP****PNP 4488. The Cognitive Neuroscience of Film***Same as Psych 488.***A&S NS**

**PNP 466. Second-Language Acquisition***Same as Ling 466.***A&S** LA**PNP 467. Grammar and Vocabulary****Acquisition***Same as Span 467.***A&S** LA**PNP 469. Reading and Writing in a Second Language***Same as Span 469.***A&S** TH**PNP 472. History of the English Language***Same as E Lit 472.***A&S** LA **FA** Lit**PNP 4765. Biological Basis of the Major Mental Disorders***Same as Psych 4765.***A&S** NS **FA** NSM**PNP 495. PNP Seminar**

Subject varies per semester. Prerequisite: A 300-level Philosophy course (Phil/PNP 315 is recommended). Credit 3 units.

**A&S** SS**PNP 499. Study for Honors**

Prerequisite: senior standing, a grade point average of 3.50 overall, and permission of the department. Credit 3 units.

**A&S** SS**PNP 500. Independent Work**

Prerequisites: minimum of junior standing and written permission of a PNP-affiliated faculty member and of the PNP undergraduate coordinator, and either PNP 200 or HewP 120. A maximum of 3 units may be applied toward upper-division credits required for the major. Contact the department for further details. Credit variable, maximum 6 units.

## Physical Education

**Director of Athletics and Coordinator of Physical Education****John Schael**, Associate Professor  
M.Ed., Miami University

As an undergraduate student, you may take both lecture-laboratory and performance courses through the Department of Athletics. A total of 12 performance units may be included in the 120 units required for graduation. All courses are offered only on a credit/no credit basis.

### Undergraduate Courses

**PE 115. Topics in Physical Education: Beginning Weight Training**

Major emphasis is on strength development. Credit 1 unit.

**PE 116. Topics in Physical Education: Beginning Racquetball**

Credit 1 unit.

**PE 117. Advanced Racquetball**

Credit 1 unit.

**PE 119. Intermediate and Advanced Racquetball**

Credit 1 unit.

**PE 120. Topics in Physical Education: Varsity Sports**

Prerequisite: permission of instructor. Credit 1 unit.

**PE 1201. Fundamentals of Rowing for Fitness**

This course would focus on the effective use of Concept II Rowing as tools to learn the rowing stroke, as well as to maintain aerobic fitness and develop strength. Emphasis will be placed on the correct use of technique to decrease risk of injury; varying duration and intensity of work on the machine to develop different energy systems; using these new skills in developing lifetime fitness. Instruction will include the use of videotape and video monitoring. Athletic shoes and clothes that are not baggy are needed to participate. There will be a minimum amount of running of light low-impact aerobic activity required as a warmup. Credit 1 unit.

**PE 121. Topics in Physical Education: Varsity Sports**

Prerequisite: permission of instructor. Credit 1 unit.

**PE 124A. Fundamentals of Rowing for Fitness**

This course focuses on the effective use of Concept II Rowing machines as tools to learn the rowing stroke, as well as to maintain aerobic fitness and develop strength. Emphasis will be placed on the correct use of technique to decrease risk of injury; varying duration and intensity of work on the machines to develop different energy systems; using these new skills in developing lifetime fitness. Instruction will include the use of videotape and video monitoring. Athletic shoes and clothes that are not baggy are needed to participate. There will be a minimum amount of running or light low-impact aerobic required as a warmup. Credit 1 unit.

**PE 132. Topics in Physical Education: Beginning Swimming**

Credit 1 unit.

**PE 134. Topics in Physical Education**

This course provides skill instruction and knowledge needed to prevent and respond to aquatic emergencies in a pool setting. Successful completion of requirements results in certification in

American Red Cross Lifeguard Training for swimming pools, CPR, and First Aid. Prerequisite: swimming test given during the first week of class. Credit 1 unit.

**PE 135. Topics in Physical Education: Step Aerobics**

A low-impact aerobic class in which choreography and equipment are combined to meet the needs of participants at all levels of fitness. There will be a fee of \$45. Credit 1 unit.

**PE 136. Topics in Physical Education: Independent Fitness and Conditioning**

Students complete fitness testing at the beginning and end of the semester. Individual workout schedules are followed outside of class time. Orientation sessions will be held in late August in the lobby of the Athletic Complex; date and time TBA. Credit 1 unit.

**PE 137. Spinnin'**

Music, stationary bicycles, and an instructor who cues you to ride through hills, valleys, and other terrain, changing resistance and pace to simulate different types of riding. All levels welcome—you can tailor the ride to fit your personal fitness goals and needs. A water bottle and towel are required for this class. There will be a \$45 fee. Credit 1 unit.

**PE 139. Topics in Physical Education: Advanced Tennis**

Credit 1 unit.

**PE 140. Topics in Physical Education: Beginning Tennis**

Credit 1 unit.

**PE 143. Topics in Physical Education: Intermediate and Advanced Tennis**

Credit 1 unit.

**PE 148. Topics in Physical Education: Individual Physical Education**

Prerequisite: medical referral. Credit 1 unit.

**PE 155. Topics in Physical Education**

Practicum in Sports Leadership. Participation in formal leadership tasks under the direction of the Washington University Athletic Department personnel. Selection of task and scope of work to be determined before enrollment by conference with instructor. Prerequisite: permission of the department. Credit 1 unit.

**PE 209. Independent Fitness and Conditioning**

Students complete fitness testing at the beginning and end of the semester. Individual workout schedules are followed outside of class time. Class meets for lectures/discussion one day every other week on topics/issues of fitness and wellness. Credit 1 unit.

**PE 210. Topics in Physical Education: Beginning Racquetball**

Section: 01 MW 9:00-10:00; Section 02 MW 1:00-2:00. Racquetball courts. Credit 1 unit.

**PE 212. Topics in Physical Education: Intermediate and Advanced Basketball**

Designed to develop an appreciation for basketball through team competition and activity. Individual instruction and skill development also will be available. Section 01: T/Th 9:30-11:00. Field House. Credit 1 unit.

**PE 214. Topics in Physical Education: Advanced Weight Training**

Major emphasis on muscular strength and flexibility through free-weight resistance exercise. Pre- and post-assessment of physical fitness levels may be established. Prerequisite: Beginning Weight Training. Section 01: T/Th 8:30-11:00. Weight Room. Credit 1 unit.

**PE 215. Weight Training: Beginning Weight Training**

Major emphasis on strength development. Section 01: T/Th 8:00–9:30. Weight Room; Section 02 MWF 10:00–11:00. Weight Room. Credit 1 unit.

**PE 216. Soccer**

Designed to develop an appreciation for soccer through the development of soccer skills, concepts of group play and team competition. Section 01: T/Th 10:00–11:30 a.m. Note: Eight- or nine-week course beginning in mid-February. All students who register must check in with the departmental office during the first two weeks of the semester. Credit 1 unit.

**PE 220. Topics in Physical Education: Varsity Sports**

Prerequisite: permission of the department. Section 01: TBA. Athletic Complex. Credit 1 unit.

**PE 2201. Fundamentals of Rowing for Fitness**

This course will focus on the effective use of Concept II Rowing as tools to learn the rowing stroke as well as to maintain aerobic fitness and develop strength. Emphasis will be placed on the correct use of technique to decrease risk of injury; varying duration and intensity of work on the machine to develop different energy systems; using these new skills in developing lifetime fitness. Instruction will include the use of videotape and video monitoring. Athletic shoes and clothes that are not baggy are needed to participate. There will be a minimum amount of running or light low-impact aerobic activity required as a warmup. Credit 1 unit.

**PE 221. Topics in Physical Education: Varsity Sports**

Prerequisite: permission of the department. Section 01: TBA. Athletic Complex. Credit 1 unit.

**PE 232. Topics in Physical Education: High-Intensity Conditioning**

Varied program of high-intensity conditioning techniques designed for individual needs. Supervised areas covered are: cardiovascular and strength testing; weight training; plio-metric training; flexibility and stretching; and aerobic and anaerobic training. There will be an organizational meeting during the third week of August, time and location TBA. Class will end in mid-October. Credit 1 unit.

**PE 234. Topics in Physical Education: Lifeguard Training**

The course provides skill instruction and knowledge needed to prevent and respond to aquatic emergencies in a pool setting. Successful completion of requirements results in certification in American Red Cross Lifeguard Training for swimming pools, CPR, and First Aid. Prerequisite: swimming test given during the first week of class. Section 01: T/Th 1:30–3:00. Millstone Pool. Credit 1 unit.

**PE 235. Topics in Physical Education: Step Aerobics**

Section 01: Step Plus: primarily designed around step aerobics with occasional workouts using other fitness techniques; i.e., box aerobics, interval training. Section 02: Combo Training: combination of many fitness techniques; i.e., step aerobics, box aerobics, low impact. There is a fee of \$45. Credit 1 unit.

**PE 236. Topics in Physical Education: Fitness and Conditioning**

Students complete fitness testing at the beginning and end of the semester. Individual workout schedules are followed outside of class time. Orientation session in January, time and location TBA. Section 01: Step Plus: primarily designed around step aerobics with occasional workouts using other fitness techniques; i.e., box aerobics, interval training. Section 02: Combo Training: combination of many fitness techniques, i.e., step aerobics, box aerobics, low impact. Athletic Complex. Credit 1 unit.

**PE 237. Spinnin'**

Credit 1 unit.

**PE 238. Topics in Physical Education: Intermediate Volleyball**

Sections: 01 MW 9:00–10:00. Athletic Complex. Credit 1 unit.

**PE 239. Topics in Physical Education**

Credit 1 unit.

**PE 240. Topics in Physical Education: Beginning and Intermediate Tennis**

Eight- or nine-week course beginning approximately February 15. All students who register must check in with the departmental office during the first two weeks of the semester. Section 01: T/Th 1:00–2:30. Tao Tennis Courts. Credit 1 unit.

**PE 241. Topics in Physical Education: Beginning Tennis**

Eight- or nine-week course beginning approximately February 21. All students who register must check in with the departmental office during the first two weeks of the semester. Section 01: T/Th 9:30–11:00. Tao Tennis Courts. Section 02: MWF 10:00–11:00. Tao Tennis Courts. Credit 1 unit.

**PE 248. Topics in Physical Education: Individual Physical Education**

Prerequisite: medical referral needed. Section 01: TBA. Athletic Complex. Credit 1 unit.

**PE 255. Topics in Physical Education: Practicum in Sports Leadership**

Participation in formal leadership tasks under the direction of the Washington University Athletic Department personnel. Selection of task and scope of work to be determined before enrollment by conference with instructor. Prerequisite: permission of the department. Sections 01: TBA. Athletic Complex. Credit 1 unit.

**PE 258. Spinnin'**

Music, stationary bicycles, and an instructor who cues you to ride through hills, valleys, and other terrain, changing resistance and pace to simulate different types of riding. All levels welcome—you can tailor the ride to fit your personal fitness goals and needs. A water bottle and towel is required. There will be a \$45 fee. Credit 1 unit.

**PE 291. Fundamentals of Athletic Training**

*Same as Educ 291.*

Study of the duties of the athletic trainer, in relation to physical education classes, competitive sports, and recreation, including study and practice of first-aid care and prevention of injuries. Section 01: MWF 10–11:00. Athletic Complex. Credit variable, maximum 3 units.

**PE 310. Water Safety Instructor**

This course is designed to prepare aquatic professionals to teach progressive levels of swim lessons. Students will learn to analyze human movement in the water and develop competency in class management, teaching, evaluation, safety, supervision, leadership, communication, and administrative of aquatic education programs. Successful completion of all class requirements will result in certification in American Red Cross Water Safety Instructor. Fee of \$175 covers all class books, supplies, and certificate processing. Prerequisite: advanced swimming skills and knowledge of water safety will be tested on the first day of class. The class will be held at the Center of Clayton Facility. For additional information, call Stephanie McCormick at 290-8507. Section 01: M 6:00–9:30 p.m. mid-January to mid-April, dates TBA. Credit 2 units.

**PE 312. Health and Wellness**

The course will provide current information related to health, wellness, and lifestyles. Students will have the opportunity to explore their own attitudes, values, and beliefs associated with these topics. Credit 3 units.

**A&S** SS

# Physics

## Chair

### **Kenneth F. Kelton**

Arthur Holly Compton Professor of Physics  
Ph.D., Harvard University

## Endowed Professors

### **Carl M. Bender**

Wilfred R. and Ann Lee Konneker Professor  
of Physics  
Ph.D., Harvard University

### **John W. Clark**

Wayman Crow Professor of Physics in Arts  
& Sciences  
Ph.D., Washington University

### **James G. Miller**

Albert Gordon Hill Professor of Physics  
Ph.D., Washington University

### **Stuart A. Solin**

Charles M. Hohenberg Professor of Experimental  
Physics  
Ph.D., Purdue University

### **Clifford M. Will**

James S. McDonnell Professor of Physics  
Ph.D., California Institute of Technology

## Professors

### **Claude W. Bernard**

Ph.D., Harvard University

### **Thomas Bernatowicz**

Ph.D., Washington University

### **James H. Buckley**

Ph.D., University of Chicago

### **Anders E. Carlsson**

Ph.D., Harvard University

### **Mark S. Conradi**

Ph.D., Washington University

### **Ramanath Cowsik**

Ph.D., University of Bombay

### **Willem H. Dickhoff**

Ph.D., Free University, Amsterdam

### **Patrick C. Gibbons**

Ph.D., Harvard University

### **Charles M. Hohenberg**

Ph.D., University of California–Berkeley

### **Martin H. Israel**

Ph.D., California Institute of Technology

### **Jonathan I. Katz**

Ph.D., Cornell University

### **Michael C. Ogilvie**

Ph.D., Brown University

### **James S. Schilling**

Ph.D., University of Wisconsin–Madison

### **Wai-Mo Suen**

Ph.D., California Institute of Technology

## Joint Professors

### **Shankar M. L. Sastry**

(Mechanical Engineering)

Ph.D., University of Toronto

### **Lee G. Sobotka**

(Chemistry)

Ph.D., University of California–Berkeley

## Associate Professors

### **Mark Alford**

Ph.D., Harvard University

### **Henrik Krawczynski**

Ph.D., University of Hamburg

### **Ralf Wessel**

Ph.D., University of Cambridge

## Assistant Professors

### **Zohar Nussinov**

Ph.D., University of California–Los Angeles

### **Alexander Seidel**

Ph.D., Massachusetts Institute of Technology

### **Yan-Mei Wang**

Ph.D., University of California–Berkeley

## Senior Lecturer

### **Rebecca L. Trousil**

Ph.D., Washington University

## Professors Emeriti

### **Dan I. Bolef**

Ph.D., Columbia University

### **James H. Burgess**

Ph.D., Washington University

### **Peter A. Fedders**

Ph.D., Harvard University

### **Michael W. Friedlander**

Ph.D., University of Bristol

### **Kazimierz Luszczyński**

Ph.D., University of London

### **Richard E. Norberg**

Ph.D., University of Illinois

### **Peter R. Phillips**

Ph.D., Stanford University

### **John H. Scandrett**

Ph.D., University of Wisconsin–Madison

### **J. Ely Shrauner**

Ph.D., University of Chicago

### **Ronald K. Sundfors**

Ph.D., Cornell University

Physics is the discipline that deals with the most fundamental aspects of our universe, such as the properties of atoms, nuclei, and elementary particles; the nature of the forces between them; and the collective behavior of atoms in solids, liquids, and gases. It deals with the entire universe, from its birth to its ultimate fate. At the same time, physics provides the tools that help us to understand extremely complex everyday things, like the behavior of sand piles, the strength of materials, or processes in the brain. Physics developed when people realized that nature operates according to simple mathematical rules; physics seeks to discover and understand those rules. Its early successes in comprehending motion, thermodynamics, electricity, and magnetism provided a foundation upon which other physical sciences have grown.

If you are planning a career in science and technology or to pursue graduate studies in physics, astronomy, earth sciences, environmental sciences, medical physics, meteor-

ology, or oceanography, a major in physics provides a solid foundation. The program is sufficiently flexible to allow you to combine this major with a second major in chemistry, mathematics, or engineering, or with pre-medical studies and other disciplines in the humanities and social sciences.

Our programs are designed to give you, in addition to the fundamentals of physics, a broad range of skills in laboratory techniques, critical thinking, computer use, and teamwork, which will serve you well in your chosen career. You may design a program of study, in consultation with your adviser, to meet your personal goals and interests. As a physics major, you are strongly encouraged to participate in physics research projects directed by faculty members. **Introductory Physics:** Physics 197-198 is an advanced calculus-based introduction to physics intended for adequately prepared students interested in majoring in physics. An alternative calculus-based sequence, Physics 117-118, may also be used to enter the major program, but is primarily intended for students who want an introduction to the physical sciences and for those who are preparing for professional study of various kinds, including medicine. The latter sequence also fulfills the requirements of the College of Architecture.

The department offers several other courses of general interest to the nonscience student. In most cases these have no prerequisite. Most form part of natural science clusters.

**The Physics Major:** As prerequisites for the major, you should complete Physics 197-198 or Physics 117-118 your first year. You should consider taking Physics 217, 316 or 321, 318, and 411 in your second year.

**Required Physics Courses:** For the major, you are required to complete a minimum program of 21 units of advanced courses (300 level or higher) in Physics. These 21 units must include Physics 322, 411, 421, one additional upper-level laboratory course (choose from Physics 316, 321, 360, 451, 452), and, if Physics 217 is not taken, either Physics 318 or 471. The remaining physics courses must be at the 300 level or above, excluding Physics 303, 304, 341, 342, 441, 442, 499, and 500.

**Recommended Physics Courses:** If you are preparing for graduate study in physics or astronomy, you should consider taking, in addition to the above requirements, Physics 422, 463, and 471, as well as some of Physics 472, 474, 476, and additional lab courses. You should also consider taking Physics/Math 501-502 and additional mathematics courses.

If you are preparing for employment after the A.B. degree, you should take additional laboratory courses from Physics 316, 321, 360, 451, and 452. Other relevant courses may include Physics 314, 350, 351, 352, 355, 422, 463, 471, and 472. You might also consider Chem 435 and 436.

If you are preparing for medical school, you should give special consideration to

Physics 314, 316, 321, 350, 351, 352, 355, and 360.

**Math Courses:** Calculus I, II, III and Differential Equations (Math 217) are required for the Physics major. We recommend that Math 217 precede Physics 411, ESE 317 (Engineering Math) or Math 308 (Mathematics for the Physical Sciences) precede Physics 421, and Math 309 (Matrix Algebra) precede Physics 471. Physics/Math 501 and 502 are also recommended.

**Science-Breadth Requirement:** Majors must select three of the following courses to satisfy the science-breadth requirement: Chem 111, Chem 112, Chem 151, Chem 152, Chem 401, Chem 402, Chem 445, CSE 126, CSE 131, CSE 132, CSE 200. One of the three courses must be Chem 111, Chem 112, Chem 401, or Chem 402.

**The Physics Minor:** You are required to complete Physics 197-198 or 117-118, Physics 217-318, and one additional 3-unit course at the 300 level or above (excluding Physics 303, 304, 341, 342, 441, 442, 499 and 500) for a total of 17 units.

**The Biomedical Physics Minor:** You are required to complete Physics 117-118 or 197-198, two courses from Physics 314, 350, 351, 352, and 355, and one upper-level laboratory course chosen from Physics 316, 321, 322 and 360. New courses are being developed that will also satisfy these requirements.

**Senior Honors:** You are encouraged to work toward Honors in physics. To qualify, you must meet the academic requirements of the College and successfully complete a suitable project under the supervision of a faculty member in the department. The project, whether experimental or theoretical, should demonstrate your capacity for independent work. You must apply to the Undergraduate Studies Committee no later than the beginning of the senior year. Your application should include a description of the proposed project, co-signed by the supervising professor. A written report of the completed work must be submitted to the committee by a

deadline in March. By enrolling in Physics 499, you may earn up to 6 units of credit for the honors project.

## Undergraduate Courses

### Physics 101A. Basic Physical Science

An introduction to the concepts and modes of thought involved in understanding the physical world. The focus is not only on everyday phenomena (e.g., falling objects, skidding cars, the tides), but also on questions of cosmic significance (e.g., relativity, the Big Bang, black holes, the origin of the elements). Verbal reasoning will be emphasized. No prerequisites. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Physics 107A. How Things Work

Why is the sky blue? How can a baseball curve? Natural and manmade phenomena can be understood by simple and basic ideas of physics. This course will illustrate these underlying principles by using examples from everyday life, as well as from physics and other fields. Because the phenomena are many and the principles are few, we will find that apparently very different events sometimes have similar explanations; we will come to understand how the stretching of a rubber band is related to ice skating, and how the blue of the sky is related to the red of the sunset and the white color of milk. No prerequisites. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Physics 110A. Awesome Ideas in Physics

*Same as Physics 110.*

The ideas of physics that have revolutionized our perception of the world and reality. Emphasis is on understanding a selected set of crucial concepts without losing track of the numbers. Using the writings of Hawking, Feynman, and Lightman, a study will be made of such topics as energy and conservation laws, the relativity of time, the wave-particle duality, the modern picture of matter at the smallest and the largest distance scales, and the history of the universe. Must be taken for a letter grade. No prerequisites. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Physics 111. Variational Calculus—A

#### Mathematical Blade for Cutting-Edge Science

Variational calculus, a fancy generalization of ordinary calculus, is the study of functionals. In variational calculus one tries to find the special function that extremizes a functional. The applications of variational calculus are ubiquitous in modern science. Variational calculus is the mathematical setting for describing the physical world. In all areas of classical and quantum physics, the physical world is expressed in terms of functions that extremize specific functionals. In this seminar, variational calculus will be explained at an elementary level and many of its applications in science will be examined. A good understanding of elementary first-year calculus is required to take this seminar. Credit 3 units.

**A&S** NS, QA

### Physics 117A. General Physics I

*Same as Physics 2110.*

Calculus-based introduction to the concepts, laws, and structure of physics. Topics include kinematics, Newton's laws, energy, linear momentum, angular momentum, the conservation laws, gravitational force, harmonic motion, wave motion and interference, sound, and special relativity. Prerequisites: previous or concurrent enrollment in Calculus I (Math 131) or permission of instructor; concurrent registration in a Physics 117 lab section is required. Credit may not be obtained for both Physics 117 and Physics 197. Credit 4 units.

**A&S** NS, QA **FA** NSM

### Physics 118A. General Physics II

Continuation of Physics 117. Calculus-based introduction to concepts, laws, and structure of physics. Topics include electromagnetic forces and fields, direct current circuits, capacitance and inductance, electromagnetic radiation, light, geometrical and physical optics, interference and diffraction, early quantum theory, and nuclear physics. Prerequisite: Physics 117A, Physics 197, or permission of instructor; concurrent registration in a Physics 118 lab section is required. Previous or concurrent enrollment in Math 132 (Calculus II) is recommended. Credit may not be obtained for both Physics 118 and Physics 198. Credit 4 units.

**A&S** NS, QA **FA** NSM

### Physics 125A. Solar System Astronomy

*Same as Physics 125.*

Designed for the nonscience major, this course deals with the planets, their moons and rings, comets, meteorites, and interplanetary dust particles. In order to understand both classical astronomy and the results obtained from modern telescopes and the space program, basic scientific ideas (including optics and the laws of motion) are reviewed first. There also will be some discussion of astronomical history to show how we have arrived at our present ideas of the structure and evolution of the solar system. Prerequisites: high school algebra and trigonometry or concurrent enrollment in Math 131. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Physics 126A. Stars, Galaxies, and Cosmology

Intended as a general survey for the nonscience major. Topics include the structure and evolution of stars, such as red giants, white dwarfs, neutron stars, pulsars, and black holes; galaxies and quasars, cosmology, and the Big Bang theory. Prerequisites: high school algebra and trigonometry, or concurrent enrollment in Math 131. Credit 3 units.

**A&S** NS, QA **FA** NSM

### Physics 141. Selected Topics in Physics I

Topics of special interest (e.g., superconductivity, quasicrystals, neural networks, chaos, etc.) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

**A&S** NS **FA** NSM

### Physics 142. Selected Topics in Physics I

Topics of special interest (e.g., holography, relativity, nuclear power, computer applications in physics, etc.) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member, and finally secure approval of the department chair. Credit variable, maximum 3 units.

**A&S** NS **FA** NSM

### Physics 171A. Physics and Society

*Same as EnSt 272A.*

Introduction to physics: its goals, methods, and relevance for society. Topics include energy as a unifying principle of physics and society's use of energy, resources, and costs. Nuclear energy: history, technology, radiation, waste, weapons. Global climate change: the greenhouse effect, the hole in the ozone layer. Science and government. Bad science, pseudoscience, anti-science. Intended for science and nonscience majors. Must be taken for a letter grade. Credit 3 units.

**A&S** NS, QA **FA** NSM

**A&S** Requirements for College of Arts & Sciences students (for more information, see page 27).

CD = Cultural Diversity

LA = Languages and the Arts

NS = Natural Sciences and Mathematics

QA = Quantitative Analysis

SD = Social Differentiation

SS = Social Sciences

TH = Textual and Historical Studies

WI = Writing-Intensive Course

**FA** Requirements for College of Art students (for more information, see page 305).

AH = Art History

Comp = English Composition

Lit = Literature

NSM = Natural Sciences or Mathematics

SSP = Social Sciences or Philosophy

**Physics 197. Physics I**

An advanced, calculus-based introduction to central concepts in modern physics for students who desire to major in physics or another physical science, or who have a special interest in physics.

The course is structured around three themes that are treated in depth: conservation laws, Newtonian physics, and special relativity. A daily regimen of homework and reading as well as active class participation are integral parts of the course. Corequisite: Calculus II (Math 132). Concurrent registration in a Physics 197 lab section is required.

Credit may not be obtained for both Physics 117 and Physics 197. Students who intend to major in physics are encouraged to register for Section 02. Credit 4 units.

**A&S NS, QA**

**Physics 198. Physics II**

Continuation of Physics 197. An advanced, calculus-based introduction to central concepts in physics for students who desire to major in physics or another physical science, or who have a special interest in physics. The course is structured around three themes that are treated in depth: electricity and magnetism, quantum physics, and statistical and thermal physics. A daily regimen of homework and reading as well as active class participation are integral parts of the course. Prerequisites: Physics 197 and Calculus II. Students who have not taken Physics 197 may not register for Physics 198. Concurrent registration in a Physics 198 lab section is required. Credit may not be obtained for both Physics 118 and Physics 198. Students who intend to major in physics are encouraged to register for Section 02. Credit 4 units.

**A&S NS, QA**

**Physics 210A. Epic of Evolution: Life, Earth, and the Cosmos**

*Same as EPSc 210A.*

**A&S NS FA NSM**

**Physics 216. Introduction to Relativity: The Special Theory**

Introduction to the special and general theories of relativity. Einstein's postulates of the principle of relativity and the constancy of the speed of light. Simple kinematics and dynamics: simultaneity, time dilation, space-time diagrams, twin and other "paradoxes,"  $E = mc^2$ , laws of motion. Elements of general relativity: curved space-time, experimental tests, black holes, gravitational waves. Prerequisite: Physics 117A, Physics 197, or permission of the instructor. Credit 1 unit.

**A&S NS FA NSM**

**Physics 217. Introduction to Quantum Physics**

Theoretical and experimental basis for quantum mechanics, following the historical development of 20th-century physics. Failure of classical physics; the Bohr theory of the atom; the Heisenberg uncertainty principle; the Schrodinger equation; atomic and molecular structure. Prerequisites: Physics 117A and 118A, or Physics 197 and 198. Credit 3 units.

**A&S NS FA NSM**

**Physics 241. Selected Topics in Physics II**

Topics of special interest (e.g., superconductivity, quasicrystals, neural networks, chaos, etc.) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

**A&S NS FA NSM**

**Physics 242. Selected Topics in Physics II**

Topics of special interest (e.g., holography, relativity, nuclear power, computer applications in physics) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

**A&S NS FA NSM**

**Physics 312. Introduction to Astrophysics**

Introduction to modern astronomy and astrophysics: stellar structure and evolution, nucleosynthesis, galactic structure, cosmology. Prerequisites: Physics 117A and 118A, or Physics 197 and 198, or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

**Physics 314. Physics of the Heart**

*Same as BME 314.*

A lecture and demonstration course that may be of particular interest to premedical and life-science students. Basic physics of the human cardiovascular system. Elasticity of vessels: properties of elastin and collagen. Energetics of the circulation: arterial and venous blood pressure, total fluid energy, gravitational potential energy, kinetic energy. Streamline flow and turbulence: effects of stenosis. Static and dynamic energy consumption of the heart: cardiac efficiency, the tension-time integral, Laplace's law, Starling's law. Metabolism of cardiac muscle. Electrophysiology: the heartbeat and cardiac arrhythmias. The physics of phonocardiograms, echocardiograms, and other non-invasive techniques for physical assessment of cardiac abnormalities, including ischemia and myocardial infarction. Models of mechanical properties: contractile element, series elastic and parallel elastic elements. Corequisite: Physics 118A, Physics 198, or permission of instructor. Credit 3 units.

**A&S NS FA NSM**

**Physics 316. Optics and Wave Physics****Laboratory**

Introduction to optics and to treatment of experimental data. Experiments and lectures on refraction, interference, diffraction, polarization, and coherence properties of waves with emphasis on light. Data analysis using statistical methods. Prerequisites: Physics 117A-118A or Physics 197-198. Credit 3 units.

**A&S NS FA NSM**

**Physics 318. Introduction to Quantum****Physics II**

Application of elementary quantum principles to atomic and molecular physics, solid-state physics, and nuclear and particle physics. Prerequisite: Physics 217. Credit 3 units.

**A&S NS FA NSM**

**Physics 321. Electronics Laboratory**

Elements of linear and nonlinear circuits, amplifiers, feedback, with applications in experimental physics. Prerequisite: Physics 118A, Physics 198, or permission of instructor. Two three-hour laboratories and two one-hour lectures a week. Credit 3 units.

**A&S NS FA NSM**

**Physics 322. Physical Measurement Laboratory**

A variety of classical and modern experiments in physics, including three experiments in nuclear radiation and four experiments with biophysical content. Use of computers in experiment control, data acquisition, and data analysis. Development of skills in writing lab notebooks and formal reports, and giving short oral reports on experiments. Prerequisite: Physics 318 or permission of

the instructor. Two lab periods and one discussion period per week. Credit 3 units.

**A&S NS, WI FA NSM**

**Physics 341. Selected Topics in Physics III**

Topics of special interest (e.g., superconductivity, quasicrystals, neural networks, chaos) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

**A&S NS FA NSM**

**Physics 342. Selected Topics in Physics III**

Topics of special interest (e.g., holography, relativity, nuclear power, computer applications in physics) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure the instructor's consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

**A&S NS FA NSM**

**Physics 350. Physics of the Brain**

*Same as PNP 350.*

Concepts and techniques of physics are applied to study the functioning of neurons and neuronal circuits in the brain. Neurons and neural systems are modeled at two levels: (1) at the physical level, in terms of the electrical and chemical signals that are generated and transmitted and (2) at the information-processing level, in terms of the computational tasks performed. Specific topics include neuronal electrophysiology, neural codes, neural plasticity, sensory processing, neural network architectures and learning algorithms, and neural networks as dynamical and statistical systems. Course grade is based primarily on an individualized term project. Prerequisite: Physics 117A-118A, Physics 197-198, or permission of the instructor. Credit 3 units.

**A&S NS FA NSM**

**Physics 351. Introduction to Biomedical Physics**

Principles and application of key physical methods used in the diagnosis and treatment of diseases and in biomedical research. Topics include interaction of radiation with living systems; fundamentals of optical and electron microscopy; imaging via X-rays, magnetic resonance, and ultrasound; and electrical properties of organs and cells. Prerequisite: Physics 117-118 or Physics 197-198. Credit 3 units.

**A&S NS FA NSM**

**Physics 352. Physics of Biomolecules**

This course emphasizes the application of physical laws and concepts in understanding biomolecules and their interactions, and in developing tools to investigate their biological properties and functionalities. Topics include (1) a general introduction to biomolecules and cells, (2) physics of biopolymers as modeled by stochastic analyses, (3) transport processes in biological systems including diffusion, reaction kinetics, and "life at low Reynolds number," and (4) the physics of fluorescence and its contemporary applications to dynamics of biomolecules, such as optical tweezers. Prerequisite: Physics 117-118 or 197-198. Some familiarity with thermodynamics; Chem 111A-112A recommended. Credit 3 units.

**A&S NS**

**Physics 355. Physics of Vision***Same as PNP 355.*

How do the eyes capture an image and convert it to neural messages that ultimately result in visual experience? This lecture and demonstration course will cover the physics of how we see. The course is addressed to physics, premedical, and life-sciences students with an interest in biophysics. Topics include physical properties of light, evolution of the eyes, image formation in the eye, image sampling with an array of photoreceptors, transducing light into electrical signals, color coding, retinal organization, computing with nerve cells, compressing the 3-dimensional world into optic nerve signals, inferring the 3-D world from optic nerve signals, biomechanics of eye movement, engineered vision in machines. The functional impact of biophysical mechanisms for visual experience will be illustrated with psychophysical demonstrations. Corequisite: Physics 117A, Physics 197, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 360. Biophysics Laboratory***Same as Biol 360.*

This laboratory course consists of "table-top" experiments in biological physics that are designed to introduce the student to concepts, methods, and biological model systems in biophysics. Most experiments combine experimentation with computer simulations. The list of available experiments includes electrophysiology, human bioelectricity, optical tweezers, ultrasonic imaging, mass spectrometer, and viscosity measurements. Prerequisites: Physics 117A-118A, Physics 197-198, or permission of instructor. Credit 3 units.

A&amp;S NS

**Physics 400. Physical Science in 12 Problems***Same as Chem 400.*

A&amp;S NS

**Physics 411. Mechanics**

Motion of a point particle, rotational motion, oscillation, gravitation and central forces, Lagrangian and Hamiltonian formulation. Prerequisite: Physics 117A-118A or Physics 197-198, Math 217, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 421. Electricity and Magnetism**

Starting from Coulomb's law, the Biot-Savart law, and Faraday's law, the electrical and magnetic fields are defined and applied. Maxwell's equations are derived and their consequences, such as electromagnetic waves and relativity, are explored. Prerequisites: Physics 117A-118A or Physics 197-198, Math 217, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 422. Electricity and Magnetism II**

The second course in a two-part series covering the classical theory of electricity and magnetism leading to the derivation and application of Maxwell's equation. Topics in electrodynamics including Faraday's law, the displacement current and Maxwell's equations in vacuum and in matter are covered. Electromagnetic waves and radiation, special relativity, and relativistic electrodynamics also will be discussed. Prerequisites: Physics 421 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 427. Introduction to Computational Physics**

Lectures and hands-on experience in computational physics combining topics in numerical analysis, algorithms, statistics, visualization, and computer algebra with projects in contemporary areas of physics. Prerequisites: Physics 217 or equivalent and familiarity with a programming language. Credit 3 units.

A&amp;S NS FA NSM

**Physics 441. Selected Topics in Physics IV**

Topics of special interest (e.g., holography, relativity, nuclear power, computer applications in physics) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

A&amp;S NS FA NSM

**Physics 442. Selected Topics in Physics IV**

Topics of special interest (e.g., holography, relativity, nuclear power, computer applications in physics) may be studied under the supervision of a faculty member, variously by lectures, seminars, or individual study or research. Students hoping to arrange such a course must prepare a proposal and secure consent to undertake direction of the course from a faculty member and finally secure approval of the department chair. Credit variable, maximum 3 units.

A&amp;S NS FA NSM

**Physics 450. Physics of the Brain**

Contents are the same as Physics 350. Also intended for graduate students. Includes a more sophisticated term project than Physics 350. Prerequisite: Physics 117A-118A or Physics 197-198 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 451. Advanced Laboratory I**

Applications of analog and digital electronics. Contents are the same as Physics 321 plus a term project. Intended for graduate students. Prerequisite: Physics 118A, an equivalent course, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 452. Advanced Laboratory II**

Applications of analog and digital electronics and microprocessor techniques, followed by projects in modern physics with concurrent lectures on methods of experimental physics. Prerequisite: Physics 322 or permission of instructor. Two laboratories a week. Credit 3 units.

A&amp;S NS, WI FA NSM

**Physics 455. Physics of Vision**

Contents are the same as Physics 355. Also intended for graduate students. Includes a more sophisticated term project than Physics 355. Corequisite: Physics 117A, Physics 197, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 463. Statistical Mechanics and Thermodynamics**

Basic methods of classical and quantum statistical mechanics, thermodynamics, and transport theory. Prerequisite: Physics 217 or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 471. Quantum Mechanics***Same as ESE 431.*

Origins of quantum theory, wave packets and uncertainty relations, Schrodinger's equation in one dimension, step potentials and harmonic oscillators, eigenfunctions and eigenvalues, Schrodinger's equation in three dimensions, the hydrogen atom, symmetry, spin and the periodic table, approximation methods for time independent problems, quantum statistics. Prerequisite: Math 217, Physics 217, Physics 421, or permission of instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 472. Solid State Physics**

Crystal structures, binding energies, thermal properties, dielectrics, magnetism, free electron theory of metals, band theory, semiconductors, defects in solids. Prerequisite: Physics 471. Credit 3 units.

A&amp;S NS FA NSM

**Physics 474. Introduction to Nuclear and Particle Physics**

Introduction to the standard model of particle physics, including symmetries, conservation laws, the weak interaction, the strong interaction, quark confinement, and some more exotic ideas such as grand unified theories. Prerequisite: Physics 471. Credit 3 units.

A&amp;S NS FA NSM

**Physics 476. Astrophysics**

This is the first of a four-semester sequence in astrophysics, with two semesters of classical astrophysics of stars and stellar systems, followed by two semesters of high-energy astrophysics of cosmic rays, radio, X-ray and gamma-ray astrophysics. Each of these is a self-contained course and may be attended by advanced undergraduates and graduate students. In the first semester, we discuss observations of stars; stellar populations; physical processes in stars; birth, evolutions, and death of stars; energy generation; nucleosynthesis; variable stars; supernovae; collapsed objects; solar neutrinos; helioseismology; and selected topics in galactic astrophysics, cosmology, and exobiology. Additional reading assignments for students registered for Physics 576. Prerequisites: Physics 411, Physics 421, and Physics 463, or permission of the instructor. Credit 3 units.

A&amp;S NS FA NSM

**Physics 477. Physics of Finite and Infinite Nuclear Systems**

Quantum mechanics of finite and infinite systems of protons and neutrons. Interaction between nucleons. Independent-particle model of nuclei and shell structure. Contrast with atomic shell model. Isospin symmetry. Information from weakly and strongly interacting probes of nuclei. Nuclear decay properties and some historical context. Many-particle description of nuclear systems. Single-particle vs. collective phenomena. Properties of excited states. Bulk properties of nuclei. Nuclear and neutron matter. Role of different energy scales in determining nuclear properties: influence of long-range, short-range, and medium-induced interactions. Pairing correlations in nuclear systems. Relevance of nuclear phenomena and experiments for astrophysics and particle physics. Prerequisite: Physics 318 or Physics 471, or permission of instructor. Credit 3 units.

A&amp;S NS

**Physics 478. From Black Holes to the Big Bang**

An introduction to general relativity. The goal will be to illustrate important features of general relativity without the full-blown mathematics of Einstein's equations by restricting attention to spherically symmetric space-times. Topics will include principle of equivalence; curved space-time; spherical stars and black holes; the Big Bang model, observational cosmology. Prerequisite: Physics 411 or permission of instructor. Credit 3 units.

**A&S** NS

**Physics 482. Research Seminar**

Designed to introduce students to current developments in physics and to research carried out by faculty. Topics vary each year. Members of the department address their particular specialty. Interested undergraduates may take this seminar in their junior or senior year. Must be taken pass/fail. Credit 1 unit.

**A&S** NS **FA** NSM

**Physics 499. Honors Program**

Prerequisites: junior standing, an average grade of B or better, and permission of the chair of the department. Program and credit to be determined; maximum 6 units.

**A&S** NS **FA** NSM

**Physics 500. Independent Work**

Prerequisites: senior standing and permission of the chair of the department. Program and credit to be determined; maximum 6 units.

**Physics 501. Theoretical Physics**

*Same as Math 501C.*

The first part of a two-semester course reviewing the mathematical methods essential for the study of physics. Theory of functions of a complex variable, residue theory; review of ordinary differential equations; introduction to partial differential equations; integral transforms. Prerequisite: Math 217 (undergraduate differential equations) or permission of instructor. Credit 3 units.

**Physics 502. Methods of Theoretical Physics II**

*Same as Math 502C.*

Continuation of Physics 501. Introduction to function spaces; self-adjoint and unitary operators; eigenvalue problems, partial differential equations, special functions; integral equations; introduction to group theory. Prerequisite: Physics 501 or permission of instructor. Credit 3 units.

## Political Economy

**Director****Norman J. Schofield**

William Taussig Professor of Political Economy (Economics)  
Ph.D.s, Government and Economics, Essex University, Litt.D., Liverpool University, Doctorate in Economic Sciences, Université de Caen

**Endowed Professors****Randall Calvert**

Thomas F. Eagleton University Professor of Public Affairs and Political Science (Political Science)  
Ph.D., California Institute of Technology

**Douglass C. North**

Spencer T. Olin Professor in Arts & Sciences (Economics)  
Ph.D., University of California–Berkeley

**Robert A. Pollak**

Herrnreich Distinguished Professor of Economics (Economics)  
Ph.D., Massachusetts Institute of Technology

**Professors****Marcus Berliant**

(Economics)  
Ph.D., University of California–Berkeley

**John Drobak**

(Law)  
J.D., Stanford University

**William R. Lowry**

(Political Science)  
Ph.D., Stanford University

**Andrew D. Martin**

(Political Science)  
Ph.D. Washington University

**Gary J. Miller**

(Political Science)  
Ph.D., University of Texas–Austin

**John H. Nachbar**

(Economics)  
Ph.D., Harvard University

**Robert P. Parks**

(Economics)  
Ph.D., Purdue University

**Itai Sened**

(Political Science)  
Ph.D., University of Rochester

**Associate Professors****Gaetano Antinolfi**

(Economics)  
Ph.D., Cornell University

**Brian Crisp**

(Political Science)  
Ph.D., University of Michigan

**Matthew Gabel**

(Political Science)  
Ph. D., University of Rochester

**Sunita Parikh**

(Political Science)  
Ph.D., University of Chicago

**Andrew Rehfeld**

(Political Science)  
Ph.D., University of Chicago

**Andrew Sobel**

(Political Science)  
Ph.D., University of Michigan

**Assistant Professors****Amanda Friedenberg**

(Olin Business School)  
Ph.D. Harvard University

**Nathan Jensen**

(Political Science)  
Ph.D., Yale University

**Mona Krook**

(Political Science)  
Ph.D., Columbia University

**Stephanie Lau**

(Economics)  
Ph.D., Yale University

**Francis Lovett**

(Political Science)  
Ph.D., Columbia University

**Guillermo Rosas**

(Political Science)  
Ph.D., Duke University

**Melanie Springer**

(Political Science)  
Ph.D., Columbia University

**Robert W. Walker**

(Political Science)  
Ph. D., University of Rochester

The program in Political Economy offers students majoring in economics or political science an interdisciplinary second major that provides the opportunity to gain an understanding of the theoretical bases of both fields and to undertake research on current policy issues in political economy.

Students majoring in political science gain an appreciation of the deductive methods of economics and the role of economic forces in politics. Economics majors see the wider applicability of economic theory and learn how politics interact with economic behavior in the real world.

This approach to political economy emphasizes (1) theories of individual and group decision making and (2) the effect of institutional structure on the performance of economic and political systems. Perspectives gained in these core areas can enrich students' further study of such diverse fields as public policy making, economic history, American political institutions, and industrial organization.

Central to the program is the senior seminar, taught by one of the faculty members of the Center in Political Economy. Enrollment in the senior seminar is restricted to seniors who are second majors in political economy and to senior economics and political science students with strong backgrounds in both fields. New theoretical de-

velopments and recent empirical studies in political economy form the foundation of the seminar. Students prepare term papers that demonstrate their ability both to understand theory and to apply it to substantive issues.

Students choosing political economy as a second major will be especially well prepared for graduate study in economics, political science, or business, and for both academic and non-academic careers in policy analysis, business administration, law, governmental relations, and other fields.

### Second Major

A student majoring in economics or political science who selects a second major in political economy is assigned an advisor from the program who assists in organizing the student's course of study.

Requirements are as follows:

1. At least 18 units of approved courses at the 300 level or above. None of the 18 units may be counted toward the first major, and no more than 3 of the 18 units may be earned in the department of the first major.

Economics majors must include among the 18 units of required credit at least 9 units of political science; political science majors must include at least 9 units of economics. Published prerequisites for courses numbered 300 and above must be fulfilled to satisfy the requirements for enrollment (including Econ 103B, 104B, 401, or 402). Econ 103B, 104B may not be counted toward the 18-unit requirement.

2. At least 3 units of credit in each of the core areas of the program; namely
  - (1) theory of decision making and
  - (2) institutions.

3. Senior Seminar in Political Economy (Pol Econ 498) in addition to the 18 required units (see above).

**Honors Program:** Students with a strong record of academic achievement may apply for the Honors program at the end of the junior year. First majors in economics with the second major in political economy are asked to complete 12 units of political science, completing 21 rather than 18 hours in the second major. Three of the four political science courses required are to be completed at the 400 or 500 level. First majors in political science with the second major in political economy are asked to complete 12 units of economics, choosing either Price Theory (Econ 401) or Income and Employment Theory (Econ 402), also completing 21 rather than 18 hours in the second major. Two of the four economics courses must be taken at the 400 level.

Honors students are also required to enroll in Honors Research (Pol Econ 488) and to complete a thesis (approximately 40 pages or 10,000 words) based on research undertaken under the supervision of one of the fellows of the Center in Political Econ-

omy. Interested students should see the director of the program to discuss research projects.

## Undergraduate Courses

### Pol Econ 3103. Topics in Politics

Same as Pol Sci 3103.

**A&S** SS **FA** SSP

### Pol Econ 353. The Economics of the Law

Same as Econ 353.

**A&S** SS **FA** SSP

### Pol Econ 3781. Topics in Politics: Israeli Politics

Same as Pol Sci 3781.

**A&S** CD, SS **FA** SSP

### Pol Econ 401. Price Theory

Same as Econ 401.

**A&S** SS **FA** SSP

### Pol Econ 402. Income and Employment Theory

Same as Econ 402.

**A&S** SS **FA** SSP

### Pol Econ 413. Introduction to Econometrics

Same as Econ 413.

**A&S** SS **FA** SSP

### Pol Econ 435. Open Economy Macroeconomics

Same as Econ 435.

**A&S** SS **FA** SSP

### Pol Econ 451. Environmental Policy

Same as Econ 451.

**A&S** SS **FA** SSP

### Pol Econ 458. The Theory of Property Rights

Same as Econ 458.

**A&S** SS **FA** SSP

### Pol Econ 467. Game Theory

Same as Econ 467.

**A&S** SS **FA** SSP

### Pol Econ 488. Honors Thesis Research

Adviser's approval required. Credit 3 units.

**A&S** SS

### Pol Econ 490. Independent Study

Prerequisite: permission of department. Credit variable, maximum 6 units.

### Pol Econ 495. Readings in Political Economy

By arrangement with Political Economy faculty. Credit variable, maximum 3 units.

### Pol Econ 498. Senior Seminar in Political Economy

Same as Pol Sci 498.

Special topics in the theory and applications of political economy. Property rights theory and topics from the theory of games, with applications to economic history, development politics, American political institutions, and other fields. Each student is responsible for class presentation of research in one of these theoretical or applied areas. Required for the second major in Political Economy. Credit 3 units.

**A&S** SS

### Pol Econ 499. Senior Honors Thesis

Independent research for Honors thesis. Students individually investigate a topic under the supervision of a Political Economy faculty sponsor. Credit 3 units.

## Political Science

### Chair

**Andrew Martin**, Professor  
Ph.D., Washington University

### Endowed Professors

#### Randall Calvert

Thomas F. Eagleton University Professor of Public Affairs and Political Science  
Ph.D., California Institute of Technology

#### James L. Gibson

Sidney W. Souers Professor of Government  
Ph.D., University of Iowa

#### Norman J. Schofield

William Taussig Professor of Political Economy  
Ph.D., Essex University

#### Steven S. Smith

Kate M. Gregg Professor of Social Sciences and Director of the Weidenbaum Center on the Economy, Government, and Public Policy  
Ph.D., University of Minnesota

### Professors

#### Jeff Gill

Ph.D., American University

#### William R. Lowry

Ph.D., Stanford University

#### Andrew Martin

Ph.D., Washington University

#### Gary J. Miller

Ph.D., University of Texas–Austin

#### Itai Sened

Ph.D., University of Rochester

#### James Spriggs

Ph.D., Washington University

### Associate Professors

#### Brian F. Crisp

Ph.D., University of Michigan

#### Matthew Gabel

Ph.D., University of Rochester

#### Clarissa Hayward

Ph.D., Yale University

#### Nathan Jensen

Ph.D., Yale University

#### Sunita Parikh

Ph.D., University of Chicago

#### Andrew Rehfeld

Ph.D., University of Chicago

#### Andrew Sobel

Ph.D., University of Michigan

### Assistant Professors

#### Dawn Brancati

Ph.D., Columbia University

#### Mona L. Krook

Ph.D., Columbia University

#### Francis Lovett

Ph.D., Columbia University

#### Ian MacMullen

Ph.D., Harvard University

**Andrew Mertha**

Ph.D., University of Michigan

**Michael Minta**

Ph.D., University of Michigan

**Ryan Moore**

Ph.D., Harvard University

**Guillermo Rosas**

Ph.D., Duke University

**Melanie Springer**

Ph.D., Columbia University

**Margit Tavits**

Ph.D., University of Pittsburgh

**Robert Walker**

Ph.D., University of Rochester

**Professors Emeriti****Marvin J. Cummins**

Ph.D., University of Colorado

**James W. Davis**

Ph.D., University of Michigan

**John H. Kautsky**

Ph.D., Harvard University

**Victor T. Le Vine**

Ph.D., University of California—Los Angeles

**Robert H. Salisbury**

Ph.D., University of Illinois—Urbana

**John Sprague**

Sidney W. Souers Professor Emeritus of Government

Ph.D., Stanford University

The Department of Political Science offers undergraduates the opportunity to study all aspects of politics using cutting-edge technical and theoretical tools. Our courses are animated by longstanding problems related to the use of power, its rightful exercise by governments and individual actors, and the institutions that affect how that power is exercised. Reflecting the breadth of the discipline, we offer a range of classes, including courses on elections and electoral politics, international political economy, justice and the state, and comparative analyses of political institutions across states.

A major in political science thus exposes students to the primary themes of the discipline: American politics, comparative politics, international politics, judicial politics, political methodology, and political theory. A major in political science can prepare you well for professional training and advanced study in law, business, education, journalism, policy analysis, political science, public administration, social work, and urban planning. Political science graduates enter careers in business; federal, state, and local government; the media; and not-for-profit organizations.

Because political science is a broad discipline, students often choose to combine the major with such related fields as African and African American studies; American culture studies; anthropology; economics; environmental studies; history; international studies; Jewish, Islamic, and Near Eastern studies; Latin American studies; philosophy;

psychology; and women, gender and sexuality studies.

**The Major:** Students who major in political science are required to complete 30 graded units (10 classes) in political science distributed as follows:

**Substantive Introductory Courses:** 6 graded units must come from any two introductory classes offered in American politics, comparative politics, international politics, or political theory. (Note: if you have Advanced Placement credit, you may be able to substitute an upper-level class for the related introductory course.)

**Methodology Course:** 3 graded units must come from the course Pol Sci 363, Political Methodology. (Note: some statistics courses offered in other departments will allow you to opt out of this class, but those credits will not count toward your political science major.)

**Distribution Requirement:** 18 graded units must come from any six 300- or 400-level classes. Of these 18 units, you must complete at least one 3-unit course in three of the following five fields: American politics, comparative politics, international politics, political methodology, or political theory. (Note: Pol Sci 363 does not count toward this upper-level distribution requirement.)

**Other courses:** A student's remaining graded units may be earned by any political science course or independent study. However, credits given for writing a senior thesis (see below) do not count toward the major.

**Concentrations:** Political science majors may concentrate in a subfield of political science by taking (as part of their distribution requirement) three upper-level courses in any one of the five subfields (American politics, comparative politics, international politics, political methodology, or political theory). The successful completion of a subfield concentration will be listed on a student's transcript.

**Senior Thesis/Capstone Option:** The department encourages serious students to pursue independent research by working toward a senior thesis. Students admitted to this program work closely with a faculty adviser for a full calendar year, beginning at the end of their junior year. Students writing a senior thesis receive 6 units of college credit for two semesters of work; however, this credit does not count toward the completion of the political science major.

To qualify to write a senior thesis, students must:

- Complete Pol Sci 363 by the fall of their junior year (preferably in the fall of their sophomore year);
- Complete at least two upper-level classes in the subfield in which they wish to write their thesis by the end of their junior year;
- Apply during their junior year for admission into the program;
- Complete a subfield concentration (see above) by the end of their senior year, preferably by the fall of their senior year. Although there is no GPA requirement

for writing a senior thesis, there are other requirements as well. For more information, contact the department office.

**Senior Honors:** To graduate with senior Honors, students must successfully complete a senior thesis and have the minimum grade point average specified by the College of Arts & Sciences.

**Undergraduate Courses****Pol Sci 101B. American Politics***Same as Lw St 101B, AMCS 101B, Pol Sci 101I.*

This course provides an overview of the politics of the American system of government. Among the topics to be covered are the historical developments of American politics, federalism, political participation (voting, interest groups, parties), institutions (congress, the courts, the president), and public opinion. A theme underlying our examination of these and other topics will be the fact that political actors are purposive in their strategic pursuit of various objectives. We will explore the many ways in which this aspect of political behavior impacts institutions and the interactions between political actors throughout the American political system. Credit 3 units.

**A&S SS FA SSP****Pol Sci 102B. Introduction to Comparative Politics***Same as Pol Sci 102B, Pol Sci 102, Lw St 102B.*

One of the primary goals of a course in comparative politics is to familiarize students with a broad array of political systems. The approach taken in this course can best be characterized as the active acquisition and use of a set of tools for looking at the political world. In other words, instead of putting emphasis on what textbook writers think political scientist know, in this course the emphasis is on "how we know what we know" and on building knowledge. This approach equips students with a set of tools to use long after the course is over. These comparative tools are focused on historical, recent, and current events, and students are provided the opportunity to delve more deeply into a study of the parts of the world most they find most interesting. Credit 3 units.

**A&S SS FA SSP****Pol Sci 103B. International Politics***Same as Pol Sci 103B.*

Globalization, the accelerating rate of interaction among people of different countries, creates a qualitative shift in the relationship between nation-states and national economies. Conflict and war is one form of international interaction. Movements of capital, goods, services, production, information, disease, environmental degradation, and people across national boundaries are other forms of international interactions. This course introduces the study of global political-economic relations. We focus upon building a toolkit that will help us understand the micro-foundations of the globalization of material and social relations. Credit 3 units.

**A&S SS FA SSP****Pol Sci 104I. Freshman Seminar: Introduction to Political Theory I**

Why is democracy a good form of government? What if a benevolent dictator arose who wrote and enforced laws that were just and equitable? What if she honored the sanctity of human life and its flourishing, guaranteed a full range of liberties to her citizens—including political ones, like the right of free speech and organization (but not including the right to rule)? Given the problems of most living democracies, why wouldn't this be a better regime than a democratic one? And are people really capable of governing themselves anyway; why should we trust them so? In short,

what's so special about "democracy" and its corresponding idol, "public opinion," that people bow to them as hallowed virtues of a good society? In this class, we will provide a framework in which these and other central questions of political theory have been and can be addressed. This course is designed to introduce students to the main theoretical issues of Western political theory, including but not limited to the following concepts: justice, legitimacy, equality, democracy, liberty, sovereignty, and the role of history in the political and social world. In short, the questions are meant to explore the underlying assumptions and themes of contemporary politics and political science research today. The course is designed around the careful reading of primary text materials and engagement with contemporary problems of politics available on the front pages of any daily newspaper. Although designed as a two-semester class, students may enroll in either one or both. In the first semester, we will lay out the fundamental themes of political theory in Plato's *Republic* and Aristotle's *Politics* asking, among other things, what justice is and what place democracy has among other forms of government. Passing briefly on Augustine and Aquinas' struggle with religion and civil society, we will emerge in modernity with Machiavelli's *Prince* and question whether the "good" and the "political" are or ought to be different aims. We conclude the semester with the social contract theory of Hobbes and Locke in which political legitimacy is based on the terms familiar to citizens of modernity: the right to rule is somehow related to a citizen's consent to be governed. In the spring semester, we will turn to the struggle that modernity and the Enlightenment raised for issues of politics, including that of history, nature, institution building, and economics, guided by the texts of Rousseau, Hamilton and Madison, Tocqueville, Mill, Marx, Nietzsche, and Weber. Credit 3 units.

**A&S SS**

**Pol Sci 106. Introduction to Political Theory**

*Same as AMCS 1060, Pol Sci 106.*

This course offers an undergraduate-level introduction to the field of political theory. We will analyze key political concepts such as democracy, social justice, and freedom, with a focus on reading contemporary texts. Our goal is to probe the assumptions, ambiguities, complexities, and conflicts that attend the use of familiar terms. Students should emerge better able to understand both the underlying logic of political issues and to engage in critical examination of political rhetoric. The course will also provide students with conceptual depth in study of empirical political science. Although the course is focused on elucidation of relatively abstract concepts, frequent references will be made to practical examples and contemporary cases. Credit 3 units.

**A&S SS**

**Pol Sci 1751. Understanding International Conflicts**

*Same as IAS 175.*

**A&S SS**

**Pol Sci 203C. Early Western History**

*Same as Hum 203C.*

**A&S TH FA SSP**

**Pol Sci 208B. African American Studies: An Introduction**

*Same as AFAS 208B.*

**A&S SD, TH FA SSP**

**Pol Sci 2121. Topics in Politics: Liberalism and Its Critics**

This course is intended primarily for first-year and sophomore students. The topic of this course

varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 2222. Seminar in Law and Society**

*Same as Focus 222.*

**A&S SS FA SSP**

**Pol Sci 226. The Immigrant Experience**

*Same as AMCS 202.*

**A&S CD, SS FA SSP**

**Pol Sci 3010. Gender and Politics**

*Same as WGSS 3012.*

This course surveys central topics in the study of gender and politics, covering such issues as women's participation in political parties and social movements, women as voters and candidates in political elections, feminism and the state, and gender and international politics. It will draw on examples from various world regions and time periods to analyze similarities and differences across cases around the globe. Credit 3 units.

**A&S SS**

**Pol Sci 3020. "The New World Order" and American Foreign Policy**

**Pol Sci 3023. Introduction to Quantitative Methods**

This is an introduction to research methodology and quantitative analysis for social scientists. This class will introduce students to social scientific inquiry and basic statistical tools used to study politics. Students will learn to study politics with the help of measurement, descriptive analysis, correlation, graphical analysis, hypothesis testing, confidence intervals, analysis of variance, and regression analysis. The course will include classroom lectures and computer lab time to enable students to work hands-on with datasets. Basic math skills (algebra) are recommended. Recommended for the Liberal Arts and Business (LAB) Certificate. Credit 3 units.

**A&S SS**

**Pol Sci 3024. International Institutions**

*Same as EuSt 3024, IAS 3024.*

This course surveys in historically and theoretically informed fashion the role of various international institutions in international relations. It addresses the fundamental question of the contribution of international institutions to world order. The course first traces the historical evolution of international organizations before turning to international institutions since World War II. It then focuses on the following: the most important regional international organization, the European Union; the most important international organizations dealing with the issues of peace and security, the United Nations and NATO; and the major international economic institutions, the WTO, the IMF, and the World Bank. Prerequisite: Pol Sci 103B (Introduction to International Politics). Credit 3 units.

**A&S SS**

**Pol Sci 3040. Politics and Film**

Film can be both a powerful way to convey political messages and a revealing portrait of the political culture of the times. This course will use weekly films as a starting point to explore questions about political behavior, beliefs, and culture. We'll see and compare how Hollywood films, independent productions, documentaries, and foreign films approach political issues. Credit 3 units.

**A&S SS**

**Pol Sci 3060. Literacy Education in the Context of Human Rights and Global Justice**

*Same as Educ 306.*

**A&S SS**

**Pol Sci 3066. The City in the 19th and 20th Centuries**

*Same as History 3066.*

**A&S SD, TH FA SSP**

**Pol Sci 3070. Politics and Policy Making in the American States**

*Same as AMCS 3070, Lw St 3070.*

The American federal system is often overlooked in discussions about politics in the United States; however, state governments unquestionably touch the lives of Americans everyday. As such, an education in American politics is not complete without serious examination of state governments and their political institutions. This course illuminates the importance of the American states in U.S. politics and policy making by critically examining topics such as intergovernmental relations; the historical evolution of American federalism; the organization and processes associated with state legislative, executive, and judicial branches; state elections, political parties, interest groups; and specific state policy areas such as budgeting, welfare, education, and the environment. Prerequisite: Pol Sci 101B. Credit 3 units.

**A&S SS**

**Pol Sci 3071. History of Law in American Life I: English and Colonial Foundations to 1776**

Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3072. Cracks in the Republic: Discontent, Dissent, and Protest in America During the 1960s and 1970s**

*Same as History 3072.*

**A&S SD, TH FA SSP**

**Pol Sci 307C. History of Law in American Life I: English and Colonial Foundations to 1776**

*Same as History 307C.*

**A&S TH FA SSP**

**Pol Sci 3090. Civil War and Peace**

*Same as Pol Sci 3090.*

This course examines the causes and consequences of intra-state conflict, as well as the potential solutions to it, drawing on examples from countries throughout the world, including Bosnia-Herzegovina, India, Iraq, Russia, Rwanda, Spain, etc. We will consider many potential causes of intra-state violence, including ethnic and religious identities, economic and security concerns, elite manipulation, and international diffusion. In order to understand the challenges countries face recovering from violence, we will subsequently examine different ways in which conflicts are conducted, as well as their consequences, including economic underdevelopment, rape, child soldiers, and disease. Finally, using what we have learned about the causes and consequences of conflict, we will analyze the utility of different tools for managing intra-state conflict, including, but not limited to, minority representation, consociationalism, decentralization, and partition. Credit 3 units.

**A&S SS**

**Pol Sci 3093. Politics of the European Union**

*Same as EuSt 3093, IAS 3094.*

This class is designed to introduce undergraduates at the junior and senior level to the history and politics of the European Union (EU) and European integration. In the first part of the class, students will learn about the interplay of theory and practice in the history of European integration. In the second part, we study the institutions and decision-making processes with reference to the theoretical concepts developed earlier in the course. From there we will examine some of the key EU policies and their implementation in the third part of the course. In the second and third parts of the course, we will look at constitutional politics, and

some of the more recent policies and developments. Credit 3 units.

**A&S SS**

**Pol Sci 3103. Topics in Politics: Campaigns and Elections**

*Same as IA 4103, ISA 3103, Pol Econ 3103.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3115. Indian Barbie, Asian Tigers, and IT Dreams: Politics of Globalization and Development in South Asia**

*Same as IAS 315.*

**A&S CD, SD, SS**

**Pol Sci 3120. Globalization and Gender**

*Same as WGSS 312.*

**A&S SD, SS**

**Pol Sci 3140. Topics in Latin-American History and Politics**

*Same as LatAm 3140, IAS 3140.*

A course devoted to the exploration of "marginalized" groups in Latin-American history and politics, with a focus on group decisions to organize politically in the contemporary setting. Credit 3 units.

**A&S SS**

**Pol Sci 316B. African-American Politics**

*Same as Pol Sci 316B, AFAS 3161, Lw St 316B.*

This course examines the historical and contemporary efforts by African Americans to gain full inclusion as citizens in the U.S. political system. The course focuses on topics such as the politics of the Civil Rights Movement; African-American political participation; and the tension between racial group politics and class politics. Credit 3 units.

**A&S SS**

**Pol Sci 3171. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS, WI FA SSP**

**Pol Sci 321. Comparative European Politics**

*Same as IAS 321, EuSt 321.*

This course is designed to provide students with an introduction to politics in Europe, with a focus on national politics. The course has two main goals. One goal is that students acquire a general understanding of the institutions of democratic governance and how they affect how voters' preferences are translated into government policy. As most European states are variations of parliamentary democracies, we will pay particular attention to the connection between voters and policy makers through parliamentary institutions. The second goal is that students achieve a basic understanding of specific political systems in Europe and appreciate current political issues, particularly those related to democratic transitions in Eastern Europe. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3211. Public Opinion and American Democracy**

*Same as AMCS 327, Pol Sci 321.*

This course is about the salience of public opinion and its influence on American politics. Topics to be covered include many of the theories developed to explain how public opinion is formed, if and why it changes, and the relationship between public opinion and the political behavior of citizens and elites. Therefore, the course will describe and analyze many of the factors that influence the formation, structure, and variation in public opinion: information processing, education,

core values, racial attitudes, political orientation (ideology and party identification), political elites, social groups, the media, and religion. Additional topics include presidential approval, congressional approval, and the relationship between public opinion and public policy. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3212. Latin America: From Colonialism to Neo-Colonialism**

*Same as History 321C.*

**A&S CD, TH FA SSP**

**Pol Sci 326B. Latin-American Politics**

*Same as IAS 326B, LatAm 326B, AMCS 3260.*

This course is an introduction to the politics in Latin America, focusing on the trend toward the establishment of democracy. We examine the impact of political culture, economic development, and the legacy of authoritarian regimes on contemporary politics. The course also reviews many of the most pressing challenges confronting Latin American governments: the role of the military in politics, the reform of political institutions, threats from radical guerrillas and drug traffickers, debt and economic restructuring, and relations with the United States. Country studies focus on Argentina, Brazil, Chile, Peru, Mexico, and Nicaragua. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3273. Introduction to Israel Studies**

*Same as JNE 3273.*

**A&S TH**

**Pol Sci 327B. African Politics**

*Same as IDEV 327B, AFAS 327B, IAS 327B.*

A survey of politics in the states of sub-Saharan Africa. Major themes include the givens of African politics; the colonial inheritance; ethnicity, race, and politics; religion and politics; forms and styles of rule and governance; pathologies and non-formal politics; and the international relation of African states. Requirements include two short papers and a written briefing on an assigned country. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3280. Political Intolerance in World Politics**

*Same as IAS 3280, Lw St 3280.*

This course is an investigation into the meaning, causes, and consequences of political intolerance. The goal is to expose you to contemporary research on (a) how political intolerance is conceptualized and understood, especially within the context of theories of democracy; (b) how political intolerance can be measured, both at the level of the individual and the institution/society; (c) where intolerance originates, both in terms of individual psychology and system-level politics; and (d) what consequences flow from intolerance, especially in terms of legal and extralegal political repression, as well as cultural consequences (e.g., a "culture of conformity"). The course makes little distinction between American politics and politics in other parts of the world (although no knowledge of specific non-U.S. systems is required as a prerequisite). Credit 3 units.

**A&S SS**

**Pol Sci 3292. Topics in Politics: Modern South Asian Politics**

*Same as IAS 3292, Pol Sci 3291.*

This course will focus on the recent political history and development of South Asia. It will begin with a review of the British colonial period and the Independence movement. The remainder of the course will examine different political issues in India, Pakistan, Bangladesh, and Sri Lanka. Topics will include political mobilization, land reform, law and politics, social movements, religion and caste politics, the rise of religious nationalism, and political control of the economy.

Course Web site: [artsci.wustl.edu/~polisci/parikh/asian/](http://artsci.wustl.edu/~polisci/parikh/asian/). Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3293. Modern South Asian Politics**

*Same as AMCS 3292.*

**A&S SS**

**Pol Sci 330. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3301. Topics in American Culture Studies: Exploring America, 1957**

*Same as AMCS 330.*

**A&S TH FA SSP**

**Pol Sci 331. Topics in Politics: Theories of Social Justice**

*Same as Lw St 331.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 331B. Gender and American Politics**

*Same as AMCS 3312, Lw St 3310, WGSS 3313.*

This course examines the ways in which issues pertaining to gender are salient in U.S. politics. The course is divided into four parts. First, we will examine theoretical approaches to the study of gender and politics, including the use of gender as an analytical category, and the relationships among gender, race, ethnicity, and power. Second, we will study gender-based social movements, including the suffrage and women's rights movements, women's participation in the Civil Rights Movement, the contemporary feminist and anti-feminist movements, the gay rights/queer movement, and the women's peace movement. Third, we will examine the role of gender in the electoral arena, in terms of how it affects voting, running for office, and being in office. Finally, we will examine contemporary debates about public policy issues, including the integration of women and gays in the military, sexual harassment, pornography and equal rights. Credit 3 units.

**A&S SD, SS FA SSP**

**Pol Sci 332. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3321. Topics in Politics: Constitutionalism and Democracy**

*Same as AMCS 3321, IAS 332, Lw St 3321.*

An introductory analysis of a range of issues related to constitutions and democratic government. The main focus will be on such theoretical questions as: Why do societies produce constitutions? Why do subsequent generations abide by them? What is the relationship between constitutional principles and democratic decision-making? Who benefits from constitutional constraints? Credit 3 units.

**A&S SS**

**Pol Sci 3322. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3325. Topics in Politics: Constitutional Politics in the United States**

*Same as AMCS 3325, Lw St 3325.*

The principal purpose of this course is to intro-

duce students to the politics of constitutional interpretation. We first will discuss the origins of the Constitution; the structure, operation, and work of courts; and judicial decision-making. Afterwards, we will examine various areas of the law relating to institutional powers and constraints (e.g., federalism, presidential powers, Congressional authority). In so doing, we will develop an understanding for the legal doctrine in each area of the law and also examine explanations for the legal change we observe. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 332B. Environmental and Energy Issues**  
*Same as URST 332, EnSt 332, Lw St 332B, IAS 332B, AMCS 332B, Pol Sci 3311.*

This course considers the major issues in these increasingly important areas of public policy. We will discuss the importance of political processes and actors on such phenomena as pollution, global warming, and wilderness protection. This course emphasizes the American experience, but also considers international implications. Two lectures and one section meeting each week. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 333. Topics in Politics: Women and the Law**

*Same as AMCS 333, WGSS 336, WGSS 333A.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3331. Economics of the European Union**

*Same as Econ 333.*

**A&S SS**

**Pol Sci 334. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 335. Topics in Politics**

*Same as Pol Sci 5351, IDEV 335.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 336. Topics in Politics: American Elections and Voting Behavior**

*Same as Lw St 3360.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 337. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3371. Topics in Politics**

*Same as Lw St 3371.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 338. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3381. Topics in Politics: National Security, Civil Liberties, and the Law**

*Same as Lw St 3381, AMCS 3381, Pol Sci 3383.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3384. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 339. Topics in Politics**

*Same as IDEV 338.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 340. Topics in Politics: Global War and Peace**

*Same as IAS 3403, French 340.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3400. Social and Political Philosophy**

*Same as Phil 340F.*

**A&S TH FA SSP**

**Pol Sci 3401. Topics in Political Thought: Ethics and Politics**

*Same as Lw St 3400.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3402. Topics in Political Thought**

*Same as Lw St 3402.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3411. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 342. The American Presidency**

*Same as AMCS 342.*

Consideration of the part played by the president in American politics and public policy. The powers of the president; the staffing and organization of the executive office; the relations of the president with Congress, the bureaucracy, and other participants in American politics; presidential elections. Recommended: Pol Sci 101B. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 344. Courts and Civil Liberties**

*Same as URST 344, Lw St 344, AMCS 344.*

This course focuses on constitutional law principles in the Bill of Rights, and examines how Supreme Court decisions influence these principles in everyday life. We explore how the courts, particularly the Supreme Court, have interpreted these rights in light of changing times and emerging issues. Topics include the First Amendment; free exercise of religion and the establishment clause; freedom of speech, assembly, and association; freedom of the press; the Fourth Amendment and the rights of those accused and convicted of

crimes; the right to privacy, including reproductive freedom and the right to die; equal protection and civil rights, including race, gender, and sexual orientation; immigrants' rights and voting rights; and civil liberties after September 11. Recommended for the Liberal Arts and Business (LAB) Certificate. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3441. Defendant's Rights**

*Same as AMCS 3441, Lw St 3441.*

This course explores the operations of the American criminal justice system. Substantial emphasis on the constitutional rights accorded to the criminally accused. Readings consist primarily, but not exclusively, of Supreme Court cases. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3502. Politics, Economics, and Welfare**

*Same as Econ 350.*

**A&S SS FA SSP**

**Pol Sci 3510. Topics in American Politics: The Supreme Court**

*Same as AMCS 3510, Pol Sci 3510.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 356. Women and the Law**

*Same as WGSS 3561.*

**Pol Sci 3561. Topics in Politics**

*Same as IAS 3560.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS**

**Pol Sci 357B. Gender Politics in Global Perspective**

*Same as WGSS 357B, IAS 357B.*

The 1990s were the decade of globalization. Changes such as the fall of the Berlin Wall, the end of the Cold War, NAFTA, the European Union, and the advent of the Internet and CNN have fundamentally altered the lives of people all over the world. What have these changes meant for women? This course will examine the impact of global change on women and contemporary issues facing women in the Americas, Europe, Africa, and Asia. In particular, we will study the emergence of women's movements; women's participation as soldiers, guerrillas, and civilians in international conflict; the status of women in elective office; women's participation in the global economy; conflicts between first-world and third-world women; and the role of the United Nations in promoting advances in the status of women. Credit 3 units.

**A&S SD, SS FA SSP**

**Pol Sci 358. Law, Politics, and Society**

*Same as Pol Sci 358, AMCS 358, Lw St 358, URST 358.*

This course is an introduction to the functions of law and the legal system in American society. The course material will stress the realities of the operation of the legal system (in contrast to legal mythology), as well as the continuous interaction and feedback between the legal and political systems. There are four specific objectives to the course: (1) to introduce you to legal concepts and legal theories; (2) to analyze the operation of the appellate courts, with particular emphasis on the U.S. Supreme Court; (3) to analyze the operation of American trial courts, especially juries and the criminal courts; and (4) to examine the linkages between culture and law. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 3610. Legislative Politics***Same as Lw St 3610, AMCS 3611.*

This course is an introduction to the politics of the U.S. Congress and the federal lawmaking process. We will focus on the behavior of individual legislators and the role they play in crafting federal legislation in policy areas such as health care, civil rights, and the environment. In general, we examine questions such as: Why do legislators behave as they do? Whose interests are being represented? Credit 3 units.

**A&S SS****Pol Sci 362. Politics and the Theory of Games**

This course is intended to cover, through analytical discussion and illustrations, the basic concepts and major achievements of Game Theory in different subfields of research in the social sciences today. We will discuss examples of the usefulness of cooperative and noncooperative game theory to the study of human behavior in general and political science and political economy in particular. Credit 3 units.

**A&S SS FA SSP****Pol Sci 363. Quantitative Political Methodology**  
*Same as ASTAT 363, ASTAT 563.*

This is an introduction to research methodology and quantitative analysis for social scientists. Students will be introduced to the logic of social scientific inquiry and to the basic statistical tools used to study politics. Students will learn and apply the following to answer substantive questions: measurement, descriptive analysis, correlation, graphical analysis, hypothesis testing, confidence intervals, analysis of variance, and regression analysis. Major components of the course include learning how to collect, manage, and analyze data using computer software, and how to effectively communicate to others results from statistical analyses. Students will work collaboratively on research projects where they pose their own questions, design a study, collect and analyze the data, and present their findings in a research paper. Credit 3 units.

**A&S QA, SS FA SSP****Pol Sci 3680. The Cold War, 1945–1991***Same as History 3680.***A&S TH FA SSP****Pol Sci 3690. Politics of International Trade***Same as IAS 3690.*

In this course, we will study the relationship between international trade and domestic politics. We will cover the basic models of international trade, the distributional consequences of international trade, the relationship between trade and economic development, an analysis of the trade protectionism (causes and consequences), and an analysis of international organizations related to international trade (special focus on the World Trade Organization). Prerequisites: Pol Sci 103B. Credit 3 units.

**A&S SS****Pol Sci 372. Topics in International Politics***Same as IAS 372.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP****Pol Sci 3721. Topics in International Political Economy**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP****Pol Sci 372C. Law in American Life II***Same as History 372C.***A&S SD, TH FA SSP****Pol Sci 373. International Political Economy***Same as IDEV 373, ISA 373, IAS 373.*

Analysis of the interplay of economics and politics in the world arena, focused primarily on the political basis of economic policies in both advanced and less-developed societies. Treating differing perspectives on the international economy, production, trade and finance, and international economic relations. Prerequisite: junior standing or permission of instructor. Credit 3 units.

**A&S SS FA SSP****Pol Sci 3741. History of U.S. Foreign Relations Since 1945***Same as History 3741.***A&S TH FA SSP****Pol Sci 378. Topics in International Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP****Pol Sci 3781. Topics in Politics: Israeli Politics***Same as Pol Econ 3781, JNE 3781, JNE 5781, IAS 3781.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S CD, SS FA SSP****Pol Sci 3782. Topics in Comparative Politics: Terrorism and Political Violence***Same as IA 4782, Pol Sci 3782, IAS 3782.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS****Pol Sci 388. African-American History Since Emancipation***Same as History 388C.***A&S SD, TH FA SSP****Pol Sci 389. Power, Justice, and the City***Same as URST 389, Lw St 389.*

This course examines normative theoretical questions of power and justice through the lens of the contemporary city, with a particular focus on American urban life. It explores urban political economic problems, questions of racial hierarchy and racial injustice in the modern metropolis, and the normative and practical dilemmas posed by “privatism” in cities and their suburbs. In addition, the course devotes considerable attention to honing students’ writing skills through class assignments that stress rewriting and revising, and through four in-class writing workshops devoted to formulating a thesis and making an argument, revising and rewriting, writing with style, and peer consultation. Credit 3 units.

**A&S SD, SS, WI****Pol Sci 391. History of Political Thought I: Justice, Virtue, and the Soul***Same as AMCS 3910, Lw St 391.*

This course offers a critical introduction to the main issues and debates in Western political theory, including but not limited to the topics of justice, legitimacy, equality, democracy, liberty, sovereignty, and the role of history in the political and social world. This course is designed to be the first in a three-semester sequence on the history of political thought, and students are encouraged, but not required, to take the courses in chronological sequence. The first semester begins with ancient Greek political thought and follows its development up to the early 16th century. Credit 3 units.

**A&S SS****Pol Sci 392. History of Political Thought II: Legitimacy, Equality, and the Social Contract***Same as AMCS 3920.*

Democracy is often justified by the claim that the only legitimate government is one grounded in the consent of the governed. In HP II, we trace the origins of this view and spell out its implication. The course is built around the central texts of the social contract tradition found in the work of Hobbes, Locke, and Rousseau. The class focuses on the particular views of social and political equality as developed by these thinkers and their contemporaries. Additionally, it considers the practical significance of their claims, such as their implications for the design of constitutions and other institutions. This course is designed to be the second in a three-semester sequence on the history of political thought, and students are encouraged, but not required, to take the courses in chronological sequence. Prerequisite: one previous course in political theory or political philosophy. Credit 3 units.

**A&S SS****Pol Sci 393. History of Political Thought III: Liberty, Democracy, and Revolution***Same as Lw St 393.*

How, if at all, should the political institutions of the modern state express and secure the liberty and equality of citizens? What is the political significance of private property? Is world history to be understood as progress toward one best form of government—capitalist democracy, perhaps, or communism? What forces drive history? We shall address these and other timeless political questions through close reading and rigorous analysis of classic texts in the history of Western political thought. Authors to be studied include Hegel, Marx, Tocqueville, John Stuart Mill, and Nietzsche. The course is designed to be the third in a three-semester sequence on the history of political thought, and students are encouraged, but not required, to take the courses in chronological sequence. Prerequisite: one previous course in political theory or political philosophy. Credit 3 units.

**A&S SS****Pol Sci 394. Urban Development and the Global Economy***Same as AMCS 394.***A&S SS****Pol Sci 398. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit variable, maximum 3 units.

**A&S SS FA SSP****Pol Sci 399. Topics in Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S SS FA SSP****Pol Sci 400. Research Experience in Institutional Analysis***Same as ISA 400.***Pol Sci 4010. Pluralism, Liberalism, and Education***Same as Lw St 4010, AMCS 4010.*

How should liberal democratic states respond to religious and cultural pluralism? In what ways is pluralism different from mere disagreement, and what normative implications does pluralism have for public policy? How can liberal states justify using their coercive power against a background of pluralism and in ways that systematically disadvantage certain religious and cultural groups in society? In particular, what is to be done when religious parents and the liberal state make conflicting judgments about the proper education of chil-

dren? When should the state defer to parental judgments, and what are the grounds for legitimately refusing to do so? Readings are taken from contemporary political philosophy. Prerequisites: Pol Sci 106, Pol Sci 107, Phil 340, or permission of instructor. Credit 3 units.

**A&S SS**

**Pol Sci 4013. Negotiating Major Legislation in Congress**

*Same as Lw St 4013, URST 4013.*

This course examines the outcomes of the legislative process in the United States. The first third of the course will examine key concepts and major determinants of the negotiation process: majority rule instability, agenda control, political parties, the amendment process, and the uncovered set. The rest of the course will examine the negotiations that led to some of the most significant legislation in the past 100 years, from the Federal Reserve Act of 1913 through the Voting Rights Act of 1965 to the Immigration Bill of 2006. Along with other assignments, each student will write several drafts of a major research project on a major piece of legislation. Each research project will examine the amendments offered, the strategic intentions of the amendments' sponsors, the agenda process, and the role of party. Prerequisite: Pol Sci 101B. Credit 3 units.

**A&S SS**

**Pol Sci 402. Topics in Political Thought: Democratic Theory**

*Same as AMCS 4022.*

Credit 3 units.

**Pol Sci 4020. The Legal Landscape in a Changing American Society**

*Same as Lw St 4020, URST 4020.*

This course is designed to examine the qualitative relationship between transformations in law in America and the structure of American values and behavioral patterns and in the institutions and culture of American law. The materials will cover the structural aspects of the legal system and its place in American society and not the law's doctrinal features (i.e., the specific substantive areas of the law). Rather, the course will examine how the organization and functioning of the law incorporates the values and changes in the American society. To achieve this, the course topics include: (a) Americans' perceptions of their legal institutions and agents; (b) changing links between law and the mass media; (c) concerns about the jury system; (d) the use (and abuse?) of litigation and its alternatives (ADR); (e) inequalities in access to the legal system; and (f) the transformations within the legal profession, both in law firms and in the careers of attorneys. Credit 3 units.

**A&S SS**

**Pol Sci 4024. The Meaning of National Security in the 21st Century**

*Same as IAS 402.*

**A&S SS**

**Pol Sci 4030. Political Theory of Education**

*Same as AMCS 4030.*

This course explores issues of authority, legitimacy, citizenship, freedom, and equality through contemporary readings in the political theory of education. What is to be done when parents, citizens, and educational experts make conflicting judgments about the proper education of children? When should the state defer to parental judgments, and what are the grounds for legitimately refusing to do so? How should public schools aim to equip their students for the responsibilities of citizenship in a diverse liberal democratic state? What do the concepts of equality and equality of opportunity mean in the context of education, and (how) should governments pursue these values through education policy? We will

explore these issues through contemporary works of political theory, as well as through considering a number of important U.S. court cases, including those dealing with the schooling of children from minority religious and cultural groups, affirmative action in university admissions, and school desegregation plans. Prerequisite: one previous course in political theory or political philosophy. Credit 3 units.

**A&S SS**

**Pol Sci 4040. Capstone Seminar in International Politics: Public Policy Responses to Global Poverty**

This course is designed for senior political science majors with a background in international politics (see prerequisites). In this course, we will examine the theoretical and empirical literature on the causes of global poverty, and evaluate public policy responses from the international community. Topics will include: foreign aid (including micro-finance), debt relief, trade reform, global health initiatives, and private-public partnerships. Students are expected to have a strong theoretical background in the tools and concepts in political science and a strong interest in development topics. As a capstone class, the teaching style will focus on a student-centered classroom, where students will run the class and help moderate discussions with outside speakers. Prerequisites: Pol Sci 103B, one advanced course in international politics, and a second advanced course in either international or comparative politics. Credit 3 units.

**A&S SS**

**Pol Sci 4042. Competing Ideologies and Nationalisms in the Arab-Israeli Arena**

*Same as JNE 4042.*

**A&S SS**

**Pol Sci 405. Topics in Political Thought**

*Same as IAS 4051, AMCS 4050.*

Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 4050. Political Representation**

*Same as AMCS 4051, Lw St 4050.*

In this class, we will study the concept of representation. Historically, how has representation been conceived? Conceptually, what should count as political representation, and must it always be democratic? As a normative problem, what should representatives do? And how should institutions be designed to foster these normative ends? Readings will provide a broad overview of the subject and address enduring questions, including problems of minority representation, voting rights, and redistricting. Prerequisites: Pol Sci 106 or 107. Credit 3 units.

**A&S SS**

**Pol Sci 406. Topics in Political Thought**

Questions regarding the relationship between the state and civil society are among the most enduring in political science—and the most pressing in contemporary political practice. This course will examine an array of texts in political theory and recent empirical studies of the relationship between state and civil society. Among the questions we will address are: What kinds of groups “count” as being part of civil society? What is the relationship between the state and civil society in a democracy? Can we meaningfully distinguish between political associations and economic associations? What is the relationship between voluntary associations and the market? What is the purpose of civil society? This course will focus on close readings of the assigned texts and consideration of contemporary understandings of the topic. It is aimed at students interested in comparative politics, political philosophy, and political economy. Credit 3 units.

**A&S SS FA SSP**

**Pol Sci 407. Topics in Political Thought**

*Same as Ital 473.*

**A&S TH, WI FA SSP**

**Pol Sci 4070. Global Justice**

*Same as IAS 4070.*

This course examines contemporary debates and controversies regarding global justice. Seminar discussions will be arranged around significant issues in the current literature. For example: What (if anything) do we owe to the distantly needy? Do we have special obligations to our compatriots? Do political borders have normative significance? And so on. This course will be of interest not only to political theorists, but also to students in other fields interested in social justice or international relations generally. Credit 3 units.

**A&S SS**

**Pol Sci 4080. Voting Rights**

*Same as AMCS 4080.*

This course will study legal concepts of voting rights and election law that impact the ability of citizens to access and participate in the democratic process, and will include the opportunity for students to directly engage in observing, monitoring, or advancing the right to vote during the 2008 elections. Election law changes rapidly, and it is the subject of legal and political dispute in a number of areas that will affect the franchise during the 2008 elections. This course will examine federal constitutional and statutory law governing the right of suffrage and assess current controversies in these areas. While there is no specific “right to vote” explicitly stated in the U.S. Constitution, over time, it has been amended or interpreted to protect the right of franchise from being abridged based on race, gender, property ownership, age, and other qualifications. Legislative enactments also have established rights with respect to voting. Each extension of voting rights has been a product of, and brought about, social and political change. This course will examine the interplay of law and politics in the right to vote. It will begin with the study of constitutional foundations, statutory protections, and case law. We then will apply these principles to current issues in voting rights, including: voter registration, voter identification, provisional ballots, voting machines, access for people with disabilities, felony disenfranchisement, voter suppression, and voter fraud. Students will apply this knowledge to voting rights during the 2008 elections through hands-on involvement in voter education, monitoring, or advocacy. The course will conclude with assessment of the current issues in light of observations made by students during the 2008 elections, with an eye toward advancement of election law and full enfranchisement in the future. The course will involve study of fundamental Supreme Court cases, interactive discussion of contemporary debates, and review of current litigation and legislative proposals. It will be supplemented by occasional guest visits by election officials, lawyers, legislators, voting rights advocates, or others. Credit 3 units.

**A&S SS**

**Pol Sci 4111. Afghanistan: Microcosm of International Crisis**

*Same as IAS 411.*

**A&S SS**

**Pol Sci 412. Directed Readings**

This is a course of readings in political science taken under the direction of an instructor in the department. Credit variable, maximum 3 units.

**A&S SS FA SSP**

**Pol Sci 413. Directed Research**

Research activities or project in political science done under the direction of an instructor in the department. Credit variable, maximum 3 units.

**A&S SS FA SSP**

**Pol Sci 4131. Intolerance and Prejudice***Same as Psych 413.*

A&amp;S SS FA SSP

**Pol Sci 413A. E-Government and E-Democracy: Workshop**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SS

**Pol Sci 414. Directed Fieldwork**

This course is a fieldwork project carried out under the direction of an instructor in the department. Credit variable, maximum 9 units.

A&amp;S SS FA SSP

**Pol Sci 415. Senior Thesis**

Intensive research leading to senior thesis. To be conducted under the supervision and guidance of a faculty sponsor of the thesis. Credit variable, maximum 3 units.

A&amp;S SS FA SSP

**Pol Sci 419. Teaching Practicum in Political Science**

This course is an opportunity for undergraduates to assist in course instruction, tutoring, and preparation of problems, readings, and exam materials with permission and under supervision of instructor. This course will count toward up to six hours of credit in an advanced field for the political science major. Credit variable, maximum 3 units.

A&amp;S SS FA SSP

**Pol Sci 4212. Elections**

This course examines how politicians and policies are selected by citizens in democracies. The literature exploring the rules and procedures that govern elections is perhaps the most theoretically and empirically sophisticated body of knowledge in the study of politics. We will explore how differences in these institutional rules across a variety of democracies shape the types of strategic choices voters make, the coalitions that legislators form, whose interests are represented, the structure of parties, the career paths of politicians, and the policies that governments pursue. We will further investigate how, when, and why electoral rules are changed with reference to several recent cases of electoral reform. Credit 3 units.

A&amp;S SS

**Pol Sci 421A. Topics in American Politics: Race and Ethnicity in American Politics**

This course will examine both the historic and current role of minorities in American politics. Special emphasis will be placed on political participation/voting behavior, the use of race in campaigns and political rhetoric, race as it affects public policy, and finally, the effect of racial issues on American party alignment. Credit 3 units.

A&amp;S SS

**Pol Sci 4231. Contemporary Issues in Latin America***Same as IAS 4232, LatAm 4231.*

How do the institutional designs of contemporary democratic governments help us understand the nature and quality of representation? We will concentrate on variations in the powers granted presidents by constitutions, as well as the institutional determinants of whether executives are likely to find support for their policies in the legislature. In addition, we will explore how incentives established by electoral laws influence the priorities of members of congress. Given all these variations in democratic institutional design, can voters go to the polls with the confidence that politicians will implement the economic policies for which their parties have long stood or which they promised in their campaigns? Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 424. Topics in Comparative Politics***Same as IAS 424.*

Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 4241. Topics in American Politics: Race and Politics***Same as AFAS 4483.*

From the moment enslaved Africans were brought to American shores, race and racism has been central to the American political project. In this class, we will examine how notions of race and racism inform conceptions of citizenship, the allocation of state resources, the development of political parties, and political participation. We also will examine the way that race and racism influence public opinion. Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 426. Topics in American Politics: Politics of the Civil Rights Movement***Same as AFAS 4262, AMCS 4261, AMCS 4261, AMCS 5261.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SD, SS FA SSP

**Pol Sci 4260. Writing about Civil Rights***Same as AMCS 4260.*

The substantive goal of this course is to study the Civil Rights Movement in order to learn more about the role of social movements, federalism, the legislative process, the presidency, political parties, and the courts in American politics. This is a writing-intensive seminar, limited to 18 students, each of whom will write three essays. Each student will submit an early draft of each essay, which will be edited and returned to the student for polishing. There will be review sessions on grammar, punctuation, word usage, and paragraph construction. The readings for the course will include some of the best essays on the subject of civil rights by W.E.B. DuBois, Malcolm X, Martin Luther King, and others. Prerequisite: 101B. Credit 3 units.

A&amp;S SD, SS, WI

**Pol Sci 4271. Topics in Comparative Politics***Same as EuSt 4271, IAS 4272.*

Credit 3 units.

A&amp;S SS, WI FA SSP

**Pol Sci 427A. Topics in American Politics: Organizational Micro Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SS, WI

**Pol Sci 4281. Comparative Political Parties***Same as IAS 4281.*

An introduction to theories and concepts used in the analysis of political parties in democratic regimes, with emphasis on the classic literature covering West European advanced industrial democracies and the more recent scholarship on Latin American party systems. The course illuminates the complex aims consequences, and characteristics of modern party politics. Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 4301. Multilevel Modeling***Same as ASTAT 430.*

A&amp;S NS FA NSM

**Pol Sci 432. Topics in Comparative Politics***Same as IAS 4322.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 4335. Topics in Comparative Politics***Same as IAS 4335.*

Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 437. Topics in Comparative Politics**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 439. Topics in Comparative Politics***Same as URST 439, IA 439.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 4400. Advanced Social and Political Philosophy***Same as Phil 4400.*

A&amp;S TH FA SSP

**Pol Sci 4402. Topics in Political and Social Theory: Constitutionalism**

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

A&amp;S SS

**Pol Sci 4450. Rights, Institutions, and the Law***Same as Phil 445.*

A&amp;S TH

**Pol Sci 4461. The Rule of Law***Same as Phil 4461.*

A&amp;S TH

**Pol Sci 4483. Topics in American Politics: Black Politics***Same as AFAS 448.*

A&amp;S SS FA SSP

**Pol Sci 4501. Topics in Political Theory: Intellectual History of Feminism***Same as WGSS 475.*

A&amp;S TH FA Lit

**Pol Sci 4502. Topics in Political Thought: Rights, Institutions, and the Law***Same as Lw St 4502.*

Credit 3 units.

A&amp;S SS FA SSP

**Pol Sci 4503. Topics in Political Thought: Order, Diversity, and the Rule of Law***Same as Lw St 4503, ISA 4503.*

This course is a seminar in which we explore questions of social order and cooperation in culturally diverse societies. This involves both a general consideration of processes by which social cooperation is achieved and maintained, and a specific analysis of the implications of social diversity for these processes. Major topics to be considered include: social capital, trust, community, civil society, social norms, and the rule of law. Special emphasis is given to the relationship between formal (legal) and informal means of fostering cooperation. Credit 3 units.

A&amp;S SD, SS, WI FA SSP

**Pol Sci 4504. Contemporary Democratic Theory**

Contemporary debates in democratic theory have produced a number of challenging and provocative accounts of how democratic institutions can and should work. In this course, we will analyze a number of competing theories of democracy and assess the similarities and differences among them. Although the course will focus primarily on theoretical issues, special attention will be given to how empirical research in the social sciences

on democratic institutions and procedures informs and clarifies these debates. Credit 3 units.

**A&S** SS, WI **FA** SSP

**Pol Sci 451. Topics in American Politics: Supreme Court**

*Same as AMCS 456, Lw St 4511.*

This seminar has two purposes: to introduce students to the state of the art in studies of the Supreme Court and to cover a series of particular topics with emphasis on the major controversies within the field of law and the courts. Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4510. Immigration, Identity, and Technology**

*Same as IAS 452.*

**A&S** SD, SS

**Pol Sci 4513. Topics in Politics: Criminal Law and Criminal Justice: Homicide**

*Same as Lw St 4513.*

Seminar investigates current controversies surrounding the homicide laws. Topics include the definitions of homicide and claims of self-defense, the controversies about admissions of evidence at various stages of prosecution, and the debates about the use of capital punishment (including the capital punishment of youths). Includes general academic readings, readings of recent court opinions, and guest discussants from the legal community. Credit 3 units.

**A&S** SS, WI **FA** SSP

**Pol Sci 4522. Topics in American Politics**

*Same as AMCS 4522.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4551. Seminar in Political Economy**

*Same as Econ 4551, AMCS 4551.*

Collective decision-making in organizations, organization design, links between markets and government, collective preferences, institutions, democracy and deliberation, constitution design. Credit 3 units.

**A&S** SS

**Pol Sci 456. Topics in American Politics**

*Same as URST 491.*

Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4560. Business, Government, and the Public**

*Same as Econ 456.*

**A&S** QA, SS **FA** SSP

**Pol Sci 4621. Politics and the Theory of Games**

*Same as ISA 4621.*

This course covers basic primitives and more sophisticated tools of game theory as they are used in contemporary political science. It will cover some issues at the forefront of contemporary research in game theory as the central analytical tool in studying the science of politics. The main substantive issues will be the emergence of law and order in society, markets vs. political mechanisms, and the distinctive characteristics of parliamentary vs. presidential democratic systems. The course also includes some real case studies, basic

experiments and, in general, a lot of fun. Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 467. Topics in American Politics**

Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4689. American Intellectual History to 1865**

*Same as History 4689.*

**A&S** TH

**Pol Sci 4690. American Intellectual History 1865**

*Same as History 469.*

**A&S** TH

**Pol Sci 4711. History of Modern Social Theory I: Marx and the Problem of Capitalism**

*Same as History 4711.*

**A&S** TH

**Pol Sci 4730. Political Economy of Multinational Enterprises**

*Same as IAS 4730.*

In this class, we will explore the literature in political science and economics on the relationship between multinational enterprises and domestic governments. The four main themes of the course are: (1) defining and understanding multinational enterprises, (2) governments attracting and competing for multinationals (3) the impact of multinationals on economic development and groups within society, and (4) attempts to regulate multinationals both domestically and internationally. Prerequisites: Pol Sci 103B. Credit 3 units.

**A&S** SS

**Pol Sci 4731. Global Political Economy**

This course will borrow on the insights of international relations scholarship and economic theory to develop a broad understanding of international economic relations. Specifically, this course attempts to address the following two sets of questions: (1) How do global economic relations fit into the broader category of international relations? How do the existing theories in international relations (liberalism, realism, and Marxism) help us understand international economic relations between nation-states? (2) What are the effects of these international economic forces (trade, finance, and multinational production) on domestic governments and societies? Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4740. Americans and Their Presidents**

*Same as AMCS 474.*

**A&S** TH

**Pol Sci 475. Topics in International Politics: Diplomacy, Bargaining, and International Conflict**

*Same as IDEV 432, IDEV 475, IAS 4752, IA 4752.*

This course is intended primarily for sophomores and juniors. The topic of this course varies by semester, dependent on faculty and student interests. Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4761. Politics of International Finance**

*Same as IAS 4761, ISA 4761.*

In this course, we will examine the complex relationship between international finance, economic

development, and domestic politics by drawing on the recent scholarly literature in economics, political science, and finance. The focus will be on the theoretical literature on both the determinants of international financial flows and its effects on domestic societies. Specially, we focus on five forms of international finance: (1) international equity markets (stocks), (2) flows of foreign direct investment (multinational corporations), (3) currency markets (with a special focus on currency crisis), (4) international debt, (5) and international aid. Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4791. Topics in Politics**

*Same as LatAm 4791, IAS 4791.*

Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4792. Globalization and National Politics**

*Same as AMCS 4792, IAS 4792, ISA 4792.*

This seminar examines globalization and its interaction with national politics. The movement of ideas, capital, goods, services, production, and people across national borders provide a skeletal framework for the global political economy. Politicians, policy makers, and societies discover new opportunities but also dilemmas as expanding interdependence challenge traditional notions of sovereignty and national policy autonomy. Prerequisite: Pol Sci 102 or 103. Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 480. Topics in International Politics: Growth and Development**

*Same as ISA 480, IAS 480.*

Credit 3 units.

**A&S** SS **FA** SSP

**Pol Sci 4946. The Federalist Papers—Ideas and Politics in the Creation of American Republic**

*Same as History 4946.*

**A&S** TH **FA** SSP

**Pol Sci 4978. The Theory and Practice of the U.S. Left**

*Same as History 4978.*

**A&S** TH

**Pol Sci 4987. Anti-slavery: The Legal Assault on Slavery in St. Louis**

*Same as History 4987.*

**A&S** SD, TH

**Pol Sci 4995. The Dred Scott Case and Its Legacy After 150 Years**

*Same as History 4995.*

**A&S** TH

# Praxis

## Director

**Henry Biggs**, Associate Dean  
(College of Arts & Sciences)  
Ph.D., University of California—Los Angeles  
M.B.A., Washington University

## Participating Faculty, 2008–10

**Kathleen Cook**, Academic Coordinator  
(Anthropology)  
Ph.D., Washington University

**James W. Davis**, Professor  
(Political Science)  
Ph.D., University of Michigan

**Troy DeArmitt**, Research Technologist  
(Law)

**Robert W. Duffy**, Lecturer  
A.B., Washington University

**Joy Kiefer**, Assistant Dean  
(Anthropology)  
Ph.D., Washington University

**Howard Lerner**, Adjunct Professor  
M.A., University of Missouri

**Gary Miller**, Professor  
(Political Science)  
Ph.D., University of Texas at Austin

The Praxis Program provides an exciting opportunity to combine the analytical reading, writing, and thinking skills of a liberal arts education with the marketable skills required in the 21st century to take students into career paths of their own design.

**Eligibility Requirements:** The program is designed for students entering their sophomore year. Students must fill out an application for the program (available online at [college.artsci.wustl.edu/praxis-program](http://college.artsci.wustl.edu/praxis-program)) by the middle of the second semester of their freshman year. Students must have maintained at least a 3.0 grade point average in their first semester to be considered eligible. **Faculty:** The Arts & Sciences faculty, from a wide variety of backgrounds, have helped to develop the program and are eager to teach, monitor, and mentor the Praxis students. In addition, leaders in business, non-profit organizations, government, and the like, many of whom discovered the foundation for their success in liberal arts studies, will be lecturers in the signature Praxis courses.

**Focused “Workforce” Curriculum:** Not only does the Praxis Program provide you with the foundation of a liberal arts education, the curriculum is designed specifically to provide you with many additional tools essential for your future in the world of work. Besides the specialized content of your particular field, you will be acquiring the expertise essential for your first job as well as for careers that may not yet exist:

- Analysis of multiple perspectives essential in the increasing globalization of our world
- Critical thinking
- Familiarity with quantitative analysis and methods

- Outstanding writing and speaking skills
- Foreign language literacy and culture
- Team and group work expertise and psychology
- Essential skills in traditional and emerging technology.

**Internships:** Your Praxis experience culminates in an internship taken normally at the end of your junior year that allows you to synthesize the tools and theories you have learned and use them in the workplace. Locations for internships may include national and international sites.

**Community:** The success of our students is central to our program. Your academic advisers, as well as each Praxis faculty member, assists you in tailoring your education to your own interests and goals. In particular, your own faculty mentor closely monitors your progress. The faculty and staff, you, and your fellow Praxis students form a supportive community that stimulates and encourages the highest standards of excellence in your studies and in your chosen careers.

## The Program:

1. Leadership and group experience (3 units)  
(Fall of sophomore year)  
*Required:*  
**Praxis 201. Leaders in Context**
2. Information technology skills (2 units)  
(Fall of sophomore year)  
*Required:*  
**Praxis 207. Fluency in Sociotechnology**
3. Communication skills, both written and oral (3 units) (Spring of sophomore year)  
*Required:*  
**Praxis 285. Communication that Works**
4. Analytic and problem-solving ability (6 units)  
*Required:*  
**Econ 103B. Microeconomics**  
A second course in analytic skills:  
Choose one:  
**Econ 104B. Macroeconomics**  
**Acct 2610. Principles of Financial Accounting**  
**Phil 100G. Logic and Critical Analysis**
5. Quantitative Skills (3 units)  
*Required:* A course in statistics (select one from below):  
**Math 101. Quantitative Applications in Arts & Sciences**  
**Math 1011. Introduction to Statistics**  
**Math 2220. Elementary Probability and Statistics**  
**Math 3200. Elementary to Intermediate Statistics and Data Analysis**  
**STA 326. Methods and Reasoning in the Social Sciences I**  
**Psych 300. Introductory Psychological Statistics**

6. International perspective or experience (3 units)

*Required—Either:*

The study of any language through the 300 level

*Or:*

One course in international economics or economic development, namely:

**Anthro 306B. Africa: Peoples and Cultures**

**Anthro 3322. Brave New Crops**

**Anthro 4517. Anthropology and Development**

**Econ 333. Economics of the European Union**

**Pol Sci 369. Topics in Public Policy**

7. Internship (3 units)

As the capstone experience of the Praxis program, the internship allows students to put into practice the skills and knowledge learned in the Praxis curriculum. The Praxis internship is conducted with the mentorship of a sponsoring Praxis faculty member, and usually occurs by the end of the junior year. Students should contact the Praxis internship coordinator and have a faculty mentor in place before beginning the internship. It is **not possible** to fulfill the internship portion of the Praxis Program with an internship that occurred before completing the majority of Praxis requirements, and the internship should consist of 135 hours.

Upon completion of the internship, there are two options available for students in order to fulfill the Praxis internship requirement. In conjunction with the approval of the faculty sponsor, the student submits a 10-page paper exploring the relevant issues and questions set by the sponsoring faculty. Depending on the topic, nature of the internship, and discretion of the sponsoring faculty, a daily journal may be submitted in lieu of the 10-page paper. As another option, with the approval of the faculty sponsor, students may enroll in the Political Science course, Organizational Micropolitics, with Professor Gary Miller. In this 400-level writing-intensive course, students have the opportunity to analyze their internship experience through the lens of organizational politics. For full details as to the requirements for this internship, contact the internship coordinator, Joy Kiefer, at [jkiefer@wustl.edu](mailto:jkiefer@wustl.edu).

## Undergraduate Courses

### Praxis 101. Bad Leadership

This course will explore the theory and practice of leadership from a neglected side—the bad side. The course will offer an interdisciplinary approach. Anthropological methods will be used in order to understand the typologies, social behaviors, and practices associated with bad leadership. Key topics will include an exploration of the definition of bad leadership, circumstances in which it appears, and its implications for leadership. The course also will explore the psychology of bad followership and the role of followers in the acceptance and persistence of bad leaders in a variety of social and organizational contexts. Credit 1 unit.

**A&S SS**

**Praxis 103B. Introduction to Political Economy: Microeconomics***Same as Econ 103B.*

A&amp;S QA, SS FA SSP

**Praxis 104B. Introduction to Political Economy: Macroeconomics***Same as Econ 104B.*

A&amp;S QA, SS FA SSP

**Praxis 201. Leaders In Context**

In this course, we will explore leadership both theoretically and practically. Focus is on understanding the concept of culture and how the cultural context informs a leader's style and effectiveness. This course is also designed to help students develop insights about leadership practice through readings, discussions, conversations with leaders, and group projects based on fieldwork. Students will examine a wide variety of leaders and leadership styles in order to better understand how leaders mobilize followers within the constraints of their particular settings. Students also will analyze the creation of institutional identity within organizations and corporate culture, explore effective leadership practices within these settings, and analyze some cross-cultural examples of leadership. Credit 3 units.

A&amp;S SS

**Praxis 207. Fluency in Sociotechnology**

This course studies the fundamentals of technology: how that technology is effectively implemented in organizations and how it affects human interactions and processes. We will consider much of Microsoft Office: Excel, Access, and PowerPoint and how the presentation of data in these forms affects our decision-making processes and how humans interact using these technologies. We also will develop Web skills with a close look at how presentation of information and data in general functions or does not function based simply on how it is presented. Credit 2 units.

A&amp;S SS

**Praxis 285. Communication that Works**

This course will focus on the communication forms and skills essential to contemporary living and working. Various forms of writing for different audiences and purposes: business letters, memorandums, proposals, reports, press releases, speeches, as well as public speaking, will be practiced and critiqued. The use of technology common in public speaking will be practiced and critiqued. The use of technology common in public presentations is expected. Course reading will be supplemented with viewing and listening. Final grade will be based on combination of quizzes, writing assignments, and demonstration of speaking skills. This course is limited only to students in the Praxis Program. Credit 3 units.

**Praxis 286. So You Want to be an Entrepreneur? Building the Innovative Mind Through Liberal Arts**

It is a little-known truth that more entrepreneurs come out of Arts & Sciences than any other college. This course will begin by exploring why this is so, examining in particular the creative and innovative qualities developed in liberal arts that are crucial to the success of the entrepreneur. We will then move on to examine entrepreneurs in action, hearing from those in the field and reading of others, learning how the liberal arts proved instrumental in various ways to their development and ultimate success as entrepreneurs. Credit 3 units.

## Psychology

**Chair****Randy J. Larsen**

William R. Stuckenberg Professor of Human Values and Moral Development  
Ph.D., University of Illinois

**Associate Chair**

**Michael J. Strube**, Professor  
Ph.D., University of Utah

**Endowed Professors****John Baugh**

Margaret Bush Wilson Professor  
in Arts & Sciences  
Ph.D., University of Pennsylvania

**Pascal R. Boyer**

Henry Luce Professor of Individual  
and Collective Memory  
(Anthropology)  
Ph.D., University of Paris–Nanterre

**Steven E. Petersen**

James S. McDonnell Professor  
of Cognitive Neuroscience  
(Neurology and Neurological Surgery)  
Ph.D., California Institute of Technology

**Thomas F. Oltmanns**

Edgar James Swift Professor  
of Arts & Sciences  
Ph.D., State University of New York at  
Stony Brook

**Henry L. Roediger, III**

James S. McDonnell Distinguished  
University Professor  
Ph.D., Yale University

**Rebecca A. Treiman**

Burke and Elizabeth High Baker Professor  
of Child Developmental Psychology  
Ph.D., University of Pennsylvania

**Professors****Richard A. Abrams**

Ph.D., University of Michigan

**David A. Balota**

Ph.D., University of South Carolina

**Deanna M. Barch**

Ph.D., University of Illinois, Urbana–  
Champaign

**Stanley Finger**

Ph.D., Indiana University

**Leonard S. Green**

Ph.D., State University of New York at  
Stony Brook

**Larry L. Jacoby**

Ph.D., Southern Illinois University–  
Carbondale

**Robert F. Krueger**

Ph.D., University of Wisconsin–Madison

**Michael Merbaum**

Ph.D., University of North Carolina–  
Chapel Hill

**Mark A. McDaniel**

Ph.D., University of Colorado

**Martha Storandt**

Ph.D., Washington University

**Denise E. Wilfley**

Ph.D., University of Missouri

**Associate Professors****Todd S. Braver**

Ph.D., Carnegie Mellon University

**Brian D. Carpenter**

Ph.D., Case Western Reserve University

**Ian G. Dobbins**

Ph.D., University of California–Davis

**Janet M. Duchek**

Ph.D., University of South Carolina

**Sandra S. Hale**

Ph.D., University of Wisconsin–Milwaukee

**Kristen C. Kling**

Ph.D., University of Wisconsin–Madison

**Alan J. Lambert**

Ph.D., University of Illinois, Urbana–  
Champaign

**Kathleen B. McDermott**

Ph.D., Rice University

**Mitchell S. Sommers**

Ph.D., University of Michigan

**Desirée A. White**

Ph.D., Washington University

**Jeffrey M. Zacks**

Ph.D., Stanford University

**Assistant Professors****Denise P. Head**

Ph.D., University of Memphis

**Brett Kessler**

Ph.D., Stanford University

**Lori Markson**

Ph.D., University of Arizona

**Thomas L. Rodebaugh, III**

Ph.D., University of North Carolina–  
Chapel Hill

**Simine Vazire**

Ph.D., University of Texas at Austin

**Carol M. Woods**

Ph.D., University of North Carolina–  
Chapel Hill

**Adjunct Professors****Robert Carney**

(Psychiatry)  
Ph.D., Washington University

**Kenneth Freedland**

(Psychiatry)  
Ph.D., University of Hawaii

**Barry Hong**

(Psychiatry)  
Ph.D., Saint Louis University

**Patrick Lustman**

(Psychiatry)  
Ph.D., Michigan State University

**Marcus E. Raichle**

(Radiology)  
M.D., University of Washington

**Eugene Rubin**

(Psychiatry)  
M.D., Ph.D., Washington University School  
of Medicine

**James V. Wertsch**

Marshall S. Snow Professor in Arts &  
Sciences  
(Anthropology, International and Area  
Studies, Education)  
Ph.D., University of Chicago

**Adjunct Associate Professors****C. Robert Almlı**

(Occupational Therapy)  
Ph.D., Michigan State University

**John Newcomer**

(Psychiatry)  
M.D., Wayne State University

**John Rohrbaugh**

(Psychiatry)  
Ph.D., University of Illinois

**R. Keith Sawyer**

(Education)  
Ph.D., University of Chicago

**Research Professor****Joel Myerson**

Ph.D., Arizona State University

**Lecturers****Amy D. Bertelson**

Ph.D., Ohio State University

**Patricia Cooper**

Ph.D., Washington University

**Delores Kennedy**

Ph.D., Pennsylvania State University

**James D. Reid**

Ph.D., Fordham University

**Heather Rice**

Ph.D., Duke University

**Professors Emeriti****Ira J. Hirsh**

Ph.D., Harvard University

**Richard M. Kurtz**

Ph.D., University of Cincinnati

**Anthony Schuham**

Ph.D., Washington University

**John A. Stern**

Ph.D., University of Illinois

**Robert L. Williams**

Ph.D., Washington University

Psychology allows you to examine in depth the study of behavior in the areas of aging and development, biological bases of behavior, brain-behavior interactions, clinical and abnormal psychology, cognition, learning and memory, personality, sensation and perception, and social interactions.

Because psychology has broad applications to many professions and scientific specialties and helps you develop important thinking and reasoning skills, it is a popular major choice for students pursuing a variety of career and academic paths. Courses also

are available for nonmajors seeking a general survey of psychology. You may design a course of study and concentration, in conjunction with your major adviser, that best meets your interests and long-term career goals.

The psychology department at Washington University has particular strengths in the areas of aging, human development, cognitive sciences, history of the neurosciences, learning and operant conditioning, neuropsychology, personality and abnormal psychology, sensory processes in vision and audition, and social theories of self and social processes.

As a psychology major, you have the opportunity to study with faculty members who are leading scholar-teachers committed to your undergraduate learning experience. You are encouraged to become involved in cutting-edge research with faculty members, who also serve as major advisers. Supervised internships with community service agencies and practicums are available through the degree program. The Honors program during your senior year allows you to pursue an independent research project, culminating in a written thesis, poster presentation, and graduation with Latin Honors. You also may pursue membership in Psi Chi, the national honor society in psychology, which encourages scholarship in the advancement of psychology.

A degree in psychology can help you prepare for a variety of graduate programs and careers in business, education, law, medicine, and other health professions, such as clinical psychology and social work.

**The Major:** You are required to complete Psych 100B (Introduction to Psychology) as a prerequisite to the major and a minimum of 25 additional units in psychology, of which at least 22 units must be at the 300 level or above. For a course to count toward the major in psychology, you must achieve a grade of C– or better.

The required 28 units must include Psych 100B (Introduction to Psychology), Psych 300 (Introductory Psychological Statistics), Psych 301 or 3011 (Experimental Psychology), and at least one course chosen from each of the following three categories:

*Social/Developmental:*

Social Psychology (Psych 315)

Developmental Psychology  
(Psych 321)

Psychology of Adolescence  
(Psych 325)

Psychology of Aging (Psych 326)

Social Gerontology (Psych 427)

*Personality/Abnormal:*

Psychology of Personality (Psych 353)

Behavior Modification and

Self-Management (Psych 314)

Abnormal Psychology (Psych 354)

Introduction to Clinical

Psychology (Psych 357)

*Brain, Behavior, and Cognition:*

Sensation and Perception (Psych 330)

Biological Psychology (Psych 3401)

Cognitive Psychology (Psych 360)

Cognitive Neuroscience

(Psych 3604 or 4604)

Psychology of Learning (Psych 361)

**Human Learning and Memory**

(Psych 380)

**Psychology of Language (Psych 433)**

A maximum of 6 units total of approved University College psychology courses, 100-level and 200-level classes, approved cross-listed courses originating from another department, transfer courses, and independent study-type classes (e.g., Psych 225, 235, 498, 499, 500) may be counted toward the minimum required units needed for the major. (The student, of course, may complete more than 6 units. However, only 6 can be used to satisfy the minimum requirements for the major.)

**The Minor:** You are required to complete a minimum of 15 units in psychology with a grade of C– or better, 12 of which must be in courses numbered 300 or above. No more than 3 units total of approved cross-listed courses originating outside the Department of Psychology, psychology courses taken in University College, courses taken at other universities, and independent study-type courses may count toward the minor.

**Senior Honors:** To be admitted into the Honors program, you must have a superior academic record and meet other requirements. You must successfully complete Psych 498 and 499, be supervised by a faculty member in the department, and complete an Honors project and written thesis. Recommendations for Honors are made by the department.

**Undergraduate Courses****Psych 100B. Introduction to Psychology**

*Same as Psych 100B.*

A survey and analysis of concepts, theory, and research covering the areas of learning, memory, social, abnormal, clinical, physiological, and sensory psychology. This is a general survey course designed to introduce students to the diversity of areas, approaches, and theories that make up the study of mind and behavior. Psych 100B is required of all majors and is prerequisite to all upper-level courses in Psychology. Open to freshmen. *Note:* For students enrolled in Psych 100B who are interested in exploring a few areas of Psychology within a seminar format, see the companion course, Psych 102, Seminar: Introduction to Psychology. Credit 3 units.

**A&S SS FA SSP**

**Psych 102. Seminar: Introduction to Psychology**

This seminar will enable students enrolled in Psych 100B (Introduction to Psychology) to explore in greater depth several of the ideas and concepts in contemporary psychology. Open to freshmen who are concurrently enrolled in Psych 100B or who have completed Psych 100B. Also open to sophomores who are concurrently enrolled in Psych 100B. Sections are limited to 15 students. Credit 1 unit.

**A&S SS FA SSP**

**Psych 104. Cognitive Illusions: Understanding Distortions in Perceiving, Remembering, and Thinking**

Cognitive processes (such as perceiving, attending, remembering, judging, and predicting) are critical for keeping us in touch with our environments and for deciding what actions we take. Although these processes are usually accurate, they also are subject to error. Cognitive illusions are the systematic errors people make in perceiving

the world, remembering events from the past, and thinking and reasoning about the future. This course will explore these cognitive distortions, what they tell us about how the mind works, and practical challenges they pose. For example, if a witness cannot accurately remember the face of an individual who committed a crime, an innocent person might be convicted. If a pilot is subject to perceptual distortions while flying, an accident may result. Credit 3 units.

**A&S SS**

**Psych 109. Research Seminar in Psychology**

Weekly presentations by various members of the psychology faculty; introduces students to research areas and current issues. Attendance at all lectures required. Open to freshmen and sophomores only. Prerequisite: Psych 100B. Credit/no credit only. Credit 1 unit.

**A&S SS FA SSP**

**Psych 221. Introduction to Memory Studies**

This course focuses on memory not only as an individual phenomenon, but also as the basis for the transmission of culture and the construction of collective identity. We will survey such topics as experimental methods and findings in the study of individual memory; questions of accuracy and vividness of memory and witness reports; repressed memories; transmission of cultural norms and identity through narratives; shared historical memories; individual trauma and historical upheaval; and revision of the past and political usage of collective memory. Credit 3 units.

**A&S SS**

**Psych 222. Human Memory from Neurons to Novels: How Scientists and Other Scholars Study Memory**

Introduces students to the different methods used in the study of memory, from neuroscience to anthropology and from experimental psychology to literary studies and history. We consider, for instance, how a historian works from documents and sources, how a neuroscientist explains the details of particular experimental findings, how an anthropologist comments on the connections between historical past and individual identity in a particular place, how a cognitive psychologist uses laboratory results to understand memory function. Prerequisites: Psych 221, Psych 100B. Credit 3 units.

**A&S SS**

**Psych 225. Internship in Psychology**

An opportunity to gain supervised, applied experience in a non-academic, community service agency. For a description of prerequisites, goals, agency selection, registration policies, and course requirements, obtain a copy of "A Guide to Internship in Psychology," available outside of Room 221 and Room 419A, Psychology Building, or online at [www.artsci.wustl.edu/~psych/undergrad.html](http://www.artsci.wustl.edu/~psych/undergrad.html). In addition to work at their internship site, students are required to meet regularly with the internship coordinator. This course may be taken only once. Credit/no credit only. Credit 3 units.

**FA SSP**

**Psych 234. Introduction to Speech and Hearing Sciences and Disorders**

*Same as Educ 234.*

**Psych 235. Practicum in Applied Behavior Analysis: Autism/PDD**

An opportunity to be trained in applied behavior analytic techniques and to work with a child with autism/pervasive developmental disorder. Training and supervision will be arranged and coordinated by the family of the child and their consultant. To

receive credit, students must undertake a year's work with the child, complete the minimum number of hours of training and therapy, and attend regular therapy meetings. In addition, students must meet with the practicum coordinator for discussion of assigned readings and presentations on autism and therapy. Completion of a paper also is required. For further information and petition form, pick up the Practicum brochure from the department. This course can be taken only once for credit. Credit/no credit only. Enrollment through the practicum coordinator only. Credit 3 units.

**FA SSP**

**Psych 300. Introduction to Psychological Statistics**

Descriptive statistics, including correlation and regression. Inferential statistics, including nonparametric and parametric tests of significance through two-way analysis of variance. Course emphasizes underlying logic and is not primarily mathematical, although knowledge of elementary algebra is essential. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS, QA FA NSM**

**Psych 301. Experimental Psychology**

Training in the logic and techniques of psychological research intended to provide students with experience in design and interpretation of psychological research. Emphasis on experimental control, library research, quantitative treatment of data, and clarity of scientific writing. Prerequisite: Psych 300. Credit 4 units.

**A&S NS FA NSM**

**Psych 3011. Experimental Psychology**

Psych 3011 is limited to students who have not taken Psych 300 and want to enroll in Psych 300 and Experimental Psychology concurrently. Therefore, students who enroll in Psych 3011 must also register for Psych 300. Psych 3011 fulfills the Psych 301 requirement for the major. Topics in the two courses (Psych 300 and Psych 3011) will be coordinated in order to integrate the concepts from statistics with those from experimental psychology. Experimental psychology provides training in the logic and techniques of psychological research so as to provide students with experience in the design of psychology experiments and interpretation of results. Topics include experimental design and control, library research, quantitative treatment of data, graphical presentation of results, and clarity of scientific writing. Lectures focus on general principles of experimentation, while the laboratory component provides an introduction to a range of psychological phenomena through hands-on experience in experimentation. Each student also completes an independent research project of his or her own design under supervision of a faculty member. Enrollment limited to 15 students. Concurrent enrollment in Psych 300 is required. Credit 4 units.

**A&S NS**

**Psych 304. Educational Psychology**

*Same as Educ 304.*

**A&S SS FA SSP**

**Psych 3091. Lesbian, Gay, Bisexual Identity Development**

*Same as AMCS 3090, WGSS 3091.*

Examination of sexual orientation and identity. Topics: historical perspectives, gender socialization, identity formation across the life span, cultural prejudices, the liberation movement, and recent legal changes affecting stigmatized minorities. Prerequisite: Psych 100B. Credit 3 units.

**A&S SD, SS FA SSP**

**Psych 314. Behavior Modification and Self-Management**

Provides an overview of behavior modification and its applications for behavior change in various personal and social contexts. An important focus will be on how behavioral tools can be used to enhance the personal change process leading to effective self-improvement. Prerequisite: Psych 100B. Enrollment limited to 15. Credit 3 units.

**A&S SS**

**Psych 315. Introduction to Social Psychology**

*Same as AMCS 3149, Lw St 315, PNP 3151, URST 315.*

Introduction to the scientific study of individual behavior in a social context. Topics: person perception, stereotyping and prejudice, attitudes, memory, and political psychology, among other issues. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP**

**Psych 321. Developmental Psychology**

*Same as CFH 321, PNP 3211.*

This course concentrates on the cognitive and social development of the person from conception to adolescence. Topics covered include: infant perception, attachment, cognitive development from Piagetian and information processing perspectives, aggression, and biological bases of behavior. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP**

**Psych 3221. Developmental Psychology II: Social Development**

Focuses on research and theories pertaining to social development during infancy and childhood. That is, as they develop, how do children interact with, think about, and learn from other people? Topics include: attachment, day care, social cognition, prejudice, aggression, pro-social behavior, morality, gender roles, peer relations, and parenting. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP**

**Psych 323. Play and Development**

*Same as Educ 337.*

**A&S SS**

**Psych 325. Psychology of Adolescence**

*Same as Educ 325, CFH 325.*

A broad introduction to adolescence as a developmental period of transition and change. Major topics include the fundamental changes of adolescence, the context of adolescence, and processes of psychological development. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP**

**Psych 326. Introduction to the Psychology of Aging**

Study of the processes of aging in the individual in terms of their behavioral effects. Age changes in biological functions, sensation, perception, intelligence, learning, memory, and creativity studied to understand the capacities and potentials of the mature and older person. Prerequisite: Psych 301. Credit 3 units.

**A&S SS**

**Psych 329. The Psychology of Women**

Examines the current status of research evidence regarding gender differences in human behavior and compares explanations of gender differences from several theoretical perspectives, including psychoanalytical theory, social learning theory, social/cultural perspectives, evolutionary theory and biological perspectives, and cognitive developmental theory. Discussion of patterns of public attitudes and beliefs about gender roles and gender differences, and their impact on the study of gender issues. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP**

**Psych 3290. Psychology of Women***Same as WGSS 329.***A&S SS****Psych 330. Sensation and Perception***Same as PNP 330.*

Structure and function of several sensory systems and techniques for studying them; emphasis on vision. Perceptual experience examined by considering the underlying physiological activity, as well as higher-level cognitive influences. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM****Psych 331. Introduction to the Psychology of Hearing**

This course will examine the perception of auditory stimuli. The focus will be on the psychological response to acoustic events and the mechanism mediating those responses. Topics will include basic acoustic concepts, pitch perception, localization, and auditory stream segregation. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP****Psych 335. The Science of Sleep**

Sleep is a basic need for human survival. We sleep daily and yet there is so much unknown about how sleep works. Sleep is a science: a biological and behavioral science that has an impact on both psychological and physiological functioning. In this course, you will learn about a variety of topics crucial to the field of sleep medicine including: sleep changes across the lifespan, sleep hygiene, sleep deprivation, and clinical sleep disorders and treatments. You will gain understanding with what is known about sleep as well as how to integrate the importance of sleep into your daily life. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS****Psych 3401. Biological Psychology***Same as PNP 3401.*

An introduction to biological mechanisms underlying behavior. Topics will include the physiology of nerve cells, anatomy of the nervous system, control of sensory and motor activity, arousal and sleep, motivation, and higher mental processes. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM****Psych 344. Principles of the Nervous System***Same as Biol 3411.***A&S NS FA NSM****Psych 345. Genes, Environment, and Human Behavior***Same as PNP 3451, Psych 534.*

This class will examine how genetic influences affect various dimensions of human behavior, ranging from personality to clinical disorders. Topics to be covered include methods used to study genetic influence, how genetic predispositions interact with the environment, and ethical implications of genetic research in psychology. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS****Psych 353. Psychology of Personality***Same as PNP 3531, MLA 5115.*

Review of basic theoretical orientations to the understanding of personality and complex human behavior. Overview of related techniques, procedures, and findings of personality assessment and personality research. Discussion of critical issues in evaluation of personality theories. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP****Psych 354. Abnormal Psychology***Same as MLA 5321, MLA 354, Lw St 354, PNP 3541.*

Survey of deviant and maladjusted behavior including neuroses and psychoses. Consideration of

biological, social, and individual determinants of maladjustment. Cultural perspectives on mental health and illness. Diagnosis, etiology, and treatment. Review of pertinent research. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP****Psych 356. Introduction to Forensic Psychology**

This course is an introduction to the interaction between psychology and the legal system. The contribution of psychology to such legal areas as family law, juvenile delinquency, criminal cases, law enforcement, and correctional psychology will be surveyed. Topics to be covered will include domestic violence, child abuse, personal injury, eyewitness testimony, insanity, sex offenders, and psychopaths. Legal standards regarding insanity, civil commitment, and expert testimony will be reviewed. We also will focus on the emerging contributions of neuroscience to the field of forensic psychology. Prerequisite: Psych 100B Credit 3 units.

**A&S SS****Psych 357. Introduction to Clinical Psychology**

A survey of clinical psychology. Emphasis is placed on historical and recent developments in the field (e.g., managed care), as well as the consideration of the roles, functions, and techniques of clinical psychologists, including psychological testing and psychotherapy. Prerequisite: Psych 100B. Credit 3 units.

**A&S SS FA SSP****Psych 358. Language Acquisition***Same as Educ 358, Ling 358, PNP 358.*

This course examines the development of language skills in children, asking how children so rapidly learn their first language. Topics include: biological bases of language development; development of phonology, syntax, and morphology; language development in atypical populations; childhood bilingualism; and development of written language skills. Prerequisite: Psych 100B or Ling 170D. Credit 3 units.

**A&S SS FA SSP****Psych 360. Cognitive Psychology***Same as PNP 360.*

Introduction to the study of thought processing from an information-processing approach. Emphasis on theoretical models grounded in empirical support. Topics include pattern recognition, attention, memory, reasoning, language processes, decision making, and problem solving. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM****Psych 3604. Cognitive Neuroscience**

A general introduction to the underlying principles and mechanisms of brain function that give rise to complex human cognitive behavior. Emphasis will be placed on how emerging methods and approaches from both neuroscience and cognitive psychology have been integrated to yield new insights into the organization and structure of higher mental processes. Topics include perception, attention, memory, language, and executive control. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM****Psych 361. Psychology of Learning***Same as PNP 361.*

Basic learning processes in animals, such as conditioning, reinforcement, punishment, and constraints on learning. Comparisons and interactions between classical and operant conditioning. Consideration given to learning theorists and theories, along with applications from the laboratory to the "real world." Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM****Psych 361A. Psychology of Learning: Laboratory**

This laboratory course is a supplement to the Psychology of Learning (Psych 361) class. Students will gain firsthand experience, via a virtual rat, of principles and procedures related to the acquisition and maintenance of behavior. Weekly lab meetings introduce Pavlovian and operant principles that are then implemented as laboratory exercises with the virtual rat. Concurrent enrollment in Psych 361 required. Credit 1 unit.

**A&S NS****Psych 366. Psychology of Creativity***Same as Educ 366.***A&S SS FA SSP****Psych 367. Seminar in Positive Psychology**

Reviews the relatively recent development in the field known as positive psychology. Topics may include: happiness and life satisfaction, positive self-esteem, creativity, caring relationships, love (passionate and otherwise), empathy, optimism, ambition, moral character development, attachment, compassion, forgiveness, helping, work ethics, and successful aging. Designed to take a sampling of those aspects of psychology that emphasize the positive side of human nature. Prerequisite: Psych 100B and at least one 300-level course. Credit 3 units.

**A&S SS FA SSP****Psych 374. Drugs, Brain, and Behavior**

This course will review information pertaining both to medications used to treat psychiatric disorders and to psychoactive drugs of abuse. By learning principles of pharmacology and mechanisms of action of these agents, students will develop an enhanced knowledge of the brain mechanisms underlying abnormal human behavior. Prerequisite: Psych 354 or 3401 or 344. Credit 3 units.

**A&S NS****Psych 380. Human Learning and Memory***Same as PNP 380.*

A survey of issues related to the encoding, storage, and retrieval of information in humans. Topics include memory improvement strategies, people with extraordinary memories, memory illusions and distortions, among other topics. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM, SSP****Psych 4001. Introduction to Neuropsychology***Same as PNP 4001.*

Introduction to the field of brain-behavior relationships: the neurological basis of cognitive and psychological functions such as language, spatial ability, attention, and memory. Selected pathological syndromes associated with brain dysfunction also presented. Limit: 20 junior and senior psychology majors, psychology graduate students, and others with relevant backgrounds. Prerequisite: an introductory course in the neurosciences or one in biological psychology. Credit 3 units.

**A&S NS FA NSM****Psych 4044. Topics in Cognitive Neuropsychology**

Advances in the understanding of abilities such as memory, attention, and language will be discussed, with a focus on recent research that integrates the theoretical perspectives of cognitive psychology and neuropsychology. Findings from investigations using neuroimaging techniques, psychophysiological techniques, and patients with brain disorders will be emphasized. Prerequisite: Psych 100B. Credit 3 units.

**A&S NS FA NSM**

**Psych 4046. Developmental Neuropsychology**  
Development of the brain and associated changes in cognitive abilities will be discussed, with an emphasis on recent research that integrates the theoretical perspectives of cognitive psychology and neuropsychology. Discussion will focus on early development and disorders affecting the brain such as cerebral palsy, sickle cell disease, and autism. Prerequisite: completion of a course in developmental psychology, cognitive psychology, or neuropsychology. Credit 3 units.  
A&S NS, WI FA NSM

**Psych 4047. History of Neuroscience**  
*Same as PNP 4047.*

The study of the relationship between brain and behavior from trephination and head injuries in ancient people through ancient Egypt, Greece, and Rome into the Renaissance and more modern times. Emphasis on higher brain functions. Prerequisite: a course in physiological psychology, neuropsychology, or the nervous system; or permission of instructor. Credit 3 units.  
A&S SS FA SSP

**Psych 4051. Conceptual Issues in Psychology**  
Behaviorism has been called a monumental triviality by some while cognitivism is seen by others as prescientific, indeed detrimental, to the advancement of psychology. Examination of the theoretical and methodological issues dividing the behaviorists and cognitivists. Credit 3 units.  
A&S SS FA SSP

**Psych 4081. Topics in Psycholinguistics**  
Language is one of the most important things that people learn, and children are able to speak in complex sentences before they can tie their shoes. How do children master this seemingly impossible task? In this course, we will cover theories and research on these issues. We will focus on language development in children who are learning English as their first language, with special consideration given to vocabulary development. We will also consider other populations, including bilingual children and children with language difficulties. Prerequisite: Psych 100B; completion of a course in developmental psychology, linguistics, and/or speech and hearing sciences; and junior or senior standing. Credit 3 units.  
A&S SS, WI

**Psych 4085. Seminar: Human Memory**  
A seminar that explores the primary literature on the scientific study of human memory. Topics include retrieval processes, forgetting, distortions of memory, and individual differences in memory. Prerequisite: Psych 360 (Cognitive Psychology), Psych 380 (Human Learning and Memory), or permission of instructor. Credit 3 units.  
A&S SS

**Psych 413. Contemporary Topics in Social Psychology: Intolerance and Prejudice**  
*Same as Pol Sci 4131.*  
Consideration of selected contemporary topics in social psychology. Participation in a research project of appropriate scope. Prerequisite: Psych 315. Credit 3 units.  
A&S SS FA SSP

**Psych 4171. Factor Analysis and Related Methods**  
*Same as ASTAT 440.*  
A&S NS FA NSM

**Psych 4182. Perception, Thought, and Action**  
This course focuses on current topics in visual perception, visual attention, eye movements, and sensory-motor behavior. Readings consist of recent journal articles. Class meetings emphasize presentation and discussion of the material in the readings. Prerequisites: Psych 360, Psych 3011, or Psych 4182. Credit 3 units.  
A&S NS FA NSM

**Psych 4215. Critical Issues in Child Psychopathology**  
Covers issues that are critical to the emergence and maintenance of child psychopathology. Topics include attachment, genetics, psychological development, cognitive development, and cultural influences. Different models of child psychopathology will be considered. Prerequisite: Psych 100B and Psych 354. Credit 3 units.  
A&S SS FA SSP

**Psych 4255. Special Topics in Clinical Psychology**  
An introduction to what clinical psychologists do, why they do it, and where they do it. Reviews the history and development of clinical practice with special attention to psychological assessment, psychotherapy, theoretical orientations, settings in which psychologists practice, and ethical issues. Written assignments in this writing-intensive course include a research paper, a case study, and a formal analysis of an ethical problem in clinical psychology. Prerequisite: Psych 354. Not open to students who have taken Psych 450 or Psych 357. Credit 3 units.  
A&S SS, WI FA SSP

**Psych 427. Social Gerontology**  
An introduction to the social aspects of aging. Specific attention is paid to demographics, physical health and illness, mental health, interpersonal relations, work issues, living arrangements, and ethical issues. Prerequisites: junior or senior standing and completion of 6 advanced units in Psychology. Credit 3 units.  
A&S SS FA SSP

**Psych 4301. Contemporary Topics in Cognitive Development**  
*Same as PNP 4301.*  
Traditional topics in cognitive development, such as conservation, conceptual development, and category formation, examined from both information-processing and Piagetian viewpoints. Prerequisite: Psych 321 or 360. Credit 3 units.  
A&S SS, WI FA SSP

**Psych 4302. Cognitive Psychology Applied to Education**  
*Same as PNP 4302.*  
This course is intended to cover topics in the cognitive psychology of human memory, conceptual learning, and comprehension with special focus on areas, theory, and research that have potential application to education. Thus, the course will provide selective coverage of theoretical and empirical work in cognitive psychology that provides potential to inform and improve educational practice. The applicability of these themes will be explicitly developed and evaluated through the primary research literature using educationally oriented experimental paradigms. The course is expected to be of interest and benefit to education majors and to psychology majors interested in cognitive psychology and its applications. Prerequisites: junior/senior status, 9 units in Psychology, and Psych 100B, or junior/senior status, 9 units in Education, and Psych 100B. Credit 3 units.  
A&S SS

**Psych 4305. Critical Thinking With and About Psychological Science**  
Skeptical analysis of psychological science as practiced and popularized in the media. Analysis of discrepancies between media and scientific claims regarding areas such as repressed memory, brain imaging, heritability, and psychotherapy. Additional examination of scientific career demands such as peer review, journal publication, and research funding. These topics are interwoven with a review of common errors in reasoning particularly with respect to probabilistic reasoning, and the public misperception of the practice and principles

of scientific psychology. Prerequisites: junior or senior standing and completion of 6 advanced units in psychology. Credit 3 units.  
A&S SS

**Psych 431. Hearing**  
*Same as PACS 414.*

**Psych 433. Psychology of Language**  
*Same as PNP 408, Ling 408.*  
This course surveys current research and theory in psycholinguistics, covering the biological bases, cognitive bases, and learning of language. We consider studies of normal children and adults, the performance of individuals with various types of language disorders, and computer simulations of language processes. Topics range from the perception and production of speech sounds to the management of conversations. Each student will carry out an original research project on some aspect of psycholinguistics. Prerequisites: Ling 170D and Psych 100B. Credit 3 units.  
A&S SS FA SSP

**Psych 4351. Reading and Reading Development**  
*Same as Educ 4351.*  
This seminar surveys current research on reading and spelling skills and their development. Students will read and discuss journal articles that examine the cognitive and linguistic processes involved in reading, reading disorders, and educational issues. Prerequisite: permission of instructor and previous course work in experimental psychology or psychology of language. Credit 3 units.  
A&S SS

**Psych 4361. Psychological Perspectives on the Self**  
Contemporary theories and research related to the self in social psychology. Emphasis on the self as a construct central to understanding important social phenomena. Topics include definitions and measurement of the self; motivational implications of the self for impression management, ability appraisal, and social inference. Prerequisite: Psych 315. Credit 3 units.  
A&S SS, WI FA SSP

**Psych 438. Acoustical Phonetics and Speech Perception**  
Credit 3 units.

**Psych 4411. Topics in Cognitive Neuroscience**  
*Same as Biol 5601.*  
How the brain organizes behavior, emphasizing higher functions such as perception, language, and attention. Course aims at integration of information from neurobiological approaches (e.g., single-unit recording, lesion-behavior experiments) and information-processing approaches (e.g., cognitive psychological models, connectionist models). Prerequisite: Psych 3401, Psych 360, or Psych 3604. Credit 3 units.  
A&S NS FA NSM

**Psych 4418. Computational Modeling in Cognitive Neuroscience**  
Introduces the ideas and methods used in simulating cognitive and perceptual processes using computational models. The focus will be on neural network mechanisms, which provide a bridge between behavioral and biological levels of analysis. The first half of the course will introduce the basic computational and biological properties of individual neurons and neuronal networks, and the learning mechanisms that organize these networks. The second half of the course will examine how these computational mechanisms can be used to explore a range of cognitive phenomena, including perception, attention, memory, language and higher-level cognition (i.e., executive control). Prerequisite: Psych 3604 or permission of instructor. Credit 3 units.  
A&S NS FA NSM

**Psych 4450. Functional Neuroimaging Methods**  
*Same as PNP 4450.*

This course is intended for students wishing to become sophisticated producers or consumers of functional neuroimaging data. Emphasis will be on extracting the most information from neuroimaging techniques toward the goal of answering psychologically motivated questions. A number of issues relating to neuroimaging methodology will be covered, including technical principles, acquisition options, potential sources of artifact, experimental design, software tools, and analytical techniques. Class approach will be hands-on, with students gaining experience in actually acquiring and working with neuroimaging data. Prerequisite: graduate standing or permission of instructor. Credit 3 units.

**A&S SS FA SSP**

**Psych 4495. Attitude Change and Persuasion**

Overview of theory and research in the field of attitudes. Topics will include: attitude formation and activation, the attitude-behavior relationship, measuring attitudes, social influence, attitude change, and persuasion techniques. Prerequisite: Psych 315. Enrollment limited to 25. Credit 3 units.

**A&S SS FA SSP**

**Psych 4501. Psychotherapy: Research and Practice**

Provides an overview of the fast-changing field of psychotherapy covering both the methods and issues of current clinical practice, as well as the problems and issues related to the appraisals of the effectiveness of psychotherapy. Particular attention will be paid to recent developments. Topics discussed will be of particular interest to students considering mental health careers emphasizing counseling and psychotherapy. Prerequisite: Psych 354 or 450. Credit 3 units.

**A&S SS FA SSP**

**Psych 4541. Personality and Psychopathology**

This course is an advanced seminar in the study of personality disorders. It will cover a range of conceptual and methodological issues involved in scientific efforts to understand ways in which pathological personality features disrupt people's lives. Students will learn about the similarities and distinctions between normal and pathological features of personality, as well as the role that personality may play with regard to the causes and treatment of other kinds of mental disorder. A laboratory component of the class will focus on the development of practical skills in conducting research interviews designed to elicit information about personality and social adjustment. Prerequisites: Psych 354, junior or senior standing, and permission of the instructor. Credit 3 units.

**A&S SS**

**Psych 4557. Biopsychosocial Aspects of Eating Disorders and Obesity**

The aim of this seminar course will be to examine the epidemiology, etiology, prevention, and treatment of body image, eating disorders, and obesity. An emphasis will be placed on understanding the characteristic symptoms of excessive dieting, body image disturbance, and binge eating, not only as formal psychiatric syndromes, but as a representation of dysregulatory processes reflecting social-cultural, psychological, and biological disturbances. Students also will learn about the clinical characteristics of medical sequelae and physical aspects of eating disorders and obesity. Prerequisites: Psych 100B and Psych 354. Credit 3 units.

**A&S SS**

**Psych 4591. The Development of Social Cognition**

This course will explore what is known about the development of social cognition. Our starting point will be infants' capacity to navigate the so-

cial world, for instance, detecting agents, identifying social partners, and learning from those around us. We will consider what happens when the human ability to reason about others breaks down (as with autism), and what this can teach us about typical development. Each week, we will cover a topic and related set of readings. Class meetings will be devoted to active discussion and debate about the content of the readings. Students will write a weekly thought paper on the readings to promote class participation and discussion, and complete a research proposal or a literature review of a novel topic to be written and presented at the end of the semester. Prerequisite: Psych 315, Psych 321, or Psych 360. Credit 3 units.

**A&S SS**

**Psych 4604. Cognitive Neuroscience**

An intensive, case study-based approach to the underlying principles and mechanisms of brain function that give rise to complex human cognitive behavior. Emphasis will be placed on understanding and evaluating cutting-edge neuroscience research that has yielded new insights into the organization and structure of higher mental processes. Students will develop critical thinking and writing skills via a strong class participation component and a writing-intensive format. Topics include perception, attention, memory, language, emotion, and executive control. Writing-intensive. Prerequisites: Psych 100B and Biol 3411/Psych 344, or Psych 3401. Credit 3 units.

**A&S NS, WI**

**Psych 4611. Psychological Tests and Measurements**

*Same as Educ 4611.*

In what sense can abilities and traits be measured? The history of measurement in psychology traced through abilities, especially general intelligence, objective personality tests, and projective tests.

Other topics: recent theories of the nature and organization of intelligence (Cattell and Horn, Sternberg, Fischer), and contemporary objections to psychological measurement (S.J. Gould). Prerequisite: Psych 300. Credit 3 units.

**A&S SS FA SSP**

**Psych 4625. Autobiographical Memory**

This course will investigate how people create and remember their personal life histories, with an emphasis on empirical studies within the cognitive tradition. Possible topics include childhood amnesia, false memories, emotional memories, the role of motivation in remembering, and the representation of personal events in memory. Prerequisite: Psych 360, Psych 301, or Psych 380. Credit 3 units.

**A&S SS, WI FA SSP**

**Psych 4651. History and Modern Systems of Psychology**

An introduction to the history of psychology. This course begins with the major figures and influences on behavioral science before the 1870s. It then examines the birth of "modern" psychology in Germany and the schools of psychology that emerged early in the 20th century. Newer orientations and ideas are considered in the final segment of the course. Prerequisites: junior or senior standing and 6 units of advanced home-based psychology courses. Credit 3 units.

**A&S TH FA SSP**

**Psych 4702. Current Debates in Psychology**

In this seminar, we will debate issues of current controversy in psychology. Topics will range from perception (e.g., Can subliminal messages affect behavior?) to development (e.g., Do children in day care develop differently than children cared for at home?) to mental illness (e.g., Is road rage a real psychological illness?). Discussions will be based on readings of primary research and review articles and augmented by written assignments.

Prerequisite: completion of 6 units of advanced home-based psychology courses. Credit 3 units.

**A&S SS**

**Psych 473. Seminar: Contemporary Psychology**

Critical analysis of theory and research on specific issues and topics in contemporary psychology. Prerequisites: junior or senior standing and 6 units of advanced home-based Psychology courses. Credit 3 units.

**A&S SS FA SSP**

**Psych 4765. Biological Basis of the Major Mental Disorders**

*Same as PNP 4765.*

This course will cover research on the biological basis of the major mental disorders, including schizophrenia and related disorders, unipolar and bipolar mood disorders, obsessive-compulsive disorder, panic disorder, and alcohol and substance abuse. Emphasis will be on examining the evidence of genetic, neurochemical, functional, and structural abnormalities as contributing factors to the development of these disorders. Prerequisites: Psych 100B and graduate standing, or advanced undergraduates with permission of instructor. Credit 3 units.

**A&S NS FA NSM**

**Psych 488. The Cognitive Neuroscience of Film**  
*Same as PNP 4488.*

To understand complex events in real life depends on perception, action, and memory. To understand movies, people probably depend on similar psychological and neural mechanisms. This seminar will use results from psychology and neuroscience to try to better understand the experience of a movie viewer, and will use theory and practice to explore psychological hypotheses about perception. Prerequisite: Psych 360 or 3604, or Psych 4604, or graduate standing in psychology. Credit 3 units.

**A&S NS**

**Psych 4971. Undergraduate Teaching**

Limited opportunities for outstanding undergraduates to serve as teaching assistants for selected departmental courses. Application form and list of potential classes are available from the administrative officer of the Psychology Department, Room 223B. Prerequisites: permission of course instructor, departmental approval, and junior/senior standing. Weekly meetings with coordinator required. Credit cannot be counted toward fulfilling the requirements for the major or minor in psychology. Credit/no credit only. Credit 2 units.

**FA SSP**

**Psych 498. Study for Honors**

Acceptance into the Honors program is based on superior performance as evidenced by the student's record in undergraduate course work and the written agreement (Petition for Permission to Enroll) of a member of the faculty of the department (or other approved supervisor) to supervise an Honors project. The student must complete 6 units of Honors work (3 units of Psych 498 and 3 units of Psych 499), submit an acceptable written thesis, and be recommended by the department. Recommendation for an Honors degree will be based on the evaluation of the written thesis and the student's overall performance as an undergraduate. Students in the Honors program meet regularly in the Honors Seminar to discuss their research and become acquainted with the work of the other students. Permission of instructor is required for this course. All students must meet with Dr. Sommers prior to registering. Prerequisite: Psych 301 or equivalent. Credit 3 units.

**A&S SS, WI FA SSP**

**Psych 499. Study for Honors**

Prerequisites: acceptance into the Honors program and Psych 498. In addition to Honors work, students meet regularly in the Honors Seminar to discuss their research and become acquainted with the work of the other students. Permission of instructor is required for this course. All students must meet with instructor prior to registering. Credit 3 units.

**A&S** SS **FA** SSP

## Public Health

### Participating Faculty, 2008–2010

#### Director

**Bradley P. Stoner**  
Associate Professor  
(Anthropology)  
M.D., Ph.D., Indiana University

#### Assistant Director

**Rebecca J. Lester**  
Assistant Professor  
(Anthropology)  
Ph.D., University of California–San Diego

#### Endowed Professor

**Richard J. Smith**  
Ralph E. Morrow Distinguished University Professor  
(Anthropology)  
Ph.D., Yale University

#### Professors

**Kenneth H. Ludmerer**  
(History)  
M.D., John Hopkins University

**Carolyn Sargent**  
(Women, Gender and Sexuality Studies;  
Anthropology)  
Ph.D., Michigan State University

**Glenn D. Stone**  
(Anthropology)  
Ph.D., University of Arizona

**L. Lewis Wall**  
(Anthropology)  
M.D., University of Kansas  
D.Phil., University of Oxford

#### Associate Professor

**Geoff Childs**  
(Anthropology)  
Ph.D., Indiana University

#### Assistant Professors

**Peter Benson**  
(Anthropology)  
Ph.D., Harvard University

**Shanti A. Parikh**  
(African and African American Studies;  
Anthropology)  
Ph.D., Yale University

#### Lecturer

**Barbara A. Baumgartner**  
(Women, Gender, and Sexuality Studies)  
Ph.D., Northwestern University

The minor in public health permits you to focus your undergraduate course of study on health-related issues at the population and community level. Students in public health develop a greater understanding of the various factors affecting population health in local, regional, and global perspective. Three foundational core courses provide a common language and methodology for understanding the key issues and controversies in pub-

lic health, while elective courses permit exposure to a variety of disciplinary perspectives that contribute to public health practice and problem solving. Students completing the minor in public health will be well-positioned to pursue graduate-level study in public health, medicine, law, social work, or other professional disciplines. All students in Arts & Sciences are eligible to participate in the minor in public health, regardless of their major discipline.

**The Minor:** You must take 15 units of credit in public health to meet the requirements for the minor. Three required courses (9 units of credit) provide essential training in fundamental aspects of public health history, theory, structure, and methods. Two elective courses (6 units) may be selected from a broader list of course offerings in related disciplines. The courses may be taken in any order.

**Required courses:** You must take all three of the following courses to complete the Minor in Public Health:

- 1) PHealth 3283: Introduction to Public Health
- 2) PHealth 3284: Public Health Research and Practice
- 3) PHealth 4882: Anthropology and Public Health

**Elective courses:** You must complete two courses (6 units of credit) from the list of approved elective courses to complete the minor in public health. For non-anthropology majors, at least one elective course must be home-based outside the anthropology department; for anthropology majors, both electives must be home-based outside anthropology. Additional courses may be added as they become available in the curriculum—please check with the Medicine and Society program for a complete list of approved courses. Students should register for elective courses under Public Health (L58) in order for the courses to count toward the minor in public health. Courses taken for the minor in public health may not be counted toward the requirements for any other major or minor. Study abroad credits will be considered on a case-by-case basis, not to exceed 3 elective units toward the minor.

Course	Title
Anthro 307	Human Variation
Anthro 333	Culture and Health
Anthro 361	Culture and Environment
Anthrol 3874	International Public Health
Anthro 4134	The AIDS Epidemic
Anthro 4135	Tobacco: Global Epidemic
Anthro 4834	Health, Healing, and Ethics
Anthro 4883	Political Economy of Health
Biol 303	Human Biology
Biol 372	Behavioral Ecology
Econ 352	Health Economics
Econ 451	Environmental Policy
Math 322	Biostatistics
Phil 233	Biomedical Ethics
Psych 315	Social Psychology
WGSS 310	Women's Health Care in America
WGSS 316	Contemporary Women's Health
WGSS 343	Women's Health and Reproduction

## Undergraduate Courses

### PHealth 233. Biomedical Ethics

Same as Phil 233F.  
 A&S TH FA SSP

### PHealth 303. Human Biology

Same as Biol 303A.  
 A&S NS FA NSM

### PHealth 307. Human Variation

Same as Anthro 307A.  
 A&S NS, QA, SD FA NSM

### PHealth 310. History of Women's Health Care in America

Same as WGSS 310.  
 A&S SS, WI FA SSP

### PHealth 315. Introduction to Social Psychology

Same as Psych 315.  
 A&S SS FA SSP

### PHealth 316. Contemporary Women's Health

Same as WGSS 316.  
 A&S SD, SS FA SSP

### PHealth 322. Biostatistics

Same as Math 322.  
 A&S NS FA NSM

### PHealth 3283. Introduction to Public Health

Same as Anthro 3283.  
 A&S SS

### PHealth 3284. Public Health Research and Practice.

Same as Anthro 3284  
 A&S SS

### PHealth 333. Culture and Health

A&S SS FA SSP

### PHealth 343. Understanding the Evidence: Provocative Topics of Contemporary Women's Health and Reproduction

Same as WGSS 343.  
 A&S SS

### PHealth 352. Health Economics

Same as Econ 352.  
 A&S SS FA SSP

### PHealth 361. Culture and Environment

Same as Anthro 361.  
 A&S SS FA SSP

### PHealth 372. Behavioral Ecology

Same as Biol 372.  
 A&S NS FA NSM

### PHealth 3874. International Public Health

Same as Anthro 3874.  
 A&S SS

### PHealth 4134. The AIDS Epidemic: Inequalities, Ethnography, and Ethics

Same as Anthro 4134.  
 A&S SD, SS

### PHealth 4135. Tobacco: History, Anthropology, and Politics of a Global Epidemic

Same as Anthro 4135.  
 A&S SS

### PHealth 451. Environmental Policy

Same as Econ 451.  
 A&S SS FA SSP

### PHealth 4834. Health, Healing, and Ethics: Comparative Perspectives on Sickness and Society

Same as Anthro 4834.  
 A&S SS

### PHealth 4882. Anthropology and Public Health

Same as Anthro 4882.  
 A&S SS FA SSP

### PHealth 4883. Political Economy of Health

Same as Anthro 4883.  
 A&S SS FA SSP

## Religious Studies

### Director

**Beata Grant**, Professor  
 (Asian and Near Eastern Languages and Literatures and Religious Studies)  
 Ph.D., Stanford University

### Endowed Professors

#### Daniel Bornstein

Stella K. Darrow Professor of Catholic Studies in Arts & Sciences  
 (History and Religious Studies)  
 Ph.D., University of Chicago

#### John R. Bowen

Dunbar–Van Cleve Professor in Arts & Sciences  
 (Anthropology)  
 Ph.D., University of Chicago

#### Pascal Boyer

Henry Luce Professor of Collective and Individual Memory in Arts & Sciences  
 (Anthropology and Psychology)  
 Ph.D., University de Paris–Nanterre

#### Hillel J. Kieval

Gloria M. Goldstein Professor of Jewish History and Thought  
 (History; Religious Studies by courtesy)  
 Ph.D., Harvard University

### Professors

#### Ahmet T. Karamustafa

(History and Religious Studies)  
 Ph.D., McGill University

#### Fatemeh Keshavarz

(Asian and Near Eastern Languages and Literatures; Religious Studies by courtesy)  
 Ph.D., University of London

#### Robert D. Lamberton

(Classics)  
 Ph.D., Yale University

#### David Lawton

(English)  
 Ph.D., University of York

#### George M. Pepe

(Classics)  
 Ph.D., Princeton University

### Associate Professors

#### Pamela Barmash

(Asian and Near Eastern Languages and Literatures and Jewish, Islamic, and Near Eastern Studies; Religious Studies by courtesy)  
 Ph.D., Harvard University

#### Eric Brown

(Philosophy)  
 Ph.D., University of Chicago

#### Geoff Childs

(Anthropology)  
 Ph.D., Indiana University

**Martin Jacobs**

(Asian and Near Eastern Languages and Literatures and Jewish, Islamic, and Near Eastern Studies; Religious Studies by courtesy)

Ph.D., Habilitation, Free University of Berlin

**Christine Johnson**

(History)

Ph.D., Johns Hopkins University

**Rebecca Messbarger**

(Romance Languages and Literatures)

Ph.D., University of Chicago

**Clare Palmer**

(Philosophy and Environmental Studies)

Ph.D., University of Oxford

**Mark Pegg**

(History)

Ph.D., Princeton University

**Assistant Professors**

Catherine Adcock

(History and Religious Studies)

Ph.D., University of Chicago

**Asad Ahmed**

(Asian and Near Eastern Languages and Literatures and Religious Studies)

Ph.D., Princeton University

**Pauline Lee**

(Asian and Near Eastern Languages and Literatures and Religious Studies)

Ph.D., Stanford University

**Rebecca Lester**

(Anthropology)

Ph.D., University of California–San Diego

**Nancy Reynolds**

(History)

Ph.D., Stanford University

**Sarah Rivett**

(English and American Culture Studies)

Ph.D., University of Chicago

**Adjunct Professor****Frank Flinn**

(Religious Studies)

Ph.D., University of St. Michael's College–Toronto

**Adjunct Associate Professor****Robert Wiltenburg**

(English)

Ph.D., University of Rochester

**Professors Emeriti****Carl W. Conrad**

(Classics)

Ph.D., Harvard University

**Robert E. Morrell**

(Asian and Near Eastern Languages and Literatures)

Ph.D., Stanford University

**James F. Poag**

(Germanic Languages and Literatures)

Ph.D., University of Illinois

**Burton M. Wheeler**

(English and Religious Studies)

Ph.D., Harvard University

The study of religion, in all of its many cultural and historical manifestations, entails a study of the most fundamental values, as well as some of the most deep-seated conflicts found in individuals and in larger communities, societies, and cultures. The study of religion and religions offers students an opportunity to explore, in an informed, critical, and empathetic manner, many of the most pressing questions about the human condition. Given the multicultural and interdisciplinary nature of religious studies as a field, it also offers students a means to greatly expand their cultural and intellectual horizons and to acquire a deeper understanding of the reality of global human diversity.

Religious studies at Washington University is a program that brings together faculty and courses from various disciplines in the humanities and social sciences to engage in the academic study of major religious traditions of the world. A religious studies major will help prepare students wishing to pursue advanced graduate work and ultimately for careers in education, research, or the religious professions. It will also provide students with a solid training that will serve them well in careers such as business, law, health care, and social work. Many students find that a religious studies major or minor complements their studies in other areas, including biology, environmental studies, philosophy, anthropology, and history.

The religious studies program offers a wide range of courses from introductory surveys to advanced seminars. Some of these courses are devoted to the study of one or more of the major religious traditions of the world, including Judaism, Christianity, Islam, Hinduism, Buddhism, and East Asian religions. Others focus on particular texts such as the Hebrew Bible, the New Testament, the Qur'an, or Buddhist scriptures. Still others are more comparative in nature, tackling broader issues such as religion and science; religion and literature; or religion, sexuality, and gender. Students also are encouraged and indeed required to gain an exposure to more than one religious tradition.

**The Major:** The major in religious studies requires the completion of a minimum of 30 units of course work, of which at least 18 units must be at the 300 level or above. The selection of courses should be guided by the following requirements:

1. All majors must complete the two required foundation courses: a) Re St 202 Introduction to Religious Traditions I: Judaism, Christianity, and Islam; and b) Re St 106 Introduction to Religious Studies II: Asian Religions. They must also complete one course in theoretical approaches to religious studies: Re St 368 Theories and Methods in the Study of Religion.

2. Majors are required to focus on two out of three possible areas of concentration; within each of which they must complete these two concentrations, students must complete at least 9 units of course work, 6 units of which must be at the 300 level or above. The three areas of concentration are: 1) Judaism, Christianity, and Islam; 2) Hin-

duism, Buddhism, and East Asian Religions; and 3) Religion, Culture, and Society.

3. In addition, all majors, unless they are writing an Honors thesis or fulfilling a capstone requirement for a second major, are required to take the Religious Studies Senior Seminar during their senior year.

While language study is not formally required for the major, students who think they might want to go on to graduate school or seminary are strongly encouraged to gain proficiency in at least one language relevant to their interests. The College of Arts & Sciences offers regular courses in such languages, including Greek, Latin, Biblical Hebrew, and classical Chinese.

**The Minor:** Requirements for the minor in religious studies require successful completion of 18 units in religious studies courses, of which at least 12 should be at the 300 level or above. Required courses include Re St 203 Introduction to Religious Traditions I: Judaism, Christianity, and Islam; Re St 106 Introduction to Religious Traditions II: Asian Religions; and Re St 368 Theories and Methods in the Study of Religion. Minors are not required to choose areas of concentrations.

**Senior Honors:** Qualified majors are encouraged to apply for Senior Honors before the end of the junior year. Students wishing to pursue this option need to meet the minimum Honors requirements stated in this *Bulletin*, and satisfactorily complete, during the senior year, Re St 498 Independent Work for Senior Honors (fall) and, Re St 499 Independent Work for Senior Honors (spring), to be taken in addition to all other departmental requirements. Honors work will be supervised by a three-member departmental Honors committee, composed of a primary adviser and two additional faculty, which plans with each student an independent Honors research paper in the student's area of academic interest.

**Transfer Credit:** A maximum of 6 units of course work completed at another university, whether in the United States or abroad, may be applied toward the major; a maximum of 3 units may be applied toward the minor. In either case, credit will only be awarded to those courses that have been approved by the religious studies program.

**Undergraduate Courses****Re St 180. Freshman Seminar in Religious Studies**

This course is for freshman only. Topics will vary from semester to semester. Credit 3 units.

**A&S TH FA SSP**

**Re St 202. Introduction to Religious Traditions I: Judaism, Christianity, and Islam**

*Same as Re St 2021, JNE 202.*

Judaism, Christianity, and Islam are elaborate and dynamic systems of belief and practice. While each of them is a distinct religious tradition, all three share a common cultural background, harbor similar views of the individual, and assume a linear perspective of history. Moreover, the historical trajectories of these three Western monotheisms have been intricately intertwined: Christianity emerged out of Judaism, and Islam took shape largely in a Jewish and Christian context. This course will explore these monotheistic traditions

in a comparative perspective with ample attention to questions of historical context and development. Our coverage will be explicitly topical and comparative, and the themes examined will include scripture and interpretive tradition, monotheism, authority, worship and ritual, ethics, material culture, as well as religion and political order. Note: This class is open to all interested students. This course is required for all religious studies majors and minors. Credit 3 units.

**A&S TH**

**Re St 203. Introduction to Religious Traditions II: Asian Religions**

This course is designed to introduce students to the study of religion by exploring the major religious traditions of Asia. Traditions that have taken shape in Asian cultural contexts include the Buddhist, Sikh, Islamic, Hindu, Taoist, Jain, and Confucian traditions. These traditions have shaped and been shaped by the rich traditions of literary and performative culture, ethics, sociality, and polity in the regions of Asia. Familiarity with these traditions provides a foundation for understanding the cultures of South and East Asia, from film and literature to contemporary political life. Study of Asian traditions also deepens our understanding of the possibilities of human being and striving, and of the manifold aims and means of religious endeavor. Note: Specific traditions and regions emphasized in this course will vary. Credit 3 units.

**A&S TH**

**Re St 207. Scriptures and Cultural Traditions**

*Same as Hum 209.*

**A&S CD, TH**

**Re St 208F. Introduction to Jewish Civilization**

*Same as JNE 208F.*

**A&S TH FA SSP**

**Re St 210C. Introduction to Islamic Civilization**

*Same as JNE 210C.*

**A&S CD, TH FA SSP**

**Re St 300. Introduction to the Hebrew Bible/Old Testament**

*Same as JNE 300, JNE 5001, BHBR 300.*

A survey of the Hebrew Bible (Old Testament), examined in the historical and cultural context of the ancient Near East. Traditional Jewish and Christian interpretation of the Bible is discussed. No knowledge of Hebrew required; no prerequisites. Credit 3 units.

**A&S TH FA SSP**

**Re St 3011. Intermediate Greek: The New Testament**

*Same as Greek 301.*

**A&S LA**

**Re St 303. The Taoist Tradition**

*Same as East Asia 303, ANECC 303, IAS 3030.*

This course offers an introduction to the ethical aspects of the Taoist tradition through the study of a select number of literary and philosophical texts ranging from ca. 300 BCE through the present. We will explore questions regarding the relationship between nature and culture, conceptions of the self, and ideas about the good life. Credit 3 units.

**A&S CD, TH**

**Re St 3031. Christianity in the Modern World**

*Same as IAS 3034.*

Survey of Christianity since the Reformation. Focus on the divisions in Christianity, its responses to modern science; the rise of capitalism; and European expansion into Africa, Asia, and the Americas. Attention to ecumenism and the contemporary status of Christianity in the world. Use of original documents. Requirements: idea journal, midterm, final paper. Credit 3 units.

**A&S TH**

**Re St 307E. Introduction to the New Testament**

Primitive Christianity through the literature it produced as it emerged from a sect within Palestinian Judaism to a distinct contending faith in the Hellenistic world. Focuses upon (1) major Pauline letters, (2) Synoptic Gospels (including critical methodologies), (3) the Johannine corpus, and (4) earliest Apostolic writings. Credit 3 units.

**A&S TH FA SSP**

**Re St 3082. Introduction to Rabbinic Judaism**

*Same as JNE 3082.*

Survey of the historical, literary, social, and conceptual development of Rabbinic Judaism from its inception in late antiquity to the early Middle Ages. The goal of the course is to study Rabbinic Judaism as a dynamic phenomenon—as a constantly developing religious system. Among the topics to be explored: How did the “Rabbis” emerge as a movement after the destruction of the Second Temple, and to what extent can we reconstruct their history? How did Rabbinic Judaism develop in its two centers of origin, Palestine and Babylonia (Iraq), to become the dominant form of Judaism under the rule of Islam? How did Jewish ritual and liturgy develop under Rabbinic influence? How were the Rabbis organized and was there diversity within the group? What was the Rabbis’ view of women, how did they perceive non-Rabbinic Jews and non-Jews? As Rabbinic literature will be used as the main source to answer these questions, the course will provide an introduction to the Mishnah, the Palestinian and Babylonian Talmuds, and the Midrash collections—a literature that defines the character of Judaism down to our own times. All texts will be read in translation. Credit 3 units.

**A&S TH FA SSP**

**Re St 309. Chinese Thought**

*Same as East Asia 309, ANECC 309, IAS 3090.*

This course offers an introduction to Chinese thought through a study of thinkers from arguably one of the most vibrant periods of religious-philosophical discourse in China. We will examine early classical texts from the Daoist, Confucian, Mohist, and Legalist traditions, and follow arguments where the thinkers expand upon, dispute, and respond to each other in regard to questions that are still important to us today. We will explore issues such as notions of the self, conceptions of the greater cosmos, the role of rituals, ideas about human nature, and the subjects of freedom and duty. Motivating the course will be the underlying question, “What is the good life?” Credit 3 units.

**A&S CD, TH, WI**

**Re St 3091. Confucian Thought**

*Same as IAS 3095, Korean 3091, ANECC 3091, East Asia 3091.*

This course offers an introduction to the ethical dimensions of Confucianism through a study of a select number of religio-philosophical texts ranging from ca. 500 BCE through the present. We will begin with a study of Confucianism as a commentarial tradition on the classical text of the Analects. We will then turn to the theme of self-cultivations and examine three contrasting ideas put forth on the subject: self-cultivation through learning the classics, through mystical intuition, and through a study of history. In the third part, we will explore the role of Confucianism in addressing contemporary ethical issues such as ones regarding government, abortion, the environment, human rights, feminism, and intellectual property. Credit 3 units.

**A&S TH**

**Re St 3101. The Problem of Evil**

*Same as Phil 3101, JNE 3101, JNE 5101.*

The question of how God can allow evil to occur to the righteous or to innocent people has been a

perennial dilemma in religion and philosophy. We will study the classic statement of the problem in the biblical book of Job, the ancient Near Eastern literature on which Job is based, and traditional Jewish and Christian interpretation of Job. We will study the major approaches to the problem of evil in Western philosophical and religious thought. Credit 3 units.

**A&S TH**

**Re St 311. Buddhist Traditions**

*Same as East Asia 3112, IAS 311, ANECC 311.*

This course examines the historical development of Buddhism from its origins in South Asia in the 6th to 5th century BCE through the transmission of the teachings and practices to East Asia, Southeast Asia, and Tibet, to contemporary transformations of the tradition in the modern West. In the first third of the course, we will focus on the biographical and ritual expressions of the historical Buddha’s life story, the foundational teachings attributed to the Buddha, and the formation and development of the Buddhist community. In the second third, we will examine the rise of the Mahayana, the development of the Mahayana pantheon and rituals, and the spread of Mahayana in East Asia. In the final third, we will explore the Theravada tradition in Sri Lanka and Thailand, then Tantric Buddhism in India, Tibet, and East Asia. We will close the course with an overview of Buddhism in the modern West. Credit 3 units.

**A&S TH**

**Re St 312. South Asian Traditions**

*Same as History 3120, IAS 3120, ANECC 312.*

In this course, we will take a considered look at the diverse religious traditions that have shaped and enriched life on the Indian sub-continent and beyond. India, Pakistan, Nepal, Bangladesh, and Sri Lanka are home to Hindu, Islamic, Buddhist, Jain, Christian, and Sikh traditions of learning and practice, among others. This course will provide an in-depth survey of the traditions of South Asia, while attending to the borrowings and contestations that have blurred and defined the boundaries between traditions over time. We will explore the central teachings, practices, and debates of these traditions as we explore mythology, poetry, and narrative; ritual and performance; social relations; and political life at selected moments in the history of South Asia. Credit 3 units.

**A&S CD, TH**

**Re St 313C. Islamic History 622–1200**

*Same as History 313C.*

**A&S TH FA SSP**

**Re St 314C. Islamic History: 1200–1800**

*Same as History 314C.*

**A&S TH FA SSP**

**Re St 3192. Modern South Asia**

*Same as History 3192.*

**A&S CD, TH FA SSP**

**Re St 325F. Spiritual Classics of the Catholic Tradition**

Catholicism approached from human paradigms: saint, mystic, thinker, humanist, artist, outsider. Interpretation of primary texts, focused on the unifying forms of Catholic tradition and how these forms continue to be renewed. Credit 3 units.

**A&S TH FA SSP**

**Re St 3262. The Early Medieval World 300–1000**

*Same as History 3262.*

**A&S CD, TH FA SSP**

**Re St 3263. The High Middle Ages: 1000–1500**

*Same as History 3263.*

**A&S CD, TH FA SSP**

**Re St 3293. Religion and Society***Same as Anthro 3293.*

A&amp;S SS

**Re St 3301. Religion and Science***Same as History 3302.*

This course explores the relationships between religion and the natural sciences from an historical perspective, focusing on developments in the West from the 17th century to the present, with special emphasis on Galileo, Darwin, and contemporary issues raised by cosmology and evolutionary biology. Topics include the Bible and science, natural theology, and the viability of religious belief in the context of 20th-century science. Credit 3 units.

A&amp;S TH

**Re St 3313. Women and Islam***Same as Anthro 3313.*

A&amp;S CD, SS FA SSP

**Re St 334C. History of the Jews in Christian Europe***Same as History 334C.*

A&amp;S CD, TH FA SSP

**Re St 335C. The Jews in the Modern World***Same as History 335C.*

A&amp;S CD, TH FA SSP

**Re St 336C. History of Jews in Islamic Lands***Same as History 336C.*

A&amp;S TH FA SSP

**Re St 3392. Topics in South Asian Religions**

Credit 3 units.

A&amp;S CD, TH

**Re St 343C. Europe in the Age of the Reformation***Same as History 343C.*

A&amp;S CD, SD, TH FA SSP

**Re St 346. Topics in East Asian Religions***Same as East Asia 3462, Korean 346.*

This course will explore one of the various topics in East Asian religion. Credit 3 units.

A&amp;S TH

**Re St 3461. Zen Buddhism***Same as IAS 3461, East Asia 3460.*

This course is designed to introduce students to the history, teachings, and practice of Zen Buddhism in China (Chan), Japan (Zen), Korea (Sŏn), and the United States. We will discuss how Zen's conception of its history is related to its identity as a special tradition within Mahayana Buddhism, as well as its basic teachings on the primacy of enlightenment, the role of practice, the nature of the mind, and the limitations of language. We also will look at Zen Buddhism and its relation to the arts, including poetry and painting, especially in East Asia. Finally, we will briefly explore the response of Zen teachers and practitioners to questions of war, bioethics, the environment, and other contemporary issues. Prerequisite: Re St 203 or 311, or permission of the instructor. Credit 3 units.

A&amp;S TH FA SSP

**Re St 347. Islam in Africa***Same as History 3811.*

A&amp;S CD, TH FA SSP

**Re St 3528. Introduction to Early Medieval Art and Architecture***Same as Art-Arch 3528.*

A&amp;S CD, TH

**Re St 3529. Medieval Icons: Painting Before the Renaissance***Same as Art-Arch 3529.*

A&amp;S TH

**Re St 3541. Byzantine Icons in Byzantine Life***Same as Art-Arch 3541.*

A&amp;S TH

**Re St 365F. The Bible as Literature***Same as E Lit 365F.*

A&amp;S TH FA Lit

**Re St 366. Approaches to the Qur'an***Same as JNE 362, JNE 562.*

The place of the Qur'an in Islamic religion and society. Equal emphasis on text—the Qur'an's history, contents, and literary features—and context—the place of the Qur'an in everyday life, its oral recitation, artistic uses, and scholarly interpretation. Knowledge of Arabic not required. Credit 3 units.

A&amp;S CD, TH

**Re St 3670. Gurus, Saints, and Scientists: Religion in Modern South Asia***Same as IAS 3670.*

Many longstanding South Asian traditions have been subject to radical reinterpretation, and many new religious movements have arisen, as South Asians have grappled with how to accommodate their traditions of learning and practice to what they have perceived to be the conditions of modern life. In this course, we will consider some of the factors that have contributed to religious change in South Asia, including British colonialism, sedentarization and globalization, and new discourses of democracy and equality. We will consider how new religious organizations were part and parcel with movements for social equality and political recognition; examine the intellectual contributions of major thinkers like Swami Vivekananda, Sayyid Ahmad Khan, and Mohandas Gandhi; and explore how Hindu, Islamic, and other South Asian traditions were recast in the molds of natural science, social science, and world religion. Credit 3 units.

A&amp;S CD, TH

**Re St 368. Theories and Methods in the Study of Religion**

What is religion? In this course, we will explore how religious ritual may help to clarify the nature and function of religion. We will first consider some "classic" theories of religion and ritual, such as those of James Frazer, Sigmund Freud, Emile Durkheim, Mircea Eliade, Max Weber, E.E. Evans-Pritchard, and Clifford Geertz. We also will consider some more recent theories of ritual and its relationship to religion (such as those of Victor Turner and Maurice Bloch). Alongside and in light of these theoretical writings, we will look at specific instances of ritual practice from various cultures and periods. NOTE: This course is required for religious studies majors and minors. It is recommended that this course be taken after completion of Re St 202 and 203. Credit 3 units.

A&amp;S TH

**Re St 371. Introduction to Jewish Mysticism**

Consideration of the major theological ideas of the kabbalistic texts; the specific concepts important in Hasidism. Analysis of several mystical texts representing various schools, followed by supplementary lectures on material not dealt with in detail by the readings; e.g., Abulafian mysticism. Readings include the Zohar, the Hassidic masters, classic Cordoverian or Lurianic texts, and such secondary material as Scholem's *Major Trends in Jewish Mysticism*. Prerequisite: junior standing or permission of instructor. Credit 3 units.

A&amp;S TH FA SSP

**Re St 374C. The Jews in the Ancient World***Same as JNE 301C.*

A&amp;S CD, TH FA SSP

**Re St 375. How the World Began: Creation Myths of the Ancient World***Same as BHBR 375, JNE 375.*

We will read myths and epic literature from the Bible, ancient Greece, ancient Egypt, and the an-

cient Near East about the birth of the gods, the creation of the world and of humanity, and the establishment of societies. These masterpieces of ancient literature recount the deeds of gods and heroes and humanity's eternal struggle to come to terms with the world, supernatural powers, love, lust, and death. This course will examine how each culture borrows traditions and recasts them in a distinct idiom. Credit 3 units.

A&amp;S CD, TH, WI FA SSP

**Re St 380. Topics in Religious Studies***Same as AMCS 3800.*

The topic for this course varies. Credit 3 units.

A&amp;S TH FA SSP

**Re St 3802. Sacred Shrines and Holy Places***Same as IAS 3802.*

Studies architecture, painting, ornamentation, music, and dance as religious expressions by focusing on six major shrines and the sacred arts associated with them: the Hindu temple of Konarak, the Shinto Shrine at Ise, the Buddhist temple at Borobudur, the Catholic cathedral at Chartres, the Pueblo Indian kiva at Kuaua, and the Suleymaniye mosque of Istanbul. Examines the arts and their relationship to the beliefs of the various traditions. Field trips scheduled to some local shrines, mosques, synagogues, and churches. Credit 3 units.

A&amp;S CD, TH FA SSP

**Re St 381. Major Figures in Christian Thought**

Critical examination of one or more of the major figures in Christian theology and apologetics (e.g., Augustine, Aquinas, Luther, Kierkegaard). Subject matter varies each semester. May be repeated for credit. Prerequisite: a course in biblical literature or permission of the instructor. Credit 3 units.

A&amp;S TH FA SSP

**Re St 382. Topics in Christian Thought**

The topic covered in this course varies. Credit 3 units.

A&amp;S TH FA SSP

**Re St 3831. Magicians, Healers, and Holy Men***Same as Classics 3831.*

A&amp;S TH

**Re St 385D. Topics in Biblical Hebrew Texts***Same as BHBR 385D.*

A&amp;S TH

**Re St 390. Lyrics of Mystical Love, East and West***Same as Comp Lit 390.*

A&amp;S CD, TH, WI FA Lit

**Re St 392. South Asian Traditions in Practice: Ritual, Spectacle, Self***Same as IAS 3920, History 3920.*

What is ritual, what do rituals mean, how do rituals work? In this course, we will explore different perspectives on how ritual practice can be effective: How do ritual performances express or reconcile core cultural values? How do forms of worship produce, reinforce, or alter relationships of kinship, hierarchy, or power? How are regimens of practice employed for making the self? We will explore these questions through detailed study of forms of practice in Hindu, Islamic, Jain, and other South Asian traditions: public processions; dramatic performance; domestic rites; meditation and worship; diet and bodily discipline. Course aims: to deepen our understandings of religion, society, and politics in general, and of South Asian culture and history in particular. No prerequisites; prior course work in Re St 203 or Re St 3670 recommended. Credit 3 units.

A&amp;S CD, TH

**Re St 393. Medieval Christianity***Same as History 393.*

This course surveys the historical development of Christian doctrine, ecclesiastical organization, and

religious practice between the 5th century and the 15th, with an emphasis on the interaction of religion, culture, politics, and society. Topics covered include the Christianization of Europe, monasticism, the liturgy, sacramental theology and practice, the Gregorian reform, religious architecture, the mendicant orders and the attack on heresy, lay devotions, the papal monarchy, schism and conciliarism, and the reform movements of the 15th century. Credit 3 units.

**A&S TH**

**Re St 39T8. Sufism: Mystics in Islamic History: Writing-Intensive Seminar**

*Same as History 39T8.*

**A&S CD, TH, WI**

**Re St 4000. IPH Thesis Prospectus Workshop**

*Same as Hum 401.*

**A&S TH**

**Re St 4020. Jerusalem, the Holy City**

*Same as JNE 4020.*

**A&S CD, SD, TH**

**Re St 403. Topics in East Asian Religions**

*Same as IAS 4033, History 4030, East Asia 4030.*

This course is for advanced undergraduate and graduate students on specific themes and methodological issues in East Asian religions. Credit 3 units.

**A&S CD, TH**

**Re St 4042. Islam Across Cultures**

*Same as Anthro 4042.*

**A&S CD, SS FA SSP**

**Re St 405. Diaspora in Jewish and Islamic Experience**

*Same as JNE 405.*

**A&S TH**

**Re St 4060. Convivencia or Reconquista? Muslims, Jews, and Christians in Medieval Iberia**

*Same as JNE 4060.*

**A&S CD, TH**

**Re St 4070. Judaism and Islam in Comparative Perspective**

*Same as JNE 4070.*

**A&S TH**

**Re St 411. Topics in Christianity: Women and Religion in Medieval Europe**

*Same as History 4112, WGSS 411.*

This course explores the religious experience of women in medieval Europe and attempts a gendered analysis of the Christian Middle Ages. It will examine the religious experience of women in a variety of settings, from household to convent. Readings will include modern studies of women and religion in medieval Europe, as well as medieval texts produced by, for, and about women. Credit 3 units.

**A&S TH**

**Re St 412. Islamic Theology**

*Same as JNE 412.*

This course will explore major themes of early Islamic theology as developed by the Mutazilite, Ash'arite, and Maturidi schools. Some attention will also be paid to defunct theological systems, the traces of which have remained in the heresiographical literature. Most readings will be in primary sources in English translation, though the students also will be introduced to some secondary literature on various themes. Some comparative theology with reference to the Judeo-Christian tradition will be a regular feature of class discussion. Topics will include (but are not limited to) debates over the createdness of the Qur'an, predestination and foreknowledge, God's attributes, the nature of language, the nature of the human soul, and creation and afterlife. Credit 3 units.

**A&S TH FA SSP**

**Re St 413. Topics in Islam**

*Same as JNE 445.*

**A&S TH FA SSP**

**Re St 414. Readings in Classical Chinese**

**Philosophy**

*Same as Chinese 414.*

**A&S CD, TH**

**Re St 415. Topics in Judaism**

*Same as JNE 415.*

**A&S TH**

**Re St 418. Gender and Sexuality in East Asian Religions**

*Same as East Asia 4180, ANECC 418, Korean 4181, WGSS 418C, IAS 4180.*

In this course, we will explore some of the primary gender ideals and realities; images and self-representations in the religions of China, Japan, and Korea, with a discussion of Confucianism but primary emphasis on East Asian Buddhism (especially Zen and Pure Land), Daoism, Shinto, and popular religious traditions such as Shamanism. Selected reading and discussion materials will include scriptural texts, poetry, fiction, drama (in English translation), painting and archeological evidence, films and videos, and secondary scholarly and ethnographic studies. Prerequisite: at least one introductory course in East Asian religions or civilizations (Chinese, Japanese, or Korean) is recommended. Credit 3 units.

**A&S CD, SD, TH**

**Re St 4401. Topics in Rabbinic Texts**

*Same as BHBR 440.*

**A&S TH**

**Re St 444. The Mystical Tradition in Judaism**

This course aims at a systematic and historically contextualized analysis of a broad range of Jewish texts that are commonly classified as "mystical." (All primary texts will be read in translation.) The topics to be discussed will include: classical Rabbinic literature and its relationship to early esoteric teachings; traditions of heavenly ascent (Hekhalot literature) and magical power; the emergence of classical Kabbalah in medieval France and Spain, and the composition of its central text, the Zohar ("Book of Splendor"); Isaac Luria and the further development of Kabbalah in Ottoman Palestine; Sabbatai Tzvi's messianic movement between Judaism and Islam; the Hasidic communities in Eastern Europe and the phenomenon of mystical leadership. At the same time, we will explore such themes as the interplay of esoteric exegesis of the Bible and visionary experiences; the place of traditional Jewish law within mystical thought and practice; the role of gender and sexuality in Jewish mystical speculation and prayer; esoteric traditions of an elite versus mysticism as a communal endeavor; and the tension between innovation and (the claim to) tradition in the history of Jewish mysticism. Prerequisite: Re St 208F (Introduction to Jewish Civilization) or permission of the instructor. Credit 3 units.

**A&S CD, TH**

**Re St 471. Topics in Religious Studies**

The topic for this course varies. Credit 3 units.

**A&S TH**

**Re St 4711. Topics in Religious Studies: Gender and Religion in China**

*Same as IAS 4712, WGSS 4711, Chinese 4711, East Asia 4711.*

In this course, we will explore the images, roles, and experience of women in Chinese religions: Confucianism, Daoism, Buddhism, and so-called "popular" religion. Topics to be discussed include: gender concepts, norms, and roles in each religious tradition; notions of femininity and attitudes

toward the female body; biographies of women in Confucian, Daoist, and Buddhist literature; female goddesses and deities; and the place of the Buddhist and Daoist nun and laywoman in Chinese society. All readings will be in English or in English translation. Prerequisite: senior/graduate standing. Students with no previous background in Chinese religion, literature, or culture will need to obtain instructor's permission before enrolling. Credit 3 units.

**A&S TH FA SSP**

**Re St 474. Topics in Religious Studies**

Credit 3 units.

**A&S TH FA Lit**

**Re St 479. Senior Seminar in Religious Studies**

*Same as IAS 4790, WGSS 4479, East Asia 4791.*

The topic for this seminar differs every year. Previous topics have included Religion in a Global Context and Engendering Religion. The seminar is offered every spring semester and is required of all religious studies majors, with the exception of those writing an Honors thesis or fulfilling a capstone requirement in a second major. The class also is open, with the permission of the instructor, to other advanced undergraduates with previous course work in religious studies. Credit 3 units.

**A&S SD, TH**

**Re St 480. Topics in Buddhist Traditions**

*Same as East Asia 480.*

The topic for this course varies. Credit 3 units.

**A&S TH FA SSP**

**Re St 4811. Reading Seminar in Religion and Chinese Literature**

*Same as Chinese 481.*

**A&S TH FA Lit**

**Re St 486. Anti-Semitism**

*Same as History 4942.*

**A&S TH FA SSP**

**Re St 490. Topics in Islamic Thought**

*Same as IAS 4910.*

The topic covered varies. Credit 3 units.

**A&S TH**

**Re St 4901. Topics in Islamic Thought: Proseminar in Methods and Approaches in Islamic Studies**

*Same as JNE 4901.*

**A&S TH**

**Re St 498. Independent Work for Senior Honors I**

Investigation of a topic, chosen in conjunction with a faculty adviser, on which the student prepares a paper and is examined. Students will take Re St 498 in the fall semester and Re St 499 in the spring semester. Prerequisite: admission to the Honors program, and permission of the program director and the major adviser. Credit 3 units.

**Re St 499. Independent Work for Senior Honors II**

Investigation of a topic, chosen in conjunction with a faculty adviser, on which the student prepares a paper and is examined. Students will take Re St 498 in the fall semester and Re St 499 in the spring semester. Prerequisites: admission to the Honors program, and permission of the program director and the major adviser. Credit 3 units.

**FA SSP**

**Re St 4993. Advanced Seminar: Women and Religion in Medieval Europe**

*Same as History 4993.*

**A&S TH**

## Romance Languages and Literatures

### Chair

#### Elzbieta Sklodowska

Randolph Family Professor in Arts & Sciences  
Ph.D., Washington University

### Endowed Professor

#### Mabel Moraña

William H. Gass Professor in Arts & Sciences  
Director of Latin American Studies Program,  
International and Area Studies  
Ph.D., University of Minnesota

### Professors

#### Pascal Ifri

Ph.D., Brown University

#### Stamos Metzidakis

Ph.D., Columbia University

#### Joseph Schraibman

Ph.D., University of Illinois at  
Urbana-Champaign

#### Harriet A. Stone

Ph.D., Brown University

#### Colette H. Winn

Ph.D., University of Missouri-Columbia

### Associate Professors

#### Joe Barcroft

Ph.D., University of Illinois at  
Urbana-Champaign

#### Cindy Brantmeier

Ph.D., Indiana University-Bloomington

#### J. Andrew Brown

Ph.D., University of Virginia

#### Tili Boon Cuillé

Ph.D., University of Pennsylvania

#### Nina Cox Davis

Ph.D., Johns Hopkins University

#### Rebecca Messbarger

Ph.D., University of Chicago

#### Eloísa Palafox

Ph.D., Michigan State University

#### Michael Sherberg

Ph.D., University of California-Los Angeles

#### Akiko Tsuchiya

Ph.D., Cornell University

### Assistant Professors

#### Seth Graebner

Ph.D., Harvard University

#### Stephanie Kirk

Ph.D., New York University

#### Tabea Linhard

Ph.D., Duke University

#### Ignacio Sánchez-Prado

Ph.D., University of Pittsburgh

#### Julie E. Singer

Ph.D., Duke University

#### Claire Solomon

Ph.D., Yale University

### Senior Lecturers

#### Elizabeth Allen

Ph.D., Columbia University

#### Virginia Braxs

M.A., Washington University

#### Lynne R. Breakstone

Ph.D., Northwestern University

#### Emily Guignon

Ph.D., Washington University

#### Nancy Kay Schnurr

M.A., Middlebury College

#### Gail Swick

M.A.T., Washington University

### Lecturers

#### Marisa Barragán-Peugnet

M.A., Saint Louis University

#### Tracy Bishop

Ph.D., University of Wisconsin-Madison

#### Annelise Brody

Ph.D., Johns Hopkins University

#### Amanda Carey

M.A., Arizona State University

#### Jody Doran

M.A., Washington University

#### Karen Secrist

M.A., Duke University

#### Juliana Varela

M.S.W., University of Pittsburgh

#### Selma Vital

M.A., University of Illinois

#### Iva Youkilis

M.A., University of Virginia

#### Elyane Dezon-Jones

Doctorat de 3e Cycle, University of Paris

### Professors Emeritus

#### John F. Garganigo

Ph.D., University of Illinois

#### Michel Rybalka

Ph.D., University of California-Los Angeles

### Senior Lecturer Emerita

#### Susan R. Rava

Ph.D., Washington University

If you are interested in studying and communicating effectively in French, Spanish, or Italian, Romance languages and literatures is an excellent major. Elementary Portuguese is available through University College and in the regular Arts & Sciences course offerings. You also may choose a double major that includes one of the Romance languages.

In this comprehensive program of study, you are exposed to language study, with particular emphasis on oral skills, literature, criticism, and the culture of the countries and languages you are studying. In introductory courses, through a combination of intensive master classes and practice sessions, you rapidly acquire communication skills. Intermediate courses follow a curriculum developed exclusively at Washington University in which daily classes taught by a team allow you to progress into 300-level courses

after only three semesters.

From beginning through advanced courses, you are taught in the foreign language to ensure that you progress in fluency. You may choose from a wide variety of courses in French, Italian, Spanish, and Latin American literature. You also may enroll in survey or special topics courses of an interdisciplinary nature to explore other aspects of Hispanic, French, or Italian culture. Grammar, conversation, linguistics, and other language content courses also are available, as are upper-level courses in applied linguistics. The department brings distinguished scholars to campus to lecture and teach on a variety of topics, visits that you are encouraged to attend.

With a degree in Romance languages, you may pursue graduate course work or a career in many areas within the public and private sector, including law, medicine, business, education, social work, government service, translating, and interpreting.

**The Major:** If you are a prospective major, you should consult with the director of Undergraduate Language Studies of the language you have chosen as early as possible. You are required to complete a minimum of 27 units in advanced courses, of which 18 units must be taken in residence; 3 units may be taken outside the department with permission of your major adviser. (To complete a double major, you are required to complete 24 units.)

For French, you are required to complete Fr 307D, 308D, 325C, 326C, 411, plus 6 additional units in literature at the 400 level, including a capstone project (undertaken in conjunction with one of the 400-level seminars). Both 400-level courses required for the major must be taken at Washington University. For Italian, you are required to complete Ital 307D, 308D, 323C, 324C, plus 6 additional units in literature on the 400 level, including a major project (undertaken in conjunction with one of the 400-level seminars). For Spanish, you are required to complete Span 307D, 308D, three survey courses (options: Span 333C, 334C, 335CQ, and 336CQ), plus 6 additional units in literature at the 400 level. All primary majors must complete a capstone experience by achieving a B+ or better in one of the 400-level seminars.

In the humanities, courses in English and American literature, classics, philosophy, and History 101C-102C are recommended, as well as 6 units from the social sciences, including linguistics. If you plan to teach or pursue graduate study, you should consider taking a second foreign language, as well as linguistics courses. In all departmental courses for the major the student must receive a grade of B- or above. Each student's progress toward achieving the objectives of the major will be assessed on a regular basis and by a variety of means. More information is available in the departmental mission statement.

**Study Abroad:** You are encouraged to participate in a study abroad program. Programs are available in France, Italy, Spain, Ecuador, Mexico, and Chile. In addition, you

may choose to complete an internship or studies in French business.

**Senior Honors:** You are encouraged to work toward Latin Honors (cum laude, magna, summa). To qualify for Latin Honors in the major by thesis, you must complete special literary research and prepare and orally defend an Honors thesis, which is judged by an Honors faculty committee. To qualify for Latin Honors by course work, you must complete four literature courses at the 400 level, including two in literature before 1800, and present two critical essays written for those courses to be judged by an Honors faculty committee. Recommendations for Honors are based on your performance and the quality of the thesis or critical essays, plus your cumulative grade point average.

**The Minor in French, Italian, or Spanish:** If you are a prospective minor, you should consult with the director of Undergraduate Language Studies of the corresponding language. You are required to complete a minimum of 18 credits, of which 12 must be taken in residence.

For French, you are required to complete Fr 307D, 308D, 325 or 326, plus 9 additional units from 215, 311C, 318, 321, 376C and other advanced course offerings. For Italian, you are required to complete Ital 307D, 308D, 323C, 324C, plus 6 additional units from 301, 319 or 320, 332 or 334, 322, and other advanced course offerings. For Spanish, you are required to complete Span 307D, 308D; two of the following choices, 333C, 334C, 335C, 336C; and the remaining units from other advanced course offerings.

**The Minor in Applied Linguistics:** This minor is composed of 18 credits that focus on the theoretical, empirical, and practical foundations of teaching and learning languages. You are required to complete Ling 170D, Ling 466, Ling/Span 469, plus two elective courses from the following options, Ling/Span 413, Span 467, Ling 312, Psych 433, and at least one of the following, AFAS 210, Anthro 4122, Anthro 215B, and Educ 4315.

**Spanish Honors in Linguistics:** To qualify for Spanish Honors in linguistics in the major by thesis, you must complete linguistic research and prepare and orally defend an Honors thesis, which is judged by an Honors faculty committee. The Honors thesis in linguistics may include scientific experiments conducted in Spanish. The written thesis will include several drafts, all of which will be written in Spanish.

## Undergraduate Courses

### French

**French 1011. Essential French 1 Workshop**  
Application of the curriculum presented in French 101D. Pass/Fail only. Grade dependent on attendance and participation. Credit 1 unit.  
A&S LA

**French 101D. French Level 1: Essential French 1**  
This first course in the language program uses a team-teaching approach to stress rapid acquisition of spoken French, listening comprehension, read-

ing, and writing skills through the use of authentic French materials, computer programs, Internet exploration, and e-mail. Five class hours per week including required subsection. Students are encouraged to register also for French 1011. Credit 5 units.

A&S LA

**French 1021. Essential French 2 Workshop**  
Application of the curriculum presented in French 102D. Pass/Fail only. Grade dependent on attendance and participation. Credit 1 unit.

A&S LA

**French 102D. French Level 2: Essential French 2**  
This second course in the language program uses a team-teaching approach to focus on more advanced language skills. We emphasize rapid acquisition of spoken French, listening comprehension, reading, and writing skills through the use of authentic French materials, computer programs, Internet exploration, and e-mail. Five class hours per week including required subsection. Students are encouraged to register also for French 1052. Prerequisite: French 101D or the equivalent (usually recommended as a first college course for students with one to three years high school French [7th and 8th grades count as one year]; students with three years high school French should consider taking French 105D in place of French 102D). Credit 5 units.

A&S LA

### French 1051. Advanced Elementary French Practice Session

Application of the curriculum presented in French 102D or French 105D. For students with two to four years of high school French. Pass/Fail only. Grade dependent on attendance and participation. Credit 1 unit.

A&S LA

### French 1052. Advanced Elementary French Workshop

Working vocabulary for the French Summer Language Institute taught to emphasize real-life situations abroad. Only for students who have completed French 102D and 105D and who plan to attend the Institute. Credit/no credit. Credit 1 unit.

A&S LA

### French 105D. Advanced Elementary French Same as French 105D.

Intended as a first college course in French with some high school background in the language, this course combines French 101D and French 102D in one semester of study. It affords students the opportunity to review and master basic skills before moving on to the intermediate level (French 201D). Five class hours per week including required subsection. Prerequisite: three to four years high school French [7th and 8th grades count as one year] or permission of the department. Credit 5 units.

A&S LA

### French 108. Elementary French Level I

Beginning language program stressing rapid acquisition of spoken ability with immersion teaching method. Credit 4 units.

A&S LA

### French 109. Elementary French Level II

Continuation of French 108. The French 109 course parallels the methodology of the 108 level, but more sophisticated grammatical skills are covered. The 108-109 sequence covers the major grammatical points of the language. Students who complete French 108 and 109 are eligible to enroll in French 201. Prerequisite: French 108 (Elementary French Level I) or equivalent. Credit 4 units.

A&S LA

### French 201D. French Level 3: Intermediate French

An intermediate review course with multiple goals: independent and accurate oral and written communication, comprehension of a variety of French and Francophone materials, review of grammar functions, communicative activities. Prerequisite: French 102D or the equivalent (usually recommended for students with four years of high school French [7th and 8th grades count as one year]; students with this high school background who are hesitant about their spoken or written French should consider taking French 105D). Credit 5 units.

A&S LA

### French 202. French Level III at the Summer Institute

This Summer Institute course focuses on the major features of French 201D. Students improve speaking, writing, and reading skills in French by combining study of grammatical forms with exercises designed to mirror many experiences they encounter while in France. The location abroad and contact with French host families and other French people facilitate the student's learning experience. Students enrolled in this course also take French 353, and will be prepared to enroll in French 307D upon their return to St. Louis. Open only to students attending the Summer Language Institute in France. Prerequisite: French 102D or 105D. Credit 3 units.

### French 215. Conversation, Culture, Communication 1: Pop Culture

The course examines popular culture through a focus on what is said and performed. The course consists of five thematic units focusing on everyday occurrences and themes that mark both French and Francophone experience: conversation in cafés; poignant views of life expressed by films and images; daily experiences as depicted in poems and songs; the politics of private life; the role of the dinner table in real life, art, and literature. As students advance through each module, they develop a creative project in which they put into practice (by a skit/presentation/text/artwork) what they have learned. Prerequisite: French 201D or the equivalent. May be taken before or after French 216. Credit 3 units.

A&S LA

### French 216. Conversation, Culture, Communication 2: French Culture Through French Film

This course enables students to pursue their exploration of French culture through French film. Though not a history of French cinema, it introduces some of France's most celebrated actors and directors. We focus on excerpts that illustrate important life themes, including childhood, coming of age, existential crises, the search for happiness, the need for laughter, the threat of crime and violence, the complexities of love, and attitudes toward death. Students are asked to contrast their expectations of how such themes are to be treated with the way in which the French choose to portray them. Students write film reviews as though they were, alternately, an American or a French critic. As a final project, they write their own screenplay and imagine how it might be filmed in France. By the end of the course they will have begun to view French culture with a French eye. Prerequisite: French 201D or the equivalent. May be taken before or after French 215. Credit 3 units.

A&S LA

### French 247. Freshman Seminar

Taught in English. Small-group seminar devoted to readings and study of other texts such as films, paintings, etc.; discussion, writing. Topics vary;

interdisciplinary focus. Prerequisite: AP in English, French, or History, or permission of the instructor. Does not substitute for any other French course.

**Section 01. King Arthur Through the Ages.** Survey of the Arthurian legend from its origins and elaboration in the medieval literature of France and England to its more recent expressions in modern American literature. We will also explore its portrayal in the visual arts and film. All readings available in English.

**Section 02. Paris: The Left Bank.** From the founding of the Sorbonne in the Middle Ages to the strikes and riots of 1968, from Abelard and St. Thomas Aquinas to Hemingway and Fitzgerald, Camus and Sartre, Beckett and Ionesco, and beyond, the Rive Gauche, or Left Bank, has been the traditional center of Paris's intellectual creativity and political turmoil. The seminar will explore the area's history and political activism, its artistic legacy, and especially its philosophical and literary contributions to contemporary France and the world.

**Section 03. French in the Tropics.** What happens when a language spreads around the world? Does it dry up in the desert sun or grow luxuriant in the rain forest? What kinds of literature and culture develop in the places to which it spreads? Our study of Francophone Africa and the Caribbean through film and literature will allow us to examine these questions. French, originally the language of colonial oppression in these parts of the world, has become the expressive tool for authors and intellectuals developing cultural forms specific to their countries. We will read novels by Kourouma, Bâ, and Lopes, and novels, poetry, and plays by Dondé, Césaire, and Maximin. Major issues considered will include colonialism and its end, cultural imperialism, and race and gender in literature. This seminar will be taught in English with texts in translation, and is limited to freshmen. Credit 3 units.

#### French 250C. Voyages and Discoveries: French Masterpieces

Taught in English. Novels and short stories about voyages and discoveries—real and symbolic—where young people confront themselves and crises in their lives. A discussion course with short writing assignments and viewing of films of several works studied. Masterpieces selected from writers such as Voltaire, Balzac, Flaubert, Maupassant, Gide, Colette, Camus, Sartre, Duras, and Ernaux, among others. No French background required; students who have completed the English Composition requirement are welcome. Credit 3 units.

**A&S TH FA Lit**

#### French 257. From Champagne to Champlain: French Culture in North America

Taught in English. Following Champlain's founding in 1604 of the first French settlement in Nova Scotia (formerly Acadia), the French began to build what they hoped would be a vast empire, from Quebec to the Gulf of Mexico. Over the next 200 years, French culture and language spread throughout North America and could well have been the dominant one in this country had history moved in different directions. This course examines the history, literature, religion, architecture, music, and cuisine of the vast territory known as "New France." Through use of conventional textual documents, as well as films, slides, CDs, and field trips to Missouri historical sites, it will expose the student to the continuing richness of French culture all around us. Drawing on local resources (e.g., Fort de Chartres, Cahokia Courthouse, and Sainte Genevieve), students will learn about many fundamental connections between America and France. Topics include early explorations, Jesuit missions, literary representations of

the New World, colonial architecture, the French and Indian War, the Louisiana Purchase, Cajun and Mississippian culture. Credit 3 units.

**A&S TH FA SSP**

#### French 298. An Internship for Liberal Arts Students

*Same as Ge St 2991.*

#### French 299. Undergraduate Independent Study

Prerequisite: French 201D and permission of the director of Undergraduate Language Studies. Credit variable, maximum 3 units.

#### French 2ABR. French Course Work Completed Abroad

Credit variable, maximum 12 units.

#### French 301. French in France

Intended for students studying abroad through a Washington University program or a Washington University-approved program abroad, this course stresses fluency in daily transactions as these require primarily, but not exclusively, proficiency in spoken French. Credit 3 units.

**A&S LA**

#### French 3011. Applied Language Skills

Intended for students studying on a Washington University program or a Washington University-approved program abroad, this course follows French 301 and further develops communication skills in French. Credit 2 units.

**A&S LA**

#### French 3012. Internship Practicum

Intended for students studying on a Washington University program or a Washington University-approved program abroad, this course combines internship experience with research and a rapport de stage (final report). Credit 3 units.

**A&S LA**

#### French 3013. European Economic Issues

Intended for students studying on a Washington University program or a Washington University-approved program abroad, this course examines a variety of topics concerning France's role in the European Economic Community (EEC), including, but not restricted to: fiscal policy, major economic models, exchange market structure, international monetary system, debt policy, etc. Credit variable, maximum 3 units.

**A&S SS FA SSP**

#### French 3014. European Social Issues

Intended for students studying on a Washington University program or a Washington University-approved program abroad, this course examines many aspects of France's role within Europe, including, but not restricted to its history, government, social welfare programs, the role of religion in society. Credit 2 units.

**A&S SS FA SSP**

#### French 307D. French Level 4: Advanced French

*Same as French 307D.*

Thorough review of French grammar with intensive practice in writing. Conversation and vocabulary, as well as application of French grammatical structures, are based on reading of French texts. Essential for further study of French language and literature. Students in all sections are encouraged (but not required) to enroll simultaneously in French 3071, an activity-based companion course. Prerequisite: French 201D or the equivalent (recommended for students with five years of high school French [7th and 8th grades count as one year]). Credit 3 units.

**A&S LA**

#### French 308D. French Level 5: French Through Literary Texts

Continuation of French 307D with emphasis on improvement of writing skills through analysis of

literary texts and creative writing. Should be taken before French 325C or 326C. Prerequisite: French 307D or equivalent. Credit 3 units.

**A&S LA FA Lit**

#### French 311C. French Culture and Civilization: The New Face of France

We will study the life and culture of France with the aim of improving written and spoken French. Special emphasis will be placed on the changes that are slowly but radically transforming French society: the increasing influence of the European Union; the influx of immigrants from Africa and other parts of the world; the growing role of "Arabs" and other French citizens born of foreign parents; the increasingly dominant position of women; the globalization of French culture; technological progress, etc. Lectures, discussions, TV newscasts, Web sites, and oral reports. Prerequisite: French 201D or placement by examination. Credit 3 units.

**A&S TH FA SSP**

#### French 318D. Preparation for Year in France

Designed to prepare students for the experience of studying abroad (for either a year or a semester, on Washington University-sponsored or -approved programs), this course emphasizes improved oral discussion and writing skills through readings, papers, practice in language lab, and active class participation. The course provides an introduction to the techniques of explication de texte, commentaire composé, and dissertation littéraire. The class discusses various aspects of modern French society, as well as topics related to the student's experience abroad, such as the university system, the French family, French social mores, etc. May replace French 308D for candidates attending semester- and year-abroad programs in a French-speaking country. Required for students planning to study in Toulouse and Paris and recommended for other programs in France. Credit 3 units.

**A&S LA**

#### French 3191. Advanced Conversation, Culture, Communication

For students attending the France Pre-Med Program, this course stresses oral mastery of the language through active discussion in class and with local residents. Credit 1 unit.

**A&S LA**

#### French 321. Topics I

Focusing on topics of cultural and social importance, this course offers students the opportunity to learn about defining moments in the French tradition. The specific topic of the course varies from semester to semester, and may include works from different disciplines such as art, film, gender studies, history, literature, music, philosophy, politics, science. Prerequisite: French 307D.

**Section 01: Les Françaises, 1789–2000.** Using an interactive approach and authentic documents, the course explores the evolution of the place of women within the structures of French society from the Revolution through the present. We focus on the opposition between private and public "discours," the question of identity, and specific political issues viewed in a sociocultural context.

#### Section 02: French Interiors—Family Dramas.

In the intimate space of the French home, we witness numerous family dramas unfold. Using artworks by La Tour, Vermeer, Degas, Manet, Monet, Vuillard, and others, we study how artists and writers use interior space to create intimacy, a closed world of heightened family tension. Reading scenes from medieval fabliaux, Molière's *Ecole des Femmes*, Sand's *Indiana*, Proust's *Combray*, Flaubert's *Un Coeur Simple*, and Sarraute's *Enfance*, we examine the interactions between parents and children as they reflect the themes of love and death, separation and dependency, desire and repression, fantasy and obsession. Art is also used as settings for creative writing. Students

invent family tales that take their inspiration from the literature read in class and that are informed through independent research on architecture, interior design, and/or portraiture. A final section of the course is devoted to the interior dramas of films by celebrated directors Truffaut and Malle.

**Section 03: Performing Arts; Performing Gender.** We explore what transpires between the audience and the stage, between the camera and the set. Whether a pretext for art or seduction, the stage enables us to admit what we are or to be what we are not. Society's constraints are discarded in the theater, where performers give free rein to their actions and the audience to its imagination. Emotion is conveyed, desire is projected, and identities are mistaken. French literature often features moments in which men impersonate women, women men, and castrati both. The distinction between gender and sexuality becomes the wild card in the theatrical space, one that thwarts expectations, reroutes desire, and falsifies emotion, revealing the difference between appearance and reality. We read scenes from authors such as Cazotte, Beaumarchais, Staël, Sand, Balzac, Flaubert, Huysmans, Zola, and Leiris. We view excerpts from opera and film and draw upon theories that help us to analyze how authors play upon the sensibilities of their readers, imperceptibly involving us in the game of deception.

**Section 04: France Viewed Through Its Cinema.** This course explores the history and culture of France as depicted by some of the 20th century's most celebrated directors. We focus on topics such as World War I (Gance, Renoir); the rise (and fall) of the bourgeoisie (Lumière, Renoir, Tati); the importance of dreams (Méliès, Bunuel, Carné, Cocteau); the role of women (Pagnol, Godard, Varda); trauma and memory (Duras, Resnais); and childhood (Truffaut, Malle). We also compare views of Paris (Clair, Truffaut, Godard) and the countryside (Renoir, Pagnol, Malle, Varda). Credit 3 units.

**A&S LA**

### French 322. Topics II

Focusing on topics of cultural and social importance, this course offers students the opportunity to learn about defining moments in the French tradition. The specific topic of the course varies from semester to semester, and may include works from different disciplines such as art, film, gender studies, history, literature, music, philosophy, politics, science. Prerequisite: French 307D.

**Section 01. France Viewed Through Its Cinema.** This course explores the history and culture of France as depicted by some of the 20th century's most celebrated directors. We focus on topics such as World War I (Gance, Renoir); the rise (and fall) of the bourgeoisie (Lumière, Renoir, Tati); the importance of dreams (Méliès, Bunuel, Carné, Cocteau); the role of women (Pagnol, Godard, Varda); trauma and memory (Duras, Resnais); and childhood (Truffaut, Malle). We also compare views of Paris (Clair, Truffaut, Godard) and the countryside (Renoir, Pagnol, Malle, Varda).

**Section 02. Diversity.** We examine the notion of diversity as it expresses itself in French culture in different media. Studying religious, social, sexual, and ethnic difference, we examine how the French have embraced or rejected the idea of France as a "diverse" and "integrated" nation. We examine extracts from a range of French texts by authors who question the idea of difference and the notion of self-identity. We read extracts from Francophone authors, writers who live in and write about former French colonies. Among the authors included: Diderot, Voltaire, Zola, Camus, Ernaux, Kristeva, Cardinal, Condé, Sow Fall. We also look at films, paintings, and journalistic accounts that allow us to consider issues such as changing social values, acts of inclusion and exclusion into the social fabric, and examples of backlash to efforts to promote integration and inclusion.

**Section 03. Provence.** Provence enjoys a distinctive identity in France. Known not only for its cuisine and its fields of lavender, Provence represents a particular set of behaviors that are marked by an outward sociability on the one hand and deep intimacy on the other. The people from this Mediterranean region are proud of their identity, particularly in opposition to Paris, which stands at the center of French culture, business, and power. Many celebrated artists (Cézanne, Van Gogh) and writers (Daudet, Pagnol, Giono, Char) used the backdrop of Provence in their works, partaking of Provence's natural beauty and local color. Through an examination of a variety of texts, images, films, music, and other sources, we attempt to define the life of Provence, paying particular attention to its distinctive features; the opposition Paris/Provence; how Provence's geographical advantages contribute to its rich culture; how various artists, authors, filmmakers, and musicians celebrate its culture and its people.

**Section 04. Twentieth-Century France in Literature and on Film.** Starting with the Belle Époque—the first years of the 20th century, considered to be a "beautiful age"—when life was pleasant and easy—and ending with the year 2000, we examine the evolution of modern French society as reflected in celebrated examples of literature and cinema. We emphasize key historical events of this period and show how France has changed from a primarily rural, religious, and homogeneous society to the urban, industrialized, and multiracial culture of today. We deal mainly with both world wars, colonialism, industrialization, immigration, and the changing role of women. We divide the century into segments, each of which is represented by a literary work and/or a film.

**Section 05. Song, Text, and Image.** This class will examine the dual nature of song as meeting point between poetry and music. In the first half of the class, we study how famous French poems are transformed when set to music (and how differing arrangements of a given text create a variety of interpretations). Poets include Villon, Ronsard, Hugo, Bâ. Credit 3 units.

**A&S LA**

### French 325. French Literature I: Dramatic Voices: Poets and Playwrights

An interpretation of cultural, philosophical, and aesthetic issues as presented in influential works of French poetry and drama from the Middle Ages to the present. May be taken before or after French 326. Prerequisite: French 308D or French 318D.

**Section 01 Self and Society.** A study of the themes of self and society as seen in the dramas of Molière, Corneille, Racine, Beaumarchais, Musset, and Beckett, and in the poetry from Villon to Prévert. We examine the struggle of self vs. society in various contexts, particularly love, family, politics, and fate, and study how the individual affirms and defines himself/herself, or fails to do so, in that struggle.

**Section 02. Voices.** Poets from Villon and Ronsard to Lamartine and Rimbaud have used their voices to express lyrical themes like love, death, the passage of time, beauty, and good and evil in important personal ways. Their voices are meant to speak to us as individuals to comfort us or, on the contrary, to unsettle us. They even sometimes encourage us to act, to change something about our lives or our society. Playwrights, too, have used their characters' voices to stir up cultural revolution of their own sorts (Romantic with Hugo's *Hernani*; Symbolist/Surrealist with Jarry's *Ubu Roi*). This course examines how and why these and other writers (Louise Labé, Baudelaire, Apollinaire, Corneille, Racine, Molière) chose to put their voices into writing, what they tried to say, and for what audience they wanted to say it.

We examine how their voices speak to social, political, and, more generally, cultural questions regarding the time period in which they wrote.

**Section 03. Living Matter(s).** Renowned poems and plays of the French tradition explore love, moral claims, suffering, mortal sins, cultural awakenings: the matter of life that is also often a matter of death, a matter that authors transform and celebrate. We study these issues by focusing on the link among literature, history, and art in works by Ronsard, Hugo, Baudelaire, Rimbaud, Ponge, Corneille, Molière, Racine, Beaumarchais, Ionesco, among others.

**Section 04. Poetic Places.** The poetic voice has often been considered in light of its mission, or higher calling. How do we perceive this mission and where does it situate the author and the reader with respect to the text? Does it imply the isolation of the poet or simply a difference in perspective? Does the poet speak with one voice or from several different places at once? We seek to situate the authorial persona, as well as the place we are called to occupy in relation to the poet's voice. Are literary texts emblematic of their time? Do they simply reflect their context, or can they constitute a new reality? How do they differ from blogs? As we read from each period, we distinguish the literary traditions, as well as social norms represented/questioned/or shredded within the text. Poets include Rutebeuf, Villon, Ronsard, Labé, Boileau, La Fontaine, Hugo, Vigny, Baudelaire, Verlaine, Apollinaire, Mallarmé, Ponge, Michaux, Bonnefoy. Playwrights include Racine, Molière, Voltaire, Beaumarchais, Vian, Genet, Beckett, Ionesco.

**Section 05. The Spectator.** Throughout the history of the theater, playwrights have questioned the ideal relationship of the spectator to the stage. From classical tragedy and comedy through the theater of the absurd, the question of whether or not the spectator should identify with the characters on stage remains central to the theatrical experience. We consider the moral implications of this choice and its effect on society. We read plays that illustrate the changing notion of our role as spectator, along with poems that invite us to see the world through the eyes of God, the king, the philosopher, the pauper, and the poet. Playwrights include Racine, Corneille, Beaumarchais, Hugo, and Ionesco; poets include Ronsard, Maeshherbes, Voltaire, Baudelaire, and Claudel. Credit 3 units.

**A&S TH**

### French 3252. French out of France: Introduction to Francophone Literatures

An introduction to some of the "other" literatures in French: the literary traditions and cultural contexts of Francophone countries in North and sub-Saharan Africa, and the Caribbean. Vibrant and productive cultures around the world have interacted with the French language and its literature to produce highly diverse texts of their own. We study some of them, focusing on issues such as cultural adaptation, colonialism, and "civilizing missions" and the responses to them. We also consider the varying meanings of the term Francophone, from conservative to liberal, and think about its implications for the study of French literature as a whole. Finally, we examine the ways in which contemporary mainland France has been irrevocably transformed by the Francophone presence. Works by Kourouma, Césaire, Kateb, and Lopes. Prerequisite: French 307D. Credit 3 units.

**A&S TH**

### French 326. French Literature II: Narrative Voices: Fiction and Nonfiction

An investigation of cultural, philosophical, and aesthetic issues as presented in influential works of French prose from the Middle Ages to the present. May be taken before or after French 325. Prerequisite: French 308D or French 318D.

**Section 01. The Detail.** We examine characters against a background of things discovered and inherited, bought and exchanged, adored and mourned. In their depictions of characters' struggles, authors present an array of objects whose details capture our imagination through suggestions of magical powers, prosperity, love, and loss: jewelry, clothing, portraits, furnishings. The detail suggests a world of abundance: the accumulation of goods within an expanding economy; the excesses of an ornamental and decadent lifestyle; the proliferation of memories and nostalgic longings. Whatever the material conditions it relates, the detail remains fundamentally an aesthetic form, often coded as feminine. We study how the authors' descriptions allow them to color the world much like a painter: one stroke, one detail at a time. Authors to include Chrétien de Troyes, Montaigne, Lafayette, Prévost, Balzac, Proust, Gide.

**Section 02. Codes of Conduct.** The author's convictions, or those of contemporary society frequently dictate the codes that govern the conduct of characters in literary texts. These codes can be moral, religious, philosophical, political, scientific, or aesthetic in nature. We read works whose characters struggle to adhere to or systematically violate the (sometimes conflicting) codes of conduct outlined in the text. We examine changing notions of how we are *meant* to behave as individuals in society, as characters in a novel, or as readers of a text. We also discuss each work's portrayal of the ideal form and function of the literary text. Authors include Chrétien de Troyes, Montaigne, Lafayette, Diderot, Zola, and Breton.

**Section 03. The Writer and His/Her Public.** Why and for whom does one write? How does the public influence what one writes and the way one writes? This course examines the interaction between the writer and his/her public (the constraints imposed by this interaction, but also the creativity that it generates) as well as the different types of relations that develop across the centuries as books become increasingly available and the number of readers significantly increases. Among the topics to be discussed: courtship and patronage; engagement and censorship; subversive libertinage; political tolerance and personal liberties; use of fiction and certain literary forms such as the *essai*, *recit de voyage*, *conte*, etc.; use of irony, humor, and various narrative strategies, including in-direction, dissimulation, and seduction. Readings include Chrétien de Troyes, Michel de Montaigne, Cyrano de Bergerac, Voltaire, Emile Zola, Albert Camus, Simone de Beauvoir, and Assia Djébar.

**Section 04. Prosaic Greatness.** The title of this course emphasizes both the artistic value of certain major prose texts in French and the everyday facets of knowledge about French culture they convey. From the Middle Ages to the present, influential writers such as Montaigne, Pascal, Sand, Flaubert, and Gide have demonstrated how important political, philosophic, literary, and artistic concepts have been skillfully passed down from one generation to another through a masterful usage of French prose. By looking closely at the aesthetic and social questions raised by works such as theirs, so characteristic of their times, students come to appreciate better the evolution of French prose and its true place within the general history of France.

**Section. 05. Traveling Texts.** This course considers the place of the voyage in French literature. We look at voyages in the literal sense of travel in and out of France but also in the figurative sense of internal explorations and spiritual quests. We examine the different uses authors have made of the metaphor of travel, in order to see what French literature has to say. Credit 3 units.

**A&S TH**

### French 327C. French Literature III

This general literature survey course is taught

every year in the Dickinson College program in Toulouse, France, with which Washington University is affiliated. The course studies works of literature that span several centuries and genres, and considers issues such as the identity of the individual in society; the alienation and marginalization of certain groups within society; cultural identity; the historic context for literary works, etc. Open only to Washington University students enrolled in the Toulouse, France, program with Dickinson College. Credit 3 units.

**A&S TH FA Lit**

### French 328C. French Literature IV

A companion course to French 327C, this general literature survey course is taught every year in the Dickinson College program in Toulouse, France, with which Washington University is affiliated. The course studies works of literature that span several centuries and genres, and considers issues such as the identity of the individual in society; the alienation and marginalization of certain groups within society; cultural identity; the historic context for literary works, etc. Open only to Washington University students enrolled in the Toulouse, France, program with Dickinson College. Credit 3 units.

**A&S TH FA Lit**

### French 341. Field Study in France: Internship

Credit 6 units.

### French 350. Undergraduate Seminar in French Literature and Culture

An exploration of a variety of cultural icons, objects, myths, and traditions that define the French experience throughout the centuries. Topics vary. Prerequisite: French 308.

**Section 01. Literature, Art, and History of the French Middle Ages.** In France, the Middle Ages was a period of intense artistic and literary creation despite an often brutal history. Feudal struggles, the Hundred Years' War, the Crusades, frequent epidemics, and famines added a tragic cast to daily life. Yet this period witnessed the birth of literature written in French (*chansons de geste*, courtly romances and poetry, theater), a tradition rich with knights and damsels in distress, stories of love and conquest. Cities were built, as were castles and cathedrals. Botanical gardens were planted. Elaborate wall tapestries and paintings began to decorate the homes of lords and churches. France discovered the art of the book in the form of illuminated manuscripts. Men and women developed a taste for clothing and jewelry. The course explores this fascinating history by examining celebrated examples of the period's literature and art. It includes a visit to the medieval collection of the Saint Louis Art Museum and the film *Visiteurs du Soir*. Credit 3 units.

**A&S TH FA Lit**

### French 352. French Institute Project

Students investigate an important aspect of French life by conducting interviews with French natives and by observing them at work. Supplementing this direct experience with further research, students prepare a presentation on their selected topic for the French Summer Language Institute participants and for their French hosts. Open only to students enrolled in the Institute. Credit 2 units.

**A&S LA**

### French 353. Project Plus

This French Summer Language Institute course combines: 1) a course that examines French culture as it is represented in the evocative history of French châteaux, the arts, and contemporary lifestyle; 2) the student's project; and 3) the student's experiences as part of the community abroad (excursions, visits, group discussions). In class, students gain background for appreciating the primary sites of the Institute: in the Loire Valley, Paris, and Brittany. The classroom experience

is discussion-oriented, with small writing assignments and readings. The project is an individual research program that students conduct with a French native on a particular aspect of French culture. In the past, students have dealt with serious topics such as the deportation of the Jewish community in Amboise during World War II; with less grave subjects such as the work of a local wine grower or goat cheese producer, and the culinary repertoire of French and American families; and current topics concerning the political situation in Europe and the euro. Following weekly conferences with the teaching staff, students present a formal report on their experiences to an audience comprising other members of the group and the students' host families. Students at the Institute are expected to speak French in all group settings. Assignments in this course are level-appropriate (students enrolled in French 385 will complete longer papers and projects than those enrolled in French 202; expectations for conversations are likewise adjusted accordingly). Required of all students attending the French Summer Language Institute. Credit 3 units.

### French 354. Soutenance de Stage: Internship Defense

Credit 3 units.

### French 355. North American Francophone Literature in Translation

Taught in English. The world of French language and literature is not restricted to France alone. It includes several other countries and former colonies whose cultural traditions and productions have grown in global significance as the West has increasingly understood and reacted to its own prejudices and exclusions. This course, the first in a three-semester sequence, focuses on the literature of our closest French-speaking neighbors: French Canadians, Acadians (from Nova Scotia, New Brunswick, and northern Maine) and Louisiana Cajuns. That French is the main language of all these groups results, of course, from the early colonial history of North America. Representative writers of these different French-speaking groups, including Antonine Maillet, Gerald Leblanc, Zachary Richard, Philippe Hémon, Michel Tremblay, and Marie-Claire Blais, are studied closely in their historical, literary, and cultural contexts. Credit 3 units.

**A&S TH**

### French 370. French Social History

Studying *L'histoire des Mentalités*, this course explores how the concept of sickness, the perception of medicine, the role of the doctor, etc., evolved throughout the centuries. Texts are supplemented by a series of lectures offered by doctors in different specialties. Students complete a project on one area of related research. Open only to students enrolled in the Nice Pre-Med Summer Program. Credit 3 units.

**A&S TH FA SSP**

### French 375C. Biography of a City: Paris

This class has a dual focus: to trace the political and cultural history of Paris throughout the ages since its founding and to highlight Paris as a theme or topos in works of art and in the popular imagination. Thus, we examine both Paris's role as an important historical center and its function as a vital cultural symbol. Guest speakers from the Departments of Romance Languages, Art History, History, Music, Philosophy, and others. Course taught entirely in English. Credit 3 units.

**A&S TH FA Lit**

### French 376C. Cinema and Society

This survey of French and Francophone cinema examines the history of the medium from its origins through some of its more recent trends, focusing on its socially activist tendencies. Films viewed will have explicit social and political

messages, oftentimes highly critical of established ideological currents. Among the film/auteurs studied are Gance, Clair, Renoir, Truffaut, Godard, Varda, Sembene, and Jaoui. There is an optional extra session for group film viewing. Films are on reserve in Olin. Grading is based on presentations of the films and directors; a midterm exam, and a final paper. Taught in French. Credit 3 units.

A&S LA FA AH

**French 383C. Literature and Society: Ailing Body/Ailing Mind in French Autobiographical Writings**

Illness and suffering have inspired a great variety of literary texts from the Middle Ages to the modern era. This course considers works ranging from Montaigne's influential *essais* through contemporary novels that focus on autobiographical writings in which the author gives a personal account of his or her own direct experience with illness. Open only to students enrolled in the Nice Pre-Med Summer program. Credit 3 units.

FA Lit

**French 385. Cultural Differences**

Same as IAS 385.

By examining how the French perceive Americans and how the Americans perceive the French, students interrogate stereotypes; biases; and differences in values, behaviors, and beliefs between the two cultures. The class also examines the misunderstandings that occur as a result of these differences. Students also look within the American and the French cultures to evaluate how minorities and marginal groups exist within them. Texts include works by contemporary authors whose different professions (journalist, anthropologist, novelist, etc.) offer different perspectives on the questions of cultural difference. Open only to students enrolled in the French Summer Language Institute. Prerequisite: French 307D. Credit 3 units.

A&S TH FA SSP

**French 399. Independent Study**

Prerequisites: permission of the director of Undergraduate Language Studies and the instructor; French 325C, 326C or equivalent; and competence in oral and written French. Students may not receive more than 6 total units of credit for independent study. Credit variable, maximum 3 units a semester.

**French 400. Intensive Translation for Graduate Students I**

The first part of a two-semester course sequence in reading and translating French. For graduate students in the humanities, social, and natural sciences. Nongraduate students may enroll with permission of the department. Must be followed by French 401. Credit 3 units.

A&S LA

**French 401. Intensive Translation for Graduate Students II**

Continuation of French 400. For graduate students in the humanities, social, and natural sciences. Prerequisite: French 400; credit for French 400 is contingent on completion of French 401. Credit 3 units.

A&S LA

**French 411. Intensive Writing in French**

Same as Ling 4111.

Refinement and expansion of writing skills, mastering of complex grammatical structures, and intensive training in the analysis of rhetorical issues are the goals of this course. The course focuses on the acquisition of a personal style through creative exercises in composition, including the study of parody, autobiographical forms, and short-story writing, as well as the practice of formal explication de texte and dissertation. Students complete a series of short papers, each with required revisions. Meets writing-intensive requirement. Pre-

requisite: French 307D, French 308D or equivalent, or permission of instructor. Required for all majors except those who have spent two consecutive semesters in a French-speaking country. Required for master's candidates in French unless waived by director of Graduate Studies. Credit 3 units.

A&S LA, WI

**French 413. French Phonetics**

Phonetic theory with exercises in phonetic script and intonation; and practice in oral reading, discussions, and practice in language laboratory. For prospective teachers and candidates for advanced degrees. Conducted in French. Prerequisite: 6 units of 300-level French or permission of instructor. Either this course or French 411 (taught in the fall) is required for French majors except for participants in the overseas study program. Credit 3 units.

A&S LA

**French 413I. Advanced French and Translation**

Building on the foundation established in the third year, this course aims at an in-depth knowledge of the French language and accuracy in its use. A comparative approach (linguistic and cultural) and systematic exercises are used to attain this goal and assist students in the demanding task of translating, both from English to French and from French to English. This course is mainly devoted to practical training using a wide range of document types, developing strategies of translation, and sensitizing students to the problem of cultural transfer. Prerequisites: French 307D and French 308D, or French 318D. Writing-intensive. May be taken in place of French 411 toward the completion of the French major. Credit 3 units.

A&S LA, WI

**French 415. The 19th-Century Novel: From Realism to Naturalism to Huysmans**

In this seminar, we read some of the great realist novels of the 19th century by the four masters of the genre: Balzac, Stendhal, Flaubert, Zola. We also examine Huysmans's *A Rebours*, which was written in reaction to the excesses of Realism. We determine what characterizes the realist novel and how it has evolved from Balzac to Zola. We consider its theoretical aspects, but we also focus on the major themes it addresses: the organization of French society throughout the 19th century, Paris vs. the province, love, money, ambition, dreams, material success, decadence, etc. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

A&S TH FA Lit

**French 416. Renaissance Poetics**

An examination of key authors and themes in various genres of the period. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

A&S TH FA Lit

**French 416I. Special Topics in 19th-Century Literature**

Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

A&S TH FA Lit

**French 417. Poetry and Prose of the Renaissance**

During the Renaissance, poetry in France manifested a close relationship to the visual arts, shar-

ing expressive means as well as ends. This course considers the main poetic and philosophical currents of the Renaissance with special emphasis on formal innovation. Poets studied include Clément Marot, Louise Labé, Maurice Scève, Pierre de Ronsard, Joachim Du Bellay, etc. The visual arts, mainly paintings from the 15th to the early 17th century, serve to elucidate poetic images, mythological references, and philosophical concepts, and hopefully stimulate reflection on the relationship between the verbal and the visual. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

A&S TH FA Lit

**French 417I. Travel Abroad in Early Modern Times**

This course addresses such questions as national identity; international relations; migration, cultural differences, and integration; and cultural interactions and influences. It concerns more specifically the important role humanism played in the spectacular development of vernacular languages and traveling abroad in Early Modern times. It is organized around the following themes: 1) humanism, nationalism, and the growing interest in the vernacular; 2) humanism and the ongoing project of translation (*translatio studii*); 3) humanism and travel abroad; 4) views on foreign cultures and one's own after returning home; 5) "La France Italienne" (including at least one session on Lyons and another on Italian artists living in France); 6) integration and conflicts. Readings include major authors (Rabelais, Montaigne, Marguerite de Navarre, Du Bellay) as well as lesser-known figures (Pasquier, Lery, Thevet), diaries, and travelogues. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

A&S TH FA SSP

**French 417E. Travel in the Renaissance and the Literature of Discovery**

Improved modes of transportation under King Francis I facilitated travel in the Renaissance. Men and women were able to view famous cultural monuments on their continent and explore parts of the world where no one had ventured before, returning home with vivid tales of distant lands and exotic peoples. With the advent of the printing press, such fascinating stories were made available to a wider audience. This course examines this literature of discovery, paying special attention to the multiple genres that flourished at the time (historical narratives, diaries, correspondences, travelogues, elegiac poetry, adventure novels,) as well as the historical and cultural contexts of these works. Other questions addressed include national identity and cultural differences, cultural interactions and influences, international relations, the impact of humanism, and the concept of curiositas. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

A&S TH

**French 417S. Renaissance Poetry and Visual Arts**

During the Renaissance, poetry in France manifested a close relationship to the visual arts, sharing expressive means as well as ends. This course considers the main poetic and philosophical currents of the Renaissance with special emphasis on formal innovation. Poets studied include Clément Marot, Louise Labé, Maurice Scève, Pierre de Ronsard, Joachim Du Bellay, etc. The visual arts,

mainly paintings from the 15th to the early 17th century, serve to elucidate poetic images, mythological references, and philosophical concepts, and hopefully stimulate reflection on the relationship between the verbal and the visual. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**French 4181. Humanism in Crisis: Marguerite de Navarre**

The second half of the French 16th century was a time of profound upheaval in politics and religion, as well as of economic and social unrest. The very nature of reason and knowledge, their place and reliability, were in serious question. These various “crises” culminated in what is known today as “the collapse of French Humanism.” This course focuses on two writers of the mid-century—Marguerite de Navarre and Montaigne—and the solutions that they offered. Special attention is given to the forms of expression adopted by these writers in order to reflect the newly discovered complexity of their world. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

**French 4182. Humanism in Early Modern France: From Rabelais to Montaigne**

This course focuses on major aspects of Humanism as exemplified by two of the greatest writers of the 16th century: François Rabelais and Michel de Montaigne. Humanism designates the great intellectual movement of the Renaissance. Initially focused on the recovery of ancient authors and a renewed confidence in man’s ability to grasp higher meanings, Humanism became a dynamic cultural program that influenced every aspect of 16th-century intellectual life. As the political and religious turmoil of the Reformation spread, however, Humanist assumptions (the very nature of reason and knowledge, their place and reliability) were in turn questioned. This “crisis” culminated in what is known today as “the collapse of French Humanism.” We examine the importance of Humanism by focusing on the themes of education, self-inquiry, religion, gender roles, marriage, travel, health, and medicine. We pay special attention to the forms of expression that Rabelais and Montaigne adopt to reflect the newly discovered complexity of their world. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH**

**French 419. Feminist Literary Criticism**  
*Same as WGSS 419.*

**A&S TH**

**French 4191. The French Islands: From *Code Noir* to *Condé***

This course studies a sampling of poetry, drama, and prose from Guadeloupe, Martinique, Haiti, and Réunion. Our readings concentrate on the ways in which this literature has fostered inter-island cultural relations in and against its links with mainland France. Principal authors include Aimé Césaire, Suzanne Césaire, Patrick Chamouiseau, Daniel Maximin, Simone Schwartz-Bart, and Maryse Condé. We also consider a variety of other works that helped form the relationship between the islands and France; the *code noir*, Bernardin de Saint Pierre, Victor Segalen, and Frantz Fanon. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from

Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH**

**French 4192. Tragedy and Farce in African Francophone Literature**  
*Same as IAS 4192.*

This course explores the literary construction of nationalist opposition in colonial Africa and the subsequent disillusionment with its artificiality in tragic or farcical literature from 1960 to 1985. In 1960, most of the French colonies in Africa gained independence in a largely peaceful transfer of power. Since then, this development has been viewed alternately as the triumph of self-determination and as a hollow act undermined by neocolonial French ministries, multinational companies, and corrupt governments. Reading authors such as Fall, Sembene, Beti, Tansi, and Lopes, we will consider the ways that literature entered into dialogue with political discourses that only farce or tragedy could portray. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH**

**French 420. Twentieth-Century Literature II**

Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**French 4201. The Novel in the Feminine (*Le Roman au féminin*)**  
*Same as WGSS 4201.*

Informed through feminist criticism (Beauvoir, Cixous, Kristeva), this course examines the deconstruction of the novel as a traditional genre by 20th-century women writers such as Colette, Nathalie Sarraute, Marguerite Duras, Marguerite Yourcenar, Annie Ernaux, and Mariama Bâ. We place special emphasis on the representation of the writing woman in the text itself and on the issue of “écriture féminine” in its sociocultural context. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH FA Lit**

**French 4202. *Ingénues* and *Libertines*: Writing the Feminine in 19th-Century French Prose**

Informed by a close reading of theoretical texts dealing with the paradoxes of *la femme auteur* (the woman author), as Balzac coined it, this seminar explores the many ways of writing the feminine in the margins of 19th-century French fiction. Opposing *dames de cour* (ladies of the court) and *femmes de tête* (women of the mind), we focus on the representation of women as *voleuses de langue* (tongue snatchers) in the works of Mme de Staël, Claire de Duras, George Sand, and Marie d’Agoult, among others. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH**

**French 421. The 20th-Century Novel**  
*Same as IA 4212.*

In this seminar, we examine the evolution of the French novel in the 20th century. We closely read five great novels by Proust, Gide, Céline, Robbe-Grillet, and Ernaux. We determine what characterizes the 20th-century French novel and how it has evolved from Proust to Ernaux. We consider its technical aspects, but also focus on the major themes it addresses: love, art, memory, time, death, and the general problem of the human con-

dition. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

**French 4211. The Novel of the 1930s: The Human Condition and the Meaning of Life**

Most French novelists of the 1930s were no longer satisfied simply to entertain their readers, to bring formal innovations to their writing, to depict society, or to represent human consciousness. Technological advances, economic transformations, and, above all, the unspeakable horrors of World War I challenged traditional beliefs. Authors therefore dedicated themselves to examining the human condition and the meaning of life. In this seminar, we read five major novels of the period by Saint-Exupéry, Mauriac, Malraux, Céline, and Sartre. We determine how each author approaches the fundamental questions of human existence and what, if any, answers he provides. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH**

**French 422. French Theater from 1800 to the Present**

We study selected plays of Hugo, Musset, Feydeau, Jarry, Claudel, Giraudoux, and Anouilh with particular attention to Romanticism, Symbolism, Existentialism, and absurdist drama. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA AH, Lit**

**French 4221. Nineteenth- and 20th-Century French Novel**

*Same as WGSS 4221.*

Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

**French 423. Contemporary Theater**

Readings, analysis, and discussion of French theater from Sartre to the present. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA AH, Lit**

**French 4231. Visualizing 19th-Century Poetry**  
*Same as French 4231.*

At the very end of the 19th century and the beginning of the 20th, Mallarmé and Apollinaire begin to compose seemingly original works that create a host of simultaneous and different meanings through a heightened use of what can be called the “concrete aspects” of the texts themselves: their layout on the page, the imagery they present, even the shape of the particular words and stanzas they employ. But a close reading of earlier 19th-century literature (mostly poetry) composed by various Romantic, Parnassian, and Symbolist authors (Victor Hugo, Théophile Gautier, Mari Krysinska, Marceline Desbordes-Valmore, Charles Baudelaire, Arthur Rimbaud, and Paul Verlaine) reveals that experimentation in the visualization (as opposed to “mere” reading or writing) of a literary work was already under way. The latter coincided with the evolution of sculpture, photography, and, later, cinema. This course

is designed to introduce students to both the production and reception of such works, and to examine their multiple historical and aesthetic causes and effects. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 425. Nineteenth-Century Poetry**

Reading and analysis of poetry of the three major 19th-century schools: Romantic, Parnassian, Symbolist. Emphasis on textual explication. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 426. Avant-Garde Poetry of the 20th Century**

Study of French avant-garde poetic movement of the early 20th century, with emphasis on Futurism, Cubism, Dadaism, and Surrealism. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 427. Literature of the 17th-Century I**

Undergraduates only register for this section. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 427I. French Classical Theater**

A study of works by Corneille, Molière, and Racine. We consider how the theater contributed to the rise of absolutism in France in the 17th century. The depiction of kings and the role of primogeniture; the function of sacrifice; the marginalization of women; the glorification of ancient Rome; Orientalism; tensions between family and state; and the rise of the bourgeoisie in these plays suggest how the dramas played out on stage mirror the historic spectacle of the court over the course of the century as it developed an increasingly centralized authority culminating in the image of an all-powerful Louis XIV. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA AH**

#### **French 428. Literature of the 17th Century II**

Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 428I. Order in the Court: Classical Struggles During the Reign of Louis XIV**

Beginning with a study of Versailles, we examine the spectacular dimensions of artistic production under Louis XIV, including architecture, visual arts, and landscapes, in addition to literature. The recent historical novel *L'allée du Roi*, which details the romance between the king and his mistress and then second wife Mme de Maintenon, and the *Memoires* of Saint-Simon help to set the stage for us to appreciate the intrigues at court. Situating the king at the head of a hierarchical and

orderly court structure, we examine some of the less harmonious elements of court-dominated life offered in representations by Corneille (*Surena*), Molière (*Les Femmes Savantes*), Racine (*Mithridate*, *Phedre*), La Rochefoucauld, La Bruyère, La Fontaine, Mme de Sévigné, Pascal. We consider the ways in which the court assures its power through primogeniture, the right of the eldest-born son to inherit power, as well as through strict codes of etiquette and the generosity of the crown to its loyal and productive followers. We examine how these factors are insufficient to protect the monarchy against the contravening forces of political ambition, family struggles, the emerging role of women, religious faith, and the devastating effects of war and disease. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA SSP**

#### **French 431. Literature of the 18th Century I**

Undergraduates only register for this section. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 431I. Voices of Dissent: Enlightenment Principle and Social Protest**

The 18th century saw a rise in overtly moralizing texts, on the one hand, and unapologetically immoralist philosophies on the other. We focus on texts that avoid these extremes, allowing multiple voices to be heard. With the aid of excerpts from Genette, Bakhtine, Todorov, and Barthes, we identify the voices of dissent in several 18th-century genres, including satire, the tale, the novella, the philosophical dialogue, theater, autobiography, and the epistolary novel. By reading authors such as Voltaire, Montesquieu, Prévost, Diderot, Cazotte, Rousseau, Beaumarchais, and Charrière, students come to appreciate a third tendency in 18th-century texts that is crucial to our understanding of the Enlightenment: the tendency to validate conflicting perspectives. We consider whether a moral can be derived from a text that consistently questions the voice of authority. We analyze the implications of such questioning in the years before the Revolution. Finally, we consider the extent to which the overzealous censorship laws of the period may have obliged authors to couch socially controversial ideas in narrative forms that seem to deny their own assertions. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA SSP**

#### **French 432. Literature of the 18th Century II**

This course explores some of the major prose works of 18th-century France, which formed (and informed) the Enlightenment. Through readings of both canonical and noncanonical texts, we examine the changing place (and changing contours) of man in relationship to society. We also examine the questions the Enlightenment subject asks about the changing status of authority. To determine the limits of Enlightenment, we analyze both 20th-century critiques of the Enlightenment (Foucault, Habermas) and some of the Enlightenment's more challenging voices (Sade, Laclos, Graffigny, de Gouges). Readings include texts by Montesquieu, Voltaire, Diderot, Rousseau, and others. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris.

One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 432I. Art, Revolution, and Society**

This course examines major 18th-century aesthetic treatises and literary texts that explore solutions for aesthetic quandaries. Authors include d'Alembert (*Preface a l'Encyclopedie*), Rousseau (*Discours sur les Sciences et les Arts*, *Lettre a d'Alembert*), Diderot (*Entretiens sur le Fils Naturel*, *Le Paradoxe du Comedien*, *Le Neveu de Rameau*), Cazotte (*Le Diable Amoureux*), Beaumarchais (*Le Barbier de Seville*, *Le Mariage de Figaro*), Staël (*De la Littérature*, *Corinne*). These works allow us to study some of the major insights into the aesthetics of music, painting, and the performing arts with an eye to how these aesthetic "revolutions" expanded the scope and influenced the form of the French language and literary texts. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 433I. Women of Letters**

*Same as WGSS 433I.*

We investigate the representation of women in 18th-century texts. Why did the novel and epistolary fiction become so closely associated with women as writers, heroines, and readers in the course of the century? Why were women considered exemplary and yet, at the same time, a threat? The 18th century saw the last of the salons led by women well-versed in philosophy, literature, art, and politics. It saw the reinforcement of the opposition between the public and the private sphere. Woman was the incarnation of the ideal of liberty and yet excluded from the "Rights of Man." Rousseau praised women's role as nurturers and peacemakers, but cast into doubt their capacity for genius. Literary texts that feature women became a sparring ground for two of the century's major literary trends: Sensibilite and Libertinage, for a woman's sensitivity was thought to contain the seeds of virtue and licentiousness. We investigate philosophical discourses on the senses and emotions, and political discourses on republican responsibility. We read these texts in conjunction with the literary works of men and women authors, including Prévost, Marivaux, Graffigny, Riccoboni, Diderot, Rousseau, Charrière, Laclose, Sade, and Staël. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 434I. Enlightenment Energy: Comedy, Eroticism, and the Grotesque**

In this course, we examine works in which the comic, the erotic, and the grotesque—base urges that 18th-century audiences deplored, yet found entertaining—made inroads into the literature of the time. The Enlightenment was highly suspicious of impulses and intuitions that challenged or escaped the bounds of virtue, sentiment, and reason. French philosophers debated whether genius lay in the supreme mastery or the spontaneous creation of art, whether talent was inborn or could be acquired through practice. Reading texts that span the long 18th century by authors such as Molière, Marivaux, Crébillon Fils, Voltaire, Diderot, Restif de la Bretonne, Beaumarchais, Sade, and Hugo, we investigate how the satirical, the bawdy, and the profane served as the well-spring of Enlightenment inspiration, giving rise to visions of an ideal society. Prerequisites: French

325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 4351. Philosophical Fiction(s)**

The French Enlightenment witnessed a veritable explosion of short fiction, including philosophical, Oriental, moral, and libertine tales bearing such self-conscious titles as *A Thousand and One Follies* and *This Is Not a Tale*. Though written by the literary elite and not considered children's literature, the genre enjoyed widespread popular appeal and had the power to shape mentalities. Often satirical in tone, these tales served to convey and question contemporary political, philosophical, scientific, religious, and moral trends. They inspired some of the most vivid illustrations of the day and were often circulated as part of the literary underground. We read works by Crébillon Fils, Voltaire, Diderot, Cazotte, Charrière, Sade, and Staël alongside excerpts from French cultural history on 18th-century mentalities, salons, and print culture. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 436. Romanticism**

This course studies pre-Romantic themes in the works of Madame de Staël and Chateaubriand and of their evolution in the poems of Lamartine, Musset, and Vigny, in the theater of Victor Hugo, and in the novels of George Sand and Victor Hugo. Emphasis is placed on the emergence of a *littérature du moi* (literature of the self), the redefinition of the place of the artist in society after la *bataille romantique*, and the stylistic innovations that lead to modernism. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 4391. Classicism/A-Classicism**

Among the hallmarks of the 17th century, French classicism celebrated reason, order, balance, and a power often associated with the great achievements of ancient Greece and Rome. Reason, however, coexisted with dreams and madness; order encountered threats both political and sexual; disharmony persisted despite longings for justice; and depictions of antiquity flourished alongside those of the Orient, the exotic other world of the East. The course explores these "a-classicisms," or countervailing forces, by studying the challenges that ground the struggles and seductions in dramas by Corneille, Molière, and Racine, as well as in the novels of Madame de Lafayette. We read Graffigny's *Lettres d'une Péruvienne*, Prévost's *Manon Lescaut*, Laclos's *Liaisons Dangereuses* to understand classicism retrospectively, through the "a-classicism" of the 18th century's treatment of identity, alienation, desire, and societal tensions. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 4392. Commemorating the King**

The court of Louis XIV at Versailles was remarkable for its grandeur, its consolidation of power, and its celebration of the Sun King. Arguably, all aspects of court life were regulated by the crown and all things produced—whether wars or monuments, art or science, novels or histories—were tributes to the king. All reflected a certain ideol-

ogy of commemoration, that is, an implicit or explicit validation of the monarch's privilege and prestige, both for his contemporaries and for posterity. We explore how authors (including Louis XIV, La Bruyère, La Rochefoucauld, Perrault, La Fontaine), artists (Lebrun, Rigaud, Poussin, Félibien), and historiographers/memorialists (Racine, Saint Simon) support the ambitions of the crown through their works. Modern critics Elias, Marin, Burke, and Merlin guide our research into the activities of the royal family, the ideology of absolutism, and the role of art in affirming the power of Versailles as we continue to memorialize it through surviving texts, monuments, and images. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 440. Parnassian and Symbolist Literature**

This course offers an examination of key writers and texts of the Parnassian and Symbolist schools of the 19th century. Readings include poetry, drama, and prose. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 441. From Symbolism to Surrealism**

This course presents a survey of major prose and poetry from 1870 to 1919, including writers such as Maupassant, Daudet, Anatole France, Loti, Valéry, Peguy, and Claudel. We discuss several key philosophical and literary movements of the period (e.g., naturalism, idealism, experimental novel). Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 443. Contemporary Francophone Literature**

A general survey of Francophone literature. This course examines representative texts of Quebec, Acadia, Africa, and West Indies. Authors include Antonine Maillet, Louis Hémon, Michel Tremblay, Gérard Leblanc, Anne Hébert, Maryse Condé, along with the influential poets of *négritude*, Senghor and Césaire. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 444. Modern Francophone Poetry**

The first half of this course consists of close readings of the founders of *négritude*: Césaire, Senghor, and Damas. While the political and historical impact of these poets is discussed in some depth, we analyze their poetry primarily in terms of its aesthetic value and concerns. We study American influences such as jazz and the poetry of the Harlem Renaissance, along with French influences. The second half of this course focuses on the contemporary poetic scene in Africa and the Caribbean. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 447. The Medieval Literary Arts**

Presentation of the principles, materials, and methods prerequisite to the effective study of medieval literature. Includes textual criticism and ed-

iting, alterite, manuscript culture, orality vs. literacy, arts of rhetoric, prominent motifs and topoi, and aesthetic principles. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH FA Lit**

#### **French 448. From Arthur to the Grail**

Conducted in English. A broad survey of the Arthurian legend: its origins; its elaboration in French, English, and other medieval literatures; and its expression in modern literature (especially English and American) and in the visual arts, film, and music. All readings available in English. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA AH, Lit**

#### **French 449. Old French**

To enable students to read Old French, this course offers a brief presentation of grammatical concepts and forms; close reading, translation, and discussion of selected medieval texts. Knowledge of Latin useful but not essential. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 450. Women and the Medieval French Literary Tradition**

*Same as WGSS 4502.*

The Middle Ages constitute a beginning—a period when new languages and literatures came into being, along with Romanesque book-illumination and stained glass, Gothic cathedrals, Gregorian chant, Troubadour song, crusades for the Holy Land, and quests for the Holy Grail. Medieval French literature is therefore a new literature, defining itself against antique models and its own rich multilingual, highly visual, and oral culture. This course provides an overview of this diverse and fascinating French literary tradition while focusing on the status of women in the literary production of the Middle Ages. Particular attention is given to women's role in the creation of texts as authors and patrons. We also examine how gender roles are constructed and challenged through the literary representation of female characters. Readings include examples from major genres: Marie de France's *Lais*, Chrétien de Troyes's *Lancelot*, Rutebeuf's *Vie de Sainte Elysabel*, the anonymous *Aucassin et Nicolette*, as well as Fabliaux, poetry of the Trouvères and Trobairitz, excerpts of the *Roman de la Rose*, and works by Christine de Pizan. All readings and discussions are in modern French. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH**

#### **French 451. French Literature of the Middle Ages I**

Undergraduates register for this course. French literature from the beginning to 1250. The course emphasizes chansons de geste, courtly romance and lyric, and early drama. Most works read in modern French. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA Lit**

**French 452. French Literature of the Middle Ages II**

Literature from 1250 to the end of the Middle Ages, with emphasis on theater, fabliau, allegory, and late medieval lyric. Most works read in modern French. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA** Lit

**French 453. History of the French Language**

Study of phonetic and morphological evolution of the French language with side glances at historical events that shaped this development. No previous knowledge of Latin necessary. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S LA**

**French 456. Romance Philology**

*Same as Ital 456, Span 456, Ling 455.*

Study of the evolution of the major Romance languages from their common Latin origins. Knowledge of classical Latin not required, but acquaintance with phonetics of at least one Romance language extremely helpful. Conducted in English. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S LA**

**French 458. Nature, Landscape, and Travel in the Middle Ages**

Through an examination of the concept of nature in the Middle Ages, the course analyzes the importance of the presence or absence of landscapes in medieval literature, including chansons de geste, courtly romances, roman de la rose, accounts of travel and pilgrimages, poetry, and theater. We examine the movements of medieval men and women from one place to another; their concepts of the relation between the nature and culture; their emotions when confronting nature; the various means they use to describe space and travel; and the function of nature and landscapes within individual works. Each text is situated within the general framework of the history of the language and the literature of the period. The thematic focus of the course is informed through theological, philosophical, and anthropological perspectives essential to an appreciation of all medieval texts. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH FA** SSP

**French 4581. Sacrifice and Service: Masculinity and the Medieval French Literary Tradition**

The Middle Ages constitute a beginning: a period when new languages and literatures—along with Gothic cathedrals, troubadour song, Romanesque art, crusades for the Holy Land, and quests for the Holy Grail—come into being. By focusing on the notion of service, we study how medieval society established a hierarchy of power that encompassed religious, feudal, and courtly relationships. Particular attention is given to the construction and testing of gender roles. What were men and women asked to sacrifice? Whom and what were they supposed to serve? How did the concepts of honor and heroism motivate the service of knights and heroines to their king and God? Texts to include: *La Chanson de Roland*, *La Queste du Saint-Graal*, *La Vie de Saint Alexis*, *Le Jeu d'Adam*, Béroul's and Thomas's versions of *Le Roman de Tristan*,

Chrétien de Troyes's *Le Chevalier au Lion ou Yvain*, Rutebeuf's *Miracle de Théophile*, and Christine de Pizan's famous poem on Jeanne d'Arc. All readings in modern French. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for required for undergraduates. Credit 3 units.

**A&S TH**

**French 459. Writing North Africa**

This seminar studies French travel writing related to North Africa, as well as the major works of literature from and about Algeria, Morocco, and Tunisia, as a prelude for reading the texts of those countries' Francophone literature now considered canonical. We consider how colonial-era writing by authors such as Eugène Fromentin and Pierre Benoît defined the colonial "exotic." We then examine the way the former empire wrote its own literature in the language of the former colonizer in the works of post-independence authors such as Kateb Yacine, Assia Djebar, and Abdelkebir Khatibi, who both observe and revise the conventions of post-colonial literature. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**French 460. Topics in European History IV**

A detailed look at the contributions of major French theorists such as Beauvoir, Cixous, Irigaray, and Kristeva and the interpretation of French feminism in America. We study French feminist theory with an eye to psychoanalysis, maternity as metaphor and experience, women and language, Marxist-feminist theory, and aesthetics. Conducted in French. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH FA** SSP

**French 461. Topics in French Literature and History**

How genre affects both the production of a given literary text and its perception by the reader. Representative texts from different centuries and movements. Prerequisites: French 325 and 326 or (for students who have completed the Paris Business Program) completion of either course). One-hour preceptorial for undergraduates only. Credit 3 units.

**A&S TH FA** Lit, SSP

**French 466. Second-Language Acquisition**

*Same as Ling 466.*

**A&S LA**

**French 468. Topics in French Literature**

Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA** Lit

**French 469. Reading and Writing in a Second Language**

In the past decade, the process of becoming literate in a second language has received considerable attention by researchers and instructors. This course, taught in English, extends issues in second-language (L2) literacy beyond pedagogy by examining the wide range of theoretical and research issues, both historical and current. Literacy acquisition among second-language learners involves a number of variables, including both cognitive and social factors. Topics to be discussed in class include individual learner differences; the extent to which reading and writing are interre-

lated; text types and literary forms; literacy and social power; and universal cognitive operations. Students discuss how to bridge research and practice, and they create activities to be included in a reading and writing portfolio. Course counts toward the Graduate Certificate in Language Instruction. Credit 3 units.

**A&S LA**

**French 470. Suffering and Self-Expression in Early Modern French Literature**

How did early modern people cope with disease, suffering, and death? With the advancement of medical science, in particular with Ambroise Paré, who saw it as his mission to ease his patients' pain, a new sensitivity toward man's suffering began to develop. Working within the historical and scientific context of the time, this course examines old and emerging attitudes toward man's suffering with special emphasis on the relationship between suffering and artistic expression. Topics discussed include: suffering as part of the human condition; suffering and faith; suffering and early modern medicine; medicine and religion; gendered views of illness; disease/suffering as a vehicle of relief and self-expression; literary treatment of suffering and disease, including melancholia, depression, suicide, kidney stone, mourning, aging, etc.; images of the ailing body and the ailing mind in early modern texts; disease as a theme and a metaphor. Various genres are covered (fiction, poetry, drama, essay, travelogue). Authors are likely to include Maurice Scève, Helisenne de Crenne, Louise Labé, Joachim Du Bellay, Pierre de Ronsard, Marguerite de Navarre, Jean-Baptiste Chassignet, Gabrielle de Coignard, and Michel de Montaigne. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial for undergraduates only. Credit 3 units.

**French 481. Sartre and Existentialism**

This course studies French existentialism in light of recent intellectual developments, especially postmodernism; detailed study of Sartre's major literary and critical works. Conducted in French, nonmajors may do written work in English. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA** Lit

**French 482. Avant-Garde, Postmodern, and Modernity**

We study the history and evolution of an avant-garde in French literature, possible definitions of the postmodern, description of the different areas of modernity. Readings both theoretical and literary. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S TH FA** Lit

**French 483. Gender and Genre**

*Same as WGSS 483.*

A sampling of the diverse contributions made by French women to literary history, this course examines what prompted women to write in the 16th century, what they wrote about, which genres they chose, how these women were viewed by their contemporaries; etc. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S SD, TH FA** Lit

**French 492. Contemporary French Literary Criticism**

The first half of the course deals with works of Roland Barthes; the second examines the relationship of philosophy to literature and explores how the ideas of Foucault, Lacan, Derrida, Deleuze, Girard, and Baudrillard can be applied to the study of literary texts. Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S** TH **FA** Lit

**French 493. Selected French Writers**

Prerequisites: French 325 and 326, or one of these courses and the equivalent Washington University transfer literature course from Toulouse or Paris. One-hour preceptorial required for undergraduates. Credit 3 units.

**A&S** TH **FA** Lit

**French 495. Honors**

To be considered for graduation with Honors, students must: (1) participate satisfactorily in two 400-level literature courses and (2) enroll in French 495 and submit an Honors thesis approved by the department at least two months before graduation. Prerequisite: 3.0 grade point average. Qualified students should consult the department. Credit 3 units.

**A&S** TH

**Italian****Ital 101D. Elementary Italian Level I**

Beginning language program stressing rapid acquisition of spoken ability, with some attention to the development of reading, writing, and listening skills as well. Designed for students with no prior knowledge of Italian or minimal experience in another Romance language. Credit 5 units.

**A&S** LA

**Ital 102D. Elementary Italian Level II**

Continuation of Ital 101D. Course stresses rapid acquisition of spoken ability with increased attention to the development of reading, writing, and listening skills. Prerequisite: Ital 101D or placement by examination. Credit 5 units.

**A&S** LA

**Ital 106D. Elementary Italian for Romance Language Students I**

Designed for students whose previous study of French or Spanish enables them to grasp the principles and rules of Italian grammar more efficiently. Emphasis on all four language skills: speaking, listening, reading, writing. Prerequisites: undergraduates, four years of high school French or Spanish, or French/Span 201D; no prerequisite for graduate students in Romance languages; graduate students in other fields admitted by permission of instructor. Credit 4 units.

**A&S** LA

**Ital 107D. Elementary Italian for Romance Language Students II**

Continuation of Ital 106D. Designed for students whose previous study of French or Spanish enables them to grasp the principles and rules of Italian grammar more efficiently. Emphasis on all four language skills: speaking, listening, reading, writing. Prerequisite: Ital 106D or permission of instructor. Credit 4 units.

**A&S** LA

**Ital 108. Elementary Italian Level I**

Beginning language program stressing rapid acquisition of spoken ability with immersion teaching method. Credit 4 units.

**A&S** LA

**Ital 109. Elementary Italian Level II**

Continuation of Ital 108. The 109 Italian course

parallels the methodology of the 108 level, but more sophisticated grammatical skills are covered. The Ital 108-109 sequence covers the major grammatical points of the language. Students who complete Ital 108 and 109 are eligible to enroll in Ital 201. Prerequisite: Ital 108 (Elementary Italian Level I) or equivalent. Credit 4 units.

**A&S** LA

**Ital 201D. Italian Level III**

*Same as Ital 201D.*

A course divided into two parts taught by a team of instructors in a MWF master class and T/Th reading and discussion section. Reviews basic skills intensively with increased emphasis upon writing. Prerequisite: Ital 102D or placement by examination. Credit 5 units.

**A&S** LA

**Ital 215. Conversation/Culture**

This course examines popular culture through a focus on what is said and performed. The course consists of thematic units focusing on everyday occurrences and themes that mark the Italian experience, such as conversation in the Italian bar; poignant views of life expressed in films and other media; daily experiences depicted in poems and songs; public and private politics; the role of the meal in real life, art, and literature. As students advance through each thematic module, they develop a creative project in which they put into practice (by a skit/presentation/text/artwork) what they have learned. Prerequisite: Ital 201D or the equivalent. Credit 3 units.

**A&S** LA

**Ital 247. Freshman Seminar**

Taught in English. Small group seminar devoted to readings and study of other texts such as films, paintings, etc.; discussion; and writing. Topics vary; interdisciplinary focus. Credit 3 units.

**Ital 249. Refracted Light: How Others View Italy**

Throughout the centuries, Italy has both enjoyed and suffered the fascinated gaze of foreigners, who have written about it, painted it, made music and films about it. Drawing principally on prose writings from the 18th to the 20th centuries in such varied genres as the short story, the novel, the mystery novel, travel writing, and the memoir, this course examines the images of Italy that non-Italians project. Beyond learning about Italy, students consider their own "idea" of Italy, examine their own frame of reference and cultural biases, interrogate a variety of stereotypes, and ponder how well one can truly understand a place as an outsider or reader. Authors studied include Stendhal, Dickens, James, Forster and Mann, and James, as well as such contemporary writers as Michael Dibdin and Shirley Hazzard. Credit 3 units.

**A&S** TH

**Ital 298. An Internship for Liberal Arts Students**

*Same as GeSt 2991.*

**Ital 2991. Undergraduate Independent Study**

Prerequisites: Ital 201D and permission of the department. No more than 6 units may be earned by a student. Credit 3 units.

**Ital 301. Oral Communication I**

Designed to offer students an opportunity to practice and refine their conversational skills while expanding their practical vocabulary. Wide variety of topics for discussion; brief oral reports. Regular homework assignments with emphasis on web-based research and learning. Prerequisite: Italian 201D. Credit 3 units.

**A&S** LA

**Ital 307D. Grammar and Composition I**

*Same as Ital 307D.*

This course features advanced lessons in Italian

grammar and vocabulary and an introduction to prose analysis, with the goal of improving both reading and writing in Italian. The basis of our work is a series of readings having a common theme: the representation of childhood in Italy in the late 19th and early 20th centuries. We will think about the status of children at the turn of the century, particularly with regard to family, education, and work, and also about the challenges a writer faces to portray the experience and point of view of a child believably. Readings include short stories by Gabriele D'Annunzio, Edmondo De Amicis, Luigi Pirandello, and Giovanni Verga, as well as Carlo Collodi's classic novel, *Pinocchio*. Grammar exams and regular composition assignments; final exam. Essential for further study of Italian language and literature, this course must be taken before or concurrently with Ital 323C or 324C. Prerequisite: Ital 201D or permission of instructor. Credit 3 units.

**A&S** LA

**Ital 308D. Grammar and Composition II**

A continuation of Ital 307D, this course features advanced lessons in Italian syntax and vocabulary and an introduction to the analysis of poetry and theatrical texts, with the goal of improving both reading and writing in Italian. The basis of our work is a series of readings having a common theme: desire required and unrequited. We think about what poets desire, how they give verbal expression to it, and how the success or failure of their pursuit informs their writing. Likewise, we look at how playwrights exploit this theme as a plot device. Readings include poetry by Petrarch, Michelangelo, Tasso, and Montale, as well as two comedies. Grammar exams and regular composition assignments; final exam. Essential for further study of Italian language and literature, this course must be taken concurrently with Ital 323C or 324C. Prerequisite: Ital 307D or permission of instructor. Credit 3 units.

**A&S** LA

**Ital 310. Advanced Italian Grammar in Padua**

This advanced Italian grammar course is taught every year in Padua, Italy, in the Boston University program, with which Washington University is affiliated. The course allows students to further their mastery of Italian grammar and syntax, in order to achieve a level of full satisfaction of comprehension and active communication. Readings include newspaper articles and literary essays; students write brief compositions while taking weekly tests. Open only to Washington University students enrolled in the Padua, Italy, program with Boston University. Credit 4 units.

**Ital 311. Introduction to Contemporary Italy**

This course is taught every year in Padua, Italy, in the Boston University program with which Washington University is affiliated. The course focuses on refining students' ability to express themselves in Italian while presenting an overview of the history and society of contemporary Italy. Readings include works by authors who are particularly significant to Italian literature of the 20th century, as well as an array of other materials. Open only to Washington University students enrolled in the Padua, Italy, program with Boston University. Credit 4 units.

**Ital 319. Advanced Conversational Italian**

Designed to offer students with strong proficiency in Italian an opportunity to practice and refine their conversational skills through the study, rehearsal, and performance of theatrical scenes or an Italian comedy from the repertoire of such chief literary figures as Machiavelli, Goldoni, Pirandello, Natalia Ginzburg, and Dario Fo. Prerequisite: Ital 215 or placement by examination. Credit 3 units.

**A&S** LA

**Ital 322. Topics**

Same as Drama 3221.

A multidisciplinary course focusing on a significant aspect of Italian culture. The topic differs from semester to semester and may draw on art, film, history, gender studies, literature, music, philosophy, politics, science. Prerequisite: previous or concurrent enrollment in Ital 307D.

**Section 01. The Italian Resistance.** This course focuses on artistic reactions against the fascist dictatorship in Italy. After discussing the historical and cultural context that gave rise to fascism and the partisan rebellion, we study what is conventionally called the neorealist "movement" (1930–50), which developed spontaneously and without codified structures in opposition to the political and discursive controls imposed by fascism and which was characterized by certain literary motifs and innovations. We consider, among other things, the emphasis on small localized stories (storie) of individual resistance during the war through which authors sought to evoke a unified choral history (Storie) of rebellion; the uncommon heroes, typically children, women, priests, and the poor, who are represented as the soul and the primary agents of political and moral renewal; and the unorthodox emphasis on the spoken, regional, and dialectal word. We conclude by considering more recent representations in literature and film of the Resistance. We read such novels as Italo Calvino's *Il Sentiero Dei Nidi Di Ragno* (1947), Ignazio Silone's *Pane e Vino* (1937), Carlo Levi's *Cristo Si e Fermato a Eboli* (1945), and Elio Vittorini *Conversazione in Sicilia* (1941); and we discuss such films as Roberto Rossellini's *Roma Città Aperta*. Course taught in Italian; readings in Italian.

**Section 02. Rome.** This course explores a variety of literary texts and films in which Rome features as protagonist. A historic center of Western civilization and authority, of Christianity, of cultural splendence and degeneration, the city of Rome is a palimpsest of history, myth, and symbolic meaning. We examine the myriad ways in which the capital city is conceived by modern Italian writers and film directors such as d'Annunzio, Moravia, Gadda, Pasolini, Fellini, De Sica, Scola, and Rossellini. Credit 3 units.

A&S TH

**Ital 323C. Italian Literature I**

Introductory survey of Italian literature from its beginnings in the Middle Ages through the late Renaissance. Analysis of the predominant genres: lyric, religious narrative, novella, treatise, chivalric epic. Prerequisite: Ital 201D. Previous or concurrent enrollment in Ital 307D or 308D recommended. Credit 3 units.

A&S TH FA Lit

**Ital 324C. Italian Literature II**

Major literary works in Italy from the 18th, 19th, and 20th centuries. Movements covered include romanticism, verismo, futurism, neorealism, and postmodernism. Writers range from Goldoni and Leopardi to Pirandello and Calvino. Prerequisite: Ital 201D. Previous or concurrent enrollment in Ital 307D or 308D recommended. Credit 3 units.

A&S TH FA Lit

**Ital 332. Topics in Film Studies: Italian Cinema**

Same as EuSt 332, IAS 3321.

The evolution of Italian cinema from its origins to the present. Study of cinematic works and periods from a variety of theoretical perspectives. Specific areas of discussion include cinema as a revolutionary aesthetic; mass culture vs. high art; early genre; divismo (stardom); the avant-garde; the advent of film sound; the representation of politics and history; neorealism; postwar popular genre; modernism; metacinema; literary adaptation; postmodernism. Discussions are based on works by major Italian filmmakers such as Pastrone, Blasetti, Rossellini, De Sica, Visconti, Fellini, An-

tonioni, Monicelli, Leone, Pasolini, Bertolucci, Nichetti, Moretti. Some emphasis on the relationship between literature and film. Course conducted in English; Italian majors read in Italian, others in English translation. Prerequisite for Italian majors: Ital 307D or permission of instructor. Two to three hours of film-viewing plus three class hours a week. Taught in English. Credit 3 units.

A&S TH FA AH, Lit

**Ital 334. Topics in Italian Cinema**

Same as IAS 3352, EuSt 335.

A companion to Ital 332, this course focuses on a select topic in the history of Italian cinema, such as the work of a single director or a significant cinematic movement. Course is conducted in English; Italian majors read in Italian, others in English translation. Prerequisite for Italian majors: Ital 307D. Prerequisite for nonmajors: Ital 332, Film 220, or permission of instructor. Credit 3 units.

A&S TH FA AH

**Ital 350. Special Topics in Italian Literature and Culture**

Credit 1 unit.

A&S TH FA Lit

**Ital 352. Italian Institute Project**

Credit 2 units.

A&S LA

**Ital 399. Independent Study**

Undergraduate independent study at the 300 level. Prerequisites: competence in oral and written Italian, and permission of instructor. Credit variable, maximum 6 units.

**Ital 419. Feminist Literary Theory**

Same as WGSS 419.

A&S TH

**Ital 428. The New Sicilian School**

Same as IAS 4284, EuSt 4280.

The unification of Italy in the mid-19th century led to the creation of a new "Sicilian School," the first since that of the court poets associated with Frederick II in the 13th century. These new Sicilian writers have given us many narrative masterpieces, focusing on common concerns such as the island's identity over two millennia and the impact of Italian nationalism; the rise of bourgeois culture and the decline of indigenous patriarchal structures; the rule of law and the role of the Mafia; and the politics of language. We read novels by several of these authors, including Verga, Vittorini, Tomasi di Lampedusa, Sciascia, Maraini. Course taught in English; readings in Italian or English. Credit 3 units.

A&S TH FA Lit

**Ital 432. Divergent Voices: Italian Women Writers**

Same as WGSS 432, EuSt 432, IAS 4324.

We examine select novels and theoretical and political writings by and about Italian women writers from the 17th century to the present. The aim of the course is to familiarize students with the rich literary production, cultural influence, and artistic and political views of Italian women writers through history. In order for students to understand the distinct circumstances that influenced the production of these texts, special attention will be paid to the historical, political, and cultural contexts that influenced authors and their work. A major emphasis is placed on the acquisition of skills of literary analysis by exploring themes, styles, and rhetorical and narrative structures. Students are expected to familiarize themselves not only with the primary texts of the course, but with secondary sources as well. A workshop environment is encouraged wherein instructor and students work cooperatively toward the realization of course goals.

A&S SD, TH, WI FA Lit

**Ital 433. Literature of the Italian Enlightenment**

Same as IAS 4330, EuSt 433.

This course aims to explore the spectrum of intellectual and literary discourse of the Italian Enlightenment by examining a wide array of texts and genres. Readings include selections from Enlightenment and popular periodicals, scientific tracts on human anatomy, women's fashion magazines, the reformed theater of Carlo Goldoni, as well as Arcadian poetry and literary criticism. We will study the rise and characteristics of "coffee culture" during this age. We pay special attention to the "woman question," which stood at the center of 18th-century Italian intellectual discourse and which was critical to the contemporary drive to define the enlightened nation-state. The class is conducted as a workshop in which students and instructor collaborate in the realization of course goals. Readings in Italian or English; discussion in English. Prerequisite: Ital 323C or 324C. Credit 3 units.

A&S TH, WI FA Lit

**Ital 437. Caffè, Cadavers, Comedy, and Castrati: Italy in the Age of the Grand Tour**

Same as EuSt 437, IAS 4371.

Taught in English. With French libertine philosopher the Marquis de Sade, German novelist Johann Wolfgang von Goethe, Romantic poet Lord Byron, and other illustrious travelers of high birth and good fortune who sought finishing enrichment by making their Grand Tour to Italy from the mid-18th through the early 19th centuries, we explore the richness and variety of Italian life and culture as depicted by both Grand Tourists as well as their Italian interlocutors. Chief among our destinations are Venice, Bologna, Florence, and Rome. Attractions typical of the early modern Tour circumscribe our journey. Coffee houses first appeared in the 18th century and, in ways strikingly similar to their function today, became the real and symbolic centers of social, intellectual, and civil exchange. We explore 18th-century coffee culture through comedies and Enlightenment and popular journals that took them as their theme, as well as through a study of the coffee houses themselves, a number of which are still in existence. Theaters, concert halls, gaming houses, literary and scientific academies, galleries, churches, and universities are part of the standardized itinerary we follow. During the period, anatomy and physiology attained new legitimacy as crucial scientific disciplines, and we visit both the anatomical theater at the University of Bologna, where the annual Carnival dissection took place, as well as the first museum of anatomy and obstetrics founded in the Bolognese Institute of Sciences in 1742 by Pope Benedict XIV. We visit archeological excavation sites, in particular Pompeii, first unearthed in 1748. Fashion, an obsessive preoccupation of the day, also is a point of interest in our travels. We also encounter through primary and recently published secondary sources the remarkable authority of Italian women unmatched anywhere else in Europe at the time. Prerequisite: at least one 300-level literature course. Readings in Italian or English. Credit 3 units.

A&S TH

**Ital 456. Romance Philology**

Same as French 456.

A&S LA

**Ital 473. Machiavelli and Guicciardini**

Same as Pol Sci 407.

The development of modern political science in 16th-century Italy; questions of theory, methodology, and historical context as factors in the development of Machiavelli's and Guicciardini's political visions. Readings in Italian or English; discussion in English. Credit 3 units.

A&S TH, WI FA SSP

**Ital 481. Dante**

A study of the *Divina commedia* with emphasis on the “Inferno.” Conducted in English. Reading knowledge of Italian recommended, but not required. Credit 3 units.

**A&S TH FA Lit**

**Ital 483. Boccaccio: *Decameron***

The unrivaled master of late medieval Italian prose, Boccaccio is also a strikingly modern author whose works address such questions as the relationship between literature and history; God and man; storyteller and audience; gender, language, and power; literature and truth. With these and other concerns in mind, we read his masterpiece, the *Decameron*, a collection of 100 tales set in the Black Plague of 1348. We then contrast it to his late *Corbaccio*, ostensibly a misogynist novel, but a text that finally resists such a flattening judgment. Readings in Italian or English; discussion in English. Prerequisite: 3 units of literature. Credit 3 units.

**A&S TH WI FA Lit**

**Ital 485. Ariosto: *Orlando Furioso***

A close reading of this Renaissance masterpiece with attention to questions of structure and sources, the themes of love and madness, the representation of court life. Readings in Italian or English; discussion in English. Credit 3 units.

**A&S TH FA Lit**

**Ital 491. Postmodernism**

Same as IAS 4918, EuSt 491.

This course explores the complex significance of Italian postmodernism through an examination of the theoretical arguments and literary works that have shaped the cultural and political debate of the past 50 years. Students study, among others, the critical theories of “open work” (Umberto Eco), “literature as lie” (Manganelli), and “weak thought” (Gianni Vattimo) that developed from the neo-avant-garde movement of the 1960s. Analysis focuses on the novels of four authors who have had a defining influence on Italian postmodern thought and narrative forms: Carlo Emilio Gadda, Italo Calvino, Luigi Malerba, and Umberto Eco. Course conducted in English; Italian majors read in Italian, others in English translation. Prerequisite for Italian majors: Ital 307D or permission of instructor. Credit 3 units.

**A&S TH, WI**

**Ital 492. The Italian Detective Novel**

Same as EuSt 492, IAS 4920.

The detective novel has an unusual and exceptionally brief history in Italy. Only within the past 35 years has an Italian version or, more precisely, subversion of the genre emerged and come to dominate the Italian literary scene. Prominent Italian writers such as Italo Calvino, Umberto Eco, Leonardo Sciascia, and Luigi Malerba have deconstructed the conventions of the detective novel in order to portray the disorder and arbitrary meaning of the postmodern world. This course explores the history of the “anti-detective” novel in Italy, and the philosophical and political questions the genre evokes. Readings in Italian and English. Conducted in English. Credit 3 units.

**A&S TH, WI FA Lit**

**Ital 495. Senior Honors**

Prerequisite: senior standing, at least one course at the 400 level, and acceptance into the Honors program. Credit variable, maximum 6 units.

**A&S TH**

**Ital 4ABR. Italian Course Work Completed Abroad**

Credit variable, maximum 12 units.

**Portuguese****Portug 101. Portuguese I**

Introduction to Brazilian Portuguese language.

The course emphasizes acquisition of communicative ability. It also covers basic grammar points through reading and writing activities. Classes are taught entirely in Portuguese. No prior experience in the language is required. Credit 5 units.

**A&S LA**

**Portug 102A. Portuguese II**

Introduction to Brazilian Portuguese language.

This second course in the Portuguese program emphasizes acquisition of communicative ability. It also covers basic grammar structures through reading and writing activities. Classes are taught entirely in Portuguese. Prerequisite: Portug 101 or permission of instructor. Credit 5 units.

**A&S LA**

**Portug 103. Brazilian Portuguese for Spanish Speakers I**

Intensive and accelerated course especially designed to take advantage of students' knowledge of Spanish and to promote a more rapid learning of Brazilian Portuguese. Classes are entirely taught in Portuguese, and stress oral communication, basic use of grammar, reading, and writing skills. Intermediate online placement exam in Spanish is required. Credit 3 units.

**A&S LA**

**Portug 104. Brazilian Portuguese For Spanish Speakers II**

This course intends to offer a sequence in the learning process initiated in Portug 103. It is a fast-paced class, designated for Spanish speakers with the objective of improving conversational, writing, and reading skills. Prerequisite: Portug 103 or permission of instructor. Credit 3 units.

**A&S LA**

**Portug 215. Reading and Conversation**

The goal of this course is to review and enhance the content learned at the basic level. Through reading (we read three short contemporary Brazilian novels) and related conversational activities, students are expected to enrich their vocabulary, gain fluency, and improve reading comprehension ability. Prerequisite: two college semesters of Portuguese or permission of instructor. Credit 3 units.

**A&S LA**

**Spanish****Span 101D. Spanish Level 1**

Same as Span 101D.

Beginning language program stressing rapid acquisition of communicative ability. In addition to four hours of master class, students must enroll for two hours of additional practice and do one hour of assessed independent learning activities with multimedia resources. Credit 5 units.

**A&S LA**

**Span 102D. Spanish Level 2**

Same as Span 102D.

Beginning language program stressing rapid acquisition of communicative ability. In addition to four hours of master class, students must enroll for two hours of additional practice and do one hour of assessed independent learning activities with multimedia resources. Prerequisite: Span 101D or placement by examination. Credit 5 units.

**A&S LA**

**Span 108. Elementary Spanish Level I**

Beginning language program stressing rapid acquisition of spoken ability with immersion teaching method. Credit 4 units.

**A&S LA**

**Span 109. Elementary Spanish Level II**

Continuation of Span 108. This course parallels

the methodology of the 108 level, but more sophisticated grammatical skills are covered. The 108-109 sequence covers the major grammatical points of the language. Students who complete Span 108 and 109 are eligible to enroll in Span 201. Prerequisite: Span 108 or equivalent. Credit 4 units.

**A&S LA**

**Span 201D. Spanish Level 3: Intermediate Spanish**

An accelerated intermediate-level grammar review taught by a team of instructors in a MWF grammar class and a T/TH literature/composition class. Reviews basic and some advanced skills intensively with increased emphasis upon reading, writing, culture, and vocabulary learning. Prerequisite: Span 102D or placement by examination. Students must register for both a T/TH and a MWF class. Credit 5 units.

**A&S LA**

**Span 245. Women's Fiction in Contemporary Spain**

Same as WGSS 253.

This course will focus on selected novels and short stories by 20th-century women writers in Spain, beginning with those writing during the post-Civil War years (1939–1975) and ending with the new generation of women writers who emerged after the end of the Franco dictatorship (post-1975). Discussions will center on both political and aesthetic issues in the contexts of post-war and post-Franco Spain, including the effects of political repression and censorship, representations of gender and sexuality, and literature's relationship to feminist and nationalist movements in Spain. When relevant, other cultural media, such as film and music, will be used in conjunction with our reading and analysis of literary texts. The course will be taught in English. Credit 3 units.

**A&S TH FA Lit**

**Span 247. Freshman Seminar**

Taught in English. Small group seminar devoted to readings and study of other texts such as films, paintings, etc.; active discussion; and writing. Topics vary; interdisciplinary focus.

**Section 01. Women Between Cultures: U.S.**

**Latinas.** In the past 15 years, Chicanas, Nuyorican, Cuban-Americans, Dominican-Americans, and other Latinas writing in the United States have created a significant body of works dealing with being a woman between two cultures. This course will examine how women have articulated the experience of living within two sets of cultural codes. We will read works by Sandra Cisneros, Cristina García, Julia Alvarez, Esmeralda Santiago, Rosario Ferré, Nicholasa Mohr, and Elena Castedo. In our approach, we will consider the theoretical writings of Gloria Anzaldúa, María Lugones, Rosi Braidotti, and others.

**Section 02. Women's Fiction in Contemporary Spain.**

This course will focus on selected novels and short stories by 20th-century women writers in Spain, beginning with those writing during the post-Civil War years (1939–1975) and ending with the new generation of women writers who emerged after the end of the Franco dictatorship (post-1975). Discussions will center on both political and aesthetic issues in the contexts of post-war and post-Franco Spain, including the effects of political repression and censorship, representations of gender and sexuality, and literature's relationship to feminist and nationalist movements in Spain. When relevant, other cultural media, such as film and music, will be used in conjunction with our reading and analysis of literary texts. Credit 3 units.

**Span 251. Latin-American Nomads and Travelers**

Rites of passage and trespassing representing

Latin-American immigrants, nomads, and travelers in narrative and film. This course is designed to map the multicultural context of travel, nomadism, displacement, and immigration while studying narrative texts (*Before Night Falls*, *Heading South*, *Looking North*, *Life on the Hyphen*, *Crossing the Border with Esperanza's Story*) and films (*El Norte*, *Gringuito*, *Old Gringo*, *Stand and Deliver*) by Latin-American and Latino authors. We will look at the images, metaphors, and myths that pervade current conceptualizations of the borderlands and explore the variety of ways in which postcolonial rites of passage and trespassing inform the aesthetics of contemporary Latin-American cultural expression. In English. Credit 3 units.

**A&S TH FA SSP**

**Span 298. An Internship for Liberal Arts Students**

*Same as Ge St 299I.*

**Span 299. Undergraduate Independent Study**

Prerequisites: Span 201D and permission of the department. Credit variable, maximum 3 units.

**Span 301. Oral Communication I**

Practice of spoken Spanish and expansion of vocabulary in a wide range of topics. Discussion and role play based on short readings, music, and film. Use of the Web for up-to-date news and culture. Oral presentations and limited writing. Prerequisite: 201D or equivalent. Concurrent enrollment in Span 307D recommended. Credit 3 units.

**A&S LA**

**Span 307D. Spanish Level 4: Grammar and Composition 1**

Through a free and practical review of Spanish grammar and syntax, this course will allow students to refine their handling of written and spoken Spanish. Emphasis on the understanding and use of the fine points of the language. Activities include oral reports, compositions, class discussions, group projects, and the study of selections of literary and nonliterary materials. Prerequisite: Span 201D or placement by examination. Credit 3 units.

**A&S LA**

**Span 308D. Spanish Level 4: Grammar and Composition 2**

In-depth study of the process of writing, designed to prepare the Spanish major to write literary analysis. Literary texts studied as examples of writing styles. Regular compositions. Prerequisite: Span 307D or placement by examination. Credit 3 units.

**A&S LA**

**Span 310. Advanced Intermediate Spanish in Spain**

Continued study of Spanish grammar and syntax at Washington University's Madrid Carlos III University program. A course designed for non-native speakers of Spanish to refine communicative abilities in all four skills. Prerequisite: placement by exam at Carlos III. Credit variable, maximum 4 units.

**Span 311. Hispanic Culture and Civilization I**

Study of aspects of the political, social, and cultural life of contemporary Spain and Portugal, and their historical development. Class discussion; readings with compositions. Conducted in Spanish. May be repeated for credit. Prerequisite: Span 201D. Credit 3 units.

**A&S CD, TH FA SSP**

**Span 312. Topics in Hispanic Culture and Civilization II**

*Same as LatAm 312.*

Study of aspects of the political, social, and cultural life of contemporary Latin America and its historical development. Class discussion; readings

with compositions. Conducted in Spanish. Prerequisite: Span 201D or placement by examination. Credit 3 units.

**A&S CD, TH FA SSP**

**Span 313. Chilean Contemporary Culture**

This two-week course will provide a panoramic view of Chilean contemporary culture, focusing on 1988 to the present. We will examine the representation of current issues in literature, the arts, and the media, and study topics such as governmental institutions, the constitution of 1980, the economy, the role of the Catholic Church, public policy concerning culture, etc. The course will meet three hours a day, and there will be several guest lecturers. Conducted in Spanish. Requirements: two short papers, short reports in class of the news or a cultural activity students have attended, and participation in class discussions. Course includes an all-day cultural excursion on Saturday (it includes a visit to one of Neruda's houses, a history museum, etc.). Credit 3 units.

**A&S TH FA SSP**

**Span 315. Conversation in Spain**

Designed to offer students with advanced skills in Spanish an opportunity to practice and refine their conversation ability on location in Spain. Credit 2 units.

**A&S LA**

**Span 317. Advanced Spanish Language in Chile/Spain**

Continued study of Spanish grammar and syntax at Washington University's program in Chile or Spain. A course designed for non-native speakers of Spanish to refine mastery of difficult uses and structures in all four skills. Prerequisite: placement by exam or program director. Credit variable, maximum 4 units.

**Span 318I. Spanish Culture and Civilization**

This course is intended to acquaint students with diverse aspects of Spanish culture, including history, civilization, society, politics, and the arts (paintings, architecture, music, and film), dating from the first invasions of the Peninsula to the present. Students will be exposed to a wide range of written texts on Spanish culture (newspaper articles, essays by contemporary intellectuals, and scholarly studies), as well as visual media (videos and the Internet), in order to gain an awareness of the diversity of ethnic, cultural, and aesthetic traditions within Spain. The broader aim of the course is to enable students to approach and analyze "culture" from an intellectually critical perspective within concrete sociohistorical contexts. Prerequisite: Span 307D with a grade of B or better, or placement by examination. In Spanish. Credit 3 units.

**A&S CD, TH FA SSP**

**Span 320I. Historical and Comparative Linguistics**

*Same as Ling 320.*

**A&S LA FA Lit**

**Span 321. Oral Communication II**

Designed to offer students with advanced skills in Spanish an opportunity to refine their ability to discuss a variety of topics. Various media (film, TV, and newspapers) are used as a basis for debate on cultural topics pertaining to the Spanish-speaking world. Oral presentations and limited writing. Prerequisites: Span 301 and 307D, or multiple 300-level courses. Credit 3 units.

**A&S LA**

**Span 322. Advanced Conversation in Spain**

Designed to offer students with advanced skills in Spanish an opportunity to refine their ability to discuss a variety of topics. Various media such as films, television, newspapers, and other modes of communication will be used for oral presentations and some writing. Prerequisite: Span 301, 307D,

or 308D; or multiple 300-level courses. Credit 3 units.

**A&S LA**

**Span 324. Conversation in Cinema**

This is an advanced conversation course in which subject matter for discussion is contemporary Hispanic cinema. Students will view one film for each class and will be required to discuss that film from varying points of view (theme, plot, character development, artistic innovations, etc.). Supplementary readings. Class assignments include film reviews, class presentations, and oral exams. Grade based on improvement from beginning of course. Prerequisites: Span 301 and 307D, or permission of instructor. Credit 3 units.

**A&S LA**

**Span 325. Exploration, Traveling, and the Double Gaze: Mapping Geography and Identity in Colonial Spanish America**

In this course, we will examine the geographical, cultural, and ideological mapping as described in the travel/exploration chronicles of the 16th, 17th, and 18th centuries. We will focus on the Southern hemisphere (Peru) as well as the Northern Frontier (Mexico, New Mexico, La Florida, Colorado) while reading narrative texts such as Columbus' *Diario*, Cabeza de Vaca's *Naufragios*, Inca Garcilaso de la Vega's *The Florida of the Inca*, Francisco Vázquez de Coronado's *Narratives of the Coronado Expedition*, and Alonso Carrió de la Vandra's *El Lazarrillo de Ciegos Caminantes (Guide for Travelers in 18th-Century Spanish America)*. We will use artwork and historical maps for our study of the cultural and ideological representations of alterity and of the geography of the colonial empire. In English. Credit 3 units.

**A&S TH FA SSP**

**Span 331. Hispanic Art/Arte Hispano**

*Same as IAS 3317, LatAm 331.*

This course focuses on the most important movements, artistic expressions, and representatives of the art history of Latin America and Spain. From the folk naive art of traditional indigenous weaving and tapestry—depicting daily life and harvest—to the "arpilleras" or designs on burlap expressing the suffering of contemporary indigenous women under Latin America's military dictatorships, to the feminist and surrealist self-reconstruction portraits of Mexican artist Frida Kahlo. From the medieval paintings of religious Spain, to the criticism of the Spanish nobility by Diego Velazquez, the Spanish Civil War of "Guernica" by Pablo Picasso, to the Surrealism of Salvador Dalí and Antonio Gaudí. From the "Corridos songs" of the Mexican Revolution to the Spanish flamenco talking about the displacement and suffering of gypsies in Spain. The students visit the Saint Louis Art Museum and will talk to some local Hispanic artists. Prerequisite: Span 308D or Span 321. May be used for elective credit in the Spanish major or minor. In Spanish. Credit 3 units.

**A&S TH FA AH**

**Span 332I. Spanish Film Studies in Spain**

An introduction to contemporary Spanish film taught at Washington University's program in Spain. Prerequisite: approval of Washington University's program director. Credit 3 units.

**FA AH**

**Span 333I. Spanish Literature I in Chile/Spain**

Introductory survey of Spanish literature from its beginnings in the Middle Ages to the baroque period at Washington University's program in Chile or Spain. Prerequisite: Span 308D or the equivalent. Credit 3 units.

**FA Lit**

**Span 334I. Spanish Literature II in Chile/Spain**

An introduction to key texts from Spanish literature in the 19th and 20th centuries at Washington

University's program in Chile or Spain. Prerequisite: Span 308D or the equivalent. Credit 3 units.

**FA** Lit

### Span 334C. Spanish Literature II

An introduction to key texts from Spanish literature in the 19th and 20th centuries. Topics include the three religions in Spain; the Don Juan archetype; women and gender issues; decadence, poverty and class issues; and the Spanish Civil War. Discussions will address Spain's unique history and diversity. Prerequisite: Span 307D; concurrent registration in Span 308D is recommended. In Spanish. Credit 3 units.

**A&S** CD, TH **FA** Lit

### Span 335I. Spanish-American Literature I in Chile/Spain

A survey of major figures and literary trends in Spanish America from 1492 to *Modernismo* (1880) at Washington University's program in Chile or Spain. Prerequisite: Span 308D or the equivalent. Credit 3 units.

**FA** Lit

### Span 335C. Spanish-American Literature I

*Same as IAS 335I, LatAm 335C.*

A survey of major figures and literary trends in Spanish America from 1492 to *Modernismo* (1880). Emphasis on the writings of either Colón or Columbus, Cortés, Bernal Díaz, Las Casas, Inca Garcilaso de la Vega; and Aztec reactions to the Conquest in the early period and on Sor Juana in colonial times. After the period of independence from Spain (1810–24), the focus will be on the literary representation of the making of the new nations and cultural autonomy. Readings include chapters of a picaresque novel, the representation of dictatorship, civilization vs. barbarism, the gaucho epic, and 19th-century fiction. Lectures and class discussions of the readings; exams, papers, and short reports. Prerequisite: Span 307D; concurrent registration in Span 308D is recommended. In Spanish. Credit 3 units.

**A&S** CD, TH **FA** Lit

### Span 336I. Spanish-American Literature II in Chile/Spain

A survey of major Spanish-American literary works from the end of the 19th century to the contemporary period at Washington University's program in Chile or Spain. Prerequisite: Span 308D or the equivalent. Credit 3 units.

**FA** Lit

### Span 336C. Spanish-American Literature II

*Same as IAS 336I, LatAm 336C.*

A survey of major Spanish-American literary works from the end of the 19th century to the contemporary period. Examination of various genres (poetry, narrative, and essay), and literary trends. Works by female (Augustini, Storni, Mistral, Campobello, Bombal, Castellanos, Ferré, Poniatowska, and Valenzuela), and male (Darío, Azuela, Borges, Neruda, Fuentes, García Márquez, Rulfo, Cortázar) authors. Emphasis on writing strategies, cultural perspectives, and gender representation. Prerequisite: Span 307D; concurrent registration in Span 308D is recommended. Credit 3 units.

**A&S** CD, TH **FA** Lit

### Span 337C. The Chilean Short Story

In this course, we will trace the trajectory of the short story in Chile in the 20th century with special attention to such literary movements as realism, naturalism, vanguardism, surrealism, and the new narrative, including the literature written during the dictatorship. The course will try to determine what specifically can be expressed about national identity through narrative, and will be informed by historical, political, and sociological analyses. The course will include several field

trips to related sites, and guest lectures by major Chilean writers and critics. Class requirements include a short essay, a long final essay, and a final exam. This course is taught in Santiago, Chile, as part of the Washington University Chile Program. Conducted in Spanish. Credit 3 units.

**A&S** TH **FA** Lit

### Span 340. Nationalism in Action: The Spanish-American War

We will study nationalism as it was in evidence in the Spanish-American War in the United States and in Spain as an outgrowth of each country's history. We will read periodicals of the period, study caricatures and other artistic expressions, as well as writings by authors such as Stephen Crane, Galdós, Mark Twain, Fernando Ortíz, Ivan Musicant, and others. Cuba, Puerto Rico, and the Philippines will be included in the scope of the course. Students will be expected to present a book report orally and to write it formally; in addition, a term paper of about 15 pages on a topic chosen in consultation with the instructor will serve as a final project. The course will be conducted in English, though students able to read other languages may do some of the readings in the original. May count as elective credit for the major if work is done in Spanish. Enrollment limited to 15 students. Credit 3 units.

**A&S** TH **FA** SSP

### Span 349. *Don Quixote* in Translation

Because Cervantes's masterpiece is considered to be the first modern novel, it is absolutely essential to any understanding of literature as a whole. By way of a close textual reading, this course will focus on all the ways *Don Quixote* recapitulates almost the entire Western tradition and how it anticipates so many of the later developments of the novel. Course conducted in English. Credit 3 units.

**A&S** TH **FA** Lit

### Span 350. Undergraduate Seminar in Spanish Literature and Culture

Taught in Spanish. Topics vary. Can be repeated for credit. This course can be counted as one of the three surveys required to obtain a Spanish major. Prerequisite: Span 307D; concurrent registration in Span 308D is recommended.

#### Section 01. Spanish-American Short Novel.

Study of the 20th-century short novel in Spanish America. Authors include Bombal, Bioy Casares, Hernández, Castellanos, Fuentes, García Márquez, Ferré, Valenzuela, del Río.

#### Section 02. The Spanish Short Story During the Past 50 Years.

An explosion of storytellers: the rise and fall and rebirth of a genre. This course reviews a half century of short fiction in Spain, emphasizing the works written since 1970. We will focus on the most significant, representative movements in relation to their historical and social contexts. Writers studied include Camilo José Cela, Miguel Delibes, Ignacio Aldecoa, Ana María Matute, Carmen Martín Gaité, Juan Benet, José María Merino, Luis Mateo Díez, Esther Tusquets, Cristina Fernández Cubas, Soledad Puértolas, Javier Marías, Antonio Muñoz Molina and Marina Mayoral. Paper, midterm, and final exams.

#### Section 03. Early Modern Spanish Texts:

Whose 'Golden Age' Do They Represent? This course studies a series of works from 16th- and early 17th-century Spain canonized by later readers as classics of national Spanish literature, whose original audiences viewed them as comical, even subversive, experiments that went beyond the limits of known literary forms to incorporate discourses of material experience, revealing the decadent underside of imperial Spain's so-called "Golden Age." Includes the *Lazarillo de Tormes*, *Fuenteovejuna*, selections from *Don Quixote*, and

other readings. Satisfies the 300-level literature survey requirement for the Spanish major and minor. Credit 3 units.

**A&S** TH **FA** Lit

### Span 350I. Latin-American Women Writers in Translation

Study of major 20th-century women writers in English translation. We will read poems, plays, essays, and short fiction by authors such as Agustini, Ocampo, Mistral, Bombal, Gambaro, Ferré, Valenzuela, and others. Class conducted in English. Spanish majors do the readings and papers in Spanish. Enrollment limit 25. Credit 3 units.

**A&S** TH **FA** Lit

### Span 3502. Spanish-American Short Novel

Study of the 20th-century short novel in Spanish America. Authors include Bombal, Bioy Casares, Hernández, Castellanos, Fuentes, García Márquez, Ferré, Valenzuela, del Río. Credit 3 units.

**A&S** TH **FA** Lit

### Span 3503. Fiction, Crime, and Enigma: Clues to Detective Narrative from the Americas

Ever since the detective story took readers by storm during the last decades of the 19th century, the genre of detective fiction has continued to flourish while undergoing numerous transformations. Latin-American literature is well known for the alternative re-readings of the crime fiction canon by well-established writers who broke canonical rules of classical and hard-boiled detective narrative and both parodied and politicized the genre through endless experimentation. In this course, we will focus on the intersection of action and enigma; clues and patterns of a crime; the unraveling of a puzzle; and the solution of a mystery in narratives by Poe, Borges, Chandler, Hammett, Valenzuela, Piglia, García Márquez, and others, as well as in selected films based on their works. In English. Credit 3 units.

**A&S** TH **FA** Lit

### Span 3504. The Spanish Short Story During the Past 50 Years

An explosion of storytellers: the rise and fall and rebirth of a genre. This course reviews a half century of short fiction in Spain, emphasizing the works written since 1970. We will focus on the most significant, representative movements in relation to their historical and social contexts.

Writers studied include Camilo José Cela, Miguel Delibes, Ignacio Aldecoa, Ana María Matute, Carmen Martín Gaité, Juan Benet, José María Merino, Luis Mateo Díez, Esther Tusquets, Cristina Fernández Cubas, Soledad Puértolas, Javier Marías, Antonio Muñoz Molina, and Marina Mayoral. Prerequisite: Span 307D; concurrent registration in Span 308D is recommended. Paper, midterm, and final exams. In Spanish. Credit 3 units.

**A&S** TH **FA** Lit

### Span 3505. Borges in Translation

Comprehensive study of Borges' major works. Analysis of basic themes, philosophical implications and structural elements present in Borges' poetry, essays, and short stories. We also will study a number of film adaptations of Borges' work, as well as a number of texts by writers he has influenced. Credit 3 units.

**A&S** TH **FA** Lit

### Span 3506. Women Writers of Early Modern Spain

*Same as WGSS 3506.*

This course will analyze early modern women's writings (both secular and religious) by considering sociohistoric context, genre studies (autobiography, convent narratives, short prose fiction, poetry, and theater) and feminist criticism. Critical approaches included will consider issues of self-

representation and subjectivity, performance, mysticism, life writing, feminist and lesbian utopias, cross-dressing, the body and spirituality, and the role of the Inquisition and confessors in the collaborative process of confessional writing. Class conducted in English. Spanish majors do the readings and papers in Spanish. Credit 3 units.

**A&S TH**

**Span 351. Business Spanish**

Study of language and structures used in conducting business in the Hispanic world. Actual materials from various businesses—advertising, marketing, real estate, accounting—used. Particular stress on speaking and writing. Prerequisite: Span 308D or permission of instructor. Credit 3 units.

**A&S LA**

**Span 353. Medical Spanish**

Designed for future medical professionals, this course will provide students with a complete vocabulary and cultural sensitivity necessary for treating Spanish-speaking patients. While the main focus is oral/aural, written exams, varied reading, and some research are required. Volunteer work recommended for enrolled students. Advanced students will be given priority. Prerequisite: Span 307D. Credit 3 units.

**A&S LA**

**Span 354. A View from the Southern Cone: Perspectives on Art, Literature, and Culture**

This course will deal with current issues of cultural, social, political, and literary importance related to the Southern Cone. We will study selected texts from Argentina, Chile, and Uruguay as well as contemporary films and drama productions. This course will seek to determine what specifically can be expressed about national identity, globalization, and the environment as these countries face the 21st century. Course requirements include four short essays and a final exam. This course is taught in Santiago, Chile, as part of the Washington University Chile Program. May be repeated for credit. Conducted in Spanish. Credit 3 units.

**A&S TH**

**Span 360. Literature Topics Course in Spain**

Taught through the Humanidades program of Carlos III University. Topics vary each semester. May be repeated for credit. Prerequisite: approval of Washington University's Madrid Program director and Carlos III. Credit variable, maximum 3 units.

**FA Lit**

**Span 360I. Cultural Studies Topics Course in Spain**

Taught through the Humanidades program of Carlos III University. Topics vary each semester. May be repeated for credit. Prerequisite: approval of Washington University's Madrid Program director and Carlos III. Credit variable, maximum 3 units.

**FA SSP**

**Span 399. Independent Study**

Prerequisite: permission of instructor. Credit variable, maximum 3 units.

**Span 400. Intensive Translation for Graduate Students I**

The first part of a two-semester course sequence in reading and translating Spanish. For graduate students in the humanities, and social and natural sciences. Nongraduate students may enroll with permission of the department. Must be followed by Span 401. Credit 3 units.

**A&S LA**

**Span 401. Intensive Translation for Graduate Students II**

Continuation of Span 400. For graduate students in the humanities, and social and natural sciences. Prerequisite: Span 400. Credit for Span 400 is contingent on completion of Span 401. Credit 3

units.

**A&S LA**

**Span 405W. Major Seminar**

An undergraduate seminar. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. Prerequisites: Span 307D and 308D, and at least two 300-level courses taught in Spanish. Credit 3 units.

**A&S TH, WI**

**Section 01. Tales of Marvel, Fantasy, and Magic in Spanish-American Narrative**

This course studies the world of the fantastic, the marvelous, and the extraordinary through textual analysis of selected narratives by the following writers from Spanish America: Horacio Quiroga, María Luisa Bombal, Jorge Luis Borges, Julio Cortázar, Gabriel García Márquez, Armonia Sommers, Rosario Ferré, Luisa Valenzuela, Antonio Benítez Rojo. Integrating a wide range of sources (theoretical essays, paintings, film), we will undertake an exploration of texts that evolve around obsession, metamorphosis, dream, magic, and ritual. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 02: The Taste Is Telling: Bawdy Short Stories from the Spanish Middle Ages**

This course will be structured as a series of comparative readings on the modern versions of a selection of medieval short stories, taken from the most important collections of the Spanish Middle Ages: *Disciplina Clericalis*, *Sendebarr*, *Calila Et Dimna*, *Catigos e Documentos Del Rey Don Sancho*, *El Conde Lucanor*, the *Libro de Buen Amor*, the *Libro de los Gatos*, the *Libro de los Exemplos por A.B.C.*, etc. Special emphasis will be given to the cultural aspects that propitiated and surrounded "the storytelling" phenomenon. The readings will be oriented toward an understanding of the different ways on which each particular "telling" of a story affects the meaning of what is being told. In order to better enjoy and understand the material of this course, the students should be prepared to literally follow the steps of the best medieval storytellers: reading aloud, rewriting, and retelling their favorite tales. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 03. Nation-Building: 19th-Century Spanish-American Writers Confront the Challenge**

The writers of 19th-century Latin America collaborated in the period's efforts of construction and reconstruction by proposing new models for their newly independent countries. This course will analyze the works of the most prominent writers whose works deal with the concepts of nation, identity, class, and race. Based on readings of different genres, we will explore how these texts prescribe, describe, and carry out theories that contributed to the building of the Latin-American "Nation." Authors include Bello, Heredia, Sarmiento, Martí, Rodó, and Isaacs, among others. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 04. The Feminine as Submission and Subversion: Short Stories by Latin-American Women**

A study of short stories by Spanish-American women to examine the female subjects that are constructed from the various literary strategies. The analysis will focus on the conventions established by the dominant systems to regulate the feminine, such as love, family, the erotic,

among other aspects, and how the literary productions confront these conventions. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 05. Absolutely Fabulous? Fable and History in Spanish-American Colonial Narrative**

Study of the relationship between fable and history in colonial narratives. Reflection on the role that stories had in larger narratives that allowed digression, but in a flowing kind of unity to add a moral or ironic commentary. Sources are the historical and fictional accounts written by Spanish, Mestizo, and Indigenous people during the 16th, 17th, and 18th centuries. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 06. An Island with a View: Contemporary Cuban Literature and Culture**

The course seeks to develop a critical perspective from which to study the uniqueness of Cuban cultural production from the Revolution to the present. Examining a variety of forms, from prose fiction and poetry to political speeches, personal testimonies, and film, we will give special attention to the interplay of such issues as repression and exile, the politics of race and sexuality, censorship and dissent. Readings by Miguel Barnet, Senel Paz, Antonio Benítez Rojo, Guillermo Cabrera Infante, Fidel Castro, Nancy Morejón, Virgilio Piñera. We will also examine artwork by Ana Mendieta, and films by Néstor Almendros, Tomás Gutiérrez Alea, and Estela Bravo. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 07: Male or Female: Does the Gender of the Author Matter?**

In this course, we will examine works of fiction by male and female Latin American contemporary writers to establish in what ways the author's gender is inscribed in the text. We will read novels and short stories by García Márquez, Castellanos, Fuentes, Garro, Cortázar, Vargas Llosa, Rosario Ferré, Luisa Valenzuela, Felisberto Hernández, Antonio Skármeta, and others. Theories on gender construction will be used as a basis for the analyses. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 08: Morality, Mischief, Malfeasance: Literature About Marriage in Early Modern Spain**

We will read a series of short literary works from the early modern period that represent cultural attitudes concerning marriage and the price for both the individual and society of deviation from the norms that regulate it. Primary readings will include novelas written by Cervantes and María de Zayas and selected comedias. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 09: The Shell and the Road: A Thousand Years Across the North of Spain**

A course devoted to the study of legends, literary masterpieces, songs, and artistic and culinary traditions related to the Road to Santiago. This old pilgrimage route, still followed by pilgrims and adventurers from all over the world, was named the First European Cultural Itinerary by the Council of Europe in 1988 and is an essential part of Spain's culture and history. It will be studied from the beginning to the end, as an imaginary journey from the little town of Roncesvalles in the Pyrenees, to

the Galician city of Santiago de Compostela, with several famous stages such as Burgos, the city of Mío Cid, the monasteries of Santo Domingo de Silos and San Millán de la Cogolla, related to the origins of the Spanish language and the town of Cebreiro, believed by some to be the place that gave birth to the Arthurian legend of the Grail.

This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 10: Representations of Violence in Latin-American Narrative.** This course analyzes the different representations of violence in Latin-American literature. Based on a critical analysis of 19th - and early 20th-century texts, we will study how the recognition and legitimization of violence occurs in the context of hierarchical relationships in the society. The role of power and ideology will be discussed in texts that define different levels of violence as a cultural manifestation. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 11: Contemporary Chilean Narrative in its Cultural and Historical Context.** This seminar will explore Chilean narrative of the past 40 years, giving special attention to the cultural and historical developments that gave rise to profound changes in society starting in the mid-1960s. We will read fiction, memoirs, and testimonies, as well as watch some films that document significant historical events in order to elucidate today's narrative production. We will read works by Donoso, Skármeta, Eliit, del Río, Fuguet, Cerda, Valdés, Maturana, and others. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 12: The Spanish Civil War: Literature, Film, and History.** A study of ideology, politics, personalities and creative imagination of the Spanish Civil War. The class will draw on historical accounts by Hugh Thomas, Walter Brennan, Tunon de Lara; fiction by Cela, Matute, Aub, Goytisolo, Chacel. Comparative readings with Hemingway, Orwell, Malraux; films such as *Land Without Bread*, *Los Santos Inocentes*, *To Die in Madrid*, *The Good Fight*. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 13: Science and Latin-American Literary Imagination.** This course explores the manner in which Latin-American literature has incorporated science as a theme and as a textual model throughout the 20th century. We will examine specifically the various ways in which science is interpreted and expressed as a cultural discourse in narrative, poetry, and film. We also will emphasize the dynamic through which literature appropriates the cultural authority science wields in society. Texts include works by Jorge Luis Borges, Angela Gorodischer, Ernesto Cardenal, Mempo Gardinelli, among others. It is anticipated that we will be able to interview (via e-mail) some of the authors that we study. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 14: Reflections and Wonders in Colonial Texts.** What did Columbus mean when he wrote to the Catholic Kings and what did they understand of what he wrote about the new lands? How did Bartolomé de Las Casas, Hernán Cortés, and Bernal Díaz interpret the peoples and cultures

they saw? How did the autochthonous writers see themselves and their own culture when translating it to Europeans? In this undergraduate seminar, we will analyze the interpretation and (re)articulation of "New World" realities and otherness in texts of the 16th and 17th centuries. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 15: Gender, Sex, and Sexuality in Early Modern Spain.** Transvestites, lesbians, and pregnant men: early modern Spain is full of the controversial characters that one would expect to see on tabloid TV programs. This seminar examines the construction and representation of gender, sex assignment, and transgressive sexuality in 16th- and 17th-century Spain. The analysis also includes issues of race, empire, and class through close readings of literary, medical, and historical texts, as well as an exploration of these themes in visual culture (illustrations and film adaptations). Readings may include selections from María de Zayas' *Desengaños Amorosos*, Cervantes' *Don Quixote*, Huarte de San Juan's *Examen de Ingenios*, Montemayor's *La Diana*, Catalina de Erauso's *Vida I Sucesos de la Monja Alférez*, the interlude *El Parto de Juan Rana*, news pamphlets or *Relaciones de Sucesos*, and other early modern cultural texts. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 16: The Short Stories of Julio Cortázar.** A businessman killed by the novel he is reading, a traffic jam that lasts for months, a family that lives with a ferocious tiger, a man who occasionally vomits little live bunny rabbits: these are all parts of the worlds created by the 20th-century Argentine writer Julio Cortázar in his short fiction. In this course, we will undertake a series of mindful readings of these stories, selected from across the three-plus decades during which Cortázar wrote them. As we read, we will ask: What is happening in this story? What does it do? How does it work? What does it have to do with our world? What can we do with it? How can we live with this story? And, more broadly, what does our experience of these tales tell us about the functions of storytelling in our lives and our worlds? Students will be expected to read with care, to respond to their weekly reading experiences with short creative assignments, and to reflect upon their experience of the course in a final course project. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 17: Visual and Textual Representation in Colonial Latin America.** The objective of this course is to examine how the continent we know as America gradually took shape after 1492. The urban centers reconfigured to the needs of the Europeans, the new colonized territories conformed to cartographic ideological abstractions, and even the inhabitants were referred to with the erroneous appellation of "Indians." By examining a variety of visual representations such as sculpture, painting, maps, and architecture, among others, and textual ones—chronicles, letters, diaries, travel accounts, and other formats—we will study the projections of hegemonic power in the construction of colonial Latin America. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 18: Contemporary Spanish Writing and Society.** We will read works by various authors representing different regions in Spain and expressing themselves in diverse genres. Newspa-

pers and other media also will be examined. We will examine texts from *El País*, *El Mundo*, *La Vanguardia*, *La Revista de Occidente*, as well as magazines devoted to the youth culture. We will address changes in the Spanish language and assess the incursions of globalization into "lo castizo Español." Short weekly writing assignments, an oral presentation, and a final paper required. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 19: Saints, Sinners, Warriors, and Pilgrims: Myths and Legends in the History of Castile.** In this course, we will study some of the most important myths and legends that shaped the history of Castile from the medieval period to the present. We will combine a comparative analysis of various written versions—both old and new—of these myths, with "adaptations" of these narratives in other representational media, such as paintings, sculpture, music, and film. Students are expected to get involved in this course as active readers, creative artists, and ingenious Internet surfers. By the end of the course, all students should have acquired sufficient knowledge of these myths and legends to be able to transform themselves into original "re-tellers" of some of their favorite ones. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 20: The Worlds of Julio Cortázar.** Julio Cortázar once named a collection of his essays, "Around the Day in Eighty Worlds," turning the title of Jules Verne's famous novel inside out. Throughout his work, the 20th-century Argentine writer has created many literary worlds that similarly help us explode our own notions of reality, and how we live in and contribute to them. Through a study of a selection of his long and short fiction, we will accompany Cortázar on his exploration of the "other sides" of reality. We also will examine the effect his work has had on other artists and reflect on all that we find with essays, presentations, an exam, and a video project. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 21: Inquisition, Censorship, Civil Wars.** An exploration of Spanish history, its "being and existence." We will study the trajectory from "convivencia" to expulsion; from the Reformation to the counter-Reformation. We will study Golden Age authors of the hegemonic rhetoric that spawns civil wars in Spain. We will examine the 1978 Constitution and its role in shaping contemporary Spain. We will read short texts by Alfonso X, Quevedo, Cervantes, Galdós, Ortega, Machado, Goytisolo, Riera, Matute, and others. Such a wide-ranging approach requires much class participation. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 22: The Image and the Word in Contemporary Spanish-American Narrative.** This course will examine Latin American texts where image and word share a contested space, either through insertion of real images into narrative or the literary creation of meta-images that exist only in the narrative realm. The image-centered texts both tell stories and demand a reading that explores affinities, challenges conventional and familiar gaze, and facilitates different "ways of seeing." The list of authors includes Bioy Casares, Poniatowska, Cortázar, Eliit, Cabrera Infante,

Donoso, and Valenzuela. Integrating a wide range of sources (critical essays, photographs, paintings, and films), we study works that trace a trajectory from surrealism to “boom” and “post-boom” Latin-American narrative. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 23: Sor Juana Ines de la Cruz: Gendering the Spanish-American Baroque.** This course will explore the life and writings of the Mexican poet, intellectual, and cloistered nun, Sor Juana Inés de la Cruz (1648–1695). We will study her poetry and her dramatic works, as well as her autobiographical and theological writings. Special emphasis will be given to the cultural, literary, and historical moment in which Sor Juana wrote, specifically as it pertained to her role as a woman writer. We will examine 17th-century Mexican convent culture and its role within the Church hierarchy, using it as a backdrop from which to study Sor Juana’s polemical relationship with the ecclesiastical authorities. Also studied will be the viceregal society of which Sor Juana, although a cloistered nun, was an active part. In addition, we will discuss the importance of the so-called *barroco de indias* and its relationship to the Spanish Baroque and the impact this had on Sor Juana’s work. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 24: All About Spanish Cinema.** This course surveys major themes in recent Peninsular Cinema. While the main focus will be on films from the past decade, we will spend a few weeks studying the most important trends since the Spanish Civil War. Throughout the course, such issues as representation of the war, resistance to Francoism, nationalism, globalization, immigration, and youth culture will be addressed; the construction of memory and the representations of violence will be underlying themes. In addition to situating the films in a historical, cultural, and political context, we also will look at different theoretical approaches to film and visual culture stemming from psychoanalysis, feminism, and post-colonial studies, as the course also aims to provide students with the necessary tools to analyze and write about film. The films for the course may include works by Pedro Almodóvar, Alejandro Amenábar, Montxo Armendáriz, Juanma Bajo Ulloa, Icíar Bollaín, Fernando León, Alex de la Iglesia, Pilar Miró, Julio Medem, and Carlos Saura, among others. The course will be divided into eight different sections. These sections delineate a progression of literary, historical, and theoretical issues that will help the students develop critical positions in relation to films discussed in class. Requirements include active in-class participation, two short papers, and a long final paper. Students also will be required to give a 15-minute presentation on a film of their choice. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 25: The Works of Gabriel García Márquez.** This course will allow students to make an in-depth study of the leading contemporary Spanish-American novelist and Nobel Prize winner. Emphasis will be placed on an examination of García Márquez as a novelist of the Caribbean and the creator of a particular literary world that has had an overwhelming influence on his contemporaries and the younger generations that followed. Through a chronological selection of his works, which include *One Hundred Years of Solitude* and also his short novels and short stories, we will re-

flect on his development as a writer and the impact this Colombian writer has had on Latin-American literature. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 26: Melodrama, Intimacy, and Humor in Latin-American Literature and Culture.**

How do lyrics of tango and bolero affect literary production? How do film and literature intersect in contemporary representations of hoaxes, violence, and love in Latin America? These and other questions will be addressed through readings, music, and film. Among the authors to be considered are Augusto Monterroso, Manuel Puig, Angeles Mastretta, and Guillermo Cabrera Infante. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 27: Race and Gender in the Literature, Music, and Dance of the Hispanic Caribbean.**

This course will explore constructions of race and gender in 20th-century poetry and narrative of the Hispanic Caribbean with additional focus on the music and dance of this region. We will read a broad sampling of works from Cuba (Antonio Benítez Rojo, Lourdes Casal, and Nancy Morejón), Puerto Rico (Rosario Ferré, Luis Palés Matos, Mayra Santos Febres), and the Dominican Republic (Blas Jiménez, Aida Cartagena Portalatín, Sherezada Vicioso). In our study of these texts, as well as African-derived music and dance forms such as rumba, bomba, and merengue, we will consider the following issues: national identity, the representation of the body, cultural resistance and performance, and the revision of history. Documentary films will help to round out our understanding of these topics. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 28: One Big Ghost Story: Memory and Trauma in 20th-Century Spain.**

This course studies presentation of memory and trauma from the post-war years to the present in Spain through the appearances of ghosts, monsters, vampires, and cyborgs. Following Jo Labanyi, the whole of modern Spanish culture “can be read as one big ghost story.” We will take this statement as a starting point and look at spectral appearances in a series of novels and films, and subsequently connect ghosts to other frightful beings and creatures of the night. Readings include, among others, Juan Marsé’s novel *Si Te Dicen Que Cai* and his short story “El fantasma del cine Roxy,” Manuel Rivas’s *El Lapiz del Carpintero* and Mercedes Abad’s *Sangre*. Films will include Victor Erice’s *El Espíritu de la Colmena*, Pedro Almodóvar’s *Kika* and Guillermo del Toro’s *El Espinazo del Diablo*. Throughout the course, students will learn to use the theoretical background and relevant critical terms that will allow them to analyze novels and short stories, as well as visual and popular culture. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 29: Culture and Revolution in Latin America.**

The first association with the word “revolution” is with a period of destruction and violence in an armed conflict. However, the most important task of a revolution is the reconstruction of a society and the re-invention of the cultural field in the aftermath of the triumph. The leading question for this course is: how, beyond the changes in the economic, social, and political structures, can a revolutionary government change the cultural practices of a nation? Focusing on

three Latin-American revolutions of the 20th century, we will try to elucidate how the triumphant governments in Mexico, Cuba, and Nicaragua reshaped the cultural field in their respective countries in order to implement the revolutionary ideals and respond to popular hopes and dreams. In general terms, we will study the ideologies and discourses directing education: What are the music and literary products that are recognized as “revolutionary,” what is the role of women in the new society, and why and how are specific intellectual groups considered in the avant-garde, and what other groups are rejected or suppressed from the emerging structures. In order to analyze this rejection, we also will study the texts and works written by the ethnic, sexual, and artistic minorities that are excluded from the benefits of the revolution. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 30: Argentine Cinema.** How does a national cinema develop in a country known for a peculiar mixture of artistic achievement and dictatorial repression? In this class, we will examine the evolution of cinema in Argentina, from its promising beginnings, to its experience during military dictatorships, to the current international success enjoyed by films such as *Nueve Reinas* and *Hijo de la Novia*. We will consider a variety of themes and issues including cinema and revolution; national trauma and the role of cinema; and the impact of the international film industry on Argentine film. Of special interest will be Argentine cinema’s response to the most recent dictatorship’s so-called “dirty war.” We will see films by directors such as María Luisa Bemberg, Leopoldo Torre Nilsson, Fernando Solanas, Luis Puenzo, Héctor Olivera, and Adolfo Aristarain. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 31: The Spanish Symbiosis: Christians, Moors, and Jews.** This course will explore the contributions of Christians, Muslims, and Jews in the Spanish peninsula that led to what historians have called a *convivencia* (the peaceful and productive coexistence of these groups in medieval Spain), albeit an arrangement that was often troubled and tested. Among the topics studied will be the Visigothic kingdom, the “Golden Age” of Muslim and Jewish Spain, the Reconquista (reconquest: a series of campaigns by Christian states to recapture territory from the Moors), the age of Alfonso X, the Inquisition, the conquest of the New World, the expulsion of the Jews and the Moriscos (Moors), and the formation of modern Spain. We will read historical accounts by Vives, Américo Castro, and Benassar. Literary texts in translation will include some of the greatest works of the Spanish tradition: *El Cid*, *La Celestina*, Galdós’s *Compassion*, Goytisolo’s *Count Julian*, Aridjis’s *1492*, and excerpts from Fuentes’s *Terra Nostra*, among others. Pertinent films will be discussed in class. Prerequisite: reading knowledge of Spanish, Hebrew, or Arabic, or permission of instructor. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 32: Saints and Sinners: Women’s Writing in the Colonial Latin-American Convent.** In this course, we will examine the phenomenon of women’s writing in the Latin-American colonial convent. We will study different types of texts—mystical, autobiographical, penitential, literary, and theological. Themes analyzed in this class will include the constraints placed on women writers of the period; the problematic relationship

between nun author and male confessor; and the intersection of convent culture and intellectual expression. We also will consider theoretical implications such as the centrality of the female body and sexuality in nuns' writings, as well as concepts of power and subversion. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 33. The Hispanic Inquisition.** A study of the roots of the Spanish Inquisition since its inception in 1480 and its social and historical manifestations. Excerpts from medieval to contemporary texts will be analyzed and placed in a broad cultural context. Inquisition procedures, trials, punishments, and the range of its victims will be studied. Differing historical analyses through the ages will be confronted: Llorente, Castro, Kamen, Baer, Beinart, Caro Baroja, among others. We also will study Inquisition trials in New Spain, Peru, and the Philippines. Pertinent literary texts from all periods in Spain and in the "New World" will be adduced: The Quijote; the Picaresque novel; the writings of Carmen Martín Gaité, Matute, Jimenez Lozano, Delibes, Perez Reverte, Aguinis, Fuentes, and others. The rich artistic manifestations of the Inquisition also will be examined. Given the broad scope of the course, not all the texts will be read in full. Readings in various languages. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 34. Urban Myths: The City in Colonial Latin-American Literature.** In this course, we will study the colonial Latin-American city in four key moments: the pre-conquest city, the foundational city, the Baroque city, and the 18th-century city. Among the themes we will examine are issues of race, class, and gender in the city; urban practices; urban planning; and the dialectic between the urban and the rural. We will focus predominately on how the city was portrayed in different genres of writing in the various time periods. We will study such authors as Cortés, Bernal Díaz, El Inca Garcilaso, Guaman Poma, Balbuena, Gage, Humboldt, and others. Through close readings of these texts, we will look at the centrality of the city to empire building and how, throughout time, it became a contested space for an emerging American identity, separate from Spain. We also will examine other urban images as represented in art and architecture of the period. Cities we will consider include Mexico Tenochtitlan, Lima, Cuzco, Antigua, and Potosí. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 35. The "Eyes" Have It: Storytelling Through the Image and the Word in Contemporary Spanish-American Narrative.** This course will examine Latin-American stories where image and word share a contested space, either through insertion of real images into narrative or the literary creation of meta images that exist only in the narrative realm. The image centered texts (works of art, photographs, films, graffiti) tell stories where popular culture, political events, and digital technologies intersect and call each other into question. The use of images in these readings challenges conventional gaze and facilitates different ways of seeing. The list of authors includes Sábato, Cortázar, Poniatowska, Peri Rossi, Puig, Gorodischer, Eltit, Ferré, Paz Soldán. Integrating a wide range of sources, we study works that trace a trajectory from surrealism to

"boom" and "post boom" Latin-American narrative. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 36. Cuba, Politics, Culture, Literature, Art, and Music.** A course on contemporary Cuba, its transformation into a Socialist state. Emphasis will be given to U.S.-Cuban relations, especially from 1898 to the present. Readings will include biographies of Castro and Ché; films and documentaries; the socioeconomic writing of Carmelo Mesa Lago; the socioliterary books of Gustavo Pérez Firmat, and various literary creations by Pablo Juan Gutiérrez José Kozler, Cristina García, Guillermo Cabrera Infante, Reinaldo Arenas, and others. We will study Cuban architecture, art, and music. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 38. Crossings and Shipwrecks: Immigration, Exile, and Nostalgia for the Mediterranean to the Atlantic.** In this course, we will discuss the different meanings that Spanish culture attains both within and beyond the Spanish borders. We will analyze the ways in which the Spanish present and past are constantly being re-defined and study the representations of both Spanish and foreign subjects from a theoretical perspective indebted to postcolonial studies and current perspectives on memory. We will study such moments as migration in the late 19th and early 20th century, the Republican exile of 1939, the imperial nostalgia that defined the rhetoric of Francoist dictatorship, the role that international mass culture played in the works produced during the "Movida," and, finally, contemporary definitions of the national and postnational in a globalized world. Readings include works by Rosalía de Castro, Max Aub, María Teresa León, Manuel Vázquez Montalbán, Angelina Muniz Hubermann, Cristina Peri Rossi, and Manuel Rivas. We also will watch films by Luis Buñuel, Pedro Almodóvar, Iciar Bollain, and Laura Maña. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 39. Wine and Love: Earthly Pleasures and Their Uses in Medieval Spanish Literature.** We will devote this course to the study of the representations of food, wine, and love in various medieval Spanish texts. We will try to understand how medieval authors used these subjects to discuss other more moral and spiritual aspects of human life. Since food, or the lack of it, was such a prevalent worry and often an obsession for both rich and poor, lay and religious people, it was only natural to use it as a source of images to give shape to many important concerns and ideas. As we will see as we analyze these texts, wine, along with food, was another important item in people's minds and diets and an object of both favorable and unfavorable considerations. The third earthly "pleasure" we will study in this course is love, at a time when it was a state of mind and body not necessarily related to marriage. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 40. When Poetry Says What Philosophy Cannot Think: 20th-Century Poetry in Latin America.** What does it mean to read poetry today? In this course, we will deal with the place of the poem within the cultural, political, and philosophical tradition of Latin America. Based

on careful readings of 20th-century Latin-American poetry by poets such as Pablo Neruda, Jorge Luis Borges, and Octavio Paz, we will organize our discussions around the relationship between the poem and thought. We will treat the poems as part of a larger cultural background in which they interact with the political, with questions of gender, and with the realm of science and technology. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 41. Torrid and Troubling Tales: Novellas from Golden Age Spain.** This course studies selected novellas from 17th-century Spain's highly popular short narrative genre, works widely criticized as immoral and sensationalist although they were billed as cautionary guides for moral behavior. Includes readings from the *Novelas Ejemplares* of Cervantes, the *Novelas Amorosas* and *Desengaños Amorosos* collections of María de Zayas, and works by other male and female contemporaries. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 42. Exemplary Women and Their Representation in Early Modern Spain.** This seminar will examine the actions and writings of early modern Spanish women in the public sphere not mentioned in histories of the period, through the recent research of social and cultural historians and nonliterary readings. We will focus on the activism of known women (Queen Isabel of Castile, the litigious noblewomen of the Mendoza family, the religious reformer Teresa de Jesús, others) and relative unknowns, whose endeavors are exemplary for their strategic use of dominant discourses to achieve material objectives. We also will examine how, during the same period, literary works tend to represent female exemplarity quite differently: the agency of women in the public sphere is shown to be illusory and/or unnatural. Female protagonists become heroines and serve as examples for others when they "return" to the private domain of domestic or conventual enclosure, voluntarily ceding their own agency to the power of appropriate authorities. We will examine this corrective textual model of female exemplarity and the ambiguities of its construction in a number of famous literary works from the Golden Age (plays, short fiction, conduct literature, poetry), in order to question the relationship between social practices and the textual imaginary. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 43. From the Nation to the West: Mexican Poetry and its 20th-Century Odyssey.** Poetry has always held a special place within Mexican culture. Poets have been responsible for some of the major cultural debates, and poetry has been an instrument in defining Mexico itself after the Revolution. Through the exploration of some of the major currents in 20th-century Mexican poetry, we will seek to explore the central role that poetry and poets have had in Mexican culture and politics. We also will study strategies to read poetry as a culturally meaningful discourse to understand Mexican poetry's major formal and stylistic innovations. Overall, the class seeks a systematic reflection on modern Mexican poetry and its cultural relevance today and of the value of poetry reading in the contemporary world. Students will be expected to share and discuss with the class the result of their readings and their writings. This is a writing-intensive course, which requires a mini-

num of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 44. To die for ... : Tragedy in the Caribbean.** The symbolic space that is tragedy is intricately linked with the way societies think about their "date with the law"; that is, with their foundation, as well as with their founding contradictions. In this course, we will examine the transformations undergone by classic characters like Elektra, Antigone, Medea, and Hamlet as they make their way through the Caribbean. To the forefront of our discussions will be issues of identity, gender, cultural (in)dependence, and justice. We will focus on 20th-century drama and fiction from writers such as Virgilio Piñera, Franklin Domínguez, Luis Rafael Sánchez, Giannina Braschi, among others. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 45. From Discovery to the Forging of a Nation: Spain and Cuba.** We will examine the history of Cuba under Spain from colonial times to independence. Topics to be studied include art and architecture, agriculture and mining, ecology, the development of cities, slavery, the sugar monoculture, other immigrants, foreign relations (with the United States, Britain, and France), Cubanidad, religions. Film, music, literature, and other cultural creations will round out the perspectives utilized to offer a syncretic view of Cuba. Among the writers to be read are Martí, Barnet, Guillen, Carpentier, Cabrera Infante, Morejón, and others. We will view documentaries on Castro and Ché; representative films of Gutiérrez Alea; and art by Wilfredo Lam and other painters. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 46. Mediterranean Cultural Studies.** This course is a cultural studies seminar for undergraduate students. Taking a Mediterranean perspective as a background (and we will certainly spend some time discussing what such a perspective entails), we will investigate the different historical, political, and cultural crossings that have been taking place and are taking place at the Iberian Peninsula. Rather than a historical or chronological survey, the different sections of the course focus on the questions and conflicts that arise in these different Mediterranean encounters. These appear articulated in a series of texts that include literature, film, historical documents, song, and art. Even though we will concentrate mainly on texts from the second part of the 20th century, the historical background, particularly regarding the Arab and Sephardic presence in Spain, will be highlighted throughout the semester. The interdisciplinary approach of this course will allow students to explore human and Mediterranean geography, analyze different genres, and, finally, discuss present problems and debates from a historical perspective. Some of the issues to be addressed include: the question of a Mediterranean perspective, Arab and Sephardic Spain, the Mediterranean during the Spanish Civil War and World War II, old and new migrations, sexuality, globalization, and tourism. Course requirements include active class participation, short papers at the end of every section and a final project. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 47. McOndo.** In 1996, a group of young Latin-American writers led by Alberto Fuguet declared a new model for Latin-American culture

that they called McOndo, a play on Gabriel García Márquez's mythical town, Macondo. Instead of magic realism as a paradigm for describing Latin-American realities, McOndo, with its imbedded allusions to McDonald's, Macintosh computers, and condominiums, captured better the global nature of culture in their countries, these writers claimed. We will begin with the establishment of magic realism as the primary mode for describing Latin America as evidenced in works by Alejo Carpentier, Gabriel García Márquez, and Laura Esquivel/Alfonso Arau. We will then turn to the McOndo writers including, among others, Fuguet, Edmundo Paz Soldán, and Rodrigo Fresán. We will examine short stories, novels, films, and blogs as we explore the connections between "high" and "pop" culture, mass media and neoliberalism, and technology and literature that these artists describe. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 48. What's Language Got to Do With It: Latin@Literature in Spanish.** One of the most important phenomena currently affecting the Spanish language is the intricate and complicated relationship between the United States and Latin America. This is a relationship that is at work within the United States itself. The great influx of intellectuals, writers, and political exiles over the past century has made Spanish both a living and a working language within the United States. In this class, we will examine how this confrontation is played out in Spanish literature being produced within an English-dominated space. Thus we will have to tackle issues of linguistic, national, and ethnic identity; formations of subjectivities; representation; relations of power; border crossing; and politics, among others. Some of the writers that we will look at will be María Luisa Bombal, Rosario Ferré, Reinaldo Arenas, Orlando González Esteva, Carlos Victoria, Giannina Braschi, Martín Espada, Alurista, as well as collective projects such as that of the Nuyorican Poets Café. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 49 Drug Dealers, Sherpas, and Skater Boys: Subcultures and Alternative Currents in Contemporary Mexican Literature.** In the past three decades, Mexican literature has seen the emergence of a generation of young and not-so-young writers who seek to break the literary conventions by invoking genres such as science fiction, steampunk, crime fiction, or fantasy, as well as forms of writing such as the graphic novel and the urban chronicle. This course seeks to explore this production in relation to the increasing penetration of neoliberalism and the U.S. imagination in contemporary Mexican culture in the context of the growing decline of nationalism. The class will specifically address authors working on science fiction, journalism, comics, drug dealer/border stories, experimental fiction, punk and goth literature, fiction about the Nazis, apocalyptic narratives, fantasy worlds, Orientalist recreations, and other categories of this new way of understanding literature. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 50. Cuba Now and Then: A Retrospective Analysis of the Role of Fidel Castro and Ché Guevara in the Forging of Cuba after the Revolution.** We will read critically the biographies of John Lee Anderson and Georgie Anne Geyer, peruse contemporary writings about present and past Cuba, view documentary films, and study representative novels published in and out-

side of Cuba. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 51. Genders in Latin America.** This course explores the dynamics of gender formation in Latin America from pre-hispanic times to the present. Based on primary sources, as well as on novels, poetry, testimony, and various forms of contemporary art, the course favors the perspectives of the popular groups—workers, peasants, women, queer—in historical dimension. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 52. Latin-American Literature Beyond Identity.** In this course, we will explore how literature both engages and destabilizes the static categories with which society classifies complex and changeable individuals. Too often, in the United States and in the global publishing market, Latin-American literature has been bound up with a set of expectations about a putative "Latin American identity." Whether it's criminal-minded salsa dancers or noble, levitating grandmothers who bake magical pastries deep in the rainforest, Latin-American literature has often been received principally in terms of a representation of identities. Something is amiss when great works of literature seem reducible to the very circumscribed field of cultural meaning from which the writer has—by the very act of writing—fled in the first place. As we shall see, close readings of both canonical and marginal 20th-century texts reveal the tendency to undermine the foundations of such identities, at the same time that they explore the radical potential that springs from such a deconstruction. By exploring some of the hallmarks of 20th-century literature—uncertainty, inadequacy, ambivalence, crisis, transformation, and flux—we will examine how as a philosophical category identity is often insufficient for experiencing literature (and politics) as fully as possible. Our principle objective in this course will be to allow other, subtler concepts to emerge through a practice of careful, slow reading that resists facile definitions and doesn't exhaust itself in telling us what we already think we know. Readings will include Clarice Lispector, Julio Cortázar, Alejo Carpentier, Jorge Luis Borges, Roberto Arlt, Roberto Bolaño, Subcomandante Marcos and Felisberto Hernández. This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Section 53. Monsters from South America.** This course will focus on the figure of the monster as a tool for reading several contemporary "Southern Cone" authors, such as Juan Carlos Onetti, Horacio Quiroga, María Luisa Bombal, Carlos Droguett, Marosa Di Giorgio, Julio Llinás, and Augusto Roa Bastos. We will see this allegorical figure moving between the legitimate and the illegitimate, between belonging and separateness, between biological and political life. The course will emphasize the monster's capacity to denounce and alert diverse kinds of symptoms (crisis, disintegration, chaos) in the societies in which they operate. The texts chosen for the class will show the monster's problematic presence as an accident that transforms and displaces the "normal" organization of the "normal" bodies. Some of the approaches we will use are monster theory, posthumanity, the notion of the carnival, psychoanalysis, and feminism. We will tackle questions such as: How are bodies modeled politically? What is our notion of contamination, abjection, and degeneration? And what do we fear when faced with a monstrous feature? This is a writing-intensive course, which requires a minimum of three papers

of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. In Spanish.

**Span 406. The Spanish Symbiosis: Christians, Moors, and Jews**

This course will explore the contributions of Christians, Muslims, and Jews in the Spanish peninsula that led to what historians have called a convivencia (the peaceful and productive coexistence of these groups in medieval Spain), albeit an arrangement that was often troubled and tested. Among the topics studied will be the Visigothic kingdom, the "Golden Age" of Muslim and Jewish Spain, the reconquista (reconquest; a series of campaigns by Christian states to recapture territory from the Moors), the age of Alfonso X, the Inquisition, the conquest of the New World, the expulsion of the Jews and the Moriscos (Moors), and the formation of modern Spain. We will read historical accounts by Vives, Américo Castro, Benassar. Literary texts in translation will include some of the greatest works of the Spanish tradition: *The Cid*, *The Celestina*, Galdós's *Comparsion*, Goytisolo's *Count Julian*, Aridjis's *1492*, and excerpts from Fuentes's *Terra Nostra*, among others. Pertinent films will be discussed in class. Prerequisite: reading knowledge of Spanish, Hebrew, or Arabic, or permission of instructor. Credit 3 units.

**A&S** CD, TH **FA** Lit, SSP

**Span 407. Seminar in Spain: Cultural Encounters**

The Spanish, Latinos, and non-Hispanic North American vis-à-vis "the Other." Designed to study the historical and ideological bases of attitudes and mutual perceptions that inform these three cultures' understanding of each other. Analysis of literary and extra-literary representations of the three identities in question will teach students to think critically about the cultural, religious, and political foundations of intercultural perceptions. Washington University students' experiences living in Spain will provide a context for them to examine their own attitudes about "Hispanidad," as well as to learn about their own cultures (American, "latino") as they are understood from abroad. Study of theoretical concepts of identity, ethnicity, minority, gender, culture, and intercultural communication will enable students to participate in practical discussions based on observation and experience with an objective, critical understanding of how they perceive and are perceived by others. Fulfills 400-level literature course requirement for the Spanish major. Prerequisites: Span 307D, Span 308D, and two 300-level literature surveys or the equivalent in Spanish. Course taught in Madrid, Spain, through the Washington University Madrid Program. Credit 3 units.

**A&S** TH

**Span 408. Topics in Medieval Literature and Culture**

This is a writing-intensive course, which requires a minimum of three papers of approximately four to five pages in length, with rewrites; 50 percent of the grade must come from written work. Prerequisites: Span 307D and Span 308D, and at least two 300-level literature courses taught in Spanish. In Spanish. Credit 3 units.

**A&S** TH

**Span 411. Advanced Grammar and Syntax**

Detailed study of contemporary Spanish syntax. Special attention to fine points of grammar and syntax necessary for effective expression. Composition exercises based on texts selected from the best Hispanic authors. Prerequisites: 6 units of 300-level Spanish or permission of instructor. Credit 3 units.

**A&S** LA

**Span 411. Advanced Grammar and Syntax in Spain**

Detailed study of contemporary Spanish syntax. Special attention to fine points of grammar and syntax necessary for communication at the advanced level, taught at Washington University's Carlos III Program in Madrid. Prerequisite: placement by exam. Credit variable, maximum 4 units.

**Span 412. Bilingual Advanced Grammar and Syntax in Spain**

Detailed study of contemporary Spanish syntax for bilingual students, taught at Washington University's Carlos III Program in Madrid. Prerequisite: placement by exam or program director. Credit 3 units.

**Span 413. Curriculum and Instruction in Modern Foreign Languages: Linguistics and Language Learning**

*Same as Educ 4111, Ling 4130.*

This course, taught in English, provides a critical survey of various components of linguistics and a second (including foreign) language program. It explores dimensions of second-language teaching, acquisition, use, and testing. Both theoretical and practical dimensions of linguistics and language learning are treated; note that supervised teaching practice is to be found elsewhere. This course is a required course for the Graduate Certificate in Language Instruction and an elective for the undergraduate minor in applied linguistics. Prerequisite: Ling 170 is recommended but not required. Credit 3 units.

**A&S** LA **FA** SSP

**Span 416. Introduction to Hispanic Linguistics**

*Same as PNP 4161, Ling 4161.*

An introduction to the scientific study of the Spanish language, this course focuses on each of the major linguistic subsystems, including the sound system (phonetics and phonology), word formation (morphology), formation of phrases and sentences (syntax), and the use of the language to convey meaning (semantics and pragmatics). At each level of analysis, selected comparisons are made between Spanish and English, and between Spanish and other languages. The course also examines different historical, regional, and social varieties of Spanish and situations of Spanish in contact with other languages. Preceptorial for undergraduates only. Credit 3 units.

**A&S** LA

**Span 417. Spanish Phonetics, Phonology, and Dialectology**

*Same as Ling 4171.*

This course, conducted in Spanish, explores the linguistic varieties of the 21 Spanish-speaking countries from both a historical and a synchronic perspective. The course begins with a traditional look at Spanish phonetics and phonology, with all students memorizing and utilizing the International Phonetic Alphabet. Course readings and discussions extend beyond the descriptive and include a search for the sources of language variation within the Spanish-speaking world. Particular attention is devoted to language contact and bilingualism. Students will read in areas such as history, sociolinguistics, dialectology, and sociology, as well as traditional linguistic studies, in designing their projects concerning phonetics, phonology, and dialect diversification. Credit 3 units.

**A&S** LA

**Span 418. Afro-Hispanic Culture and Literature**

A study of black authors and cultural issues in Spanish-speaking countries. Primary emphasis on countries, such as Cuba and Colombia, with sizable black populations. Conducted in English. Reading knowledge of Spanish required. Credit 3 units.

**A&S** TH **FA** Lit

**Span 419. Feminist Literary Theory**

*Same as WGSS 419.*

**A&S** TH

**Span 420. Captivity and Its Consequences: Horror, Desire, and Nostalgia in Colonial Narratives**

The objective of this course is to examine the formation and evolution of narratives of captivity in Latin-American texts and their visual representations from the first indigenous and European contacts to the end of the colonial period. Prerequisites: Span 307D, Span 308D, and at least two 300-level courses taught in Spanish; in Spanish. Credit 3 units.

**A&S** TH

**Span 421. Argentinean Literature**

Credit 3 units.

**A&S** TH

**Span 4211. Spanish-American Literature of the Colonial Period**

A selective survey of the literature of the three centuries between the first encounters of the European and American Indian cultures and independence from Spain. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

**A&S** CD, TH **FA** Lit

**Span 423. Trotaconventos, Celestina and Co.: Go-Betweens, Love, Witchcraft, and Other Related Subjects**

In this course, we will study how the literary figure known as the "go-between" evolved in Spanish literature, from its origins in Roman literature, the *Cantigas* and the *Exempla*, to its culmination in the *Libro de Buen Amor* and the *Tragicomedia de Calisto y Melibea*, also called *Celestina*. We also will read a selection of texts that were influenced by *Celestina*, and examine how their authors re-created *Celestina's* characters and theme. Our analysis of the go-between will lead us to a series of reflections about various related subjects, including the literary representation of love, the uses of language and magic as instruments of manipulation and power, and the ethical problems associated with such uses. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. Preceptorial for undergraduates only; in Spanish. Credit 3 units.

**A&S** TH

**Span 426. Latin-American Theater**

*Same as LatAm 416, IAS 4260.*

Survey of dramatic and theatrical currents from the late 19th century to the present. The course will focus on tracing the themes of nationalism, cultural identity, immigration, class displacement, and the effects of consumerism in representative plays from the Rio de la Plata, Chile, Colombia, and Mexico. The course will study manifestations of the sainete, the grotesco criollo, theater of the absurd, as well as the popular independent theater movements of the '60s and '70s. Theoretical works studied include those of Brecht, Piscator, Esslin. Authors studied: Dragún, Payró, Cossa, Wolff, Sánchez, Díaz, Carballido, Gambaro, Buenaventura. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

**A&S** SD, TH **FA** AH

**Span 4281. Creative Difference: Reclaiming Spanish-American 'Traditional' Novel**

*Same as IAS 4280, LatAm 428.*

This class will focus on a selection of aesthetically and socially representative 19th- and early 20th-century Spanish-American novels. Integrating a wide range of sources (critical essays, paint-

ings, film), we will explore abolitionist issues in *SAB* (Cuba), the reinvention of Amerindian legacies in *Aves Sin Nido* (Peru), and the different facets of modernization and nation building in *Los De Abajo* (Mexico), *La Voragine* (Colombia). You should finish the course with a broader knowledge of Spanish-American literary history, a deeper understanding of textual representations of gender, class, and multiethnic identities, and a sharper awareness of your potential as a reader and critic. Significant selections of pertinent criticism and theory will be required of graduate students. Prerequisites: Span 307D, Span 308D, and at least two 300-level literatures courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

A&S SD, TH FA Lit

#### Span 4282. Voice into Print: The Art of Storytelling in Spanish-American Short Story

The short story has been a central part of the extraordinary originality and vitality of Spanish-American writing, and it enjoys great popularity among scholars and general public alike. Integrating a wide range of sources (critical essays, paintings, film), this course brings together the best examples of the genre that span over a hundred years of the history of Spanish-American literature and exemplify a variety of themes and forms: from the ordinary to the fantastic, from the realist to the imaginative. Special emphasis will be placed on the questioning of such binary oppositions in the most recent writings, particularly from the Caribbean, promoting the syncretic or "transcultured" forms of expression. Students familiar with the works of Quiroga, Borges, Rulfo, Cortázar, Ferré, and Valenzuela will be delighted to discover many vibrant new voices, including Peri Rossi, Sommers, and Moyano, or to explore the less-known terrain of minority writings. Significant selections of pertinent criticism and theory will be required of graduate students. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S CD, TH FA Lit

#### Span 4291. The Politics and Poetics of Spanish-American New Novel

When Spanish-American writers gained acclaim in the world literary scene in the so-called "Boom" of the 1960s, their spectacular success was often linked with the so-called magical realism that draws upon the oral and written tradition of both European and regional heritage (African, Amerindian) and shapes them to forge a uniquely Latin-American poetics. Through theoretically informed approach, this course offers an overview of the most acclaimed Spanish-American novels published between 1950 and 1970, with special attention given to the divergent cultural legacies and political uses of "magical realism." Specific notions of New World/Old World, modernization/tradition, nation building/otherness will be explored in novels such as: *Los Pasos Perdidos* by Carpentier (Cuba), *Pedro Paramo* by Rulfo (Mexico), *La Ciudad y Los Perros* by Vargas Llosa (Peru), *Los Recuerdos del Porvenir* by Garro (Mexico), *La Traición de Rita Hayworth* by Puig (Argentina), and *Cien Años de Soledad* by García Márquez (Colombia). Significant selections of pertinent criticism and theory will be required of graduate students. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S CD, TH FA Lit

#### Span 430. Latin-American Essay

Same as *LatAm 430, IAS 430.*

Study of the principal movements and outstanding figures in the Spanish-American essay from the

colonial period to the present. Sor Juana, Sarmiento, Alberdi, Martí, Rodo, Paz, Freire, Ortiz, Sabato, H.A. Murena. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH FA Lit

#### Span 431. Latin-American Poetry I

Same as *IAS 431, LatAm 431.*

Survey of the major figures of Latin-American poetry from the colonial period to modernism. Poets to be studied include Sor Juana, Caviedes, Avelaneda, Martí, Darío, Silva, Najera. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH FA Lit

#### Span 432. Latin-American Poetry II

Same as *LatAm 432, IAS 4323.*

Survey of contemporary Latin-American poetry, "postmodernismo" to the present. Poets to be studied include González Martínez, Vallejo, Neruda, Huidobro, Paz, Parra, Orozco, Pizarnik, Cardenal, Belli. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH FA Lit

#### Span 433. Spanish-American New Novel

This course offers a critical overview of the most acclaimed Spanish-American novels published between 1950 and 1970. The following texts will be read critically with special attention given to the problematics of canonicity and formal experimentation: *Los Pasos Perdidos* by Carpentier, *Pedro Paramo* by Rulfo, *La Ciudad y Los Perros* by Vargas Llosa, *Los Recuerdos del Porvenir* by Garro, *La Traición de Rita Hayworth* by Puig, and *Cien Años de Soledad* by García Márquez. Significant selections of pertinent criticism and theory will be required of graduate students. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH FA Lit

#### Span 434. The 19th-Century Spanish Novel

Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH FA Lit

#### Span 435. Mediterranean Cultural Studies

This course is a cultural studies seminar for advanced undergraduate and graduate students. Taking a Mediterranean perspective as a background (and we will certainly spend some time discussing what such a perspective entails), we will investigate the different historical, political, and cultural crossings that have been taking place and are taking place at the Iberian Peninsula. Rather than a historical or chronological survey, the different sections of the course focus on the questions and conflicts that arise in these different Mediterranean encounters. These appear articulated in a series of texts that include literature, film, historical documents, song, and art. Even though we will mainly concentrate on texts from the second part of the 20th century, the historical background, particularly regarding the Arab and Sephardic presence in Spain, will be highlighted throughout the semester. The interdisciplinary approach of this course will allow students to explore human and Mediterranean geography, analyze different genres, and, finally, discuss present problems and debates from a historical perspective. Some of the issues to be addressed include: the question of a Mediterranean perspective, Arab and Sephardic

Spain, the Mediterranean during the Spanish Civil War and World War II, old and new migrations, sexuality, globalization, and tourism. Course requirements include short papers at the end of every section and a final paper for the undergraduate students; a presentation on a related topic; and research paper for graduate students. Prerequisites: Span 307D, Span 308D, and at least two 300-level courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

#### Span 436. Spanish-American Fiction: 1970 to the Present

Study of Spanish-American narrative from the early 1970s to the present. Includes both novels by writers established before the 1970s (Vargas Llosa, García Márquez, Fuentes) and writers associated with the newest novelistic trends (Eltit, Fuguet, Martínez, Paz, Valenzuela). Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH

#### Span 4361. Latin-American Prose Fiction: 1975 to Present

Study of Latin-American narrative from the late 1970s to the present. Includes both recent novels of writers established before the 1970s (Vargas Llosa, García Márquez, Fuentes) and younger writers associated with the post-"boom" phenomenon. Prerequisite: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S TH FA Lit

#### Span 4471. Spanish-American Women Writers I

Same as *IAS 4471.*

A study of women's writing from the turn of the century to 1970. Readings include novels, short stories, poetry, essays, and autobiographical texts. Prerequisite: Span 307D, Span 308D, and at least two 300-level literature course taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S SD, TH FA Lit

#### Span 4472. Spanish-American Women Writers II

Same as *IAS 4472, WGSS 4472.*

A study of contemporary women's writing from 1970 to the present within a feminist theoretical framework. Topics include the construction of gender, female subjectivity, love and power, women and politics, literary strategies, etc. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

A&S SD, TH FA Lit

#### Span 450. Special Topics in Spanish Literature and Culture

Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. May be repeated for credit. Credit 3 units.

A&S TH FA Lit

#### Span 4502. Latin-American Narrative in Film

Analysis and discussion of a select group of films, focusing on their literary origins or their peculiar elaboration of critical conflicts in contemporary Latin-American society. Films by Littin, Puenzo, Lombardi, Skarmeta, Solanas, Gutiérrez Alea, Lilienthal, and others. Novels by Vargas Llosa, Carpentier, Amado, Puig, Skarmeta, and Soriano. Course conducted in English. Does not fulfill 400-level literature requirement. Credit 3 units.

A&S TH FA AH

**Span 4503. Latin-American Film: Argentine Cinema**

This course examines the development of cinema in Argentina, from the earliest attempts to codify a particularly Argentine perspective in Tango musicals to the present. We will explore the relationships between film and nation building and between film and revolution. We will also study the role of cinema in national memory, using the cinema of the postdictatorship as a case study. We will read widely in film, cultural, and political theory to enrich our study of the various films under consideration. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. Conducted in Spanish. Credit 3 units.

**A&S TH FA AH**

**Span 451. Medieval Spanish Literature**

Study of the development of the principal literary traditions of medieval Spain, emphasizing major genres, themes, and styles. Consideration of various critical approaches and responses to medieval texts. Lectures, papers, and class reports. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 453. Survey of 18th-Century Latin-American Narrative**

Exploring new ways of thinking, scientific observation and traveling, historiography, and the organization of knowledge. Analysis and discussion of a variety of 18th-century Latin-American narratives (such as conventual writing by women, memoirs, travel, scientific writing, and newspaper articles) to understand how that century's attempts to compile, question, seek, build, and reform came about. The narratives are regarded in their historical context and in a dialogue with some of the most recent literary studies about 18th-century Latin America. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates. Credit 3 units.

**A&S TH FA Lit**

**Span 4533. Narratives of Fear: Violence in Latin-American Literature**

*Same as IAS 4533, LatAm 4533.*

This course analyzes different representations of violence in Latin-American literature. Based on a critical analysis of 19th- and early 20th-century texts, we will study how the recognition and legitimization of violence occurs in the context of hierarchical relationships in the society. Also we will study how the literary images of bandits, pirates, thieves, and assassins become the counter discourse of the views of progress sustained by the hegemonic powers. The role of power and ideology will be discussed in texts that define different levels of violence as a cultural manifestation. Credit 3 units.

**A&S TH**

**Span 455. History of the Language**

A study of the evolution of Spanish and its dialects from Latin to contemporary usage. Knowledge of Latin helpful, but not required. Prerequisite: Span 307D, 308D. Credit 3 units.

**A&S LA**

**Span 456. Romance Philology**

*Same as French 456.*

**A&S LA**

**Span 458. Gender, Politics, and Writing in Women's Fiction of the Post-Franco Era**

*Same as WGSS 4581.*

This course will focus on the narrative fiction of Spanish women of the post-Franco era: those who began to publish shortly after Franco's death and

continued to write into the new century (Esther Tusquets, Cristina Fernández Cubas, Rosa Montero, Carmen Riera, and Adelaida García Morales), as well as the more recent crop of writers who emerged on the literary scene in the past decade (Nuria Amat, Lucía Etxebarria, and Espido Freire). We will consider the works of these women within their cultural, historical, and political contexts, addressing issues such as the representation of gender and sexuality; the cultural impact of feminism, nationalism, and globalization; and the influence of the publishing industry and the market on literary production. Whenever available, film adaptations of these literary works will be used in conjunction with the readings. Prerequisite: Span 307D, Span 308D, and at least two 300-level courses taught in Spanish. One hour preceptorial for undergraduates only. In Spanish. Credit 3 units.

**A&S TH**

**Span 459. 16th- and 17th-Century Drama**

Study of early modern Spain's highly influential and innovative comedias, from Lope de Vega's creation of new popular forms for public corrales to the spectacles of court theater for elite audiences in the generation that followed. Includes study of selected plays, as both texts and performances. Prerequisites: Span 307D, Span 308D, and at least two 300-level courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 461. Cervantes: *Don Quixote***

Study of the famous work that launched the novel, giving voice to surprisingly different forms of experience and identity as it narrates the life of a crazed reader who attempts to rewrite his own history by becoming a knight errant. Includes Parts 1 and 2 of Cervantes's *Don Quixote*, a range of critical readings, and the use of visual media that reflect how this work has in subsequent centuries entered popular culture. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 4611. The Golden Age Novelas**

A detailed study of the novela, or novella, genre in 17th-century Spain, including selected novelas ejemplares by Cervantes and selected novelas amorosas and desenganos amorosos by María de Zayas. The course considers the problem of exemplarity, the representation of transgression or deviancy, literary tradition, and sociohistorical context in these works. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 462. 16th- and 17th-Century Prose**

*Same as Med-Ren 4621.*

Reading of works that are groundbreaking in the formal development of Golden Age Spanish literature and in the representation of ideas concerning national and individual identity during the imperial period. To include *Dialogo de la Lengua*, *Lazarillo de Tormes*, *Diana*, and selected works by Guevara, Cervantes, Quevedo, and Zayas. Seminar discussions and research paper. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 463. 16th- and 17th-Century Poetry**

Classical Spanish poetry during the Renaissance and the baroque periods. Poets range from the Marques de Santillana and Garcilaso de la Vega to Luis de Gongora, San Juan de la Cruz, and Fran-

cisco de Quevedo. Movements and trends explored include the tradition of courtly love, culteranismo, Spanish mysticism, and conceptismo. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 464. Self-Representation and Picaresque Fiction in Early Modern Spain**

This course will investigate self-representation through the figure of the picaaro and fictional autobiography in the representative works of the Spanish picaresque genre (*Lazarillo*, *Guzman de Alfarache*, and *El Buscón*). We also will examine the figure of the picaaro in novels with female protagonists such as *La Lozana Andaluza* and *La Picara Justina* (as well as a short story by María de Zayas) and consider the relation of the picaaro to women's roles in Spanish fiction and culture. This course will consider aspects of gender, ethnicity, class, and desire in the sociohistorical context of picaresque fiction as well as narratological approaches to these texts. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH**

**Span 465. The Spanish Trickster**

A study of Spain's major picaresque novels in the Golden Age in the context of early modern Europe. Translations of works such as the *Lazarillo* and *Buscón*, as well as selected foreign imitations and parodies of the Spanish picaresque from the 17th and 18th centuries. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. Does not fulfill the 400-level literature requirement for the Spanish major, but is applicable to other credit required for the major. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 466. Second-Language Acquisition**

*Same as Ling 466.*

**A&S LA**

**Span 467. Grammar and Vocabulary Acquisition**

*Same as Span 467, PNP 467, Ling 467.*

This course examines theoretical and instructional implications of research on grammar and vocabulary acquisition. Topics include making form-meaning connections during language learning; developmental stages; the role of input and input processing; explicit and implicit methods of grammar instruction; pertinent factors in vocabulary acquisition, such as learning context and processing resource allocation; and comparisons of incidental and direct vocabulary instruction techniques. Major theories of language acquisition (e.g., nativism, emergentism) are critically examined in light of the research presented, and research findings are applied to instructional practices. Credit 3 units.

**A&S LA**

**Span 468. *Don Quixote***

A close reading of the English translation of Cervantes' masterpiece, with special attention given to the European literary context. Conducted in English. Credit 3 units.

**A&S TH FA Lit**

**Span 469. Reading and Writing in a Second Language**

*Same as Ling 469, Educ 4691, PNP 469, Ling 469.*

This course, taught in English, extends issues in second-language literacy beyond pedagogy by examining the wide range of theoretical and re-

search issues, both historical and current. Literacy acquisition among second-language learners involves a number of variables, including both cognitive and social factors. Some topics to be discussed in class include literacy and social power, universal cognitive operations, individual learner differences, text types and literary forms, and the extent to which reading and writing are interrelated. Students will discuss how to bridge research and practice, and they will create reading and writing activities driven by theory and empirical investigations. This course is a required course for the undergraduate minor in applied linguistics and an elective for the Graduate Certificate in Language Instruction. Credit 3 units.

**A&S TH**

**Span 471. Borges**

Comprehensive study of Borges's major works. Analysis of basic themes, philosophical implications, and structural elements present in Borges's poetry, essays, and short stories. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 472. 19th-Century Novel**

This course will carry out a critical re-examination of the concept of "realism" through a close analysis of representative narrative works of 19th-century Spain. Texts to be covered include canonical novels by Galdós, Clarín, Pardo Bazán, and Valera, as well as selections of noncanonical popular novels by women. These works will be examined through the lens of both 19th-century literary and cultural discourses (including articles and essays by the novelists themselves) and of 20th-century literary and cultural theories. Issues to be explored include: the critical reappraisal of "realism"; intersections between fictional and historical discourse; the problems of historiography; language and the self-reflexive text; representations of gender, sexuality, and ethnicity; literature and national identity. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 473. Romanticism**

The origins of romanticism as a movement explored before reading and analyzing key works by the main Spanish romantic writers: Cadalso, El Duque de Rivas, Espronceda, Larra, Mesonero Romanos, Becquer, Campoamor, and Zorrilla. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 475. The Other in Contemporary Spanish Fiction**

An examination of the various manifestations of "the other" in works of Delibes, Perez Revorte, Matute, Goytisolo, Riera, and Atxaga. Aspects study will include history, culture, religion, language, and gender. Ancillary readings will treat theoretical, as well as critical, issues. Two or three short papers (two to three pages), and a longer paper with specific installments and revisions due during the semester (undergraduates, 15 pages; graduates, 20 pages). Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

**A&S TH**

**Span 479. Generation of 1898: Theater and Poetry**

Analysis of works by Azorin, Unamuno, Baroja, Maeztu, and Valle-Inclán. Various approaches to each work encouraged, and the theory of "generations" questioned. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 480. The Generation of '98**

An analysis of the Spanish-American War, the warring parties, and particularly the literature it created in Spain by authors such as Unamuno, Machado, Valle-Inclán, Azorin, and Baroja. The "desastre" led to introspective analyses of philosophy, education, and history. It attempted to rediscover the Hispanic ethos, to re-create its landscape poetically, and to become European without losing its Spanish roots. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 481. Modern Drama**

Readings from 19th- and 20th-century playwrights such as Zorrilla, Benavente, Valle-Inclán, Lorca, and Buero-Vallejo. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 482. Topics in 19th-Century Spanish Cultural Studies**

Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH**

**Span 486. 20th-Century Novel**

A study of the novel in 20th-century Spain, focusing on the contemporary period. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH FA Lit**

**Span 487. Discourses on Gender in 19th- and 20th-Century Spain**

*Same as WGSS 4877.*

This course will focus on discourses on gender, from the late 19th century to the present in the context of feminism in Spain. We will explore the social, political, and cultural role of Spanish women (writers) within their specific historical contexts, with a special attention to their struggle to construct a new female subjectivity through their writings. To this end, their narrative fiction (novels, short stories) will be read in conjunction with nonfiction writings (essays, journalism, etc.). Authors to be studied include 19th-century proto-feminists such as Emilia Pardo Bazán and Concepción Arenal; early 20th-century writers such as Carmen de Burgos, Margarita Nelken, and other female activists of the Republican period; and women writers of the post-War and post-Franco eras. Prerequisites: Span 307D, Span 308D, and at least two 300-level courses taught in Spanish. One-hour preceptorial for undergraduate students; in Spanish. Credit 3 units.

**A&S SD, TH**

**Span 488. Narrating Mexico City**

The city has been one of the central topics of modern Mexican literature. Ever since the emergence of the modern capital at the end of the 19th century, urban culture became one of the central concerns of Mexican and Latin-American intellectuals across the continent. With the emergence of

the megalopolis and the new centrality of questions of violence, postmodernity, and urban experience, Mexican literature and film have contributed, in the past 20 years, new ways to approach, discuss, and narrate the city. This class seeks to tackle different meanings of Mexico City in the cultural discourse of Mexico by exploring novels (Carlos Fuentes, José Emilio Pacheco, Juan Villoro), poems (Manuel Maples Arce, Vicente Quirarte, Fabio Morábito), urban chronicles (Carlos Monsiváis, Elena Poniatowska, José Joaquín Blanco) and films (*Amores Perros*, *Todo el Poder*, *Vivir Mata*). Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates only; in Spanish. Credit 3 units.

**A&S TH**

**Span 489. Cities of the Past Future: Literary Institutions and Peripheral Modernity in the Latin-American Avant Garde**

*Same as IAS 4895, LatAm 489.*

This class proposes a study of the Latin-American avant-garde as a phenomenon of "peripheral modernity" and as a critique of the "institution-literature" developed by 19th-century and modernist liberalism. This reading, rather than merely proposing a one-by-one reading of canonic texts, seeks to engage the avant-garde as a global cultural phenomenon with impact in literature, art, society, and ideology. To achieve this, the class will focus on four regional contexts of the avant-garde. First, we will visit post-Revolution Mexico, to understand the way in which the avant-garde redefined notions of literature in Latin America by carefully analyzing the stakes of groups such as the estridentistas or the contemporaneos. Second, we will analyze the re-invention of Buenos Aires as a literary city in the 1920s and 1930s to understand the impact of "peripheral modernity" in the constitution of the avant-garde as a specifically Latin-American phenomenon. Third, we will discuss the impact of the *semana de arte moderno* of São Paulo, to understand how the idea of "antropophagia" created an articulation of the avant-garde with debates of cultural identity and transculturation. Finally, we will go to the Andes to understand how avant-garde phenomena dealt with the questions of "divergent modernities." Authors discussed include Arqueles Vela, Manuel Maples Arce, Jorge Cuesta, Xavier Villaurrutia, Jorge Luis Borges, Oliverio Girondo, Roberto Arlt, Mario de Andrade, Oswald de Andrade, Manuel Bandeira, César Vallejo, Pablo Palacio, César Moro, and José Carlos Mariátegui. Scholarship includes Peter Bürger, Matei Calinescu, Renato Poggioli, Rubén Gallo, Pedro Angel Palou, Beatriz Sarlo, Fernando Rosenberg, Haroldo de Campos, William Rowe, and Roland Forgues. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S TH**

**Span 490. Spanish Women's Fiction on the Edge of the Millennium**

The course will focus on the narrative fiction of Spanish women of the post-Franco era: those who began to publish shortly after Franco's death and continue to write into the new century (Cristina Fernandez Cubas, Rosa Montero, Soledad Puortolas, and Carme Riera), as well as the more recent crop of writers who emerged on the literary scene in the past decade (Nuria Amat, Lucia Etxebarria, Belen Gopegui). Not only will the aesthetic innovations of these writers be considered, but also their preoccupation with the following sociopolitical and cultural issues: connections between gender, sexuality, and writing; their response to feminist literary criticism and politics; and their rela-

tionship to the market and consumer society in the context of globalization. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S** SD, TH **FA** Lit

**Span 491. Eighteenth- to 19th-Century Literature**

Readings in various genres covering significant figures and works in neoclassicism, romanticism, and realism. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S** TH **FA** Lit

**Span 494. Twentieth-Century Poetry**

Examination of 20th-century Spanish poetry from Machado and Juan Ramon Jimenez to the Generation of '27 and younger poets. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S** TH **FA** Lit

**Span 495. Honors**

Students who meet the requirements work closely with a member of the faculty on an individual basis on a project of mutual interest. Emphasis on a tutorial on a regular basis. Prerequisite: permission of director of Undergraduate Language Studies. Preregistration not permitted. Credit variable, maximum 3 units.

**A&S** TH

**Span 498. Contemporary Spanish Novel**

A study of modern novels by established authors, such as Benet, Goytisolo, and Martin Gaité, and new figures such as Landero, Millas, and Puertollas. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S** TH **FA** Comp

**Span 499. Contemporary Spanish Novel II: 1965 to Present**

A study of modern novels by established authors, such as Benet, Goytisolo, and Martin Gaité, and new figures such as Landero, Millas, and Puertollas. Prerequisites: Span 307D, Span 308D, and at least two 300-level literature courses taught in Spanish. One-hour preceptorial for undergraduates; in Spanish. Credit 3 units.

**A&S** TH **FA** Lit

## Russian

**Endowed Professor**

**James V. Wertsch**

Marshall S. Snow Professor in Arts & Sciences

(Anthropology, Education, IAS)

Ph.D., University of Chicago

**Associate Professor**

**Max J. Okenfuss**

(History)

Ph.D., Harvard University

**Senior Lecturer**

**Mikhail Palatnik**

M.A. equivalent, University of Chernovtsy

M.A., Washington University

**Lecturer**

**Nicole Svobodny**

(Assistant Dean of Arts & Sciences)

Ph.D., Columbia University

**Professor Emerita**

**Milica Banjanin**

Ph.D., Washington University

The Russian program at Washington University offers four years of language instruction and a variety of courses on Russian literature, culture, and history from medieval times to the present.

Language courses provide exposure to Russian in its contemporary, everyday use. Beginning and intermediate students study in intensive courses combining master classes and practice sessions, and rapidly acquiring basic speaking skills and a solid foundation for further work. Students successfully completing the fourth-year course will have developed proficiency adequate for seeking employment or pursuing graduate studies where the language is required. All levels of instruction employ audiovisual materials, including video instructional films, videotapes of Russian television news programs, and Internet resources.

Literature courses in translation depart from detailed studies of specific authors, literary periods, and/or social and historical themes to arrive at a broader understanding of Russian culture. They place great emphasis on the improvement of analytical writing skills. Courses treating the full range of Russian history—medieval, imperial, Soviet, and post-Soviet—are offered in the Department of History, as are a variety of more specialized topics courses.

A minor in Russian is administered through the International and Area Studies program, which also offers a minor in Russian Studies/International and Area Studies. Students also are encouraged to consider majors in international studies, European studies, comparative literature, and history (see the entries for these programs in this *Bulletin*), all of which can be pursued with a focus on Russia and the former Soviet Union. Students thus have the option of pursuing thorough knowledge of the Russian

language and a deep insight into Russian culture focused primarily through the lens of literature, film, and other media or of acquiring a basic reading and conversational competence in the Russian language while approaching Russia and the former Soviet Union from other disciplinary or multidisciplinary perspectives.

**The Russian Minor:** The minor may be completed with four years of language study or with a minimum of two years of language study and three courses in Russian language, literature, or culture at or above the 300 level, with at least one of these in literature or culture.

**The Russian Studies/International and Area Studies Minor:**

For a minor in Russian Studies/International and Area Studies, you are required to complete 15 graded credits plus four semesters (or its equivalent—see the description under International and Area Studies in this *Bulletin* for details) of Russian language. Six (6) units may be at the introductory level; at least three of those units must be chosen from Introduction to European Studies *or* Crossing Borders I *or* Crossing Borders II. At least 9 units must be at or above the 300 level, with course work focused on Russia, as determined in consultation with the minor adviser. No more than 3 units may be from a semester of study abroad (6 units from a year of study abroad). Some units earned through advanced level language study (300 or above) may be applied to the minor at the discretion of the adviser. Twelve of the 15 credits must be unique to the IAS minor (i.e., not counted toward any other major or minor).

**Study Abroad:** All students are encouraged to participate in one of the Washington University study abroad programs in St. Petersburg, Russia. Semester options include both language and area-studies programs, while the summer program is language-focused only; there are programs available for students at any language level, including beginning. The University's programs in St. Petersburg are conducted under the auspices of Council for International Educational Exchange (CIEE), the longest running such program in Russia. Financial aid may be available for these programs through both Washington University and CIEE.

### Undergraduate Courses

**Russ 101D. Elementary Russian**

*Same as Russ St 101D.*

Interactive multimedia course designed to emphasize spoken language; includes the very latest video materials geared toward situations in contemporary post-Soviet Russian life. Also provides thorough understanding of fundamental grammar, and develops reading and writing skills. Five class hours per week, plus an additional hour for conversation, review, and testing. Credit 4 units.

**A&S** LA

**Russ 102D. Elementary Russian**

*Same as Russ St 102D.*

Continuation of 101D. Interactive multimedia course designed to emphasize spoken language; includes the very latest video materials geared toward situations in contemporary post-Soviet Russian life. Also provides thorough understanding of fundamental grammar and develops reading

and writing skills. Five class hours per week, plus an additional hour for conversation, review, and testing. Credit 5 units.

**A&S** LA

**Russ 211D. Intermediate Russian**

*Same as Russ St 211D.*

Designed to solidify students' control of Russian grammar and advance conversational, reading, and writing skills. Includes video materials produced in Russia and conveying an up-to-the-minute picture of contemporary Russian life. Credit 4 units.

**A&S** LA

**Russ 212D. Intermediate Russian**

*Same as Russ St 212D.*

Continuation of 211D, completes comprehensive review of Russian grammar and further advances conversational, reading, writing, and listening skills. Revised textbook with new audio and video materials that convey an up-to-the-minute picture of contemporary Russian life. Credit 4 units.

**A&S** LA

**Russ 215C. Introduction to Russian Civilization**

*Same as Russ St 215C, IAS 215C, Russ 215C.*

Overview of main currents and developments in Russian culture and the arts from earliest records to present. Folk literature and art, architecture, dress, music, literature, film. Topics include pre-Christian pagan beliefs, the introduction of Orthodox Christianity, the "Tatar yoke," reactions to the "Europeanization" of Russia, the self-identity of a people neither European nor Asian. Are the radical changes taking place in Russia today a complete break with the past or a re-emergence of certain cultural constants? Knowledge of Russian language not required. Open to freshmen. Credit 3 units.

**A&S** CD, TH **FA** SSP

**Russ 315. Russian Music**

*Same as Music 315.*

**A&S** TH

**Russ 322D. Third-Year Russian**

*Same as Russ St 322.*

Designed to develop students' abilities in the contemporary spoken language. Conversational practice is combined with a review of grammatical concepts. Students also work with newspapers, read literary texts, and write compositions. Prerequisite: Russ 212D or equivalent. Credit 3 units.

**A&S** LA

**Russ 324D. Third-Year Russian**

*Same as Russ St 324.*

Designed to develop students' abilities in the contemporary spoken language. Conversational practice is combined with a review of grammatical concepts. Students also work with newspapers, read literary texts, and write compositions. Prerequisite: Russ 322D or equivalent. Credit 3 units.

**A&S** LA

**Russ 350C. The 19th-Century Russian Novel**

*Same as IAS 3500, Russ St 350C, EuSt 3500.*

The 19th-century "realistic" novel elevated Russian literature to world literary significance. Close readings in English translation of masterpieces by Pushkin, Lermontov, Gogol, Dostoevsky, Turgenev, and Tolstoy, guided by an investigation of their cultural contexts and a critical perspective on the notion of realism. Credit 3 units.

**A&S** SD, TH, WI **FA** Lit

**Russ 356. 20th-Century Russian History**

*Same as History 356C.*

**A&S** TH **FA** SSP

**Russ 375. Topics in Russian Culture**

*Same as IAS 3750.*

**A&S** TH, WI

**Russ 3880. The Russian Revolution**

*Same as History 38R8.*

**A&S** TH, WI

**Russ 3990. To Russia and Return: Travel, Literature, and History**

*Same as History 39X9.*

**A&S** TH, WI

**Russ 404. Fourth-Year Russian**

*Same as Russ St 404.*

Further develops students' abilities in all spheres of the language: speaking, listening, reading, writing. Vocabulary building; conversation practice; and student compositions based on materials from the Russian mass media, contemporary films, and readings in modern Russian literature. Prerequisite: three years of college Russian or equivalent. Credit 3 units.

**A&S** LA

**Russ 405. Advanced Russian II**

*Same as Russ St 405.*

Further develops students' abilities in all spheres of the language: speaking, listening, reading, writing. Vocabulary building, conversation practice, and student compositions based on materials from the Russian mass media, contemporary films, and readings in modern Russian literature. Prerequisite: three years of college Russian or equivalent. Credit 3 units.

**A&S** LA

**Russ 431. Russia Today and Yesterday: Cultural Perspectives (in Russian)**

*Same as Russ St 431.*

On the basis of contemporary literature, official media, popular songs and films, the course examines the ever-changing culture of the Russian people and society during the pre- and post-perestroika periods. Class discussions, lectures, and student presentations. Prerequisite: three years of college Russian or the equivalent. Credit 3 units.

**A&S** LA **FA** AH, Lit

**Russ 432. Russia Today and Yesterday (in Russian)**

*Same as Russ St 432.*

Readings of 19th- and 20th-century Russian writers, as well as other literary and nonliterary texts. Refinement and expansion of Russian communication skills (speaking, listening, writing, reading). Class discussions, student presentations, compositions. Prerequisite: Russ 431 or the equivalent. Credit 3 units.

**A&S** LA **FA** Lit

**Russ 4442. The Jewish Experience in Eastern Europe**

*Same as History 4442.*

**A&S** TH, CD **FA** SSP

**Russ 448. Russian History to the 18th Century**

*Same as History 448C.*

**A&S** TH **FA** SSP

**Russ 449. Imperial Russia**

*Same as History 449C.*

**A&S** TH **FA** SSP

## Russian Studies

Please see Russian.

### Undergraduate Courses

**Russ St 101D. Elementary Russian**

*Same as Russ 101D.*

**A&S** LA

**Russ St 102D. Elementary Russian**

*Same as Russ 102D.*

**A&S** LA

**Russ St 211D. Intermediate Russian**

*Same as Russ 211D.*

**A&S** LA

**Russ St 212D. Intermediate Russian**

*Same as Russ 212D.*

**A&S** LA

**Russ St 215C. Introduction to Russian Civilization**

*Same as Russ 215C.*

**A&S** CD, TH **FA** SSP

**Russ St 315. Russian Music**

*Same as Music 315.*

**A&S** TH

**Russ St 322. Third-Year Russian**

*Same as Russ 322D.*

**A&S** LA

**Russ St 324. Third-Year Russian**

*Same as Russ 324D.*

**A&S** LA

**Russ St 350C. The 19th-Century Russian Novel**

*Same as Russ 350C.*

**A&S** SD, TH, WI **FA** Lit

**Russ St 356C. 20th-Century Russian History**

*Same as History 356C.*

**A&S** TH **FA** SSP

**Russ St 375. Topics in Russian Culture**

*Same as IAS 3750.*

**A&S** TH, WI

**Russ St 3880. The Russian Revolution**

*Same as History 38R8.*

**A&S** TH, WI

**Russ St 39X9. To Russia and Return: Travel, Literature and History: Writing-Intensive Seminar**

*Same as History 39X9.*

**A&S** TH, WI

**Russ St 402. The Meaning of National Security in the 21st Century**

*Same as IAS 402.*

**A&S** SS

**Russ St 404. Fourth-Year Russian**

*Same as Russ 404.*

**A&S** LA

**Russ St 405. Advanced Russian II**

*Same as Russ 405.*

**A&S** LA

**Russ St 431. Russia Today and Yesterday: Cultural Perspectives (in Russian)**

*Same as Russ 431.*

**A&S** LA **FA** AH, Lit

**Russ St 432. Russia Today and Yesterday (in Russian)**

*Same as Russ 432.*

**A&S** LA **FA** Lit

**Russ St 4442. The Jewish Experience in Eastern Europe**

*Same as History 4442.*

**A&S** CD, TH **FA** SSP

**Russ St 448C. Russian History to the 18th Century***Same as History 448C.*

A&amp;S TH FA SSP

**Russ St 449C. Imperial Russia***Same as History 449C.*

A&amp;S TH FA SSP

## Urban Studies

**Founding Director****Carol Camp Yeakey**Professor (Education)  
Director, Center on Urban Research  
& Public Policy (CURPP)  
Ph.D., Northwestern University**Executive Committee Members****Garrett Albert Duncan**(Education)  
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Ph.D., University of Chicago**Ira J. Kodner**Solon & Bettie Gershman Professor of Sur-  
gery  
(School of Medicine)  
M.D., Washington University in St. Louis**Edward F. Lawlor**William E. Gordon Professor  
Dean (School of Social Work)  
Ph.D., Brandeis University**Bruce Lindsey**E. Desmond Lee Professor for Community  
Collaboration  
Dean (College of Architecture and the  
Graduate School of Architecture & Urban  
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University Professor  
(Psychology)  
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University Professor in Arts & Sciences  
(Education)  
Ph.D., University of Maryland, College Park**James V. Wertsch**Marshall S. Snow Professor in Arts  
& Sciences  
(Anthropology)  
Ph.D., University of Chicago**Other Affiliated Faculty:****Professors****John R. Bowen**Dunbar–Van Cleve Professor in Arts  
& Sciences  
(Anthropology)  
Ph.D., University of Chicago**Gerald L. Early**Merle Kling Professor of Modern Letters  
(English)  
Ph.D., Cornell University**James L. Gibson**Sidney W. Souers Professor of Government  
(Political Science)  
Ph.D., University of Iowa**Kimberly Jade Norwood**(School of Law)  
J.D., University of Missouri**William R. Lowry**(Political Science)  
Ph.D., (Stanford University)**Gary J. Miller**(Political Science)  
Ph.D., University of Texas at Austin**Timothy H. Parsons**(History)  
Ph.D., Johns Hopkins University**Itai Sened**(Political Science)  
Ph.D., University of Rochester**Karen L. Tokarz**(School of Law)  
J.D., Saint Louis University  
LL.M., University of California–Berkeley**Rafia Zafar**(English)  
Ph.D., Harvard University**Associate Professors****Lingchei Letty Chen**(Asian and Near Eastern Languages and  
Literatures)  
Ph.D., Columbia University**Mary Ann Dzuback**(Education)  
Ph.D., Columbia University**Clarissa Hayward**(Political Science)  
Ph.D., Yale University**John Hoal**(Architecture)  
Ph.D., Washington University in St. Louis**Gay Goldman Lorberbaum**(Architecture)  
M. Arch., Washington University in  
St. Louis**Eric Mumford**(Architecture)  
Ph.D., Princeton University**Sunita A. Parikh**(Political Science)  
Ph.D., University of Chicago**Assistant Professors****Stephanie C. Boddie**(School of Social Work)  
Ph.D., University of Pennsylvania**Rowhea Elmesky**(Education)  
Ph.D., Florida State University**Margaret C. Garb**(History)  
Ph.D., Columbia University**Michael D. Minta**(Political Science)  
Ph.D., University of Michigan**Anne Newman**(Education)  
Ph.D., Stanford University

**Shanti A. Parikh**(Anthropology)  
Ph.D., Yale University**Derek Parkman Pardue**(Anthropology)  
Ph.D., University of Illinois**Nancy Y. Reynolds**(History)  
Ph.D., Stanford University**Paul T. Shattuck**(School of Social Work)  
Ph.D., University of Wisconsin**Adjunct Assistant Professor****Sheri Notaro**(Psychology)  
Ph.D., University of Michigan

The interdisciplinary major in urban studies is ideal for students drawn to serious examination of the profound issues confronting urban/metropolitan America. Urban Studies seeks to prepare students, indeed our nation's future leaders, for the challenge of solving these issues. We seek to prepare students to research and investigate issues concerned with evolving patterns of metropolitanism and the necessity for central city reconstruction; problems associated with re-gentrification, urban sprawl, and affordable housing; crises confronting newly emerging immigrant communities and the social cleavages of urban marginalized communities; unemployment and underemployment; law and justice; HIV, AIDS, and issues of public health; the economic underdevelopment of poor communities; race and inequality; the paradox of declining welfare rolls amidst escalating poverty rates; underperforming urban schools; and the in-migration and out-migration of the city and its schools, among others. All available social indices suggest that such domestic issues in our central cities will only increase in significance in the years ahead. The fact that many of the aforementioned issues are deeply embedded in cities of the world makes urban studies not just focused on domestic cities, but global cities as well.

Urban studies is a standalone major. The students presently in the program are jointly pursuing study in urban studies and in pre-law, pre-medicine, political science, educational studies, environmental studies, economics, international and area studies, philosophy–neuroscience–psychology, architecture, and comparative arts, among others. Our purpose is to prepare students to critically engage the social, political, and economic dilemmas facing our cities, both domestically and internationally, with intellectual rigor, integrity, sensitivity, and compassion. The program draws faculty and course work from the various academic units including, but not limited to, Arts & Sciences, the George Warren Brown School of Social Work, the School of Law, the College of Architecture and the Graduate School of Architecture & Urban Design, among others. To complement our course work, Urban Studies offers local internships in the St. Louis area

or internships through the Capital Semester in Urban Studies in Washington, D.C. through Georgetown University. We also offer the International Urban Scholars Study Abroad Program through Oxford University, the London School of Economics and Political Science, and the University of Cape Town in South Africa.

**The Major:** There are four subject area concentrations in Urban Studies: neighborhoods and community development, urban education, cities of the world, and public policy/social policy. Urban studies majors must complete Urban Studies 299; one introductory course in math or applied statistics (e.g., ASTAT 330A or 330B); one 400-level independent study or an internship, located locally, nationally or internationally; and a capstone seminar with required writing assignments. Overall, students must complete 33 units of course work for the major, of which 21 must be 300 level or above. Of these 21 advanced units, no more than 6 units may be from independent study courses. Once you declare a major in urban studies, you will be assigned a major adviser who will help you formulate your area concentration.

*Because of the nature of the major and requirements of the nonresidential components, majors are strongly encouraged to declare by their third semester in residency.*

**The Minor:** There is currently no minor available in urban studies.

**Senior Honors:** As an urban studies major, you are encouraged to work for Senior Honors, for which you may apply in your junior year. Acceptance into the program is based on your previous academic performance and a proposal to a core faculty member in Urban Studies who agrees to supervise your Honors research. You must complete Honors thesis research and an Honors thesis, which is evaluated by a three-member faculty committee.

## Undergraduate Courses

### URST 101. Introduction to Urban Studies

This course provides a survey of the field of urban studies, utilizing the city of St. Louis as a field site. The major purpose of the course is to gradually reveal how a city operates internally and how it operates externally with its sister cities, surrounding metropolitan areas, and neighboring states, amidst competing and often-contradictory interests. Utilizing historical analysis as a guide, the course will briefly revisit the experiences of previous waves of ethnic groups to the St. Louis metropolitan area as a lens for understanding the current social, political, and economic dilemmas that many urban dwellers in St. Louis now face. The course will reveal to students the intricacies of social welfare issues and policies among high-density populations in St. Louis that are homogeneous and heterogeneous at the same time. Visits and discussions with various governmental and nongovernmental agencies about how such agencies function or dysfunction for various constituencies allow students to ask crucial questions regarding equality of opportunity in a democratic society. Students also will encounter diverse communities and neighborhoods and study the intended and unintended consequences of social welfare policies designed to ameliorate urban dilemmas such as poverty and inequality, homelessness, educational underachievement, gentrifi-

cation, migration and immigration, development, health care, fiscal issues, the informal economy, and issues concerned with crime and social justice, among others. Readings are reinforced and challenged through visits, interactions, and observations with broad constituencies and institutions, ranging from city officials to community residents. As such, this course offers a survey discussion of the rich interdisciplinary field of urban studies for those who may be interested in pursuing a standalone major. Credit 3 units.

### URST 202. The Immigrant Experience

*Same as AMCS 202.*  
A&S CD, SS FA SSP

### URST 298. Practicum in Urban Studies

Practicum with an Urban Studies-affiliated faculty member. All proposals for practicum must be submitted for review and approved by the Urban Studies adviser. Enrollment by permission of the instructor. Credit variable, maximum 3 units.

### URST 299. The Study of Cities and Metropolitan America

*Same as AMCS 299.*  
This course serves as the introductory course analyzing the forces shaping America's cities and surrounding metropolitan areas. It examines as well strategies for dealing with many of the profound social issues affecting urban/metropolitan America. Emanating from an historical perspective, it examines the ways in which industrialization and deindustrialization shaped Northern American cities and the consequences of deindustrialization on urban citizenry. It further surveys the demographic and spatial transformation of American cities, examining the consequences of urban transformation on federal, state, and local politics; on society; and on her institutions. Similarly, the course focuses on the origin and societal changes and emerging goals of urban development, gentrification, and evolving patterns of metropolitanism and the necessity for central city as well as neighborhood reconstruction. The dynamics of racial residential segregation, crime and punishment, issues of academic achievement and underachievement, the social cleavages of urban marginalized communities, family structure, urban homelessness, urban sprawl, and health care, among others, are viewed from the perspective of social justice by exploring social, political, economic, racial, and ethnic factors that have an impact on access, equity, and care. Various theoretical perspectives and philosophies are introduced that have dominated the discourse on race and urban poverty. A field-based component complements the course work, and is designed to build interest, awareness, and skills in preparation for outreach to urban communities. Prerequisite: sophomore standing. Credit 3 units.

A&S SS

### URST 303. Independent Study in Urban Studies

Independent study with an Urban Studies-affiliated faculty member. All proposals for practicum must be submitted for review and approved by the Urban Studies adviser. Enrollment by permission of the instructor. Credit variable, maximum 3 units.

### URST 305. Health Psychology

### URST 3066. The American City in the 19th and 20th Centuries

*Same as History 3066.*  
A&S SD, TH FA SSP

### URST 307. Youth Identities and Urban Ecology

*Same as AMCS 3072.*  
This course explores the relationship between city ecologies (including family, neighborhood, school, juvenile justice, and work) to the identity development of young people. Using frameworks from

human development and anthropology, we consider how youth in both U.S. and global cities experience their lives in historically and culturally specific contexts. Credit 3 units.

**A&S** CD, SD, SS

**URST 3070. Politics and Policymaking in the American States**

*Same as Pol Sci 3070.*

**A&S** SS

**URST 3091. Poverty and Social Reform in American History**

*Same as History 3091.*

**A&S** SD, TH **FA** SSP

**URST 315. Introduction to Social Psychology**

*Same as Psych 315.*

**A&S** SS **FA** SSP

**URST 322C. African Civilization 1800 to Present**

*Same as AFAS 322C.*

**A&S** CD, TH **FA** SSP

**URST 3254. Vote for Pedro: A Critical Look at Youth and Popular Culture**

*Same as Anthro 3254.*

**A&S** SS **FA** SSP

**URST 3260. Race, Class, and Gender: Cultural Readings of Brazil and Its Cities**

*Same as IAS 3260.*

**A&S** SS

**URST 3301. Topics in Chinese Literature and Culture: Chinese Cities in the Global Context**

*Same as Chinese 330.*

**A&S** CD, TH

**URST 332. Environmental and Energy Issues**

*Same as Pol Sci 332B.*

**A&S** SS **FA** SSP

**URST 344. Courts and Civil Liberties**

*Same as Pol Sci 344.*

**FA** SSP

**URST 352. Health Economics**

*Same as Econ 352.*

**A&S** SS **FA** SSP

**URST 3561. Women and Law**

*Same as WGSS 3561.*

**URST 358. Law, Politics, and Society**

*Same as Pol Sci 358.*

**A&S** SS **FA** SSP

**URST 361. Culture and Environment**

*Same as Anthro 361.*

**A&S** SS **FA** SSP

**URST 372C. Law in American Life: 1776 to the Present**

*Same as History 372C.*

**A&S** SD, TH **FA** SSP

**URST 375. Topics in Urban Studies**

Prerequisite: URST 299 and junior standing. Credit 3 units.

**A&S** SS

**URST 3818. The Making of the Modern American Landscape: Writing-Intensive Seminar**

**URST 383. Reading the Scores: Understanding Brazilian Music Through Social Categories**

*Same as IAS 383.*

**A&S** SS, WI

**URST 389. Power, Justice, and the City**

*Same as Pol Sci 389.*

**A&S** SD, SS, WI

**URST 3909. American Society and Culture: 1945–1991: Writing-Intensive Seminar**

*Same as History 39G9.*

**A&S** TH, WI

**URST 394. Urban Development and the Global Economy**

*Same as AMCS 394.*

**A&S** SS

**URST 400. Urban Education in Multiracial Societies**

*Same as IAS 4001, AMCS 4000.*

This course offers students an analysis of the historical development and contemporary contexts of urban education in English-speaking, multiracial societies. It examines legal decisions, relevant policy decisions, and salient economic determinants that inform urban systems of education in Western societies including, but not limited to, the United States, Canada, Great Britain, and South Africa. The course draws on quantitative, qualitative, and comparative data as an empirical foundation to provide a basis for a cross-cultural understanding of the formalized and uniform system of public schooling characteristic of education in urban settings. Given the social and material exigencies that shape urban school systems in contemporary societies, special attention is given in this course to the roles of migration, immigration urbanization, criminal justice, industrialism, de-industrialism, and globalization in shaping educational outcomes for diverse students in the aforementioned settings. Prerequisite: junior standing or permission of instructor. Credit 3 units.

**A&S** SS, WI

**URST 4013. Negotiating Major Legislation in Congress**

*Same as Pol Sci 4013.*

**A&S** SS

**URST 402. Income and Employment Theory**

*Same as Econ 402.*

**A&S** SS **FA** SSP

**URST 4020. Legal Landscape Changing American Society**

*Same as Pol Sci 4020.*

**A&S** SS

**URST 403. Directed Study in Urban Studies**

Directed study with an Urban Studies-affiliated faculty member. All proposals for practicum must be submitted for review and approved by the Urban Studies adviser. Enrollment by permission of the instructor. Credit variable, maximum 3 units.

**URST 4101. Metropolitan Finance**

*Same as AMCS 4101.*

This course is an interdisciplinary examination of fiscal policies in metropolitan regions and the related public policies that can make them better or worse places for living and working. A particular focus will be on the financial structures and arrangements—both public and private that support or hinder quality of life in urban spaces. Core topics of study will include the potential impact of decentralized governments on metropolitan economic development, determination of optimal arrangements for sharing fiscal responsibilities among levels of government, evaluation of local revenue and expenditure decisions, and assessment of prospects and options for intergovernmental fiscal reform. The course will be consistent in its approach to policy. Drawing on literature in sociology, education, public finance, community development, political economy and other related fields, the course readings and experiences will explore how fiscal policies can and do affect urban dwellers and their well-being. This is a departure from many public finance courses. Such an approach leads to very different questions, though. How do liquor zoning regulations influence minority and nonminority children in schools? Should whites be paid to move into minority neighborhoods or vice versa? This approach to the study of metropolitan finance will put an emphasis on topics such as child care, public transportation,

minimum wage, housing codes, street behavior, homelessness, incarceration, alcohol, sports stadiums, illicit drugs, tax abatements, water service, garbage collection, schools, higher education, sprawl, and technological change, with consideration given to political, institutional, and cultural factors. Students will be required to attend hearings, meetings, and other relevant functions associated with the development of public financial policy. Prerequisite: URST 299 and either junior standing or permission of the instructor. Credit 3 units.

**A&S** SS

**URST 4134. The AIDS Epidemic: Inequalities, Ethnography, and Ethics**

*Same as Anthro 4134.*

**A&S** SD, SS

**URST 415. Life Span Development and Public Health for Urban Populations**

*Same as HSA 415.*

**URST 416. Rediscovering the Child: Interdisciplinary Workshops in an Urban Elementary School**

*Same as AMCS 416.*

**A&S** SS

**URST 418. Studying the City: Approaches to Social Research**

*Same as AMCS 4181, Anthro 4453.*

In this course, we will explore social science/social scientific research methods. The course is designed primarily for students majoring in urban studies. However, the research skills that students will acquire can be applied to any substantive topic in the social sciences. The main goal of this course is that students develop the skills to independently design and execute high-quality social research, regardless of their substantive interests. To develop these skills, we will read about methods, assess published research from a methodological perspective, and complete original research projects. Credit 3 units.

**A&S** SS

**URST 4210. Tale of Two Cities: The Growth and Structure of Chicago and St. Louis**

*Same as AMCS 4210.*

**A&S** TH

**URST 423. Topics in American Literature 1: The Harlem Renaissance**

*Same as E Lit 423.*

**A&S** SD, TH **FA** Lit

**URST 4251. Poverty in America**

*Same as Lw St 425.*

**A&S** SS

**URST 4261. Political Economy of Urban Education**

*Same as Educ 4261.*

**A&S** CD, SS

**URST 4262. Racialization, Engendering, and Articulation: Theories of Identity Formation**

*Same as Anthro 4262.*

**A&S** SS

**URST 4280. History of Urban Schooling in the United States**

*Same as Educ 4280.*

**A&S** TH

**URST 4289. Neighborhoods, Schools, and Social (In)equality**

*Same as Educ 4289.*

**A&S** SS

**URST 4315. Culture, Language, and the Education of Black Students**

*Same as Educ 4315.*

**A&S** CD, SS **FA** SSP

**URST 439. Topics in Comparative Politics***Same as Pol Sci 439.*

A&amp;S SS FA SSP

**URST 440. Topics in American Politics: Urban Politics***Same as Econ 440.*

A&amp;S SS FA SSP

**URST 441I. In the Field: Ethnographic and Qualitative Methods***Same as AMCS 441.*

A&amp;S SS

**URST 445. Public Finance and Taxation***Same as Econ 445.*

A&amp;S SS FA SSP

**URST 451I. Race, Ethnicity, and Culture***Same as AFAS 451I.*

A&amp;S SD, SS

**URST 455. Topics in Urban Studies**

Prerequisites: URST 299 and senior standing.

Credit 3 units.

A&amp;S SS

**URST 460. Analysis of the Urban Economy***Same as Econ 460.*

A&amp;S SS FA SSP

**URST 4608. The Education of Black Children and Youth in the United States***Same as Educ 4608.*

A&amp;S SD, TH, WI FA SSP

**URST 461B. Construction and Experience of Black Adolescence***Same as AFAS 461B.*

A&amp;S SS FA SSP

**URST 462. Politics of Education***Same as Educ 462.*

A&amp;S SS FA SSP

**URST 463I. Seminar on Urban Cultures in Latin America***Same as IAS 463.*

A&amp;S TH

**URST 482. Senior Thesis in Urban Studies**

This course is required for students to complete the degree requirements in Urban Studies. Students will discuss research methods and make regular research reports both to the instructor and for other students.

A&amp;S SS

**URST 4872. Colonial Cities and the Making of Modernity***Same as History 4872.*

A&amp;S CD, TH

FA SSP

**URST 4883. The Political Economy of Health***Same as Anthro 4883.*

A&amp;S SS FA SSP

**URST 4891. Education and Public Policy in the United States***Same as Educ 489.*

A&amp;S SS FA SSP

**URST 498. Senior Capstone: Seminar in Urban Studies**

Credit 3 units.

A&amp;S SS

**URST 499. Independent Work for Senior Honors**

Credit variable, maximum 3 units.

**URST 4991. Senior Honors Thesis in Urban Studies**

This course is required for students seeking college honors through Urban Studies. Students will discuss research methods and make regular research reports, both to the instructor and for other students. Prerequisite: satisfactory standing as a candidate for senior honors (3.5 cumulative GPA) and permission of thesis director. Credit 3 units.

A&amp;S SS

# Women, Gender, and Sexuality Studies

**Director****Mary Ann Dzuback**

(Education and History)

Ph.D., Columbia University

**Endowed Professors****Jean Allman**

J. H. Hexter Professor in the Humanities in Arts &amp; Sciences

(History)

Ph.D., Northwestern University

**Susan Frelich Appleton**

Lemma Barkeloo and Phoebe Couzins

Professor of Law

(Law)

J.D., University of California–Berkeley

**Linda J. Nicholson**

Susan E. and William P. Stiritz Professor in Women's Studies and Professor of History

Ph.D., Brandeis University

**Robert Pollak**

Robert E. Hernreich Distinguished Professor of Economics

(Economics)

Ph.D., Massachusetts Institute of Technology

ology

**Lynne Tatlock**

Hortense and Tobias Lewin Distinguished

Professor in the Humanities

(Germanic Languages and Literatures)

Ph.D., Indiana University

**Gerhild Scholz Williams**

Barbara Schaps Thomas and David M.

Thomas Professor in the Humanities

Ph.D., University of Washington

**Professors****Lois Beck**

(Anthropology)

Ph.D., University of Chicago

**Marilyn Friedman**

(Philosophy)

Ph.D., University of Western Ontario

**Beata Grant**

(Chinese, Asian and Near Eastern Lan-

guages and Literatures)

Ph.D., Stanford University

**Gerald Izenberg**

(History)

Ph.D., Harvard University

**Angela Miller**

(Art History)

Ph.D., Yale University

**Craig Monson**

(Music)

Ph.D., University of California–Berkeley

**Vivian Pollak**

(English)

Ph.D., Brandeis University

**Carolyn Sargent**

(Anthropology)

Ph.D., Michigan State University

**Karen L. Tokarz**

(Law)  
J.D., Saint Louis University  
LL.M., University of California–Berkeley

**Colette H. Winn**

(Romance Languages)  
Ph.D., University of Missouri–Columbia

**Associate Professors****Miriam Bailin**

(English)  
Ph.D., University of California–Berkeley

**Nancy E. Berg**

(Modern Hebrew Languages and Literatures)  
Ph.D., University of Pennsylvania

**Elizabeth Childs**

(Art History)  
Ph.D., Columbia University

**Rebecca Copeland**

(Japanese Languages and Literatures)  
Ph.D., Columbia University

**Andrea Friedman**

(History)  
Ph.D., University of Wisconsin

**Gilad Gross**

(Obstetrics and Gynecology)  
M.D., St. Louis University

**Fatemeh Karamustafa**

(Persian Languages and Literatures)  
Ph.D., University of London

**Rebecca Messbarger**

(Romance Languages and Literatures)  
Ph.D., University of Chicago

**Laura Rosenbury**

(Law)  
J.D., Harvard University

**Akiko Tsuchiya**

(Romance Languages)  
Ph.D., Cornell University

**Assistant Professors****Rebecca DeRo**

(Art History)  
Ph.D., University of Chicago

**Tonya Edmond**

(Social Work)  
Ph.D., University of Texas at Austin

**Peter Hovmand**

(Social Work)  
Ph.D., Michigan State University

**Christine Johnson**

(History)  
Ph.D., John Hopkins University

**Stephanie Kirk**

(Romance Languages and Literatures)  
Ph.D., New York University

**Mona Lena Krook**

(Political Science)  
Ph.D., Columbia University

**Pauline Lee**

(Asian and Near Eastern Languages and Literatures)  
Ph.D., Stanford University

**Rebecca Lester**

(Anthropology)  
Ph.D., University of California–San Diego

**Erin McGlothlin**

(Germanic Languages and Literatures)  
Ph.D., University of Virginia

**Shanti Parikh**

(Anthropology and African & African American Studies)  
Ph.D., Yale University

**Anca Parvulescu**

(English)  
Ph.D. University of Minnesota

**Nancy Reynolds**

(History)  
Ph.D. Stanford University

**Sarah Rivett**

(English)  
Ph.D., University of Chicago

**Jessica Rosenfeld**

(English)  
Ph.D., University of Pennsylvania

**Corinna Treitel**

(History)  
Ph.D., Harvard University

**Lecturers****Jami Ake**

(Assistant Dean and Academic Coordinator)  
Ph.D., Indiana University, Bloomington

**Barbara Baumgartner**

(Associate Director, Women, Gender, and Sexuality Studies)  
Ph.D., Northwestern University

**Joan Brockmann**

(English)  
Ph.D., St. Louis University

**Amy Cislo**

(Women, Gender, and Sexuality Studies)  
Ph.D., Washington University

**Beth Fisher**

(The Teaching Center, College of Arts & Sciences)  
Ph.D., University of Iowa

**Rebecca Foushee**

(Women, Gender, and Sexuality Studies)  
Ph.D., Virginia Tech

**Michael Murphy**

(Women, Gender, and Sexuality Studies)  
Ph.D., Washington University

**Winifred Poster**

(Women, Gender, and Sexuality Studies)  
Ph.D., Stanford University

**Susan Stiritz**

(Women, Gender, and Sexuality Studies)  
Ph.D., Washington University

Courses in the Women, Gender, and Sexuality Studies program examine how gender affects many aspects of the world in which we live, such as literature, art, history, political structures, social relations, and economic institutions. The curriculum provides opportunities to explore the specificity of women's and men's experiences, concerns, and perspectives and to see how these vary among different social groups and at different points in time. The Women, Gender, and Sexuality Studies program has three areas of focus around which courses are organized:

literature/theory/history; sexuality/the body/health; and global and transnational feminist and gender studies. Students may choose to concentrate in one of these areas or to investigate all three.

The Women, Gender, and Sexuality Studies program offers both interdisciplinary courses based in the program and more disciplinary-based courses coming from departments and programs throughout the University. Examples of interdisciplinary courses located within the program include: Introduction to Women, Gender, and Sexuality Studies; Masculinities; Women's Healthcare in America; and Race, Sex, and Sexuality: Concepts of Identity.

Among the first in the nation (est. 1972), the Women, Gender, and Sexuality Studies program at Washington University has emphasized the importance of gender to such disciplines and interdisciplinary programs as philosophy, psychology, history, education, law, architecture, art history and archaeology, anthropology, political science, international studies, American culture studies, and studies in culture and languages.

Women, Gender, and Sexuality Studies students are often leaders in campus organizations that deal with issues concerning women, gender relations, sexuality, and health. They also participate in a wide spectrum of extracurricular organizations available to undergraduates, including Students for Choice, Uncle Joe's Peer Counseling, One in Four, Student Forum on Sexuality, *X Magazine*, and SARAH.

Women, Gender, and Sexuality Studies encourages you to think critically and to participate actively in your education. Most classes are small, rely heavily on classroom discussion, and emphasize interaction between faculty and students. Courses in the Women, Gender, and Sexuality Studies program can be taken as electives, toward a primary or secondary major, or toward a minor. Graduate students can pursue a certificate in Women, Gender, and Sexuality Studies.

Women, Gender, and Sexuality Studies can help students prepare for a career that involves women's and men's concerns or issues of gender or sexuality. Many graduates who continue their schooling choose to focus on such issues in medical school, law school, public health programs, or social work. Some students envisage a career in college or university teaching, where they can apply a gender studies focus. Other students find jobs in social agencies focused on women's or gender issues. Others currently are employed in such areas as healthcare, business, education, the arts, media, politics, and law.

**The Major in Women, Gender, and Sexuality Studies:** A Bachelor of Arts degree with a major or second major in women, gender, and sexuality studies requires a total of 27 credits, 21 of which must be taken in courses numbered 300 or above. At least 18 of the 21 upper-level credits for the major may only count for the WGSS major and may not be double-counted toward another major. Classes that count for the major should be registered as WGSS courses (i.e.,

with the WGSS designation, L77). All courses taken for the major must be taken for a grade and earn at least a C– or above.

The following five requirements must be fulfilled through WGSS home-based or cross-listed courses taken at Washington University:

1. 3 credits of an introductory-level class:  
Either WGSS 100 Introduction to Women, Gender, and Sexuality Studies or WGSS 105 Introduction to Sexuality Studies.
2. 3 credits of theory:  
The following courses may fulfill this requirement: WGSS 335 Feminist Theory, WGSS 3031 Queer Theory, WGSS 475 Intellectual History of Feminisms, WGSS 332 Philosophy of Feminism, WGSS 420 Contemporary Feminisms, WGSS 419 Feminist Literary Theory.

Note: The 400-level theory classes will also satisfy the requirement for a 400-level class.

3. 3 credits of methods:  
The following courses may fulfill this requirement: WGSS 392 Feminist Research Methods, WGSS 3942 Service Learning: Projects in Domestic Violence, or other WGSS adviser-approved service learning courses.
4. 3 credits at the 400 level OR an Honors Thesis:  
Any home-based or cross-listed WGSS class at the 400 level OR an Honors thesis will satisfy this requirement. Please see your WGSS adviser for approval of your choice.
5. 3 credits of cross-cultural or historical material:  
A course home-based or cross-listed in Women, Gender, and Sexuality Studies that examines gender in a historic or cross-cultural context. (Note: A class that satisfies one of the above four areas may also fulfill this requirement.)

**The Minor in Women, Gender, and Sexuality Studies:** A Bachelor of Arts degree with a minor in women, gender, and sexuality studies requires 18 credits in home-based or cross-listed WGSS classes, 12 of which must be numbered 300 or above. All 18 units must be separate courses not double-counted toward a major.

**Study Abroad:** We strongly encourage and support students who wish to study abroad and will accept up to 9 credits from approved programs. Please see Barbara Baumgartner, WGSS Study Abroad Supervisor, about this option.

## Undergraduate Courses

### WGSS 100B. Introduction to Women, Gender, and Sexuality Studies

*Same as AMCS 100B, Lw St 107B.*

Interdisciplinary examination of major topics in women's lives, in gender, and in the development of feminist theories. For students without previous

academic experience in WGSS. Five seats are reserved for freshmen and sophomores in each section. Credit 3 units.

**A&S SD, TH FA SSP**

### WGSS 102. Women in Science: An Introduction

Throughout the centuries, women were interested and involved in the sciences. Their scientific contributions, however, have often been overlooked and their abilities questioned. The 2005 proposition by Harvard's former president Larry Summers that women's innate differences explain why fewer women succeed in math and science suggests that women continue to face assumptions about their scientific competence. In addition to examining the history of women's participation in science, this class explores the continuing cultural and economic barriers to women interested in science. Starting with a historical overview of women in science, we look at the contributions of women scientists. We review the numbers of women in various fields with good representation, such as biology, and those with few women, such as physics and computer science. Like the prestigious journal *Science*, we also explore whether women do science differently. This course is restricted to Women in Science FOCUS program participants. Credit 1 unit.

**A&S TH**

### WGSS 105. Introduction to Sexuality Studies

*Same as AMCS 1050.*

An introduction to the history of the study of sexuality in the 19th, 20th, and 21st centuries. An examination of the ways that human groups attach meaning to emotions, desires, and relationships reveals that human sexuality is the product of cultural history. Taking a social constructionist perspective, this course investigates how the deployment of sexuality socializes, organizes, and provides identities to individuals and groups. We also consider why the topic of sexuality provokes such volatile reactions in contemporary American culture; how the discussion of sex is discouraged; and what is at stake in developing skills, knowledge, and attitudes to engage in public discussion of sex. Credit 3 units.

**A&S SD, SS**

### WGSS 200. Women Writers of the Near and Far East

*Same as ANELL 200.*

**A&S CD, TH**

### WGSS 204. Making Sex and Gender: Understanding History of the Body

This course provides an overview of the history of the body from antiquity to modern times using an interdisciplinary approach. By exploring selections from medical texts, literature, fashion, art, accounts of "new world" exploration, legal records, self-help books, and contemporary media representations of human bodies, we consider the changing historical perception of the body. The intersection of gender, race, and class factor significantly in our discussions of how the body has been construed historically and how it is currently being constructed in contemporary American culture. This course provides an introduction to feminist/gender methodologies that apply to understanding the history of the body. Credit 3 units.

**A&S SD, TH**

### WGSS 205. Introduction to LGBTQ Studies

This course offers an introduction to the topics, questions, and approaches that characterize the rapidly growing field of lesbian/gay/bisexual/trans/queer studies. Using an interdisciplinary approach, we will explore such topics as the relation between gender and sexual identity, the history of same-sex relations, homophobia and heterosex-

ism, queer cultures, and LGBTQ politics, particularly in the United States. Our focus will be on asking whether and how "LGBTQ" functions as a coherent category of analysis or identity, and we will pay particular attention to differences (of race, age, gender, sexual practice, class, national origin, temperament, etc.) that are contained within, and often disrupt, that category. This course is not open to students who have taken WGSS 203 or 3031. Credit 3 units.

**A&S SD, TH**

### WGSS 208B. Masculinities

This course critically examines the subject of masculinity through a number of themes including history, society, politics, race, gender, sexuality, art, and popular culture. Interdisciplinary readings are drawn from the fields of sociology, anthropology, literature, history, art history, and cultural studies. We will examine the challenges presented to "masculinity" (and a variety of responses) by the late-20th century emergence of gender studies. Our goal is to come to a working definition of masculinity/ies and gain an understanding of some past, current, and possible future masculine behaviors, mythologies, ideologies, experiences, and identities. Credit 3 units.

**A&S SD, SS FA SSP**

### WGSS 209. Sex, Cyborgs, and Society

This course asks how contemporary relations between women and men are changing under the transformations of technology, science, and medicine. Sex is explored as an integral and complex element of gender. Does sex, as a biological construct, determine gender? Or is gender in fact fixed at all? Sexuality will also be considered as a practice, in which intimate relations are being mediated by new technological developments on the Internet. Society will be addressed as a lens or framework for our discussion of gender. What is "social" about these dynamics? Cyborgs are the substantive focus of our discussion. We pay special attention to developments in technology, science, and medicine, and ask if it is improving or degrading gender relations. Credit 3 units.

**A&S SD, SS**

### WGSS 210. Freshman Seminar: Gender and Citizenship

*Same as Lw St 210I, AMCS 210.*

Who is a citizen, and what exactly does this term mean? This freshman seminar investigates how ideologies relating to gender have shaped the rights and duties attached to citizenship in the United States, and how women and men have drawn on those ideologies to make claims to citizenship. We will focus on distinct movements in the past and present to identify models of citizenship that have been available to Americans. These movements include the creation of an ideology of "republican motherhood" in the early Republic; the Reconstruction-era debate over the enfranchisement of African-American men; the male culture of 19th-century political parties; the woman suffrage campaign; 20th-century debates over military service for women and for gay men and lesbians; welfare rights and welfare reform; and abortion conflicts since *Roe vs. Wade*. We will take an interdisciplinary approach that encompasses scholarly writings and a wide variety of historical and contemporary documents. Credit 3 units.

**A&S SD, TH FA SSP**

### WGSS 214C. Introduction to Women's Texts

*Same as E Lit 214C.*

Discussion of canonical and nontraditional texts, most by women. Emphasis on how these texts represent gender, how literature contributes to identity formation, and how women have used the written word to change their social and imagina-

tive conditions. Majors may arrange to do additional course work for 300-level credit. Credit 3 units.

**A&S** SD, TH **FA** Lit

**WGSS 2150. Introduction to Literary Study II: Modern Texts, Contexts, and Critical Methods**

**WGSS 240. Not Members of the Club: Women and Slaves in the Greco-Roman World**

*Same as Classics 240.*

**A&S** CD, SD, SS **FA** SSP

**WGSS 253. Women's Fiction in Contemporary Spain**

*Same as Span 245.*

**A&S** TH **FA** Lit

**WGSS 2776. Sexuality, Courtship, and Marriage in U.S. History**

*Same as History 2776.*

**A&S** SD, TH

**WGSS 293. Images of East Asia: The Geisha**

*Same as ANECC 294.*

**A&S** CD, TH

**WGSS 299. Independent Study: Internships**

This course is only for internships. Credit variable, maximum 3 units.

**WGSS 3010. Topics in Art History: Women and Medieval Art**

*Same as Art-Arch 3010.*

**A&S** TH

**WGSS 3012. Gender and Politics**

*Same as Pol Sci 3010.*

**A&S** SS

**WGSS 303. Gender and Education**

*Same as Educ 303.*

**A&S** SD, SS **FA** SSP

**WGSS 3031. Queer Theory**

*Same as AMCS 3030.*

This course provides students with an interdisciplinary examination of the history, politics, and cultural expressions of gay and lesbian communities in American culture. It explores the ways lesbians, gay men, bisexual, and transgendered people construct, participate in, and resist various constructions of gender and sexuality. We question desire and social/cultural power, the nature and power of social change, etc. Particular attention is paid to examining the roots and effects of heterosexism and homophobia, the call for hate crime legislation, the ethics of "outing" and "passing," the impact of AIDS, partnership recognition, and domestic violence on GLBT communities.

Throughout the course, students are encouraged to examine the intersections of gender, race, ethnicity, and social class with sexual orientation. Credit 3 units.

**A&S** SD, TH

**WGSS 3033. Global Masculinities**

*Same as IAS 3033.*

An interdisciplinary survey of expressions of masculinity and male gender in global perspective with a strong emphasis on non-Western cultures. Themes and topics include the increasingly global culture and economy, terrorism, international relations, development policy, colonization/imperialism, and war/militarism, as well as specific cultural, social, and national expressions of masculinity across wide geographical range. Credit 3 units.

**A&S** CD, SS

**WGSS 304. Sex, Gender, and Popular Culture**

*Same as AMCS 3041.*

A critical survey of sex and gender in the production, reception, and content of contemporary popular culture. Possible topics include: television, film, advertising, popular fiction, music, comics,

internet, foodways, and fashion. Themes include: the representation and stylization of sexed and gendered bodies; popular models of sexual and gendered social relations; production of normative and alternative sex and gender identities through media consumption; sex and gender in systems of popular cultural production. Credit 3 units.

**A&S** SD, TH

**WGSS 306. Between Submission and Power: Women and Family in Islam**

*Same as IAS 3061, JNE 306, Lw St 3061.*

As a result of recent political upheavals in the Middle East, Muslim woman, her rights, and her role in the society have been the focus of much attention. Who dictates her dress regulation? Who defines her legal rights? Is she entitled to work? Can she be politically active outside her family? Can she be economically independent? What is her reaction to polygamy? An attempt to look at these and similar questions as addressed by traditional Islam and interpreted in major Muslim countries today. Credit 3 units.

**A&S** CD, SS **FA** SSP

**WGSS 3091. Lesbian, Gay, Bisexual Identity Development**

*Same as Psych 3091.*

**A&S** SD, SS **FA** SSP

**WGSS 310. History of Women's Healthcare in America**

*Same as WGSS 310, AMCS 311.*

This course examines issues surrounding women's healthcare in America. While the scope is broad, the major emphasis will be on the 19th and 20th centuries. Through an examination of popular writing, scientific/medical writing, letters, diaries, and fiction, we will look at the changing perceptions and conceptions of women's bodies and health in America. Credit 3 units.

**A&S** SS, WI **FA** SSP

**WGSS 3101. Cultural Studies in Sexuality and Gender**

*Same as Hum 310.*

**A&S** SD, TH

**WGSS 312. Globalization and Gender**

*Same as Pol Sci 3120, IAS 312.*

How is gender embedded in the contemporary global economy? In this course, we look at major institutions and circuits of globalization for the purpose of uncovering masculine principles and privileges, and illuminating women's participation, agency, and resistance. This is slightly different than a traditional "comparative" approach to women's studies. Rather than contrasting women's positions in different societies, we look at the dynamic interrelations of nations with one another. These relations—especially hierarchical ones—are fundamental to and infused with gender, and have impacts upon gender. Credit 3 units.

**A&S** SD, SS

**WGSS 313. Men and Feminism**

The popular caricature of feminism as "man-bashing" and feminists as "man-hating" ignores the long and complicated history of men's engagement with feminist ideas, social movements, and political activism. How have men taken up or resisted the challenges of feminism? How have feminist women responded to men's involvement in feminism and the women's movement? What should the relationship between men and feminism be? Can men even be feminists? This class looks at these questions through a historical overview of the relationship between men and feminism. Topics include the history of men in feminism; second-wave feminism and pro-feminist men; feminism and gay men; the mythopoetic men's movements and feminist responses; men working for feminist causes; and men in women's

studies. Prerequisite: an introductory course in Women, Gender, and Sexuality Studies or permission of instructor. Credit 3 units.

**A&S** TH

**WGSS 3151. Indian Barbie, Asian Tigers, and IT Dreams: Politics of Globalization and Development in South Asia**

*Same as IAS 315.*

**A&S** CD, SD, SS

**WGSS 316. Contemporary Women's Health**

*Same as WGSS 316.*

We identify and study a broad range of health issues that are either unique to women or of special importance to women. The roles that women play as both providers and consumers of healthcare in the United States will be examined. The interface of gender, race, and class and their impact on an individual's access to and experience in the health-care system will be central concerns. Topics are wide-ranging and include discussions of breast cancer, mental health, cardiovascular disease in women, women and eating (from anorexia to obesity), reproductive issues (from menstruation to fertility to menopause), as well as the politics of women's health, gender differences in health status, the effect of employment on health, the history of women's health research. Credit 3 units.

**A&S** SD, SS **FA** SSP

**WGSS 319. Contemporary Women Writers in an International Context**

*Same as E Lit 319.*

This course is designed as a survey of contemporary women's literature (outside of the United States) from an international and multicultural perspective. Special attention will be given to the intersection of gender issues with those of race, class, and ethnicity in these women's writings. For undergraduate students with a background in literature or women, gender, and sexuality studies, or by permission of the instructor. Credit 3 units.

**A&S** SD, TH, WI **FA** Lit

**WGSS 3191. Contemporary American Women Poets**

*Same as E Lit 3191.*

**A&S** TH **FA** Lit

**WGSS 3201. Gender, Culture, and Madness**

*Same as Anthro 3201.*

**A&S** SD, SS

**WGSS 3205. Women in Music**

*Same as Music 3025.*

**A&S** SD, TH

**WGSS 3206. Global Gender Issues**

*Same as Anthro 3206, IAS 3206.*

This course compares the life experiences of women and men in societies throughout the world. We discuss the evidence regarding the universal subordination of women and examine explanations that propose to situate women's and men's personality attributes, roles, and responsibilities in the biological or cultural domains. In general, through readings, films, and lectures, the class will provide a cross-cultural perspective on ideas regarding gender and how gendered meanings, practices, performances serve as structuring principles in society. Prerequisite: any 100- or 200-level WGSS course or permission from the instructor. Credit 3 units.

**A&S** CD, SS

**WGSS 323. Topics in English and American Writers**

*Same as E Lit 323.*

**A&S** TH **FA** Lit

**WGSS 3241. Topics in Women Writers: Selected English and American Writers**

Credit 0 units.

**WGSS 327C. Gender and Literary History:****Early Modern Women Writers***Same as Comp Lit 327.*

A&amp;S TH

**WGSS 3282. Sexuality in Africa***Same as AFAS 3282.*

A&amp;S CD, SS FA SSP

**WGSS 329. The Psychology of Women***Same as Psych 3290.*

Credit 3 units.

A&amp;S SS

**WGSS 3312. Topics in Politics**

Credit 3 units.

**WGSS 3313. Gender and American Politics***Same as Pol Sci 331B.*

A&amp;S SD, SS FA SSP

**WGSS 3321. Feminist Philosophy****WGSS 3323. Topics in Gender and Religion:****Women and Islam***Same as Anthro 3313.*

A&amp;S CD, SS FA SSP

**WGSS 333A. Topics In Politics: Women and the Law***Same as Pol.Sci 333.*

A&amp;S SS FA SSP

**WGSS 335. Feminist Theory**

This course begins by examining the 19th- and early 20th-century historical context out of which contemporary feminist theory emerged. We then turn to the 1960s and the emergence of the "Second Wave" of Feminism. We focus on some of the major theories that developed during the 1960s, 1970s, and 1980s and the conflicts and internal problems these theories generated. We then examine some of the ways these problems were resolved in feminist theory of the 1990s. The last part of the course focuses on topics of concern to contemporary feminists—such as the family, sexuality, and globalism—and the contributions feminist theory brings to these topics. Open to graduate students by enrolling in WGSS 500; contact the WGSS office for details. Credit 3 units.

A&amp;S SD, TH FA SSP

**WGSS 336. Topics in Politics: Women and the Law***Same as Pol.Sci 333.*

A&amp;S SS FA SSP

**WGSS 337. Women's Literature: Before Thelma and Louise: American Women's Adventure Stories**

American literature is filled with adventurers and adventure stories. Some of the most exciting tales were written by women. Their adventures include Mary Rowlandson's autobiography of her capture by and life with the Indians, E.D.E.N. Southworth's story of a 19th-century heroine who rescues imprisoned maidens and fights duels, and Octavia Butler's science fiction account of a 20th-century black woman who is transported back through time to an antebellum plantation. Until recently, American women authors and their stories were largely dismissed because they were perceived to focus on domestic concerns, which were seen as narrow and trivial. But the works of many women authors are far different from sentimental domestic fiction. In addition to looking closely at the historical and cultural conditions in which the narratives were written, we examine the ways in which these writers conform to and rebel against cultural prescriptions about femininity. Finally, we read some contemporary and current criticism about these works and American women's writing and discuss the politics of canon formation. Tentative reading list: Mary Rowlandson, *The Captivity and Restoration of Mrs. Mary Rowlandson* (1682); *The Journal of Madam Knight* (1704); Catharine

Maria Sedgwick, *Hope Leslie* (1827); E.D.E.N. Southworth, *The Hidden Hand* (1858); Zora Neale Hurston, *Their Eyes Were Watching God* (1937); Octavia Butler, *Kindred* (1979); Paule Marshall, *Praisesong for the Widow* (1983). Writing-intensive. Credit 3 units.

A&amp;S TH, WI FA Lit

**WGSS 340. Israeli Women Writers***Same as MHRB 340.*

A&amp;S CD, SD, TH, WI FA Lit

**WGSS 3413. Women in Early Modern Europe***Same as History 3413.*

A&amp;S SD, TH FA SSP

**WGSS 343. Understanding the Evidence: Provocative Topics of Contemporary Women's Health and Reproduction***Same as AMCS 341.*

Contemporary topics of women's health and reproduction are used as vehicles to introduce the student to the world of evidence-based data acquisition. Selected topics span and cross a multitude of contemporary boundaries. Issues evoke moral, ethical, religious, cultural, political, and medical foundations of thought. The student is provided introductory detail to each topic and subsequently embark on an independent critical review of current data and opinion to formulate their own said notions. Examples of targeted topics for the upcoming semester include, but are not limited to: abortion, human cloning, genetics, elective Cesarean section, fetal surgery, hormone replacement, refusal of medical care, medical reimbursement, liability crisis, and gender bias of medical care. Credit 3 units.

A&amp;S SS

**WGSS 346. Female Gaze: Picturing Abuse in the Media**

This course offers an opportunity to examine the ways women's relationships and experiences are pictured in the media. The goal of this class is to help build alternative frames of reference to those presently common in the classic cinema repertoire, TV advertising, and the nightly news. The course combines formal lectures with screenings and discussions of current and classic media from around the world. We screen more than a dozen independent short films by women about women's issues introducing students to diverse constructions of masculinity, femininity, romance, and violence. We examine how shooting and editing techniques affect the meaning of the documentary and manipulate viewers' beliefs. Credit 3 units.

A&amp;S TH

**WGSS 3461. Hooking up: Healthy Exploration or Harmful Exploitation?**

Not since "free love" discourse in the 1960s and '70s has young adults' sexual culture come under such academic scrutiny. A plethora of studies attempt to frame and understand the significance and consequences of increasingly casual patterns of sexual behavior among America's teens and young adults. This course looks at the contemporary cultural phenomenon of hooking up, from feminist, social, symbolic interactionist, and critical theoretical points of view. We consider the historical contexts, political implications, and personal consequences of hooking up. We read both literary and social science texts. Prerequisite: any 100- or 200-level WGSS course or permission of instructor. Credit 3 units.

A&amp;S SS

**WGSS 347. Gender and Citizenship: Writing-Intensive Seminar***Same as History 3470, AMCS 3470.*

In this writing-intensive course, we examine how ideas about gender have shaped the ways Americans understand what it means to be a citizen. We

focus on a variety of cases in the past and present to explore the means by which women and men have claimed the rights and responsibilities of citizenship. The types of questions we will ask include: What rights or duties devolve from the status of citizen? Who qualifies for citizenship and what qualifies them? What distinct models of citizenship have been available to Americans? How have individuals used notions of gender identity to make claims to political subjectivity? And finally, how do gendered claims to citizenship intersect or conflict with claims based on race, class, ethnicity, or humanity? Prerequisite: previous course work in Women, Gender, and Sexuality Studies or permission of the instructor. Not open to students who have taken WGSS 210. Credit 3 units.

A&amp;S TH, WI

**WGSS 348. Rethinking the 'Second Wave': The History of U.S. Feminism, 1960-1990***Same as History 3481.*

The U.S. women's movement has been called "the 20th century's most influential movement," but until recently assessments of its origins, characteristics, and impact have been largely impressionistic and subjective, left to movement participants and popular culture. Building on a recent explosion of historical studies of American feminism, this course examines the history of the so-called "second wave" of the women's movement from its origins in the early 1960s to its alleged demise in the late 1980s. Topics to be covered include the origins of feminist activism; the traditional history of the women's movement and recent revisions; how race and class shaped the feminist movement; how feminist ideas and organizing transformed American society; feminism and individual experience; and responses to the women's movement. In this discussion-based course, we read scholarly analyses of the women's movement, as well as memoirs, popular essays, and many primary documents from the period. Credit 3 units.

A&amp;S SD, TH

**WGSS 3506. Women Writers of Early Modern Spain***Same as Span 3506.*

A&amp;S TH

**WGSS 351. Creative Women**

This course investigates women's creativity in both the visual and literary arts of the 19th and 20th centuries in Europe and America. Students will examine the role of gender in women's production from the point of view of the experience of the creative individual, and her relation to the family, community, and society. Class discussions will be based on close readings of texts by such authors as Adrienne Rich, Maxine Hong Kingston, Alice Walker, Virginia Woolf, and Sylvia Plath. Artists to be discussed range from Vige Le Brun, Mary Cassatt, Romaine Brooks, to Cindy Sherman, Kiki Smith and Maya Lin. Course requirements include lively class participation, written responses to readings, and one research paper. Prerequisites: any course in WGSS or art history, or prior permission from one of the instructors. Credit 3 units.

A&amp;S LA FA AH, Lit

**WGSS 3551. Gender in Korean Film and Literature***Same as Korean 355.*

A&amp;S CD, SD, TH

**WGSS 3560. Black Women Writers***Same as AFAS 3651.*

A&amp;S SD, TH

**WGSS 3561. Women and the Law***Same as WGSS 3561.*

**WGSS 357B. Gender Politics in Global Perspective***Same as Pol Sci 357B.***A&S** SD, SS **FA** SSP**WGSS 358. Scribbling Women: 19th-Century American Women Writers***Same as AMCS 3581, E Lit 359.*

In 1855, Nathaniel Hawthorne wrote to his publisher, William Tichnor, that "America is now wholly given over to a damned mob of scribbling women and I should have no chance of success while the public taste is occupied with their trash." In this class, we examine works of those scribbling women of the 19th century. We read one of the best-selling novels of the century, one that created a scandal and ruined the author's literary reputation, along with others that have garnered more attention in our time than their own. In addition to focusing on these women writers, we also explore questions about the canon and American literature: What makes literature "good"? What constitutes American literature? How does an author get in the canon and stay there? Finally, in this writing-intensive course, there are frequent writing assignments and a strong emphasis on the essential writing process of drafting and revising. Credit 3 units.

**A&S** TH, WI **FA** Lit**WGSS 3584. From Freud to Postmodern and Feminist Psychoanalysis: A History of Psychoanalytic Ideas***Same as History 3584.***A&S** TH**WGSS 359C. Women in Modern European History***Same as History 359.***A&S** TH **FA** SSP**WGSS 360. Transgender Studies**

This course explores the recent emergence of transgender studies from feminist scholarship while at the same time questioning how feminist assumptions about sex and gender have necessitated a re-evaluation of identity. We consider why intersexed births still elicit curiosity and fear; historical perspectives on intersex; the difference between intersex and transsexual; and how transgender theorists work with feminist categories of sex, gender, and embodiment. Once we have established a working understanding of transgender theory, we apply these theoretical perspectives to an analysis of recent fictional accounts of transgender and then consider how these popular media representations influence or interact with our current legal definitions of sex and gender as they apply to transgender. Prerequisite: WGSS 100B (Introduction to Women, Gender, and Sexuality Studies), WGSS 105 (Introduction to Sexuality Studies,) or permission of the instructor. Credit 3 units.

**A&S** SD, TH**WGSS 3666. Women in Film: From the Silent Feminists to Thelma and Louise***Same as Film 366.***A&S** SD, TH**WGSS 3751. Topics in Women's History***Same as History 3751.***A&S** SD, TH **FA** SSP**WGSS 3752. Women in American History***Same as History 3752.***A&S** SD, TH **FA** SSP**WGSS 3754. African-American Women's History***Same as AFAS 3752, History 3750.*

An analysis of how African-American women have defined their roles in American life and within the black community: attaining literacy, the push for suffrage, anti-slavery, and colonization efforts; class stratification and the Cult of Domes-

ticity; the Civil War and reconstruction; migration and the impact of urbanization, religious attitudes, political activism and elective office; sexuality and the myth of the Black Matriarch. Prerequisites: at least one course in American history, women's history, or African American history and permission of the instructor. Credit 3 units.

**A&S** SD, TH**WGSS 3820. Writing Women of Imperial China***Same as Chinese 382.***A&S** TH**WGSS 383. Topics in Women, Gender, and Sexuality Studies**

Credit 3 units.

**WGSS 387. Topics in Women's Literature**

Credit 3 units.

**A&S** TH **FA** SSP**WGSS 38A8. Women, Men, and Gender in Africa***Same as History 38A8.***A&S** CD, TH, WI**WGSS 390. Women, Feminism, and Popular Culture**

Controversies about feminism in the press, television, radio, literature, and film affect the way that women and women's lives are shown to the general public. We look at images of women in popular culture and we read analytically texts associated with feminism that have had considerable publicity in recent years. Works by Camille Paglia, Katie Roiphe, Christine Sommers, and Naomi Wolf, all of whom oppose or attempt to modify much feminist thought, are read along with works by those with whom they disagree. How do these writers address questions of women's sexuality, women's place in society, and women's agency? And what effect do the controversies have on attitudes toward women and toward the feminist movement? Credit 3 units.

**A&S** SD, SS **FA** SSP**WGSS 391. Social Construction of Female Sexuality***Same as Lw St 3912.*

This course examines the relationship between female sexuality and its social, historical, and ideological contexts. Course materials provide feminist analyses of the changing social organization and cultural meaning of women's bodies, sexual desires, and sexual practices. Prerequisite: WGSS 100B (Introduction to Women, Gender, and Sexuality Studies), WGSS 105 (Introduction to Sexuality Studies), or permission from the instructor. Preference given to those who have taken WGSS 395 (Contemporary Female Sexualities), WGSS majors and minors, seniors, juniors. Credit 3 units.

**A&S** SS **FA** SSP**WGSS 392. Feminist Research Methods**

This course examines feminist epistemologies and research methods. We ask how gender theory and feminist politics shape the kinds of research questions we ask, the types of materials we use, and how we define our relationships with our subjects. We study how feminist scholars have challenged dominant theories of knowledge and the major methodologies employed in their disciplines. Students explore research methods from the social sciences and humanities (interviews, life histories, participation observation, textual analysis) and engage feminist critiques and evaluation of such methods. The course requires commitment to a research project to be completed in stages over the course of the semester. Prerequisite: at least one WGSS course at the 100 or 200 level. Credit 3 units.

**A&S** SS **FA** SSP**WGSS 393. Violence Against Women: Current Issues and Responses***AMCS 391, Lw St 390.*

This course explores the issue of violence against women within families, by strangers in the workplace, and within the context on international and domestic political activity. In each area, issues of race, class, culture, and sexuality are examined as well as legal, medical, and sociological responses. Readings cover current statistical data, research, and theory as well as information on the history of the battered women's movement, the rape crisis center movement, violent repression of women's political expressions internationally, and the effect of violence on immigrant and indigenous women in the United States and abroad. Not open to students who have taken WGS 363. Credit 3 units.

**A&S** SD, SS **FA** SSP**WGSS 394. Communities of Women: Service-Learning Seminar**

This course explores the sometimes vexed relationship between the theory and the practice of women's studies. Students in the course, who must also enroll in the service companion course (WGSS 3941), participate in service work while taking the course. In class, we discuss and write about the history of women and voluntarism, the ethical challenges of service work, the ongoing affinity between community service and female citizenship, as well as how students' particular experiences challenge or confirm theoretical discussions in women's studies. Because this is a writing-intensive course, students are expected to submit and revise three medium-sized papers as well as to write other, unrevised writing assignments including directed journals and a writing assignment to be determined by each agency partner. The three essay assignments will each be part of a larger paper that will be submitted (with further revision) at the end of the course. Enrollment limited to WGSS students with junior or senior standing or with permission of the instructor. Credit 3 units.

**A&S** SS, WI**WGSS 3941. Communities of Women: Service-Learning Seminar Internship Component**

This course is the service companion course for WGSS 394, Communities of Women: Service-Learning Seminar. Students must be enrolled in WGSS 394. For the internship component, students choose from a number of pre-approved service projects at local agencies whose mission it is to serve women from St. Louis. This course has variable credits. For 2 units of credit, students are expected to work at their partner agency for six to eight hours per week; for 3 units of credit, eight to 10 hours per week. Students cannot receive credit for any paid work. Credit to be determined in each case.

**A&S** SS**WGSS 3942. Service Learning: Projects in Domestic Violence**

In this course, we explore the links between the theories and practices of women, gender, and sexuality Studies through a combination of research and direct community engagement. Course readings focus on the ways that poverty and violence, along with race and gender expectations, shape the lives of women. A required community service project for this course asks students to examine the relationship between the course readings and the lives of actual women in St. Louis. Over the course of the semester, students design and execute programming for women at a local community agency. This is a writing-intensive course. Students must contact instructor for permission to enroll. Credit 3 units.

**A&S** SD, SS, WI

**WGSS 395. Contemporary Female Sexualities**  
The course explores representations of and theories about contemporary women's sexual fantasies, attitudes, behaviors, relationships, and communities. Topics include sexual desire and gender; sexuality and the female life cycle; sexual behavior and gender; sexual variations linked with particular socioeconomic, ethnic, psychological, and physical variables; models of female sexual response; committed and uncommitted relationships; sex and marriage; fertility and its control; and teaching children about sex. We read both literary and theoretical texts with an eye to understanding what roles various sexualities play in personal lives, in relationships, and in communities. Prerequisites: WGSS 100B (Introduction to Women, Gender, and Sexuality Studies), WGSS 105 (Introduction to Sexuality Studies), or permission from the instructor. Preferences to those who have taken WGSS 391 (The Social Construction of Female Sexuality), majors, minors, seniors, juniors. Credit 3 units.  
A&S TH

**WGSS 396. Women and Social Class**  
*Same as History 3960.*  
This course examines the intersection of class and gender from the late 19th century to the present. It begins by asking how a focus on women challenges conventional notions of class. Some of the topics covered include women, race, and class; class and family formation; women, class, and globalization; class and feminist politics; women and work; class and domestic labor; women and unionization; and class and sexual identity. The emphasis is on women and class in the United States, but includes analysis of women and class in a broader, global context. This course examines these topics using nonfictional and fictional texts. Prerequisites: one 100- or 200-level WGSS course or permission of instructor. Credit 3 units.  
A&S SD, TH

**WGSS 3988. Gender and Sexuality in 1950s America: Writing-Intensive Seminar**  
*Same as History 39F8.*  
A&S SD, TH, WI

**WGSS 399. Undergraduate Work in Women's Studies**  
Credit variable, maximum 3 units.

**WGSS 3991. Undergraduate Teaching Assistant**  
In this course, an advanced undergraduate can assist a faculty member in the teaching of an introductory level WGSS course. Credit variable, maximum 3 units.

**WGSS 4010. Fourth-Level Modern Hebrew I: Women and Words**

**WGSS 4011. IPH Thesis Prospectus Workshop**  
*Same as Hum 401.*  
A&S TH

**WGSS 403. Race, Sex, and Sexuality: Concepts of Identity**  
*Same as WGSS 403, AMCS 401, History 4033.*  
This course examines changes in the meanings of three concepts of identity—race, sex, and sexuality—from the early modern period to the present. The course begins by looking at early modern constructions of these concepts in Western Europe. We then focus on changes occurring during the course of the 18th and 19th centuries in Europe and the United States, and at how such changes were similar and different among these three concepts. We then examine 20th-century challenges to 19th-century constructions. The course concludes by studying the relationship between these challenges and 20th-century identity political movements organized around these concepts. Prerequisite: completion of at least one

WGSS course or permission of the instructor.  
Credit 3 units.  
A&S SD, SS FA SSP

**WGSS 4031. Topics in Gender and Judaism: Gender and Sexuality in Judaism**  
*Same as JNE 403.*  
A&S SD, TH FA SSP

**WGSS 408. Gender in Contemporary Art**  
*Same as Art-Arch 408.*  
A&S SD, TH

**WGSS 409. Gender, Sexuality, and Change in Africa**  
*Same as AFAS 409.*  
A&S SD, SS, WI FA SSP

**WGSS 4101. Medieval English Literature II**  
*Same as E Lit 4101.*  
A&S TH

**WGSS 4104. Studies in Genre: Gender and Genre**  
*Same as German 4104.*  
A&S CD, TH, WI FA SSP

**WGSS 4106. Studies in Gender**  
*Same as German 4106.*  
A&S SD, TH, WI

**WGSS 411. Topics in Christianity: Women and Religion in Medieval Europe**  
*Same as Re St 411.*  
A&S TH

**WGSS 4112. Body and Flesh: Theorizing Embodiment**  
*Same as Anthro 4112.*  
A&S SS

**WGSS 4134. The AIDS Epidemic: Inequalities, Ethnography, and Ethics**  
*Same as Anthro 4134.*  
A&S SD, SS

**WGSS 415. Topics in Women and Literature**  
*Same as E Lit 415.*  
A&S TH FA Lit

**WGSS 4151. Feminist Art and Theory 1970 to Present**  
*Same as Art-Arch 415.*  
A&S TH

**WGSS 418C. Gender and Sexuality in East Asian Religions**  
*Same as Re St 418.*  
A&S CD, SD, TH

**WGSS 419. Feminist Literary Theory**  
*Same as E Lit 476, Comp Lit 419, French 419, Ital 419, Span 419, WGSS 419.*

This course is intended to acquaint students with basic ideas and issues raised by a diversity of voices in contemporary feminist criticism and theory. Readings cover a wide range of approaches and tendencies within feminism, among them: French feminism, Foucauldian analyses of gender and sexuality, lesbian, and queer theories, Third World/postcolonial feminism, and feminism by women of color. Given that feminist literary theories developed in response to and in dialogue with wider sociopolitical, cultural, and philosophical currents, the course includes application of theory to literature but also explores feminist literary theory in an interdisciplinary context. *Note:* This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Permission of instructor required. Prerequisite: completion of at least one WGSS course or permission of the instructor. Credit 3 units.  
A&S TH

**WGSS 420. Contemporary Feminisms**  
*Same as WGSS 420, Phil 4202.*  
The purpose of this course is to provide a frame-

work, a map, within which students can locate feminist ideas. The course, which may be presented historically, explores and compares different types of feminism selected from, for example, the following feminisms: liberal, Marxist, socialist, radical, lesbian, black, existentialist, postmodern. The class considers how such feminisms analyze the nature and sources of women's oppressions, the worlds they envision, and the means they use to bring about change. *Note:* This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Permission of instructor required. Prerequisite: completion of at least one WGSS course or permission of the instructor. Credit 3 units.  
A&S SD, TH FA SSP

**WGSS 4201. The Novel in the Feminine (Le Roman au féminin)**  
*Same as French 4201.*  
A&S TH FA Lit

**WGSS 4221. Topics in Women and French Literature**  
*Same as French 4221.*  
A&S TH FA Lit

**WGSS 4232. Topics in American Literature**  
**WGSS 4233. Topics in American Literature I**  
*Same as E Lit 4231.*  
A&S TH FA Lit

**WGSS 4241. Topics in American Literature II**  
*Same as E Lit 424.*  
A&S TH FA Lit

**WGSS 432. Women Writers of the 20th Century**  
*Same as Ital 432.*  
A&S SD, TH, WI FA Lit

**WGSS 4333. Women of Letters**  
*Same as French 4331.*  
A&S TH FA Lit

**WGSS 4362. Local Genders, Global Transformations**  
*Same as Anthro 4362.*  
A&S SS FA SSP

**WGSS 4363. Sex, Gender, and Power**  
*Same as Anthro 4363.*  
A&S SS

**WGSS 437. Global Feminisms**  
*Same as IAS 4370.*  
This course examines the global dimensions of feminist organizing and policy making, drawing on both historical and contemporary examples. It applies insights from research on social movements, state-society relations, and multilevel governance to explore the formation, activities, and strategies of international and transnational women's networks on issues ranging from suffrage and equal rights to domestic violence and gender quotas. It considers interactions with local and national women's movements, as well as states and international organizations, and weighs the opportunities and constraints involved in mobilizing beyond the nation-state in struggles against inequality in global and national arenas. Credit 3 units.  
A&S SD, SS

**WGSS 438. Contemporary American Feminism and Theater**  
*Same as Drama 438.*  
A&S TH FA AH

**WGSS 440. Women in the History of Higher Education and Professions**  
*Same as Educ 440.*  
A&S SD, TH FA SSP

**WGSS 445. Japanese Fiction**  
*Same as Japan 445.*  
A&S CD, TH, WI FA Lit

**WGSS 4451. Seminar: Women and Comedy****WGSS 4454. Irish Women Writers: 1800 to Present***Same as E Lit 4454.***A&S** TH **FA** Lit**WGSS 4472. Spanish-American Women Writers II***Same as Span 4472.***A&S** SD, TH **FA** Lit**WGSS 4479. Senior Seminar in Religious Studies: Contemporary Approaches to the Study of Women and Religion***Same as Re St 479.***A&S** SD, TH**WGSS 4494. Modern Japanese Women Writers: Madame Butterfly's Delinquent Daughters***Same as Japan 449.***A&S** CD, SD, TH, WI**WGSS 4502. Women and the Medieval French Literary Theory***Same as French 450.***A&S** TH**WGSS 4550. English Novel of the 18th Century: Jane Austen***Same as E Lit 455.***A&S** TH **FA** Lit**WGSS 4581. Gender, Politics, and Writing in Women's Fiction of the Post-Franco Era***Same as Span 458.***A&S** TH**WGSS 462. Topics in English Literature***Same as E Lit 462.***A&S** SD, TH **FA** Lit**WGSS 4675. Beyond the Harem: Women, Gender, and Revolution in the Modern Middle East***Same as History 4675.***A&S** CD, SD, TH**WGSS 4691. East Asian Feminisms***Same as East Asia 469.***A&S** SD, TH**WGSS 4701. Readings in Chinese Literature: Gender and Religion***Same as Chinese 470.***A&S** TH **FA** Lit**WGSS 4711. Gender and Religion in China***Same as Re St 4711.***A&S** TH **FA** SSP**WGSS 475. Intellectual History of Feminisms**  
*Same as WGSS 475, AMCS 4752, Pol Sci 4501, Phil 4751, History 4751, E Lit 475.*

We focus on feminist thought in Western culture, but also examine non-Western ideas about feminisms. We trace the relationship among emergent feminist ideas and such developments as the rise of scientific methodology; Enlightenment thought; revolutionary movements; and the gendering of the political subject, colonialism, romanticism, socialism, and global feminisms. Readings are drawn from primary sources and recent feminist scholarship on the texts under consideration.

*Note:* This course is in the core curriculum for the Women, Gender, and Sexuality Studies graduate certificate. Permission of instructor required. Prerequisite: completion of at least one WGSS course or permission of the instructor. Credit 3 units.

**A&S** TH **FA** Lit**WGSS 4771. Gender in 19th-Century Art***Same as Art-Arch 4771.***A&S** SD, TH **FA** AH**WGSS 482. Reading Seminar in Gender and Chinese Literature: Women in the Chinese Literary Tradition***Same as Chinese 482.***A&S** TH **FA** Lit**WGSS 483. Gender and Genre***Same as French 483.***A&S** SD, TH **FA** Lit**WGSS 4873. Theater Culture Seminar: Gender in Contemporary Performances****WGSS 4877. Discourses on Gender in 19th- and 20th-Century Spain***Same as Span 487.***A&S** SD, TH**WGSS 4889. Reframing Feminist Art of the 1970s***Same as Art-Arch 4889.***A&S** TH **FA** AH**WGSS 489. The Battle of the Sexes: Sexual Conflict on Stage from Aeschylus to Albee***Same as Drama 489.***A&S** TH**WGSS 4908. Advanced Seminar: Women in American Society: Women in Social Movements***Same as History 4907.***A&S** SD, TH **FA** SSP**WGSS 4918. Advanced Seminar in History***Same as History 4918.***A&S** TH **FA** SSP**WGSS 4974. Advanced Seminar in History: Gender and Property Law***Same as History 4974.***A&S** TH **FA** SSP**WGSS 4982. Advanced Seminar: Women and Confucian Culture in Early Modern East Asia***Same as History 4982.***A&S** TH**WGSS 499. Honors Thesis: Research and Writing**

Enrollment in this course is limited to students accepted into the Honor's Program. Petition for permission to enroll is available in the Women, Gender, and Sexuality Studies office, 18 Busch Hall. Credit 3 units.

**A&S** TH**WGSS 4990. Advanced Seminar: History of the Body***Same as History 4990.***A&S** SD, TH**WGSS 4993. Advanced Seminar: Women and Religion in Medieval Europe***Same as History 4993.***A&S** TH

***Olin Business School***

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## Olin Business School

### Administration

**Mahendra Gupta**, Ph.D.  
Dean

**Jim Beirne**, M.B.A.  
Associate Dean and Director of Weston Career Center

**Jeff Cannon**, M.A.  
Associate Dean for the Undergraduate Program

**Joseph P. Fox**, M.B.A.  
Associate Dean for M.B.A. Programs

**Ronald R. King**, Ph.D.  
Senior Associate Dean for Academic Affairs

**Chakravarthi Narasimhan**, Ph.D.  
Director of the Doctoral Program

**Anjan Thakor**, Ph.D.  
Senior Associate Dean for Academic Affairs

**Ronald Allen**, M.B.A., M.L.S.  
Asa F. Seay Librarian

**Charles A. Balsamo**, M.A.  
Director of Information Systems

**Brian T. Bannister**, M.B.A.  
Associate Dean for Budget and Operations

**Kenneth C. Bardach**, M.B.A.  
Associate Dean and Charles & Joanne Knight Director of Executive Education

**Karen L. Branding**, M.B.A.  
Associate Dean and Director of Marketing and Communications

**Kenneth A. Harrington**, M.B.A.  
Director of Skandalaris Center

**Konstance P. Henning**, B.S.  
Associate Director of Undergraduate Advising

**Kay Henry**, M.A.  
Associate Dean and Director of Executive MBA Programs

**Steven J. Malter**, Ph.D.  
Associate Director of Undergraduate Advising

**Karen J. Margo**, M.B.A.  
Senior Director of Development

**Barbara B. McKay**, M.A.  
Director of Academic and Administrative Affairs

**Cynthia Newell**  
Registrar

**Lanna K. Skadden**, M.S.  
Director of Undergraduate Advising

### About the Olin Business School

Any top business school should give students an exceptional grounding in the basics—accounting, finance, economics, marketing, and operations. At Olin Business School, mastering those functional skills is not the end, but the beginning. Here, it's not only about what you know, but, more importantly, how you think.

Our faculty is widely regarded as among the very best in the nation in terms of scholarly research productivity. In the classroom,

you'll learn rigorous critical thinking skills—the same kind of analytical, open-minded inquiry that powers top-tier research.

Business-involved, applied-learning opportunities help you integrate your newfound knowledge, critical thinking, and collaboration skills to solve real, complex, unstructured business problems. Study abroad, entrepreneurship, and consulting projects further transform your perspectives, skills, and competencies.

Research-driven thinking, applied—that organizing principle at Olin transforms individuals who transform business. You learn from the best and with the best, in an energizing and exhilarating environment that fosters teamwork, interdisciplinary learning, and the practical experience essential to your future success.

### Bachelor of Science in Business Administration (B.S.B.A.)

As an undergraduate student at Olin, you may choose from a variety of majors and minors, all leading to the Bachelor of Science in Business Administration (B.S.B.A.) degree. Our B.S.B.A. students begin business courses in their freshman year. The curriculum covers the core functional areas of business, and at least 40 percent of the course work must be in non-business fields—from fine arts to science—allowing you to pursue individual career goals and ensuring a well-rounded educational experience.

### Majors

Because majors in the business curriculum are offered as an option, you may or may not choose to pursue a formal business major, or you may choose to complete more than one major. You may choose a major from the following fields of business study:

- Accounting
- Entrepreneurship
- Finance
- Healthcare Management
- International Business
- Managerial Economics and Strategy
- Marketing
- Operations and Supply Chain Management
- Organization and Human Resources

For more information about specific course requirements for each major, you should refer to the Olin School's **Undergraduate Student Handbook** or our Web site: [www.olin.wustl.edu/bsba/srv/international.cfm](http://www.olin.wustl.edu/bsba/srv/international.cfm)

### Combined Majors

As a business student, you have the option to major in two areas from different schools. For example, you could earn a B.S.B.A. degree with a major in finance and a major in English literature from the College of Arts & Sciences. You must complete the specific courses required for the second major, but you are not required to complete the general requirements for the second degree. You should consult with your academic adviser for additional information.

### Minors

Business students may choose to pursue a minor in one of the following specific fields of business:

- Accounting
- Business Economics
- Finance
- Healthcare Management
- Marketing
- Organizational Behavior
- Operations and Supply Chain Management
- Strategy

Specific requirements for these business minors are listed on our Web site:

[www.olin.wustl.edu/bsba/srv/geninfo/](http://www.olin.wustl.edu/bsba/srv/geninfo/)

Business students can also pursue a non-business minor in any recognized academic discipline offered within the University by satisfactorily completing all the requirements for both the B.S.B.A. degree and the minor. Required courses for a minor outside of business may range from 15 to 27 units, depending on the specific regulations of the academic department.

### Combined Degrees

As a business student, you have the opportunity to earn two undergraduate degrees simultaneously. While working on your B.S.B.A. degree, you may also work toward another undergraduate degree offered at the University. You must be admitted to the other degree-granting program, and you must meet specific degree requirements for both schools. Typically, this option requires additional time to complete all requirements. For example, if you combine your business degree with a degree from the College of Arts & Sciences, you must complete a minimum of 150 units between the two disciplines. Of the 150 units, at least 90 units must be from the College and at least 48 units from the Olin Business School. Some courses may be used to satisfy both degree requirements simultaneously. Because requirements for a second degree vary from discipline to discipline, you should talk with your primary adviser to plan your program.

### 3+2 Joint Undergraduate and Masters Degrees

#### Master of Business Administration (M.B.A.)

A special five-year program combining an undergraduate degree with the Master of Business Administration degree is available to a select number of undergraduates. Joint degree programs include: the A.B.–M.B.A. degrees offered with the College of Arts & Sciences, the B.S.–M.B.A. degrees offered with the School of Engineering and the B.S.B.A.–M.B.A. degrees offered through the Olin Business School.

In the joint degree program, you must complete at least 90 units before entering the Olin Business School, where you must then complete an additional 60 units of graduate-level courses. You must begin the full-time M.B.A. program in the fall semester. If your undergraduate major is in the School of

Engineering, you may complete up to 15 units of remaining undergraduate course work after you have begun the M.B.A. program, provided the courses are at the 400 level or above. You should consult your academic adviser during your sophomore year to ensure compliance with specific degree requirements.

Admission to the 3+2 program is extremely competitive. You must have a superior academic record, an outstanding performance on your Graduate Management Admission Test (GMAT), and substantive summer internship experience in the corporate world. You apply during the winter of your junior year. You may obtain information and application materials for the M.B.A. program from the M.B.A. Admissions Office in Simon Hall, Room 114, or [mba@olin.wustl.edu](mailto:mba@olin.wustl.edu).

### Master of Accounting (M.A.C.C.)

In this integrated five-year program, you enroll in graduate course work during your fourth and fifth years of study, completing 33 credit hours at the 500 level in addition to the specific course work requirements for your undergraduate degree, for a combined total of 153 hours of academic credit. The program fulfills eligibility requirements to sit for the CPA exam in most states. You can apply for admission once you have completed Acct 3610 and earned 60 undergraduate credits. You are required to maintain a B grade point average in course work at the graduate level to remain in good academic standing. Further information about this program is available from the Student Services Office in Simon Hall, Room 12.

### Master of Science in Finance (M.S.Fin.)

This program delivers a rigorous finance education in a comprehensive set of topics, preparing you for a wide range of positions on Wall Street, as well as in asset management and corporate finance. Completion of the degree requires a minimum of 32.5 graduate-level credit hours as well as three foundation courses: Fin 510 Introduction to Finance, Acct 560 Introduction to Accounting, and Acct 562 Intermediate Accounting. Washington University undergraduate students wishing to enroll in the Master of Science in Finance program on a 3/2 basis must have completed at least 90 total hours of course credit prior to beginning the Master of Science in Finance curriculum.

### B.S.B.A. Degree Requirements

The Bachelor of Science in Business Administration degree is awarded to you by recommendation of the faculty. Standards established by the faculty for recommendation are:

1. Satisfactory completion of requirements regarding required and elective courses, accumulation of a minimum of 120 units of course work, and satisfactory fulfillment of other requirements established in accordance

with the rules and regulations of the Olin Business School.

2. Completion of the last 30 units in residence at Washington University.

#### I. Nonprofessional Requirements

(a minimum of 48 units)

This course work must be taken outside the Olin Business School to satisfy these degree requirements.

- A. English Composition (3 units): You must demonstrate proficiency in reading and writing the English language by satisfactorily completing E Comp 100 with a grade of C+ or better.
- B. Mathematics (3–6 units): You must complete Math 127-128, or other calculus courses approved by the Olin Business School.
- C. Distribution Requirements (18 units): You must complete 3 units of physical and life sciences, 3 units of humanities, 6 units of international studies, 3 units of behavioral analysis, and 3 units of ethics and values. Approved course selections are available in the University's Course Listings. Certain business courses may satisfy these distribution requirements; if taken, they also will count toward the professional electives requirement.
- D. Advanced Electives (18 units): You must complete at least 18 graded units of advanced nonbusiness course work (300 level or above). Advanced electives are defined as any nonbusiness course numbered 300 or above, excluding University College courses. Advanced electives may also satisfy a distribution requirement.
- E. General Electives: All remaining units must be completed from other divisions of the University.

#### II. Professional Requirements

(a minimum of 48 units)

- A. Core Requirements (33–36 units):  
Mgt 100\*  
MEC 290  
MEC 292 or Econ 104B  
QBA 120 and 121  
Acct 2610 and 2620  
OSCM 230 and 356  
Fin 340  
Mkt 370  
OB 360

\*Transfer students entering Olin must take one of the following: Mgt 100, Mgt 380, or Mec 380 to satisfy this requirement.

- B. Professional Electives (12 units minimum): Professional electives are non-required business courses offered by the Olin Business School.

#### III. Electives (24 units)

To ensure that your educational requirements are fulfilled, electives should be chosen in consultation with your academic adviser.

### Academic Options for Non-B.S.B.A.-Degree Students

If you are a student in another undergraduate division of the University, you may choose to complete a second major in a business discipline or pursue a minor in business.

#### Second Major in a Business Discipline Requirements

A second major in a field of business allows you to combine your academic interests between two schools. Opportunities for second majors are offered to all non-B.S.B.A.-degree students. You may select a major from the following disciplines:

- Accounting
- Entrepreneurship
- Finance
- Healthcare Management
- International Business
- Managerial Economics and Strategy
- Marketing
- Operations and Supply Chain Management
- Organization and Human Resources

If you combine your academic interests, you are required to follow the degree requirements for your primary major. Requirements for your second major include a core set of requirements and 12–18 units of business course work. Core requirements are as follows:

Mgt 100 or Mgt 380 or Mec 380  
Math 131 and 132  
Mec 290  
Mec 292 or Econ 104B  
QBA 120 and 121  
Acct 2610 and 2620

Because your core requirements are drawn from both business and nonbusiness disciplines, you are required to complete a minimum of 24 business units through the Olin School.

Transfer students from another institution must take a minimum of 18 credits through Olin Business School.

#### Minors for non-B.S.B.A.-degree students

Non-B.S.B.A. degree students are eligible to pursue in a minor in one of the specific fields of business:

- Accounting
- Business Economics
- Finance
- Healthcare Management
- Marketing
- Organizational Behavior
- Operations and Supply Chain Management
- Strategy

The Olin Business School also offers a general business minor to non-B.S.B.A.-degree students.

Specific requirements for these business minors are listed on our Web site:

[www.olin.wustl.edu/bsba/srv/geninfo/](http://www.olin.wustl.edu/bsba/srv/geninfo/).

## Special Opportunities

### Center for Experiential Learning

Olin's Center for Experiential Learning is the focal point for a wide range of activities that take learning beyond the classroom. You'll find many opportunities for hands-on experience, applying your knowledge and skills to real-world situations. Courses include:

- Investment Praxis—students manage more than \$500,000 of the University's endowment funds.
- Taylor Community Consulting Program—students serve as management consultants in six-week projects for area nonprofit organizations.
- The Practicum—student teams consult directly for sponsoring companies on a wide array of business problems

### Skandalaris Center for Entrepreneurial Studies

With its collaborative, cross-disciplinary focus, the Skandalaris Center connects Washington University students and the St. Louis start-up community. Its initiatives focus on corporate innovation, application, and commercialization of early-stage science, student-initiated ventures, and social entrepreneurship. One example is the Hatchery course in which students develop a business idea of their own or one from an outside entrepreneur. The Center also sponsors business plan competitions, workshops, and IdeaBounce, the starting point for all Skandalaris Center programs. See [www.ideabounce.com](http://www.ideabounce.com) for more information.

### Independent Study

Independent study under the direction of a faculty member is available on a selective basis. The purpose of independent study is to provide an opportunity for you to pursue subject matter beyond the specific course offerings found in the Olin School. Projects may be done for 1–6 units, but normally no more than 3 units will be granted in any one semester. For more information, you should refer to the Olin School's *Undergraduate Student Handbook*.

Students may apply a maximum of 6 units of independent study in business and 6 units outside of the Olin School toward the 120-unit degree requirement.

### Internship for Credit Opportunities

Olin juniors or seniors who have completed the core requirement and one advanced elective in the appropriate major field may apply to receive credit for internship experience. Students must work under the direction of a faculty member to complete an academic paper/project. The Internship Petition form must be submitted to the student's academic adviser by the end of the second week of the academic semester.

Several departments on campus offer other special internship opportunities. B.S.B.A. students are also eligible to participate in the Washington, D.C., Internship Program administered through the

Department of Political Science in Arts & Sciences. With the exception of the Washington, D.C., Internship Program and the International Internship Programs, a maximum of 6 units of internship course work may be applied toward the B.S.B.A. degree.

### Undergraduate Teaching Assistantships (UTAs)

In this challenging program, outstanding students are chosen to assist various professors with their course development work or research efforts. Students may conduct library research, perform computer programming, develop new learning materials for class, assist other students with their writing skills, or tutor in various areas of the curriculum.

Participation in the UTA program is voluntary and may begin as early as the first year. As a participant, you are paid the going rate for student assistants. UTA experience also impresses company recruiters.

### Study Abroad

As a business student, you have the opportunity to participate in various study abroad programs. You may choose to (1) apply to one of Olin's International Internship Programs, (2) apply to the London Summer Program, (3) apply to participate in an academic exchange program in Australia, Hong Kong, Italy, or Spain or (4) apply to participate in one of the study abroad programs sponsored by the Office of International and Area Studies in the College of Arts & Sciences.

### International Internship Programs

Our International Internship Programs offer you the opportunity to combine classroom learning with an internship in Koblenz, London, or Paris. You earn 15 units of academic credit in any of these programs by completing:

- Six units of academic credit in appropriate areas (e.g., language study in non-English-speaking locations)
- Full-time internship placement of approximately 15 weeks (in London, Paris, or Koblenz)
- Significant research project in conjunction with the work experience. In Paris and Koblenz, these projects are done in French or German, respectively.

The International Internship Programs are open to all Olin juniors and seniors who have completed the equivalent of five semesters of course work (75 units) and the specific prerequisites for the particular program of study. Second majors and minors in business may also be eligible to apply. There is a minimum GPA requirement of 3.0 in your overall course work and 3.0 in your professional course work. Eligibility requirements are subject to change. Additional information is available in Olin's *Undergraduate Study Abroad Opportunities* brochure or at our Web site: [www.olin.wustl.edu/bsba/srv/international.cfm](http://www.olin.wustl.edu/bsba/srv/international.cfm).

### Other Study Abroad Opportunities Through Olin

**London Summer Program.** This program offers you the opportunity to study international business in London. The program consists of two related courses: a management elective and a finance elective. You may enroll in these courses the summer between your junior and senior year in Olin. Additional information is available in Olin's *Undergraduate Study Abroad Opportunities* brochure and at the following Web site: [www.olin.wustl.edu/bsba/srv/abroad.cfm#uk](http://www.olin.wustl.edu/bsba/srv/abroad.cfm#uk).

**Exchange Programs.** Olin students may participate in academic exchange programs at the University of Melbourne or University of Queensland in Australia, at Chinese University of Hong Kong or Hong Kong University of Science and Technology in Hong Kong; at Bocconi University in Milan, Italy; or at Carlos III University in Madrid, Spain, or ESADE University in Barcelona, Spain.

You may participate in any of these exchange programs and take course work that allows you to continue your studies toward your Olin School degree without interruption. Additional information is available in Olin's *Undergraduate Study Abroad Opportunities* brochure or at our Web site: [www.olin.wustl.edu/bsba/srv/international.cfm](http://www.olin.wustl.edu/bsba/srv/international.cfm).

### Semester in Washington, D.C.

The Washington Semester Program offers you the opportunity to observe and participate in the functions of the federal government or an affiliated agency, a national program, or a policy-making institution. The program is an internship in Washington, D.C., complemented by a weekly seminar on an appropriate topic and by an independent study project culminating in a research paper supervised by a faculty member of the Olin School. You earn 15 units of credit for the semester.

Internship areas of particular interest to business students are business, consumer affairs, economic policy, finance and accounting, international affairs, labor relations, and public relations. This program is not open to students in the College of Arts & Sciences. For information, contact the Career Center.

## Student Services and Resources

### Weston Career Center

To provide you with personalized career planning and job search services, Olin operates its own career resources center. The Weston Career Center provides professional services to Olin students pursuing their B.S.B.A., M.A.C.C., M.B.A. and M.S.Fin. degrees. All Washington University students who have interest in business-related fields may access the Career Resources Library. Business students are encouraged to meet with the center's staff early in their undergraduate careers to discuss professional goals.

The Managing Your Business Career Strategy course includes skill training, self-assessment, building target lists, networking, and résumé writing—all the tools you will need to start an effective job search. On-campus interviews take place throughout the academic year. See [www.olin.wustl.edu/wcc/stats.cfm](http://www.olin.wustl.edu/wcc/stats.cfm) for detailed employment statistics.

### Academic Support Services

#### Academic Advising

The Olin School provides you with expert academic advising and support. The Olin School has a director and three associate directors of undergraduate advising, who serve as general advisers to all undergraduate students on procedural matters, course planning, registration, and other academic matters. Faculty members also serve as advisers to students interested in specific areas of business.

#### Peer Advising Program

In this program, other business students, who are familiar with the University and with Olin's programs and policies, help incoming students make a smooth transition to the University by providing informal peer advising services.

## Regulations and Policies

### Registration

Detailed registration instructions and registration materials are available to you if you are currently enrolled in the Olin Business School or are newly admitted.

### Class Attendance

The Olin Business School allows each instructor of a course to decide how many absences you may have and still pass the course. The Olin Business School expects faculty to give reasonable consideration to unavoidable absences and to the feasibility of making up work that has been missed. You are expected to explain to your instructors the reasons for any absences and to discuss with them the possibility of making up missed assignments.

If the nature of an illness is such that you expect to be absent from classes for an extended period of time, you should contact your academic adviser.

### Units and Grades

A unit is a measure of quantity given for one hour of lecture or recitation course a week for one semester. A grade point is a measure of the quality of work done in the course. The Olin Business School employs the following grading system in evaluating student performance:

Grade	Grade Points Per Unit
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0
P#	pass no grade points
F#	failure no credit
I	incomplete temporary grade for maximum of 60 days
W	withdraw no grade points
R	repeat no credit

Grade points per course are calculated by multiplying the number of units of a course by the grade points earned. A minimum 2.0 grade point average in all course work taken at the University and a 2.0 in all professional course work taken at Olin must be achieved to satisfy B.S.B.A. graduation requirements.

You may retake a course if a higher grade is required or desired. The initial grade received in the course remains on your record, along with an R to indicate that the course was repeated. Credit is given only once for taking the course, and only the

## Typical Four-Year Curriculum for a B.S.B.A. Student

Fall	Units	Spring	Units
<b>First-year</b>			
Management 100 <sup>1</sup>	3	Managerial Economics 290	3
Math 127 or higher <sup>2</sup>	3	Accounting 2610	3
English Composition 100	3	Math 128 or elective <sup>3</sup>	3
Electives <sup>4</sup>	6	Electives	6
	15		15
<b>Sophomore</b>			
Quantitative Business Analysis 120	3	Quantitative Business Analysis 121	3
Core requirement(s) <sup>5</sup>	3-6	Core requirement(s)	3-6
Electives	6-9	Electives	6-9
	12-18		12-18
<b>Junior</b>			
Core requirements	6	Core requirements	6
Electives	9	Professional elective	3
	15	Electives	6
			15
<b>Senior</b>			
Professional electives	6	Professional electives	6
Electives	9	Electives	9
	15		15

<sup>1</sup> Required only of first-year students entering the Olin School during the fall semester.

<sup>2</sup> Students with advanced mathematics backgrounds should take Math 128 in the fall. Students who wish to enroll in additional mathematics courses should enroll in Math 131 and/or 132 to satisfy the calculus requirement.

<sup>3</sup> Students who completed Math 128 in the fall may enroll in an elective of their own choosing.

<sup>4</sup> There are 60 units of electives noted in the above curriculum. Of these, the student must complete 39-42 units of nonbusiness course work, including 3 units in physical/life sciences, 3 units in humanities, 6 units in international studies, 3 units in behavioral analysis, 3 units in ethics/values, and 9 units in advanced nonbusiness courses (numbered 300 or above).

<sup>5</sup> Of the core requirements, 33 units still need to be completed. Refer to page 276 for specifics on core requirements. A total of 120 units is needed to meet B.S.B.A. degree requirements.

higher grade is used in computing your grade point average.

### Pass/Fail Option

You may take a maximum of one course per semester on a pass/fail basis. A grade of P# (pass) indicates that credit has been awarded, but the work was not subject to finer evaluation. No required or business course work may be taken on a pass/fail option. This option is provided so that you may take non-business courses in subject areas with which you may have little familiarity.

### Auditing a Course

You may not audit a business course. However, you may take nonbusiness courses for audit with the approval of the professor. An audited course does not count toward your degree requirements. A grade of L indicates satisfactory completion of an audit; unsatisfactory completion results in a grade of Z. Fees for auditing a course are assessed at the same rate as for all other courses.

### Course Changes

You may drop a course until the end of the second week of classes; no record of the enrollment is recorded on your official transcript. You also may withdraw from courses between the beginning of the third and the end of the 12th week of the semester. In this case, a W (withdraw) is recorded on the official transcript. After the end of the 12th week, you may not withdraw from classes.

### Incomplete Grades

You may be given an I (incomplete) when extenuating circumstances preclude the satisfactory completion of course work during the semester in which a particular course is taken. If you do not make up an I within the prescribed period, it will automatically be changed to an F.

### Honors

Undergraduate business students are considered for the following honors:

#### Scholars in Business Program

The Scholars in Business program allows alumni, corporations, and friends of Olin to provide scholarship funds to students of high academic promise who require financial support to attend the University. Students are considered for this award when they make application for financial aid in the fall of each year. Donors and students meet each other at the annual Scholars in Business dinner.

Undergraduate scholarships funded through this program include:

*Accenture Scholarship*  
*Fred S. and Suzanne E. Anton Scholarship*  
*William H. Armstrong Scholarship*  
*Sue and Mel Bahle Scholarship*  
*Baird, Kurtz, & Dobson Accounting Scholarship*  
*Abraham A. Bank Scholarship*  
*Charles M. Barnes Endowed Scholarship*  
*William and Diane Barnes Scholarship*

*Walter G. Bauer Endowed Scholarship*  
*Mary Ellen and Carl L.A. Beckers Scholarship*  
*Scott F. Bianco Memorial Scholarship*  
*Warren A. and Deloris Coy Boecklen Scholarship*  
*Aranka Bohm Scholarship*  
*Karney A. and Marjorie J. Brasfield Endowed Scholarship*  
*The Buerger Family Scholarship in Honor of Gary Hochberg*  
*Florence and Frank J. Bush, Jr. Scholarship*  
*William and Patricia Bush Scholarship*  
*Kelly Monaghan and Robert Buttke Scholarship*  
*William Sutter Cassilly Endowed Scholarship*  
*Class of 1954–Miller Upton Scholarship*  
*Michele and Brian Cohen Scholarship*  
*Stanley M. Cohen Endowed Scholarship*  
*Coleman Foundation Scholarship*  
*CPI Founders Scholarship*  
*Alphonsus T. Cummins Scholarship*  
*Gloria A. and Paul M. Dauten Scholarship*  
*Alan E. Doede Endowed Scholarship*  
*Marwan and Catherine Nabulsi Scholarship*  
*Barbara and Nicholas Dopuch Scholarships*  
*Distinguished Faculty Scholarship in Honor of C. William Emory*  
*Ernst & Young Scholarship*  
*Alyn and Marlyn Essman Scholarship*  
*F.B.K. Scholarship in Honor of Carl Bauer*  
*Raymond H. Fienup Endowed Scholarships*  
*W.F.J. Fienup Scholarships*  
*Jean and Donald Frahm Scholarship*  
*Aurora Leigh Frederick Endowed Scholarship Fund*  
*Morris M. Geifman Memorial Scholarship*  
*Gussie Glik Scholarship*  
*Lynn Kohane Schukar and Lillian Kohane Glick Memorial Scholarship*  
*Alvin and Jeanette Goldfarb Scholarship*  
*Michael C. Gomberg Scholarship*  
*Alma and Oliver Goralnik Scholarship*  
*Stuart and Elaine Greenbaum Scholarship*  
*Bobette and Sidney Guller Scholarship*  
*Robert L. and Carolyn M. Harmon Scholarship*  
*Teresa Harris Memorial Scholarship*  
*John H. Hayward Scholarship Fund*  
*Robert R. Hermann Scholarship*  
*Robert Sloan Jack Scholarship*  
*Frederick D. Jacobus Memorial Scholarship*  
*Kurt and Carolyn Jaeger Scholarship*  
*Regina Karmel Memorial Scholarship*  
*Distinguished Faculty Scholarship in Honor of Joseph M. Klamon*  
*Gunther and Doris Kohn Scholarship*  
*Louis and Rose Kopolow Memorial Scholarship*  
*Lawrence Krulik Memorial Scholarship*  
*Robert and Myrna Kuk Scholarship*  
*Willard L. Levy Scholarship*  
*Leslie and Carol Loewe Scholarships*  
*Theodore R.P. Martin Scholarship*  
*George D. McDowell Scholarship*  
*Art and Marge McWilliams Scholarships*

*Leo and Dorothy Minner Memorial Scholarship*  
*Grace Moro Scholarship*  
*James Myles and Gladys Hecker Myles Scholarship*  
*Kevin C. O'Neill Scholarship*  
*Reich Family Scholarship*  
*Kay Roh Memorial Scholarship*  
*Ronald and Alloyce Ross Scholarship*  
*Rubin Brown Scholarship*  
*Robert N. Sachs Scholarship*  
*Lillian M. Sagorske Memorial Scholarship*  
*Lori and Ron Satnick Scholarship*  
*Robert L., Jr. and Martha S. Scharff Scholarship*  
*Barbara and Harry Schukar Scholarship*  
*Louis and Ricki Schukar Scholarship*  
*J. Henry Schweich Scholarship*  
*Asa Forest Seay, Jr. Scholarships*  
*The Seiden and Hirsch Family Scholarship*  
*Frank Havelock Simmons Scholarship*  
*Stone-Smurfit Container Corporation Scholarships*  
*Lawrence E. Thomas/Edward Jones Scholarship*  
*Wesley Thomas Scholarship*  
*Joseph and Patty Towle Endowed Scholarship*  
*Colonel Irvin Trowbridge Scholarship*  
*Terrence B. and Katherine B. Magrath Scholarships*  
*Robert and Gerry Virgil Endowed Scholarships*  
*Robert C. Wahlert Scholarship*  
*Jerry Wightman Scholarships*  
*O. Bliss and Susan H. Williams Scholarship*  
*Wong Scholarship*  
*Wayne Wood Scholarship*  
*Neil Marshall Yaris Scholarship*  
*Louis and Mary Zorensky Scholarship*  
*Milton and Jeanne Zorensky Scholarship*  
*ZYBEC Corporation Scholarship*

### Dean's List

Dean's List honors are awarded to undergraduates who have completed a minimum of 12 graded units and achieved a semester grade point average of 3.6 or above. No incomplete grades may be outstanding as part of your semester record.

### Honorary Society

The top 7 percent of the junior class and the top 10 percent of the senior class are eligible for invitation to Beta Gamma Sigma, the national business honorary society. You must have completed a minimum of 30 units at Washington University to be eligible.

### Graduation Honors

Graduating seniors in the top 5 percent of the graduating class based on overall University academic records graduate *summa cum laude*. Seniors in the top 6 to 15 percent of the graduating class graduate *magna cum laude*. These honors are recorded on the official University transcript.

**Faculty****Endowed Professors****William P. Bottom**

Joyce and Howard Wood Distinguished  
Professor of Organizational Behavior  
Ph.D., University of Illinois

**Siddhartha Chib**

Harry C. Hartkopf Professor of  
Econometrics and Statistics  
Ph.D., University of California–Santa  
Barbara

**Philip H. Dybvig**

Boatmen's Bancshares Professor of Banking  
and Finance  
Ph.D., Yale University

**Mahendra Gupta**

Dean and Geraldine J. and Robert L. Virgil  
Professor of Accounting and Management  
Ph.D., Stanford University

**Barton H. Hamilton**

Robert Brookings Smith Distinguished  
Professor of Entrepreneurship  
Ph.D., Stanford University

**Ronald R. King**

Myron Northrop Professor of Accounting  
Ph.D., University of Arizona

**Panos Kouvelis**

Emerson Professor of Operations  
and Manufacturing Management  
Ph.D., Stanford University

**James T. Little**

Donald Danforth, Jr. Distinguished Professor  
of Business  
Ph.D., University of Minnesota

**Glenn M. MacDonald**

John M. Olin Professor of Business, Law,  
and Economics  
Ph.D., University of Rochester

**Judi McLean Parks**

Reuben C. and Anne Carpenter Taylor  
Professor of Organizational Behavior  
Ph.D., University of Iowa

**Chakravarthi Narasimhan**

Philip L. Siteman Professor of Marketing  
Ph.D., University of Rochester

**Jack A. Nickerson**

Frahm Family Professor of Organization and  
Strategy  
Ph.D., University of California–Berkeley

**Robert A. Pollak**

Hernreich Distinguished Professor of  
Economics  
Ph.D., Massachusetts Institute of Technology

**Ambar Rao**

Fossett Distinguished Professor of  
Marketing  
Ph.D., University of Pennsylvania

**Jeroen Swinkels**

August A. Busch, Jr. Professor of  
Managerial Economics and Strategy  
Ph.D., Princeton University

**Anjan Thakor**

John E. Simon Professor of Finance  
Ph.D., Northwestern University

**Murray L. Weidenbaum**

Edward Mallinckrodt Distinguished  
University Professor  
Ph.D., Princeton University

**Todd R. Zenger**

Robert and Barbara Frick Professor of  
Business Strategy  
Ph.D., University of California–Los Angeles

**Professors****Nicholas S. Argyres**

(Strategy)  
Ph.D., University of California–Berkeley

**Todd T. Milbourn**

(Finance)  
Ph.D., Indiana University

**Guofu Zhou**

(Finance)  
Ph.D., Duke University

**Associate Professors****Yossi Aviv**

(Operations and Manufacturing  
Management)  
Ph.D., Columbia University

**J. Stuart Bunderson**

(Organizational Behavior)  
Ph.D., University of Minnesota

**Tat Chan**

(Marketing)  
Ph.D., Yale University

**Kurt T. Dirks**

(Organizational Behavior)  
Ph.D., University of Minnesota

**Lingxiu Dong**

(Operations and Manufacturing  
Management)  
Ph.D., Stanford University

**Richard Frankel**

(Accounting)  
Ph.D., Stanford University

**Armando Gomes**

(Finance)  
Ph.D., Harvard University

**Anne Marie Knott**

(Strategy)  
Ph.D., University of California–Los Angeles

**Hong Liu**

(Finance)  
Ph.D., University of Pennsylvania

**Tava L. Olsen**

(Operations and Manufacturing  
Management)  
Ph.D., Stanford University

**Raymond T. Sparrowe**

(Organizational Behavior)  
Ph.D., University of Illinois at Chicago

**Assistant Professors****Markus Baer**

(Organizational Behavior)  
Ph.D., University of Illinois

**Sergio Chayet**

(Operations and Manufacturing  
Management)  
Ph.D., Northwestern University

**Amar Cheema**

(Marketing)  
Ph.D., University of Colorado

**Daniel Elfenbein**

(Organization and Strategy)  
Ph.D., Harvard University

**Michael W. Faulkender** (on leave)

(Finance)  
Ph.D., Northwestern University

**Amanda Y. Friedenberg**

(Economics)  
Ph.D., Harvard University

**Joseph K. Goodman**

(Marketing)  
Ph.D., University of Texas at Austin

**Radhakrishnan Gopalan**

(Finance)  
Ph.D., University of Michigan

**Todd Gormley**

(Finance)  
Ph.D., Massachusetts Institute of Technology

**Dirk Hackbarth**

(Finance)  
Ph.D., University of California–Berkeley

**Sudarshan Jayaraman**

(Accounting)  
Ph.D., University of North Carolina at  
Chapel Hill

**Ohad Kadan**

(Finance)  
Ph.D., Hebrew University

**Dmitri G. Kuksov**

(Marketing)  
Ph.D., University of California–Berkeley

**Michael Lewis**

(Marketing)  
Ph.D., Northwestern University

**Lubomir Litov**

(Finance)  
Ph.D., New York University

**Chris P. Long**

(Organizational Behavior)  
Ph.D., Duke University

**Selin A. Makloc**

(Marketing)  
Ph.D., University of North Carolina

**Vladimir N. Mares**

(Economics)  
Ph.D., Rutgers University

**Xiumin Martin**

(Accounting)  
Ph.D., University of Missouri–Columbia

**Raj Mashruwala**

(Accounting)  
Ph.D., University of Texas–Dallas

**Brian P. McManus**

(Economics)  
Ph.D., University of Virginia

**Sherif Nasser**

(Marketing)  
Ph.D. expected 2008, New York University

**J. Lamar Pierce**

(Strategy)  
Ph.D., University of California–Berkeley

**Ron Shalev**  
(Accounting)  
Ph.D., Columbia University

**Ozge Turut**  
(Marketing)  
Ph.D., Harvard University

**Ying Xie**  
(Marketing)  
Ph.D., Northwestern University

**Tzachi Zach**  
(Accounting)  
Ph.D., University of Rochester

**Fuqiang Zhang**  
(Operations and Manufacturing Management)  
Ph.D., University of Pennsylvania

### Visiting Assistant Professors

**Barak S. Aharonson**  
(Organization and Strategy)  
Ph.D. expected 2008, University of Toronto

**Anchada Aida Charoenrook**  
(Finance)  
Ph.D., University of Michigan

**Hillary Anger Elfenbein**  
(Organizational Behavior) (Jan. – Dec. 2008)  
Ph.D., Harvard University

**Ece Tuncel**  
(Organizational Behavior)  
Ph.D., University of Illinois at Urbana–Champaign

### Adjunct and Other Faculty

**Terrence M. Bader**  
(Marketing)  
M.B.A., University of Texas–Austin

**Sanford J. Boxerman**  
(Business Law)  
J.D., Harvard Law School

**Lynnea A. Brumbaugh**  
(Communications)  
Ph.D., Washington University

**Samuel S. Chun**  
(Marketing)  
Ph.D., Washington University

**Charles J. Cuny**  
(Finance)  
Ph.D., Stanford University

**Abigail K. W. Doolittle**  
(Marketing)  
Ph.D., Cornell University

**William R. Emmons**  
(Finance)  
Ph.D., Northwestern University

**Heber Farnsworth**  
(Finance)  
Ph.D., University of Washington

**William C. Finnie**  
(Marketing)  
Ph.D., University of Pennsylvania

**Ronald K. Fisher**  
(Business Law)  
J.D., Washington University

**Louis R. Forbringer**

(Organizational Behavior)  
Ph.D., University of Akron

**Michael R. Gordinier**  
(Management)  
Ph.D., University of Wisconsin–Madison

**Kenneth A. Harrington**  
(Entrepreneurship)  
M.B.A., University of Pennsylvania

**Clifford K. Holekamp**  
(Entrepreneurship)  
M.B.A., Washington University

**Carol F. Johaneck**  
(Marketing)  
M.B.A., Saint Louis University

**Peter G. Klein**  
(Strategy)  
Ph.D., University of California–Berkeley

**Mark B. Lewis**  
(Finance)  
M.B.A., Washington University

**Mark P. McLaren**  
(Accounting)  
M.B.A., Columbia University

**Paul W. Paese**  
(Organizational Behavior)  
Ph.D., University of Illinois

**Donald W. Paule**  
(Business Law and Taxation)  
LL.M., Washington University

**David A. Poldoian**  
(Entrepreneurship)  
M.B.A., Harvard University

**Robert A. Portnoy**  
(Human Resource Management)  
Ph.D., University of Missouri–Columbia

**Antonio Sardella**  
(Management)  
M.B.A., Northwestern University

**David A. Sentnor**  
(Accounting)  
M.B.A., Washington University

**Steven F. Sherwood**  
(Accounting)  
M.B.A., Washington University

**Martin K. Sneider**  
(Marketing)  
M.B.A., Harvard University

**Mark E. Soczek**  
(Accounting)  
A.B.D., Northwestern University

**William J. Streeter**  
(International Business)  
M.B.A., New York University

**Sharon A. Tucker**  
(Human Resources Strategy)  
Ph.D., University of Chicago

**Annette M. Veech**  
(Managerial Communications)  
Ph.D., University of Illinois at Urbana–Champaign

**Cynthia A. Wichelman**  
(Business and Medicine)  
M.D., Stanford University

**Stuart D. Yoak**  
(Ethics)  
Ph.D., Washington University

**Professors Emeriti**  
**Nicholas Baloff**  
(Business Administration)

**Nicholas Dopuch**  
Hubert C. & Dorothy R. Moog Professor Emeritus of Accounting  
Ph.D., University of Illinois

**Stuart I. Greenbaum**  
Bank of America Professor Emeritus of Managerial Leadership  
Ph.D., Johns Hopkins University

**Powell Niland**  
(Management)

**J. George Robinson**  
(Marketing)

**Robert L. Virgil, Jr.**  
(Accounting)

**John E. Walsh, Jr.**  
(Management)

**Merle T. Welshans**  
(Finance)

## Undergraduate Courses

### Accounting

**Acct 2610. Principles of Financial Accounting**  
Provides an overview of the financial accounting reporting process, with a primary focus on the analysis of economic events and their effect on the major financial statements (balance sheet, income statement, and statement of cash flows). Prerequisite: second semester freshman standing. Credit 3 units.

**Acct 2620. Principles of Managerial Accounting**  
Emphasis on the accumulation and analysis of data for internal decision makers. Introduces the vocabulary and mechanics of managerial accounting and accounting techniques used by internal managers in planning, directing, controlling, and decision-making activities within their organizations. Prerequisite: Acct 2610. Credit 3 units.

**Acct 3610. Intermediate Financial Accounting Theory I**  
The first of a two-course sequence in corporate financial reporting. Examines the environment of financial accounting, the standards-setting process, and the conceptual framework that underlies financial accounting in the United States. Topics: review accounting basics, events, and transactions that impact financial statements, comprehension of corporate financial reports, and examination of political and economic factors influencing accounting policy. Prerequisite: Acct 2610. Credit 3 units.

**Acct 3620. Intermediate Financial Accounting II**  
Continuation of Acct 3610. Focus on the accounting and reporting of various stakeholders' claims against the corporate entity. Claims of shareholders, long-term creditors, employees and governmental bodies are examined. An in-depth understanding of applicable generally accepted accounting principles is developed by examining the strengths and weaknesses of these principles and alternative accounting practices. Prerequisite: Acct 3610. Credit 3 units.

**Acct 363. Cost Analysis and Control**  
Focus on the impact of changes in markets, in operations and information technology that affect

the design of management accounting systems. Emphasis is on the strategic role of cost information in planning and controlling operations. Current thrusts of quality control and customer service in managing operations have placed new demands on management accounting systems beyond the traditional role of product costing for financial reporting. Course objective is to analyze how these new demands can be met through the expansion of the scope of management accounting systems. Prerequisites: junior standing and Acct 2620. Credit 3 units.

#### **Acct 464. Auditing**

Examination of the professional service industry of auditing including evaluating objectively the service of obtaining, evaluating, and communicating evidence regarding managerial assertions about economic events. Specifically, auditing ascertains the degree of correspondence between managerial assertions and established criteria. Topics: economic role of external corporate auditing in securities markets; composition of firms in the auditing industry, regulatory environment of auditing, litigation issues facing the accounting and auditing industry, requirements for conducting audits and consideration of the scope and application of Generally Accepted Auditing Standards (GAAS) and the general technology of auditing which are some general auditing topics typically covered on the CPA exam. Prerequisite: Acct 3610. Credit 3 units.

#### **Acct 466. Financial Statement Analysis**

Designed to enhance your understanding of the process of evaluating financial statement information. Requires a basic familiarity with financial accounting and the assumptions underlying measurements reported in financial statements, an understanding of the economic and regulatory forces underlying corporate disclosure of financial statement information and their effects on financial statement information, and familiarity with data sources and analytical tools to extract and evaluate this data. Objectives are to develop familiarity with this type of analysis and to gain an appreciation for its limitations. Topics: profitability and risk analysis, credit risk models, forecasting, and valuation. Prerequisite: Acct 3610. Credit 3 units.

#### **Acct 467. Income Tax Fundamentals**

Principles of individual and corporate income tax, including the history and development of income tax legislation and regulations in the United States. Topics: basic tax concepts, relationships between business and taxable income, tax research and planning, and the impact of tax regulations on business planning and decisions. Prerequisite: Acct 2610. Credit 3 units.

#### **Acct 4680. Advanced Financial Accounting Problems**

Examination of the nature and financial reporting aspects of various business transactions: corporate acquisitions, mergers, and the formation of other strategic alliances. Topics: accounting for business combinations and consolidations, joint ventures and foreign currency translation, accounting and financial reporting issues facing government entities. Prerequisite: Acct 3620. Credit 3 units.

## **Finance**

#### **Fin 340. Capital Markets and Financial Management**

Examines finances of business at the aggregate level through the flow of funds framework. Financial decision-making in areas of liquidity management, investment management, and the selection of capital sources. Prerequisites: Math 128 or 132, Acct 2610, Mec 290 or Econ 103B, and completion or concurrent enrollment in QBA 121. Credit 3 units.

#### **Fin 343. Personal Finance**

Examines issues underlying decision making regarding personal investments. Topics: present value concepts, financial markets and instruments, portfolio theory, bond and equity valuations, mutual funds, mortgages, taxes and personal financial planning. Intended for nonbusiness students who are not second majors in Finance. B.S.B.A. students may take this course, but it will not count toward their degree requirements. This course is not a substitute for Fin 340. Prerequisite: junior standing. Credit 3 units.

#### **Fin 420. International Economics and Finance**

Focuses on the application of concepts and techniques drawn from international economics and finance to the financial management of the business operating in a multinational environment. Topics from international economics include exchange rate determination, international capital flows, determination of trade flows and the terms of trade, and the influence of domestic macroeconomic policy. From finance, topics include the study of international financial instruments, international capital markets, exchange risk hedging techniques, and cost of capital issues. The nature and role of the various institutions involved in international finance are stressed. Prerequisite: admission to the Olin School's International Internship Program in London. Credit 3 units.

#### **Fin 428. Investments Praxis**

Students serve as managers of a portfolio, the Investment Praxis Fund, which is owned by the school. Students will analyze investment opportunities in various industries and present recommendations to the class for possible purchases or sales of securities. Students must demonstrate that their investment decisions are consistent with the style and objectives of the fund. Valuation tools, financial statement analysis and investment techniques are emphasized as part of a thorough analysis. The course will blend theory with practical advice from investment professionals such as portfolio managers, securities traders, and consultants. Prerequisites: Fin 441 and Fin 448.

#### **Fin 441. Investments**

Examines financial markets from the point of view of an investment/portfolio manager. Analyze some of the major financial institutions, such as the stock and options markets (exchanges). Study how financial securities (such as stocks, bonds, options, and futures) are valued in a well-functioning financial market. Understand the theory of optimal portfolio selection based on the notions of static and dynamic portfolio efficiency, capital market equilibrium (a.k.a., the Capital Asset Pricing Model) and the Arbitrage Pricing Theory, bond valuation and immunization, the binomial model and its connection to the Black-Scholes option pricing model, and hedging with financial futures in theory and practice. Review professional publications, such as the *Journal of Portfolio Management* and the *Financial Analysts Journal*. Prerequisite: Fin 340. Credit 3 units.

#### **Fin 443. International Finance**

Provides a framework for making financial decisions in an international context. Topics include: relevant features of international markets and instruments (such as foreign exchange, currency futures, options, swaps, Eurobonds, etc.); models of exchange rate determination; the issue of foreign exchange risk exposure from a corporate perspective; corporate risk management; problems related with capital budgeting in a multi-currency/environment; global investment management issues (risk return tradeoff across countries and global asset allocation); project finance; international taxation; cross-border mergers and acquisitions; and international corporate governance. Prerequisites: Fin 340. Credit 3 units.

#### **Fin 447. Information, Intermediation, and Financial Markets**

Examines the organization and function of financial markets from the corporate perspective with an emphasis on investment banking activities. Topics: design, issuance, and trading of corporate securities, risk management and corporate control transactions. Develop familiarization with current practices while building a conceptual framework for understanding and anticipating change in the institutions that comprise the financial markets. Prerequisite: Fin 340 with Fin 441 and Fin 448 recommended. Credit 3 units.

#### **Fin 448. Advanced Financial Management**

Advanced study of corporate financial management. A major focus is the relationship between the internal decisions of the corporation and the valuation of the firm in the capital market. Topics: capital budgeting systems, capital structure, debt policy, cash and working capital management, short- and long-term financial planning. Prerequisite: Fin 340. Credit 3 units.

#### **Fin 449. Risk Management**

Thorough overview of the risk management process and the use of derivatives to manage risk. Objectives are: provide a framework that managers can employ to make strategic risk management decisions; integrate risk management into a broader understanding of corporate financial policy; introduce techniques that managers can use to identify risk exposures; identify the basic derivative market instruments available to manage risk and the uses, advantages, and disadvantages of each; present analytical and statistical techniques that managers can employ to reduce exposures to particular risks; and present an overview of the oversight of the risk management process. Specific topics include: determining the costs of risk to a corporation; managing interest rate risk using futures, forwards, and swaps; evaluating derivatives credit risk; credit risk derivatives; using options to manage risk and managing the risk of options positions; monitoring the activities of traders/risk managers; "derivatives disaster" including Barings, Metallgesellschaft, and Sumitomo; and exchange and OTC markets. Prerequisites: Fin 340. Credit 3 units.

#### **Fin 451. Options, Futures, and Derivative Securities**

Examines the theory and practical application of derivative securities such as futures, options, and swaps. Central to the theory of derivative security pricing is arbitrage and payoff replication. In practice, derivative securities provide a principal route to manage and, in particular, hedge financial risk. Futures, options, and swaps on different types of underlying assets are examined with emphasis on pricing and application. Prerequisite: Fin 340. Credit 3 units.

#### **Fin 452. Advanced Derivative Securities**

Focuses on implementation of models for pricing and hedging derivative securities in the equity, currency, and fixed-income markets. Students will learn to write programs in a programming environment such as MATLAB to implement the Black-Scholes model, binomial models, Monte-Carlo methods and finite-difference methods. The derivatives studied will include exotic equity and currency derivatives and caps, floors, and swaptions. The goals of the course are to learn more about the various instruments that are traded, the various assumptions and methods that may be chosen in modeling them, and the importance of the assumptions in determining the prices and hedges that are chosen. The course will be especially useful to students pursuing careers in sales and trading who will interact with research departments and students pursuing careers in asset management. Prerequisites: Fin 441.

## Human Resource Management

### HRM 320A. Managing People in Organizations

Critically examines the interpersonal functions of management. Organized in three sections: (1) Introduces the principles of management with concepts of management including the traditional functions of planning, organizing, controlling and problem solving as well the history of management and how such historical principles continue to influence the management of today's organizations. (2) Principles of Leadership concentrates on competencies for leading people. Topics: aligning and motivating people, conflict resolution, negotiating, decision making, communication skills, teambuilding, and selecting effective leadership styles. (3) Leadership and Management: Applied Practice focuses on the nature of the workforce both now and in the volatile years ahead through case studies and group activities that will comprehensively incorporate the material from throughout the course. Prerequisite: sophomore standing. Credit 3 units.

### HRM 325A. Personnel/Human Resources Management

Introduces the field of human resource management (HRM) as well as the profession through which it is practiced. Designed to develop a broad understanding of major HRM components and apply them to the principles by which organizations are managed. Develop a familiarity with the various types of human resource positions in organizations, the opportunities for career growth and the professional resources available through the Society of Human Resource Management including membership and certification requirements, publications, and Web sites. Prerequisite: junior standing. Credit 3 units.

## Management

### Mgt 100. Individual in a Managerial Environment

Historical analysis of major trends shaping the contemporary and future nature of business. Emphasis on the development of critical and evaluative skills. Topics: demography, trade, technology, employment, government and the economy, social ethos and economic behavior, the nature of economic organization, and the growth of business firms in the United States and abroad. Only open to freshmen in the fall semester. Credit 3 units.

### Mgt 200. Managing Your Business Career Strategy

Provides opportunities for students to: participate in career-related self-assessment; explore numerous business-related careers; understand the curriculum and how it relates to desired majors or personal interests; and develop internship/job seeking competencies. Prerequisite: sophomore standing. Credit 2 units.

### Mgt 301. Legal Environment of Business Management

Surveys the various areas of law that make up the legal environment of business. Develops a basic understanding of law as it relates to business, with traditional emphasis on private law and business transactions. This study of the micro law of business will review the detailed substantive rules in the areas of contracts, sales, product liability, agency, corporations, and partnership. In addition, a summary review of contemporary legal problems such as insider trading, discrimination in employment, sexual harassment, and ethics may be discussed, if time permits. Case studies are analyzed in order to give the student an understanding of how various laws apply to actual situations. Prerequisite: sophomore standing. Credit 3 units.

### Mgt 308. Introduction to International Business

Focus on the aspects of management of a business enterprise that are necessary to compete in the global marketplace. The course begins with a survey of the environmental context in which international companies operate (economic systems and cultural factors). This is followed by a review of International Trade Theory and Economics. This forms a basis for concentration in the second half of the course on strategies and structure for global operations. The course deals with the situations in Europe, Japan, Latin America, and China through case studies and discussion of current topics and their relation to the fundamental aspects of global business management. Prerequisites: junior standing or permission of instructor. Credit 3 units.

### Mgt 320. Olin Grand Rounds: The Business and Practice of Medicine

Grand rounds in medical schools are a forum for presenting new and challenging clinical problems and cases. The goal of Olin Grand Rounds is to focus on the challenges and solutions facing the business of medicine. The course will therefore provide an introduction to the current issues facing the healthcare sector that integrates management tools and clinical knowledge. The objective is to provide students new insights into how modern management tools can be combined with scientific and clinical knowledge to manage healthcare organizations more efficiently and practice medicine more effectively. Prerequisite: none. Credit 3 units.

### Mgt 321. Health Economics and Policy

The basic tenets of health economics will be covered. This course will place a unique emphasis on incorporating materials from three broad source categories: textbook elements, "lay" press and media, and academic journal publications with the aim to foster application of rigorous, critical thought to media presentations of healthcare economics and policy issues. Credit 3 units.

### Mgt 322. Healthcare Management

The goal of the course is to develop facility in applying basic tenets of general management to actual situations and dilemmas that might be faced by healthcare managers, consultants, financiers, investors, innovators, or providers in the course of their work. Issues addressed will include but not be limited to financial issues, management challenges, and conduct of operations. The first phase will cover the basic background on the structure and financing of the healthcare industry to include very brief reviews of critical topics like insurance and government-provided healthcare. A few basic frameworks will then be developed for students to apply to course topics moving forward, such as cost/benefit analysis and evaluation of risk. The remainder of the course will involve critical analyses of healthcare cases involving varied subjects and management challenges. Sessions will emphasize student-led discussions. Prerequisite: Mgt 320 (Olin Grand Rounds).

### Mgt 380. Business Strategy

This capstone course adopts the perspective of the general manager—an individual charged with developing and implementing the long-term strategy of a business. The course develops basic tools and concepts in strategy formulation, including competitive advantage, value creation and capture, industry analysis, capability assessment, and competitive positioning. The course is designed to develop students' skills in both analyzing observed strategies and in formulating and implementing new ones. A key feature of the course is a business simulation in which student teams will interactively formulate and execute strategy for a simulated firm. Prerequisites: Acct 2610 and Mec 290. Credit 3 units.

### Mgt 390. The Economics of Human Resource Management

Key to a firm's success is whether it can develop a firm organization and a human resource management system that reinforce the firm's strategic position. This course covers topics in managing work forces and organizations that are of fundamental importance to all managers, and teaches how organizational design and human resource policies interact with the firm's market strategy and production environment. We look at how management can motivate executive and employee performance, screen and attract appropriate workers, and improve the way information is processed and decisions are made within organizations. This course combines economic analysis with case discussions to address topics including hiring policy, turnover, training, variable pay, promotions, evaluation, job design, teams, worker empowerment, hierarchy, and organizational structure like centralization and decentralization. Prerequisite: Mec 290. Credit 3 units.

### Mgt 400U. Presenting Yourself in Business Communications: Meetings, Memos, E-Mail, and Reports

Every field of business—marketing, accounting, finance, consulting, entrepreneurship—requires robust communication skills. It's not enough to know how to crunch numbers; you've got to know how to communicate your good ideas to your boss, your partner, your team members, and your clients. In short, you've got to know how to present yourself—in meetings, in person, and in writing. In this class, students work individually and in groups to transform merely competent writing and presentation skills into compelling ones. They stage formal and informal business presentations and create verbal and written reports for external clients. Class discussions, readings, and activities all complement one another and equip students with communication tools aimed at helping them first get a job—and then thrive during those first two critical years after. Prerequisite: E Comp 100 or permission of the instructor. Credit 3 units.

### Mgt 400V. Healthcare Economics, Policy, and Operations

The course is broadly broken into two halves. The first half will deal with topics in healthcare economics, health policy, insurance principles, and some basic analytic frameworks. The second half of the course will address more directly topics in healthcare management and operations. This half of the course will be oriented around case discussions. The entire course will be sensitive to variations in the backgrounds of class members with respect to economics and previous knowledge of healthcare. Prerequisites: Mec 290 or Econ 103B. Credit 3 units.

### Mgt 400W. Olin Grand Rounds: The Business and Practice of Medicine

Healthcare expenditures comprise a large and growing component of the U.S. GDP, with some experts predicting that the healthcare sector will consume 20 percent of national income by 2010. Given this substantial growth in medical costs, numerous initiatives have been introduced to improve efficiency in the provision of healthcare services. Efforts to control costs have been confronted with other issues, such as concerns that these efforts may reduce the quality of care and slow the pace to technological innovation in medical devices, pharmaceuticals, and patient care. Each of these factors presents major management challenges. A major complicating factor in the management of healthcare is the specialization of knowledge in the industry. Managers may have strong skills in traditional business disciplines such as accounting, finance, and marketing, but little clinical knowledge. Conversely, physicians have detailed clinical knowledge concerning

appropriate patient care, but little understanding of business processes. Consequently, many issues are resolved unsatisfactorily (as shown by the rapid growth in expenditures!), and individuals that can combine business skills with clinical knowledge are in very high demand in the healthcare industry. Grand rounds in medical schools are a forum for presenting new and challenging clinical problems and cases. The goal of Olin Grand Rounds is to focus on the challenges and solutions facing the business of medicine. The course will therefore provide an introduction to the current issues facing the healthcare sector that integrates management tools and clinical knowledge. The objective is to provide students new insights into how modern management tools can be combined with scientific and clinical knowledge to manage healthcare organizations more efficiently and practice medicine more effectively. Credit 3 units.

#### **Mgt 400X. Sports Management**

This course examines business and management issues involved in the sports industry. This industry is very diverse, ranging from global sports events (such as the Olympic Games, World Cup Soccer, etc.) to major national competitions (such as the National Football League, Major League Baseball, etc.). Engaged in this industry are many different players, including franchises, governing leagues, sponsors, media, stadium owners, government, fans, and so forth. This course will take a practical look at the world of sports management and administration, with an eye on extracting key lessons for corporate management and administration. Credit 1.5 units.

#### **Mgt 402. Ethical Issues in Managerial Decision Making**

Focuses on ethical issues in management and surveys a number of ethical standards or levels by which managers make decisions involving most functional areas of business. Course emphasis is on class discussion of cases and problem situations that confront managers and for which ethical dimensions are a significant part of the business choices. Prerequisite: senior standing. Credit 1.5 units.

#### **Mgt 410. Current Issues in International Trade and Finance**

Introduction to prospects and problems of the international economy with an emphasis on the United Kingdom and the European Economic Community. Both economic and political dimensions considered. Prerequisite: Admission to London International Internship Program. Credit 1 unit.

#### **Mgt 418. International Business: A Euro Perspective**

Examines the economic and institutional setting of Europe from a general business perspective. The economic and political structures of major countries are studied. The role of the European Economic Community is examined as well as that of some major international organizations such as GATT and OECD. The primary emphasis is with countries of western Europe. Other topics include theory of customs, unions, monetary and economic integration, and multicountry policy integration. Opportunities for and problems of doing business in Europe are examined from both an overall strategic perspective and from the perspective of the different functional areas. Prerequisite: admission to the Olin School's International Internship Program in London. Credit 3 units.

#### **Mgt 420. Research in Healthcare Management**

This is the capstone course for the Healthcare Management major in which students learn to apply rigorous statistical and analytical approaches to research questions in health services but not limited to questions relating to management, finance and economics, operations, and policy.

Faculty will identify several available research project options and present these options in class. The goal is to capitalize on the strength of the university medical school and affiliated medical centers, in addition to capitalizing on existing relationships between Olin and healthcare firms to identify the student research projects. Students also will be encouraged to formulate their own research questions and to identify potential data sources they could use to address these questions, if they so desire. Students will work in teams of three to four, using the approach developed for the Practicum and Hatchery courses. Prerequisites: Mgt 320 (Olin Grand Rounds), Mgt 321 (Healthcare Economics and Policy), Mgt 322 (Healthcare Management), Mec 290 (Microeconomics), and QBA 120 (Managerial Statistics I).

#### **Mgt 424. Business Planning for New Enterprises (The Hatchery)**

Two- to five-person student teams pursue their own business ideas or support outside clients working on new ventures, including commercialization of early-stage scientific research and social opportunities. The academic deliverables vary with the maturity of the venture. Students involved with later-stage opportunities develop business plans, investor presentations, and funding strategies. Students involved with early-stage opportunities complete one or more feasibility plans including value milestones supporting the commercialization path for new scientific discoveries. Early-stage discoveries are typically provided by the Washington University Office of Technology Management (OTM). Students pursuing their own ideas must have their teams formed before the class begins. Students wishing to support outside entrepreneurs and scientific researchers must apply and be selected for those teams. Most of the work will be done outside the classroom with the support of mentors, advisers, and the instructor. Classes will be held once per week for the first half of the semester. Workshops and rehearsals will be required in the second part of the term. Students make final presentations to a panel of outside judges including venture capitalists, angel investors, entrepreneurs, and people involved with early-stage ventures. Prerequisite: junior standing.

#### **Mgt 430. Introduction to Entrepreneurship**

This course covers the life dynamics surrounding the early stages of starting a business. Based upon a series of "experiential simulations," students will be involved in both individual and team competitive gamesmanship situations that replicate real world startup environments. Students will learn to identify characteristics of promising startup industry environments and markets; to understand the process of early-stage company formation and some of the options open to founders; to understand some of the team dynamics and behaviors that might occur in a startup and to have some fun. Prerequisites: junior or senior standing with priority given to seniors and permission of instructor. Credit 3 units.

#### **Mgt 490. Honors Seminar I**

The first of a two-course honors seminar. Students will have the opportunity to investigate current issues in business using an interdisciplinary approach to their research. Course content of the seminar varies from year to year. Prerequisites: senior standing and faculty invitation. Credit 3 units.

#### **Mgt 491. Honors Seminar II**

The second of a two-course honors seminar. Students will have the opportunity to investigate current issues in business utilizing an interdisciplinary approach to their research. Course content of the seminar will vary from year to year. Prerequisite: Mgt 490. Credit 3 units.

## **Managerial Economics**

#### **Mec 290. Microeconomics**

Provides a foundation to the analysis of optimal decisions by firms, namely how to make decisions about how much to produce, how to produce it, how to price it, and how these decisions are affected by demand, cost, the number and behavior of firms in the industry, the information the firm has, and the legal environment. Prerequisite: Math 127 or 131. Credit 3 units.

#### **Mec 292. Global Economy**

Introduces the fundamentals of international economic analysis. Provides an economic foundation to the analysis of business decisions and strategies in the global setting. Topics include: introduction to the global economy; comparative advantage as the basis for international trade and sources of comparative advantage; economies of scale and imperfect competition as the basis for international trade; tariffs and other instruments of trade policy; political, legal, and institutional factors influencing international trade; balance of payments; exchange rates and the foreign exchange market; international capital flows; national competitive advantage and industrial policies; global economic competition and business strategy. Prerequisites: Mec 290 or Econ 103B and QBA 120. Credit 3 units.

#### **Mec 370. Game Theory for Business**

Provides students with a methodological framework to analyze strategic business situations. Building on a background in microeconomics and statistics, this course includes such topics as the following: modeling strategic problems, games with sequential moves, games with simultaneous moves, strategies and the derivation of strategic forms, general classes of games, uncertainty and information, strategy and voting, auctions, bargaining. Prerequisites: Mec 290 or Econ 401, QBA 121 or Econ 413. Credit 3 units.

#### **Mec 380. Competitive Industry Analysis**

Uses economics and game theory to analyze strategy and industry dynamics. Focus will be split between evaluating the competitive environment within industries and developing competitive strategies that are responsive to specific competitive forces facing individual firms. Topics typically covered include models of price and quantity competition, barriers to entry, commitment strategies and credible threats, product differentiation, vertical integration, research and development, and patenting strategies. Prerequisite: Mec 290. Credit 3 units.

#### **Mec 400F. Empirical Techniques for Industry Analysis**

Students will learn how to use data to answer a wide variety of questions regarding the incentives and behavior that generate market activity. We emphasize inference about the strategic decisions of firms and consumers. Students are introduced to new statistical and econometric tools by examining the application of these tools to current research in economics. Among the topics considered are the empirical implications of strategic bidding in auctions, price discrimination and dispersion, differences across products, and the internal organization of firms. Prerequisites: QBA 120 and 121 or Econ 413, plus Mec 370 or Econ 476 and Mec 470 or Econ 452. Credit 3 units.

#### **Mec 400G. Economic Issues and the Management of Healthcare**

The course provides an in-depth analysis of the economic issues of healthcare management, making use of frontier economic tools. The course will combine discussions of theories of healthcare with empirical readings on the healthcare sector. The idea is to understand what recent economic theories can contribute to healthcare management, and

also to understand what evidence can be gleaned from real examples and data. The course will study many of the important features of demand and supply in this sector including insurance and managed care, the nature of hospitals and technological innovation and costs. The course will also discuss the role of the government in the healthcare sector and possibilities for reform. Prerequisite: Mec 290 or Econ 103B. Recommended: Mgt 400V or Econ 352. Credit 3 units.

#### **Mec 470. Market Competition and Value Appropriation**

Provides students with frameworks and capabilities for making intelligent decisions in evolving markets. Course begins with general game theory concepts, which form the basis for two main topics: models of competition in markets and value appropriation. Students will learn the basic framework, and apply it in the context of a detailed industry study. Specific topics may include firm interactions in stable and evolving market environments, industry life cycles, the evolution of new product markets, and strategic decision-making in developing markets. Prerequisites: Mec 290 or Econ 401 and QBA 121 or Econ 413. Credit 3 units.

### **Marketing**

#### **Mkt 370. Principles of Marketing**

Introduces the fundamental principles of marketing management: analyzing market opportunities, segmenting markets, selecting target markets, and positioning. Developing and managing the marketing mix (product, price, distribution, and promotion) within the context of the marketing environment (customers, competitors, and the external environment). Prerequisites: Mec 290 or Econ 103B and Math 127 or higher level of calculus. Credit 3 units.

#### **Mkt 373. Retail Management**

Explores the fundamental factors that are critical to the success of most retailers: merchandising, store design and display, personal selling, advertising and promotion, pricing, and location. A wide variety of retailers—department stores, specialty stores, wholesale clubs, direct marketers, franchisers, food retailers, discounters, and others—are studied. Through case methodology, the role that managers play in problem solving and development of strategies is studied. Topics include positioning for success, retailing organizations, retail economics, pricing strategy, and entrepreneurial retailing. Prerequisite: Mkt 370. Credit 3 units.

#### **Mkt 377. Consumer Behavior**

Psychological, sociological, and social psychological principles as they apply to consumer response to product offerings, media communications, personal influence, and other environmental factors. Consumer buying behavior is analyzed from theoretical, empirical, and applied perspectives. Current applications of concepts employed by marketers are discussed in the context of both consumer and industrial marketing situations. Prerequisite: Mkt 370. Credit 3 units.

#### **Mkt 400D. Integrated Marketing Communications**

This course focuses on an Integrated Marketing Communications (IMC) approach to advertising and other forms of commercial communications. The purpose is to provide future managers and practitioners with a foundation in communications theory, based on understanding the target's role in the demand chain for goods and services, as well as hands-on experience in developing marketing communications plans. A practical understanding is provided of each of the range of marketing communications vehicles: consumer and business-to-business advertising, sales promotion/incen-

tives, direct marketing, public relations, events and sponsorships, as well as online/interactive communications. Copy strategy, creative development, media planning, promotion strategy, and the evaluation of these programs are all addressed in this course. Industry experts will give guest lectures. We will have four companies in different industry sectors for which the class will develop marketing communications plans during the course. Prerequisite: Mkt 370. Credit 3 units.

#### **Mkt 470E. Pricing**

The environment of pricing decisions and common analytical techniques used by firms in making pricing decisions are studied. Critical-thinking skills and problem-solving skills emphasized. Topics: market structure analysis, contribution analysis, product life cycles, product line decisions, pricing in marketing channels, and transfer pricing. Prerequisite: Mkt 370, QBA 120 and 121 or QBA 120 and concurrent enrollment in QBA 121. Credit 3 units.

#### **Mkt 473. Marketing Research**

The four P's of marketing are product, place, price, and promotion. Using these decision variables, firms seek to maximize profits. Making these decisions requires market information. Marketing research is the process of actively collecting, assimilating, and analyzing market information to support management decision-making. Teaches the nuts and bolts of market research. Prerequisites: Mkt 370, QBA 120 and QBA 121 or concurrent enrollment in QBA 121. Credit 3 units.

#### **Mkt 476. Advanced Retail Topics**

Focuses on current important issues facing retailers. Students form four- to six-person teams to identify a relevant topic, to outline a project proposal identifying its scope and methodology, and to present both a written and oral presentation of their findings and recommendations. Course relies on cases, company and industry data, and field trips. Prerequisite: Mkt 373. Credit 3 units.

#### **Mkt 477. International Marketing**

Addresses three fundamental decisions confronting a company whose operations extend beyond the domestic market: (1) choosing which foreign markets to penetrate; (2) determining the mode of market entry; and (3) devising the international marketing plan. Topics include global marketing planning; environmental and cultural influences on international marketing decisions; organizational and control issues in international marketing decisions; global marketing intelligence; foreign risk and feasibility studies; and issues of ethics in other countries. Prerequisite: Mkt 370. Credit 3 units.

#### **Mkt 480. Marketing Strategy**

Focus is on the role of marketing strategy in the success of the firm and on the formulation of successful marketing strategy. Seven to 10 cases will be studied. In addition to playing MARKSTRAT (marketing strategy simulation), students will analyze the strategy of various firms in the same industry. Prerequisites: Mkt 370 and completion of three marketing electives, or completion of two electives and concurrent enrollment in the third elective. Credit 3 units.

### **Operations and Supply Chain Management**

#### **OSCM 230. Management Science**

Introduces concepts, methods, and applications of management science. Develops a more disciplined thinking process for approaching management situations by constructing, understanding, and using models both in other courses and on the job. Prerequisites: QBA 120 and Mec 290 or Econ 103B. Credit 3 units.

#### **OSCM 356. Operations Management**

Introduces a variety of common operations issues that are frequently dealt with in both manufacturing and service industries and that affect other functions of the business. Specific topics include inventory systems; process design and control; quality, facility location and layout; and forecasting. Prerequisites: Acct 2610, Mec 290 or Econ 103B, and completion or concurrent enrollment in OSCM 230. Credit 3 units.

#### **OSCM 453. Technology Management and Process Design**

Examines technology management and process design issues in both service and manufacturing systems. Emphasizes evaluation and implementation of emerging technologies, such as computer-aided design, computer-aided manufacturing, robots, flexible manufacturing systems, electronic funds transfer, optical character recognition, and automated teller machines, along with the application of advanced techniques for process design. Process design topics may include facility location and layout, assembly line design, quality control, and use of graphical computer simulation software for system evaluation. Plant visits illustrate applications of new technologies and process design techniques. Focuses on medium-range planning issues of capacity expansion and implementation in operations management. Prerequisite: OSCM 356. Credit 3 units.

#### **OSCM 458. Operations Planning and Control**

Examines the concepts and techniques essential for effective operations planning, scheduling, and control in various manufacturing and service organizations. Discusses the use of various models for inventory control, forecasting, production planning, and operations scheduling. Just-in-time techniques and material requirements planning systems also will be discussed. Prerequisite: OSCM 356. Credit 3 units.

### **Organizational Behavior**

#### **OB 360. Organization Behavior Within the Firm**

Provides a toolbox of analytical and interpersonal skills that are necessary to be an effective manager. Learn how these skills can have a significant impact on profitability. Objectives: (1) understanding research conclusions through explaining the dimensions of individual differences and their impact on motivation, job satisfaction, and ultimately organizational effectiveness; explaining group dynamics and how they determine effectiveness; identifying organizational implications of research; evaluating organizational structure and job design; evaluating organizational culture and identifying methods of culture management; and identifying the steps and roadblocks in the process of organizational change. (2) Develop management skills by writing effective reports to senior management that analyze individual, group, and organizational effectiveness in actual organizations; and applying your understanding of individual, group, and organizational dynamics to improve your team's effectiveness on group projects. Prerequisites: Mgt 100 or sophomore standing. Credit 3 units.

#### **OB 400B. Leadership in Organizations**

This course is designed to fulfill three broad objectives for students. The first is to provide a useful overview of the primary leadership perspectives, focusing on how each framework links individual leadership to organizational outcomes. The second objective involves students in self-assessment of strengths and weaknesses in relation to the abilities and skills that are predictive of leadership effectiveness. Third, the course is designed to enable participants to articulate an effective strategic plan for individual leadership development.

Course topics include perspectives on individual leadership effectiveness, leadership and motivation, developing subordinates, leading groups and teams, leading the resolution of conflict, and leading organizational change. Prerequisite: sophomore standing. Credit 3 units.

**OB 461. Negotiation**

Skillful negotiation is an important aspect of management. Designed to improve a student's skills in analyzing and conducting negotiations in a variety of settings. Topics include two-party bargaining, multiparty bargaining, arbitration, and coalition formation. Prerequisite: OB 360. Credit 3 units.

**Quantitative Business Analysis****QBA 120. Managerial Statistics I**

The first of a two-course sequence in introductory statistics. Approximately one-half of the course is devoted to probability: basic ideas, univariate and joint distributions, and expected values and moments. This work is followed by an introduction to the topics of sampling, sample statistics, and sampling distributions. The sampling theory topics of estimation and hypothesis testing are covered. Prerequisite: Completion or concurrent enrollment in Math 128 or Math 132. Credit 3 units.

**QBA 121. Managerial Statistics II**

The second of a two-course sequence in introductory statistics. The course is devoted to the use of linear regression models, ways to deal with its problems (such as collinearity, serial correlation and heteroskedasticity) and time series regression and forecasting. There will be quizzes and group projects in addition to mid-term and final exams. Prerequisite: QBA 120 or approved equivalent; Math 128/132; and Mec 290 or 103B. Credit 3 units

***Sam Fox School  
of Design &  
Visual Arts***

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# Sam Fox School of Design & Visual Arts

**Carmon Colangelo, M.F.A.**

Dean

E. Desmond Lee Professor for Collaboration in the Arts

**Peter MacKeith, B.A., M.Arch.**

Associate Dean

**Georgia Binnington, B.A.**

Associate Dean of Students

## College of Architecture/Graduate School of Architecture & Urban Design

**Bruce Lindsey, A.I.A., M.F.A., M.Arch**

Dean

E. Desmond Lee Professor for Community Collaboration

## College of Art/Graduate School of Art

**Jeff Pike, M.F.A.**

Dean

Jane Reuter Hitzeman and Herbert F. Hitezman, Jr. Professor of Art

**Patricia Olynyk, M.F.A.**

Director of the Graduate School of Art  
Florence and Frank Bush Professor in Art

## Mildred Lane Kemper Art Museum

**Sabine Eckmann, Ph.D.**

Director and Chief Curator

The Sam Fox School of Design & Visual Arts is a unique collaboration in architecture, art and design education, linking professional studio programs with one of the country's finest university art museums in the context of an internationally recognized research university.

The Sam Fox School is composed of the College of Architecture, the Graduate School of Architecture & Urban Design, the College of Art, the Graduate School of Art, and the Mildred Lane Kemper Art Museum.

The **College of Art**, founded in 1879, was the first professional, university-affiliated art school in the United States. In the 1940s, its broad-based core program helped set the standards for the bachelor of fine arts degree. Faculty over the years have included Max Beckmann, Philip Guston, and other internationally known artists.

The **College of Architecture**, established in 1910, was one of eight founding members of the Association of Collegiate Schools of Architecture (ACSA). In 1962, Architecture launched one of the nation's first Master of Urban Design programs. Four winners of the Pritzker Prize, considered architecture's highest honor, have taught at the school.

The **Mildred Lane Kemper Art Museum** dates back to 1881, making it the first art museum west of the Mississippi River.

The collection has historically focused on contemporary work. Today the Kemper Art Museum holds roughly 3,500 important paintings, sculptures, photographs, and installations by 19th-, 20th-, and 21st-century American and European artists, along with significant antiquities and a large number of prints and drawings.

Additional collaborative opportunities are provided by the Department of Art History & Archaeology in Arts & Sciences and the Kenneth and Nancy Kranzberg Art & Architecture Library.

## Inquiry, Creativity, and Synthesis

The Sam Fox School offers rigorous art and architecture education at both the undergraduate and graduate levels, within the unique context of an independent, nationally prominent research university.

The student body is composed of approximately 350 undergraduate and 40 graduate students in Art, as well as 210 undergraduate and 180 graduate students in Architecture. In all, they represent 10 countries, 45 states, and the District of Columbia. Roughly 30 percent of undergraduates pursue combined studies within another University area.

Both core and advanced studios integrate contemporary theory and practice. Among the innovative programs:

- Multidisciplinary courses co-taught by Art, Architecture, and Art History & Archaeology faculty. Recent seminars have explored the history of illustrated entertainment; combined urban theory with book design and production; and crafted a variety of online publications. Courses in exhibition studies are being offered and a new program of exhibition studies is under development.

- International studios in Barcelona, Buenos Aires, Florence, and Helsinki are taught by Washington University faculty and offer a range of distinctive programs in art and architecture.

- Community projects include the University City Sculpture Series, which funds student-designed public artworks; WashU City, a mentoring program for local high school artists; and Architecture's Building Community/Community Building, which explores relationships between St. Louis' inner city, nearby municipalities, and outlying suburbs.

## Uniting Creativity and Scholarship

The Sam Fox School boasts a unique combination of academic and intellectual resources.

The Architecture faculty includes practicing architects, urban designers, and landscape architects as well as eminent architectural theorists and historians and a select number of international visitors. The resident, full-time faculty members have won national and regional awards for design excellence and planning, including more than two dozen from the American Institute of Architects alone.

Art's full-time faculty members include

prominent painters, sculptors, printmakers, and mixed-media artists as well as leading illustrators, graphic designers, fashion designers, and photographers. In the past decade, design faculty have won numerous professional honors while fine art faculty have been featured in more than 100 solo exhibitions and 300 group shows on five continents.

The nationally recognized Kemper Art Museum maintains a vital program of exhibitions, publications, and educational events. Major thematic shows are drawn from institutions and private collections around the world, while the Contemporary Projects Series highlights nationally and internationally emerging artists. The acclaimed permanent collection includes key works by modern and contemporary artists from Henri Matisse, Pablo Picasso, and Jackson Pollock to Christian Boltanski, Candida Hofer, and Olafur Eliasson.

Public events include concerts; film screenings; lectures and discussions with distinguished visitors; and museum tours led by student docents. The museum also provides workspace for faculty- and student-curated exhibitions (usually relating to Sam Fox School curriculum). Courses in Art History and Archaeology further complement the critical and practical study of exhibitions while facilitating student involvement in professional curatorial projects.

## A Comprehensive Campus

The Sam Fox School is housed in a comprehensive, five-building campus for design and the visual arts. Conceived around a central courtyard, it both reflects and updates Washington University's original campus plan, developed in 1895 by Frederick Law Olmstead, the founder of American landscape architecture.

The architectural centerpiece is prize-winning Japanese architect Fumihiko Maki's new Kemper Art Museum. This elegant, 65,000-square-foot limestone clad structure—a gathering point for scholars and the general public—includes more than 10,000 square feet of exhibition space; art storage facilities; and the Florence Steinberg Weil Sculpture Garden. The museum also houses the new Kranzberg Art & Architecture Library; Art History & Archaeology; and the Newman Money Museum, a state-of-the-art numismatics center.

Adjacent to the Kemper Art Museum is Maki's Earl E. and Myrtle E. Walker Hall. The three-story, 38,000-square-foot building contains painting and sculpture studios and the Nancy Spirtas Kranzberg Studio for the Illustrated Book.

Flanking the new buildings are Bixby and Givens halls—historic homes to Art and Architecture, respectively—as well as Steinberg Hall, Maki's iconic modernist pavilion. Recent renovations include state-of-the-art computing environments; accessible, light-filled studios; additional workspaces; and an auditorium.

**Visiting Artists and Architects**

The Sam Fox School invites distinguished academics and professionals to lecture, attend critiques and visit major studios. Recent visitors include:

**2007–08**

Steve Badanes  
 Jay Bargmann  
 Barry Bergdoll  
 Rick and Laura Brown  
 Willie Doherty  
 Harrell Fletcher  
 Douglas Fogle  
 Andrea Frasier  
 Anna Gaskell  
 Christof Jantzen  
 Henry Jenkins  
 Tom Kundig  
 Erik L'Heureux  
 David Lewis  
 Maya Lin  
 Paul Lukez  
 Caroline Maniaque and Tim Benton  
 Thom Mayne  
 Sarah Oppenheimer  
 Jose Oubrerie  
 Patricia Patkau  
 Christiane Paul  
 Judy Pfaff  
 Joshua Prince-Ramus  
 Brian Rea  
 Max Risselada  
 Charles Rose  
 Lawrence Scarpa  
 Rod Slemmons  
 Tristan Sterk  
 Thaddeus Strode  
 Erick Swenson  
 Kostas Terzidis  
 James Wines

**College of Architecture****Graduate School of Architecture & Urban Design**

**Bruce Lindsay**, AIA, M.F.A., M.Arch.  
 E. Desmond Lee Professor for Community Collaboration  
 Dean

**Architecture and Education**

Throughout history, architects have played a leading role in forming the environment and in interpreting the aspirations of societies in all parts of the world. As a practical and useful art, architecture embraces aesthetic, ethical, social, and technical responsibilities. Architecture responds to the way people live and, in turn, influences their lives.

Students considering an architectural education and architecture as a potential career express an excitement about design and building, as well as a commitment to the environment. If you plan to study architecture, you should have artistic ability and a good academic base. Personal interests in such areas as drawing, painting, photography, sculpture, building, and the environment suggest a possible aptitude for architecture.

Architecture reflects culture; architects must know their culture deeply. To gain an understanding of all aspects of architecture and to develop the attitudes and skills necessary to deal with them, you must have a broad liberal arts education. This base of cultural understanding and critical thinking is combined with a curriculum that focuses intensely on the study of architecture.

Architecture is an absorbing, fascinating profession. Choosing architecture as a professional career requires a major educational commitment at the undergraduate level and to further study in a professional degree program. With a professional degree in architecture, you may choose to work in small or large architectural firms, in academia, in community or governmental organizations, with development teams, and in a variety of related fields.

**Architecture at Washington University**

Washington University established the Department of Architecture as part of the School of Engineering and Architecture in 1902. The School of Architecture became an independent division of the University in 1910.

In 1932, Givens Hall was constructed to house the School as a result of a generous gift in memory of Joseph W. and Kate Abbey Givens. The Art & Architecture Library and the Mildred Lane Kemper Art Museum are in the new Kemper Art Museum building. Since Fall 2007, Steinberg Hall also houses studio and review space.

In 1967, the School of Architecture became one of the first schools in the United States to offer a pioneering six-year joint-degree (Bachelor of Arts and Master of Architecture) program. The 4+2 program now leads to a thorough four-year Bachelor of Science in Architecture degree, followed by two years of graduate study for the accredited professional Master of Architecture degree.

Equally, the College offers the four-year Bachelor of Arts degree with a major in architecture—a strong, flexible undergraduate curriculum that also prepares you for graduate study in architecture, usually for three years. These undergraduate degree programs offer you the opportunity to gradually focus your undergraduate studies within the College and allow you to make an incremental commitment to a career in architecture.

The College of Architecture faculty are nationally and internationally renowned practitioners and researchers who are committed to your undergraduate experience. As your academic advisers, they work with the dean and associate dean to help you build an individualized curriculum, select specific courses, and chart plans for your future career.

**Undergraduate Degree Programs**

The College of Architecture offers four-year undergraduate degree programs leading to either a Bachelor of Science in Architecture degree or a Bachelor of Arts degree with a major in architecture. These degrees are valuable for their flexible and broad-based curricular nature, founded deeply on the study of the arts and sciences, with a gradually intensifying focus on the study of architecture. For those wishing a vigorous, humanistic, open-ended undergraduate education, these degrees offer a foundation in the field of architecture as preparation for continued education in a professional degree program, employment options in architecturally related areas, or opportunities and accomplishment in any field valuing innovative, synthetic, conscientious thought and work.

Both undergraduate degrees are conferred by the College of Arts & Sciences. The requirements for both degree programs are the same through the 300 level (typically the junior year).

The first and second years of study are spent taking courses in the College of Arts & Sciences and completing introductory design studios and architecture history (100 and 200 levels) in the College of Architecture. The third year of study, common to both undergraduate degree programs, is an intensive year of architectural design studios, supported by course work in graphics (from conventional hand-drawing techniques to digital rendering), architectural history, theory, and building technologies.

At the conclusion of the 300-level course work, students have several options. Satisfactory completion of the 300-level course work qualifies you for the Bachelor of Arts degree with a major in architecture. You can con-

tinue to take selected course work in the College of Architecture, including the 400-level architectural design studios. But you may also elect to devote your final year's course work at Washington University to further study in the College of Arts & Sciences or other schools at the University, to participation in a term of study abroad, or to completion of a minor course of study or even a second major course of study (see Combined Studies).

Students may also elect to pursue more thorough advanced studies in architecture in their senior year, in a curriculum constituted by 400-level architectural design studios, structural analysis and design, and specific architectural history, theory, and urban issues seminars. Combined study options are also possible in this curriculum. Satisfactory completion of the full 400-level curriculum qualifies you for the Bachelor of Science in Architecture degree.

Students receiving the Bachelor of Science in Architecture degree can apply to two-year Master of Architecture programs. Students receiving the Bachelor of Arts degree with a major in architecture will usually apply to three-year Master of Architecture programs (see Graduate Degree Programs, page 292).

If you enter the College of Architecture as a first-year student, you may complete both the bachelor's and the master's programs in minimum of six years, in a professional degree structure called the 4+2. Using the Bachelor of Science in Architecture degree as the initial basis, the 4+2 curriculum we offer allows you to spend four years as an undergraduate and two years as a graduate student in the Master of Architecture curriculum (see the 4+2 Program, page 292).

Further information on the particular requirements and curricular structures of the undergraduate degree programs is listed below.

### Combined Studies

Washington University offers you the option to study across disciplines and to take advantage of the wide range of courses available. You may choose to major in architecture and minor in another subject; you may major in architecture and choose a second major in another area within the College of Arts & Sciences; or you may major in architecture and choose a second major in an area from a different undergraduate school.

### Undergraduate Degree Program Requirements

As a student in the College of Architecture, you select, in consultation with your adviser, a course of study that satisfies the formal degree requirements, addresses your interests, and best meets your overall goals.

#### I. General

Undergraduate students in the College of Architecture receive either:

- A. The Bachelor of Science in Architecture degree, or
- B. The Bachelor of Arts degree with a

major in architecture.

These degrees are conferred by the College of Arts & Sciences. All undergraduates must therefore fulfill the requirements of the College, as well as the requirements of their specific degree program in the College of Architecture. The degree program requirements are the same for both degrees through the junior year (300 level). Students then choose which degree program they wish to pursue at the conclusion of the junior level.

### II. College of Arts & Sciences Requirements

#### A. Basic Skills

1. *Writing I*: Every student must demonstrate proficiency in reading and writing the English language and must begin to develop mature skills in framing and revising arguments by completing course work as determined by the Department of English with a grade of C+ or better.
2. *Quantitative Analysis*: Every student must develop skills in quantitative analysis by completing one of an approved list of "QA" courses with a grade of C+ or better.

#### B. Arts & Sciences Degree Requirements

Please refer to the distribution requirements of the College of Arts & Sciences found on page 27 of this Bulletin.

### III. College of Architecture Requirements

#### A. Prerequisite Courses to the Degree Programs

In addition to the requirements of the College of Arts & Sciences, the College of Architecture also requires that the quantitative analysis requirement be fulfilled by Math 131 (placement by math department) or its equivalent. This quantitative analysis foundation is extended by required course work in Physics 117A, usually during the sophomore year.

To establish a basis for cultural understanding and critical thought, beginning students of architecture enroll in the two-semester sequence surveying the history of civilization, History 101C and 102C, usually in the freshman year. This historical and cultural studies foundation is extended by two semesters of required course work in architectural history, Arch 3283 and 3284, in the junior year.

The introductory architecture and design sequence is a set of courses prerequisite to both undergraduate architecture degree programs. The introductory architecture sequence is normally completed within the first two years of enrollment. The prerequisite courses are:

	<i>Units</i>
Arch 111-112. Introduction to Design Processes I and II .....	6
Arch 111A-112A. Introduction to	

Architecture I and II .....	2
Arch 211-212. Introduction to Design Processes III and IV .....	6
Arch 211A-212A. Issues in Design I and II .....	2

These courses must be passed in sequence with a grade of C- or better.

#### B. Typical Freshman and Sophomore Programs for Architecture Students

The following typical programs for the freshman and sophomore years are based on the requirements of the College of Arts & Sciences, and on the prerequisite introductory architecture sequences for the undergraduate degrees in architecture:

<i>Freshman Year</i>	<i>Units</i>
Arch 111-112.....	6
Arch 111A-112A .....	2
Math 131 .....	3
History 101C-102C.....	6
English Composition .....	3
Distribution/Discovery Requirements .....	12
<b>Total</b> .....	<b>32</b>
<i>Sophomore Year</i> .....	<i>Units</i>
Arch 211-212.....	6
Arch 211A-212A .....	2
Physics 117A .....	4
Electives .....	6
Distribution/Discovery Requirements .....	12
<b>Total</b> .....	<b>30</b>

If a student plans to enter the architectural design sequence Arch 311-312 in the fall of the junior year, the student must complete 60 units of academic work by the end of the sophomore year.

#### C. Degree Program Requirements 1. Bachelor of Arts Degree with a Major in Architecture

The major requirements for the Bachelor of Arts degree, with a major in architecture, are as follows:

	<i>Units</i>
Arch 311. Architectural Design I .....	6
Arch 312. Architectural Design II.....	6
Arch 321A. Architectural Representation I .....	3
Arch 321B. Architectural Representation II .....	3
Arch 3283. Architectural History I.....	3
Arch 3284. Architectural History II .....	3
Arch 333. Case Studies in 20th-Century Architecture .....	3
Arch 346. Building Systems I .....	3

#### 2. Bachelor of Science in Architecture Degree

The major requirements for the Bachelor of Science in Architecture degree are as follows:

	<i>Units</i>
Arch 311. Architectural Design I .....	6
Arch 312. Architectural Design II.....	6
Arch 411. Architectural Design III .....	6
Arch 412. Architectural Design IV .....	6
Arch 3283. Architectural History I.....	3
Arch 3284. Architectural History II .....	3
Arch 333. Case Studies in 20th-Century Architecture .....	3
Arch 346. Building Systems I .....	3
Arch 447A. Structures I.....	3

**Arch 448A. Structures II** .....3  
 Additionally, Bachelor of Science in Architecture candidates are required to complete at least one course from the following:

<b>Arch 546C. Climate and Light</b> .....	Units 3
<b>Arch 552B. Site Planning</b> .....	3

and to complete at least one architectural elective from the following groups:

- Urban Issues Electives group, or
- Architectural History/Theory Electives group.

**D. Minor in Architecture Requirements**

Minor degree candidates are required to complete 18 units including:

1. Six units of introductory design, from the following:

<b>Arch 111-112. Introduction to Design Processes I and II</b> .....	Units 6
<b>Arch 211-212. Introduction to Design Processes III and IV</b> .....	6

2. Three units (minimum) of the architectural history survey:

<b>Arch 3283. Architectural History I</b> .....	Units 3
<b>Arch 3284. Architectural History II</b> .....	3

3. Three to 9 units chosen from the following electives:

<b>Arch 111A-112A. Introduction to Architecture I and II</b> .....	Units 2
<b>Arch 211A-212A. Issues in Design I and II</b> .....	2
<b>Arch 302. Freehand Drawing</b> .....	3
<b>Arch 333. Case Studies in 20th-Century Architecture</b> .....	3

Additional courses as approved by the associate dean or dean.

**IV. Additional Requirements**

Each undergraduate student shall complete 120 units with a grade of D or better (or credit) and at least 30 units in advanced courses (numbered 300, 400, or 500). The 30 units in advanced courses may include the minimum number of advanced units required by the major areas of concentration. Courses required for the major (see College of Architecture Requirements) must be passed with a grade of C- or better.

Each student shall spend at least three semesters in full-time residence (at least 12 units per semester) at Washington University. Unless excused by the dean of the College of Architecture, the student must earn the last 30 units at Washington University. The dean of the College of Architecture may waive the full-time residence requirement for students who are employed full-time and have completed at least two years of college.

**V. Regulations**

- A. No more than eight courses, exclusive of general studies courses, may be taken pass/fail.
- B. You may enroll for credit in only one supervised performance course in any semester. You may earn a maximum of 12 units toward the degree in supervised performance and/or in group and individual performance courses combined.

**The 4+2 Program: Bachelor of Science in Architecture and Master of Architecture**

The College of Architecture’s Bachelor of Science degree curriculum leads directly into the Graduate School of Architecture & Urban Design’s two-year Master of Architecture degree program, providing for the attainment of the accredited professional degree in 6 years.

Students who have satisfactorily completed, or who are about to complete, the Bachelor of Science requirements can apply to the Graduate School of Architecture & Urban Design’s Master of Architecture degree program by submitting an application to the Graduate Admissions Office and by requesting a review of their undergraduate work by the Graduate Admissions Committee. Admission is not automatic, however, and requires approval from the Graduate Admissions Committee. A portfolio is not required for students in the senior year of the Bachelor of Science curriculum at the time of application.

Bachelor of Science in Architecture students thus accepted into the two-year Master of Architecture degree program are required to complete the following courses to fulfill the requirements of the M.Arch. 2 degree:

<b>Arch 347. Building Systems II</b> .....	Units 3
<b>Arch 511. Architectural Design V</b> .....	6
<b>Arch 512. Architectural Design VI</b> .....	6
<b>Arch 544A. Acoustics and Lighting</b> .....	3
<b>Arch 580. Design Thinking</b> .....	3
(to be taken in penultimate semester).....	
<b>Arch 611. Architectural Design VII</b> .....	6
<b>Arch 616. Degree Project</b> .....	6
<b>Arch 646. Professional Practice</b> .....	3

Additionally, students entering the two-year Master of Architecture degree program with the College’s Bachelor of Science degree must complete course work not addressed during the Bachelor of Science curriculum, as follows:

1. Completion of both Arch 552B, Site Planning, and Arch 546C, Climate and Light;
2. Completion of at least one elective course in Architectural History and Theory; and
3. Completion of at least one elective course in Urban Issues.

Students in the M.Arch. 2 degree program have 18 units (6 courses) of additional elective credits to complete.

**Graduate Degree Programs**

The Graduate School of Architecture & Urban Design’s degree programs include a range of curricula for students with a variety of educational backgrounds, professional de-

gree needs, and career ambitions.

Most states require that an individual intending to become an architect hold an accredited professional degree. The National Architectural Accrediting Board (NAAB) accredits two types of degrees: (1) the Bachelor of Architecture (not offered by this College of Architecture), which requires a minimum of five years of study, and (2) the Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor’s degree or two years of study following a related preprofessional bachelor’s degree. These professional degrees are structured to educate those who aspire to registration/licensure as architects.

The Graduate School’s Master of Architecture degree (M.Arch. 3 and M.Arch. 2 programs) is an NAAB-accredited professional degree. The School’s NAAB-accreditation status was evaluated and confirmed in the spring of 2005.

**Master of Architecture Degree**

Students holding bachelor’s degrees in fields other than architecture are invited to apply to the Graduate School’s accredited professional M.Arch. 3 degree program. Elementary calculus and physics are required as prerequisites for enrollment. While the curriculum typically spans seven semesters, you may complete this professional studies program in a minimum of three years including two summers.

Students with the Bachelor of Arts degree with a major in architecture, including studios at both the 300 and 400 levels, or the equivalent, are placed within the M.Arch. 3 curriculum on the basis of their previous design studio experience and overall academic record.

The Graduate School of Architecture & Urban Design welcomes graduates of other schools with the undergraduate degrees in architecture (Bachelor of Science in Architecture) or the equivalent as candidates for the accredited professional Master of Architecture degree program (M.Arch. 2). This curriculum typically spans four semesters.

Postgraduate programs, for students already possessing accredited professional degrees (Bachelor of Architecture or the equivalent), include the three-term M.Arch. 1 degree curriculum, or the Master of Urban Design degree program (see below).

**Master of Urban Design Degree**

Students with a professional degree or the equivalent in architecture, urban planning, or landscape architecture may apply for admission to the program leading to the Master of Urban Design degree. This degree is awarded upon completion of a three-term graduate curriculum devoted to urban design in metropolitan conditions.

**Combined Degree Programs**

The Graduate School of Architecture & Urban Design offers the following combined degree programs at the graduate level:

- Bachelor of Science in Civil Engineering—Master of Architecture (see page 319)

- Master of Architecture—  
Master of Urban Design
- Master of Architecture—  
Master of Business Administration
- Master of Architecture—  
Master of Social Work
- Master of Architecture—  
Master of Construction Management
- Cooperative 3+4 Program (see below)

Information on these combined degree programs can be obtained from the respective school's Office of Graduate Admissions. In all cases, application must be made separately to each graduate or professional program.

### Information and Applications

An application to the graduate programs should include a portfolio of student work in the visual arts (drawing, painting, sculpture, etc.) or architectural design work if you have completed architectural design studio courses, along with your transcript or record from the institution you attended, and letters of recommendation. The Test of English as a Foreign Language (TOEFL) is required of international applicants along with verification of availability of funds.

For more information about graduate degree programs and requirements, contact the Director of Graduate Admissions, Graduate School of Architecture & Urban Design, Sam Fox School of Design & Visual Arts, Washington University in St. Louis, Campus Box 1079, One Brookings Drive, St. Louis, MO 63130-4899, or send e-mail to: [wuarch@arch.wustl.edu](mailto:wuarch@arch.wustl.edu).

### Special Programs and Resources

#### Cooperative (3+4) Program

You may participate in one of the College of Architecture's cooperative programs designed for students who wish to obtain their undergraduate education at another college while preparing for architectural studies at Washington University.

In this program, you spend the first three undergraduate years at one of the participating colleges or universities. During the senior year, you attend Washington University, where you take courses in architecture, for which the credit is transferred back to your school to meet the requirements for your undergraduate degree. You may then apply for admission to Washington University's graduate program in architecture. If accepted, you will spend three years completing the Master of Architecture.

The College of Architecture offers a cooperative 3+4 program with Adrian College, Adrian, Michigan; Agnes Scott College, Decatur, Georgia; The American College of Greece, Aghia Paraskevi Attikis, Greece; Augustana College, Sioux Falls, South Dakota; Baylor University, Waco, Texas; Central University of Iowa, Pella, Iowa; Coe College, Cedar Rapids, Iowa; Colgate University, Hamilton, New York; the College of Wooster, Wooster, Ohio; Cornell College, Mount Vernon, Iowa; Earlham College,

Richmond, Indiana; Grinnell College, Grinnell, Iowa; Hobart and William Smith Colleges, Geneva, New York; Knox College, Galesburg, Illinois; Macalester College, St. Paul, Minnesota; Monmouth College, Monmouth, Illinois; Nebraska Wesleyan University, Lincoln, Nebraska; Principia College, Elsau, Illinois; University of Missouri, Columbia and St. Louis, Missouri, campuses; and Webster University, St. Louis, Missouri.

### Study Abroad

A summer Architecture Study Abroad Program (Arch 484A) is available for sophomores and juniors in the College of Architecture. This six-week, six-credit program takes students through significant European cities, in a directed curriculum of urban and building analysis and appreciation. In the spring semester of the sophomore year, architecture students may apply for the College's junior year, spring semester architecture program in Florence, Italy. In the fall of the senior year, architecture students can study a full architecture curriculum with the Denmark International Studies program in Copenhagen, Denmark. These course credits are approved for full transfer to degree studies in the College of Architecture. For more information, you should contact the Office of the Dean in the College of Architecture.

As an architecture student, you are eligible to participate in the University's study abroad programs.

### Independent Study

Opportunities for independent study are available to all graduate and undergraduate students. Registration in an independent study course requires sponsorship by an instructor and permission of the dean. A maximum of 5 units (graduate students), 3 units (juniors and seniors), and 1 unit (freshmen and sophomores) can be taken per semester. Independent study courses cannot replace architectural design studios or other required courses. An independent study proposal sheet approved by a faculty sponsor must be submitted to the Office of the Dean at registration time.

### Summer School

The College of Architecture offers a limited number of courses during the summer, primarily Arch 447A-448A, Structural Principles I and II.

### Continuing Education

Continuing education occurs in two areas within the College of Architecture: (1) the part-time evening Architectural Technology Program, and (2) the seminar and conference division.

The Architectural Technology Program allows students working full-time to pursue a Certificate in Architectural Technology or a Bachelor of Technology part-time during evenings and on Saturdays. Although most students in the program already work in the architecture profession, some students with nontechnical backgrounds also participate in the program.

### Certificate in Architectural Technology

This 60-unit certificate program, which may be completed on a part-time basis over a four-year period, is designed to meet the needs of the architectural technician. Most courses involve problem-solving projects similar to those encountered daily by architects in the built environment.

Courses assigned to any one year may be taken in an earlier year provided the necessary prerequisites have been fulfilled. Other courses may be substituted for required courses based on your prior work experience. The architectural technology courses are not designed for students in the regular full-time degree programs because the focus of the courses is mostly technical.

The final 20 units of the certificate program must be completed at the University; exemption from this regulation must be approved by the dean.

### Bachelor of Technology in Architecture

This degree program requires 120 units of course work, including completion of the Certificate in Architectural Technology and the courses of concentration and respective electives. This degree may be completed on a part-time basis.

The Bachelor of Technology degree program differs from the full-time day school bachelor's degree programs. It is based on a core of technological studies to train students in the areas of project implementation and production communication. The two programs are similar in that they offer an overall balanced education in preparation for application and admission into professional-level graduate study. Upon completion of this program, you may apply for admission to the Graduate School of Architecture & Urban Design.

You may obtain a complete description of the continuing education programs from the Architectural Technology Office, Givens Hall, Room 106, Campus Box 1079, One Brookings Drive, St. Louis, MO 63130-4899, or call 314/935-6227.

### Procedures and Regulations

#### Registration

Detailed instructions for registration are mailed to already enrolled and newly admitted students.

#### Units and Grades

A unit is the amount of credit given for one hour of lecture or up to three hours of studio work a week for one semester. All students in the College of Architecture may take one nonrequired course on a Pass/Fail basis each semester. All students in the Graduate School of Architecture & Urban Design may select one of the following two grading options as they register for each semester: (1) grade option, or (2) pass/fail option. Under the grade option, a student may take one nonrequired course under pass/fail. Under the pass/fail option, all courses must be taken pass/fail.

Symbols used for both options have the following meanings:

*Grade*

- P** Passing
- A** Superior
- B** Good
- C** Average
- D** Passing marginally
- F** Failing
- I** Incomplete. This grade signifies that the student has not completed part of the work of a semester (exclusive of examinations), but has satisfactorily completed the rest of the work. A student must remove a grade of I as indicated below.
- W** Withdrawal
- L** Audit
- R** Repeat

Pluses and minuses are used. Each grade earned for a course taken for credit receives a specified number of grade points, and these points are affected by plus and minus grades as well.

In addition to grading under either the regular grade option or the pass/fail option, instructors teaching architectural design courses complete an evaluation form for each student; a copy is made available to the student, and the original is filed in the student's folder in the Office of the Dean.

### Removal of Grades of I and Changes in F Grades

Incomplete marks in all architectural design courses (100 to 600 level) must be removed by the first day of classes of the following semester. Failure to remove the incomplete will prevent the student from continuing in another architectural design course.

In all other courses, the grade of I must be removed no later than the last day of classes of the next full semester. On failure to make up an I within the next semester, the student shall automatically receive an F in the course unless explicitly excused by the dean. An F grade, so received, may not be changed. Students will not be allowed to continue in courses requiring prerequisites if the prerequisite has an Incomplete grade. A student who carries more than 9 units of incomplete work may be declared ineligible to re-enroll.

F grades for a semester may be changed only through the last day of classes of the following semester and then only in extraordinary circumstances. The Office of the Dean will approve no changes of F grades after this interval.

### Retaking Courses in which a Passing Grade Has Been Received

When a student retakes a course in which a passing grade has been received, both enrollments will show on the transcript. If the second grade is equivalent to or better than the first grade, the first grade may be changed to R, indicating the re-enrollment upon request of the student and with department approval. If the second grade is lower, both grades will stand. Credit toward the degree will be allowed for only one of the enrollments.

### Retaking Courses in which an F Has Been Received

When a student retakes a course in which an F has been received, both enrollments for the course will appear on the transcript. If a passing grade is received in the second enrollment, the first enrollment may be changed to R, indicating the re-enrollment upon request of the student and with the approval of the dean.

### Maximum and Minimum Loads

Freshman and sophomore undergraduates will normally enroll in either 15 or 16 units each semester, although enrollment in up to 18 units is possible. Juniors and seniors in the architecture degree programs are strongly recommended to enroll in no more than 16 units each semester in order to maintain focus on the design studio and major requirements. This guideline can only be waived by the dean or associate dean. The normal load for graduate students is a maximum of 16 units each semester.

An enrollment above 18 units will be charged at the established University rate per hour of the additional credits and must be approved by the dean or associate dean of the College of Architecture.

Refer to the front of this *Bulletin* under the section covering tuition and fees for both the annual tuition rate and the per credit hour breakdown applicable to the College of Architecture.

Partial load enrollment is possible when circumstances warrant it and requires the permission of the dean.

### Course Withdrawals

You may enroll in or withdraw from courses only at expressly designated periods of the semester. The dates of these periods are published in Course Listings.

### Absences

Regular attendance at all classes and studio meetings is expected of each student. If, in the opinion of the instructor, any student has accumulated absences to such an extent as to preclude the possibility of satisfying the course requirements, the student's registration in that course will be canceled, subject to the approval of the dean.

### Satisfactory Progress Toward a Degree

Students are expected to proceed at a pace that enables them to finish their degree within the appropriate time limit. For undergraduates this is usually eight semesters, and for graduates it is established by the letter of admission. Students are expected to complete no fewer than the minimum number of hours set forth in the schedule below:

#### *Undergraduate Program*

Semester	1	2	3	4	5	6	7	8
Credits	10	20	32	45	60	75	97	120

#### *Graduate Program*

Semester	1	2	3	4	5	6	7	8	9
Credits	6	12	24	36	48	60	75	90	105

Exceptions to these minimum standards may be granted only with the written consent of an academic adviser or the associate dean or dean.

### Academic Warning and Probation

A student who fails to make satisfactory progress for two semesters toward the degree as outlined above will be placed on probation. The probation status serves as a warning that unless the quality of work improves, the student may be subject to dismissal from the College because of academic deficiency. Students dismissed for academic deficiency will not be eligible for readmission until they have demonstrated, under the conditions set for each individual case, their ability to do satisfactory work. A student will be taken off the probation list at the completion of two consecutive semesters of satisfactory progress.

A student who receives two or more grades of F in a semester will be placed on academic warning for the following semester. The warning serves as a notice that unless the student passes all courses in the following semester he or she will be placed on academic probation.

### Withdrawals

If you wish to withdraw for any reason from the College of Architecture before the end of the semester, you should consult in person with the associate dean. No such withdrawal will be official until the request in writing has been approved by the associate dean and the appropriate changes have been made in your record.

### Leave of Absence

A leave of absence for one or two semesters is normally granted to a student when individual circumstances, medical or personal, warrant it. A leave of absence assumes that the student will not be taking any academic work at another institution, and it guarantees re-enrollment at its conclusion. A letter from the dean granting a leave of absence will normally require notification by February 15 or November 15 of the student's intention to re-enroll in the following semester.

### Retention of Student Work

The College of Architecture and Graduate School of Architecture & Urban Design reserve the right to retain any student work submitted for course credit. Normally this work will be returned to the student at the end of the semester, except that which has been retained for publications, exhibitions, or accreditation reviews. It is highly recommended that students photographically reproduce or electronically store their work in order to keep a record of their work.

### Academic Integrity

Students and members of the faculty of a university have an obligation to uphold the highest standards of scholarship. Plagiarism or other forms of cheating will not be tolerated. Where a student has violated the integrity of the academic community, an instructor may recommend that the student be

brought before the Committee on Academic Integrity. A set of guidelines on academic integrity and a list of procedural steps for bringing a complaint before the committee are printed each semester in the College of Arts & Sciences' section in *Course Listings*.

## Honors and Awards

### Dean's List

In recognition of exceptional scholarship, the Office of the Dean compiles, at the end of each academic year, a list of those students whose work has been particularly worthy of commendation. Students who entered the College of Architecture prior to the Fall of 2005 will be cited in the Dean's List if they:

1. Elect to take a minimum of 12 hours of course work per semester on the grade option (one elective course may be taken pass/fail each semester), and
2. Complete and pass a minimum of 27 units for the year and earn either 18 units of A or 12 units of A and 9 units of B. (Grade changes after June 15 will not be considered.)

Students who entered the College of Architecture in and after the Fall of 2005 will be eligible for the Dean's List if they:

1. Elect to take a minimum of 14 hours of course work per semester on the grade option, and;
2. Achieve a semester grade point average of 3.5 or better.

All undergraduate students electing the grade option are candidates for the Dean's List unless they notify the Office of the Dean in writing that they do not wish to be considered.

### Senior Honors

Senior Honors may be awarded to graduating students whose academic performance has been outstanding. Candidates for Senior Honors will be recommended to the College of Arts & Sciences by the Dean.

To be eligible for Senior Honors, a student must have been cited on the Dean's List twice in the first three years or achieved a cumulative grade point average of 3.5 or above through his or her final semester. You may be considered for the Bachelor of Arts degree and Bachelor of Science degree *cum laude*, *magna cum laude*, or *summa cum laude* as determined by the dean. Nomination for Senior Honors will ultimately depend on the student's attitude toward learning demonstrated by academic records and faculty recommendations.

### Special Awards, Medals, and Prizes

#### Undergraduate

**Betty Lou Custer Award.** The St. Louis Chapter of the American Institute of Architects presents a book award in memory of Betty Lou Custer, longstanding executive director of the chapter, to an outstanding graduate receiving either undergraduate degree. In recognition of Custer's service to the profession of architecture, the prize is awarded to a student who has contributed willing service to the College of Architec-

ture.

**Faculty Award.** The faculty of the College of Architecture offers a book award to an outstanding B.A. or B.S. undergraduate in the College.

**Sophomore Book Prize.** Presented to an outstanding sophomore who has completed the basic design sequence within the College. Given in honor of Leslie J. Laskey, professor emeritus, whose inspired teaching formed the basis of the basic design program and whose influence is carried on in the lives and work of the students who studied with him.

#### Graduate

**Alpha Rho Chi Medal.** Alpha Rho Chi, a national social fraternity in architecture, awards a medal to the graduating sixth-year student who has shown an ability for leadership, has performed willing service for the Graduate School of Architecture & Urban Design, and has given promise of real professional merit.

**American Institute of Architects Medal.** Each year, the AIA medal is awarded to a member of the graduating class in recognition of scholastic achievement, character, and promise of professional ability. The student so honored receives the engraved medal. The runner-up also may be awarded a certificate, depending on the decision of the faculty. The awards are made in the name of the Henry Adams Fund by the AIA.

#### All School

**James Walter Fitzgibbon Prize.** Mrs. James Fitzgibbon and friends of the family established a fund to honor Professor Fitzgibbon's memory and to recall his long and distinguished service on the faculty of architecture. The annual income from this fund provides for the Fitzgibbon Prize, given to a 300- to 600-level student who has the winning solution to a one-day sketch problem.

**William Tao Prize.** Established by William K.Y. Tao, P.E., alumnus, emeritus trustee, and affiliate professor at Washington University, the William Tao Prize provides an annual cash award to students who have demonstrated excellence in the understanding and application of building systems in architecture, including illumination, electrical and mechanical engineering, and energy-efficient design.

**Frederick Widmann Prize in Architecture.** Through a bequest from the late Frederick Widmann, an annual prize of at least \$1,500 is offered to the best architectural student in the University. The selection is made by the faculty of the architecture college.

### Scholarship Funds

Washington University scholarship funds open to all undergraduate students are listed under Financial Support in this *Bulletin*.

You should have your credentials, as well as all regular application materials, on file no later than February 1. The Profile form, published by the College Board, is required.

For more information, you may write to Student Financial Services.

The following funds are specifically directed to students in architecture. No separate application is needed unless otherwise noted.

**Arthur M. Abrams Scholarship.** Awarded to financially deserving students in the College of Architecture who have demonstrated high scholastic ability.

**St. Louis Chapter American Institute of Architects Scholarship Fund.** For students from the St. Louis metropolitan area who have completed the first two years of their architectural studies. Inquiries should be addressed to the St. Louis Chapter AIA, 911 Washington Avenue, #225, St. Louis, Missouri 63101. Separate application is required.

**The William Rumsey Barnes Scholarship.** Established for undergraduate students in the College of Architecture. Awarded to students demonstrating financial need and academic achievement.

**Marilla E. Comstock Scholarships.** Established for men in architecture who could not otherwise obtain a university education. Bequest of Mrs. Comstock.

**Thurston C. Ely Architectural Scholarship for High School Seniors Interested in the Profession of Architecture.** Established in the name of the late Thurston C. Ely, a graduate of the School of Architecture, this scholarship is open to qualified applicants for admission to the freshman class of the College of Architecture. Candidates for participation in the benefits of this scholarship will be considered in the following order:

1. First preference to graduates of Roosevelt High School, St. Louis, Missouri.
2. Second preference to graduates of public and private (including religiously affiliated) high schools or equivalent schools within the metropolitan St. Louis area (to include all schools in the city of St. Louis, Missouri, and the Missouri counties of St. Louis, St. Charles, and Jefferson).
3. Third preference to graduates of public and private (including religiously affiliated) high schools or equivalent schools outside the metropolitan St. Louis area but within the state of Missouri.

**The James W. Fitzgibbon Scholarship in Architecture.** Awarded to support four years of study leading to either undergraduate architecture degree. The Fitzgibbon Scholar is selected in recognition of outstanding academic performance and promise in the field of architecture. The scholarship is in the amount of full tuition plus a \$1,000 stipend, renewable for a total of four years of undergraduate study. Up to five partial-tuition scholarships are also available. For more information, contact the Office of Undergraduate Admissions. Separate application is required.

**The Millstone Family Scholarships.** Established for students in the College of Architecture and the Graduate School of Architecture & Urban Design, the scholarships

are awarded annually to students exemplifying strong academic skills and financial need.

**The Jule A. and Hazel Schweig Scholarship.** Awarded annually to an undergraduate student with strong academic credentials and established financial need.

**Phillip Richardson Shepley Memorial Scholarship.** Awarded to financially deserving students in the College of Architecture and the Graduate School of Architecture & Urban Design who have demonstrated high scholastic ability.

### Loan Fund

**Gustel and Edith H. Kelwitt Scholarship Loan Fund.** For students of architecture.

## Faculty

### Dean

#### Bruce Lindsey

E. Desmond Lee Professor for Community Collaboration  
Dean, College of Architecture  
M.Arch., Yale University

### Director, Undergraduate Program

#### Iain A. Fraser, Professor

A.I.A., M.F.A., M.Arch., Washington University

### Co-Directors, Graduate Program

#### Paul Donnelly, FAIA

Rebecca and John Voyles Professor of Architecture  
M.S., Columbia University

#### Adrian Luchini

Raymond E. Maritz Professor of Architecture  
M.Arch., Harvard University

### Director, Master of Urban Design Program

#### John Hoal, Associate Professor

Ph.D., Washington University

### Director, Architectural Technology Program

#### William Wischmeyer, Affiliate Associate Professor

M.Arch., Washington University

### Undergraduate Program Administrator

#### Liane Hancock

M.Arch., Columbia University

### Professors

#### Carl Safe

M.Environmental Design, Yale University

#### Robert McCarter

Ruth & Norman Moore Professor  
M.Arch., Columbia University

### Associate Professors

#### Gia Daskalakis

Dipl. de Postgrado, Universidad Politecnica de Catalunya

#### Robert Hansman

B.F.A., University of Kansas

#### Stephen P. Leet

B.Arch., University of Kentucky

#### Peter MacKeith

Associate Dean, Sam Fox School of Design & Visual Arts  
M.Arch., Yale University

#### Eric Mumford

Ph.D., Princeton University

### Assistant Professors

#### Sung Ho Kim

M.Sci., Massachusetts Institute of Technology

#### Zeuler Lima

Ph.D., Universidade de São Paulo

#### Paula Lupkin

Ph.D., University of Pennsylvania

#### Igor Marjanovich

M.Arch., University of Illinois at Chicago

#### Jane Wolff

M.L.A., Harvard University

#### Heather Woofert

M.Arch., Harvard University

### Affiliate Associate Professors

#### Jeffrey Berk (Buenos Aires)

Dipl.Arch., Universidad de Buenos Aires

#### Gerardo Caballero (Buenos Aires)

M.Arch., Washington University

#### Gustavo Cardon (Buenos Aires)

Dipl. Arch., Universidad Nacional de Rosario, Argentina

#### Jouni Kaipia (Helsinki)

Dipl. Arch., Helsinki University of Technology

#### Pia Sarpaneva (Helsinki)

Dipl. Arch., Helsinki University of Technology

#### Makoto Watanabe (Tokyo)

M.Arch., Harvard University

#### Yoko Kinoshita Watanabe (Tokyo)

M.Arch., Harvard University

#### Fernando Williams (Buenos Aires)

Dipl. Arch., Universidad de Buenos Aires

### Visiting Assistant Professors

#### Mitchell Joachim

#### Don Koster, Weese Fellow

M. Arch., Washington University

#### Jen Maigret, Weese Fellow

M.Arch., University of Michigan

### Affiliate Professors

#### Peter Clarkson

Dipl., Construction Management, Liverpool Polytechnic

#### Carl Rosenberg

M.Arch., Massachusetts Institute of Technology

### Professor in Practice

#### Philip Holden

M.Arch., Washington University

### Senior Lecturers

#### Richard Janis

M.Arch., Washington University

#### Gay Goldman Lorberbaum

M.Arch., Washington University

#### M. Jana Pereau

D.Des., Harvard University

### Lecturers

#### Randy Burkett

B.A.E., Pennsylvania State University

#### Rachel Doniger

#### Robert Duffy

A.B., Washington University

#### Catalina Freixas

Dipl. Arch., Universidad de Buenos Aires

#### Esley Hamilton

M.S., University of Wisconsin

#### Patricia Heyda

M.Arch., Harvard University

#### Derek Hoeflerlin

#### George Johannes

M.Arch., Washington University

#### Kevin Le

M. Arch., Washington University

#### Pablo Moyano

M. Arch., Washington University

#### Michael Naucas

#### Elise Newman

M.A., M. Arch., Harvard University

#### Ian Caine

M.Arch., Washington University

#### Jodi Polzin

M.Arch., Columbia University

#### Michael Repovich

M.Arch., Washington University

#### R. Phillip Shinn

B.S.E., Princeton University

#### James J. Scott

J.D., Saint Louis University

#### Lindsey Stouffer

M.F.A., Washington University

### Professors Emeriti

#### Gerald Gutenschwager

#### James Harris

#### Sheldon S. Helfman

#### Udo Kultermann

#### Leslie J. Laskey

#### Donald Royse

#### Thomas L. Thomson

### Dean Emeritus

Constantine E. Michaelides, FAIA

### Full-Time Positions

Faculty members have 9- or 11-month full-time renewable appointments. These may be tenured or nontenured positions and are titled professor, associate professor, and assistant professor of architecture.

### Visiting Positions

Faculty members have full-time appointments for a limited period of time, usually no less than a semester and no more than one full academic year. These are non-tenured positions and are titled visiting professor, visiting associate professor, and visiting assistant professor of architecture, and visiting architect.

### Part-Time Positions

Faculty members, who usually are practicing architects, have less than full-time appointments. These individuals may teach as many as two courses each semester or as few as one course, one semester a year. These are nontenured positions and are titled affiliate professor, affiliate associate professor, and affiliate assistant professor of architecture, and lecturer.

## Undergraduate Courses

### Arch 100A. English Language Support for Architecture

*Same as ELP 112.*

### Arch 111. Introduction to Design Processes I

This is the first semester of a two-semester sequence that includes both two-dimensional and three-dimensional work each semester. Two-dimensional work includes freehand drawing, various methods of representation of form and space, graphic design, and layout. Three-dimensional work includes issues of problem definition, problem solving, materials, structure, fracture, spatial relationships, and systematic processes of design. Students will alternate between 2- and 3-dimensional work and develop connections between them. Concurrent registration in Arch 111A required for architecture students. Non-architecture students must receive permission of the associate dean of the College of Architecture. *Same as F20 211, Section 01.* Credit 3 units.

### Arch 111A. Introduction to Architecture I

A series of lectures examining historical, theoretical, and professional perspectives in architecture. Credit 1 unit.

### Arch 112. Introduction to Design Processes II

This is the second semester of a two-semester sequence that includes both two-dimensional and three-dimensional work each semester. Two-dimensional work includes freehand drawing, various methods of representation of form and space, graphic design, and layout. Three-dimensional work includes issues of problem definition, problem solving, materials, structure, fracture, spatial relationships, and systematic processes of design. Concurrent registration in Arch 112A required for architecture students. Non-architecture students must receive permission of the associate dean of the College of Architecture. Credit 3 units.

### Arch 112A. Introduction to Architecture II

Lectures examining historical, theoretical, and professional perspectives in architecture. Credit 1 unit.

### Arch 121. Community Building, Building Community

This course will expose incoming students to some of the many layers of interrelated issues—architecture, urban issues, politics, economics, art, behavior, culture and race, history, transportation, housing, employment, the environment—that form the context in which design takes place. Research focuses on three very different communities—the University City area immediately adjacent to Washington University, a more recent outer-ring suburban community, and a public housing devel-

opment in the downtown area. In addition to engaging in the traditional forms of research, we will study these communities extensively through drawing. Credit 3 units.

### Arch 209. Design Process

*Same as EnSt 209.*

Open to Engineering and Arts & Sciences students at all levels. Studio course will engage students in the process of design with an emphasis on creative thinking. Course content relates directly to the interests of engineers and all liberal arts students who wish to problem solve about shaping the texture and quality of the built world. No technical knowledge or special drawing skills are required. Credit 3 units.

### Arch 211. Introduction to Design Processes III

This course offers an exploration of basic design and architectural principles emphasizing the fundamentals of architectural space, conception and realization, materials and technique, including the refinement of two-dimensional and three-dimensional means of representation. Non-architecture students must receive permission of the associate dean of the College of Architecture. Credit 3 units.

### Arch 211A. Issues in Design I

A series of lectures and discussions investigating conceptual, theoretical, and historical perspectives in design and architecture. Credit 1 unit.

### Arch 212. Introduction to Design Processes IV

Studio that initiates architectural and building issues such as: building analysis, structure, organizational systems, and programming. Prerequisite: Arch 211 and concurrent registration in Arch 212A. Credit 3 units.

### Arch 212A. Issues in Design II

Lectures presenting design concepts that form the focus of exercises presented in Arch 212. Prerequisite: Satisfactory completion of Arch 211A or permission of the associate dean of the College of Architecture. Credit 1 unit.

### Arch 302A. Advanced Freehand Drawing

Application of the principles presented in 302 to more ambitious and individualized work. Work can include drawing, color, painting, printmaking, etc. The final target is a suite of independent works that explores a chosen medium or subject and that could constitute a small one-person show, but exploration and growth are given precedence over production. Weekly/bi-weekly critiques. Prerequisite: Arch 302 or equivalent previous studies. Credit 3 units.

### Arch 311. Architectural Design I

Prerequisite: Arch 212 with a grade of C– or better. There will be a required weekend, out-of-town field trip. Credit 6 units.

### Arch 312. Architectural Design II

Prerequisite: Satisfactory completion of Arch 311. Credit 6 units.

### Arch 317. Architectural Design I (M.Arch. 3)

The first of a three-semester sequence of design studios, which introduces students to architectural design, focusing on conceptual, theoretical, and tectonic principles. First-semester M.Arch. 3 students only. Credit 6 units.

### Arch 318. Architectural Design II (M.Arch. 3)

The second of a three-semester sequence of design studios, which continues the examination of issues raised in Arch 317. Second-semester M.Arch. Three students only. Credit 6 units.

### Arch 320A. Architectural Representation I (Undergraduate)

Representation is the means by which architectural form, space, and ideas are explored, conveyed, and studied. This course is intended to bring a fundamental understanding of the capacity

and possibility for representation to affect the process and outcome of the architectural endeavor. While it is expected that students will gain proficiency and knowledge of a broad range of techniques and convention, greatest emphasis will be placed on the ability to recognize how, when, and why different representational means are appropriately employed at various points in the design process, and to easily move between them. The course will work simultaneously with both the conveyance of known elements and the exploration of unknown or “envisioned” concepts and spaces. Credit 3 units.

### Arch 320B. Architectural Representation II (Undergraduate)

Credit 3 units.

### Arch 323A. Architectural Representation I (M.Arch. 3)

This course examines the history/theory and practice of representation, specifically the systems of drawing used in architecture. The objective is to develop the requisite discipline, accuracy, and visual intelligence to conceptualize and generate a relationship between space and form. The course focuses on two concurrent tasks: first to outline and analyze the historical development of representational logics and their impact on architectural ideation, and second to explain the codification and usage of specific geometries, including orthographic and isometric projection, central and parallel perspective, and architectural axonometric. We will see that, rather than a translation of reality, representation operates between perception and cognition as a transcription of reality and is thus a powerful instrument in the design and making of architecture. The relationship between the drawing forms and the tools used to produce them are brought into focus as manual, digital, photographic, and physical applications driven by drawing intentions. This course is organized as a lecture/lab with emphasis on practice of manual and photographic applications. Credit 3 units.

### Arch 323B. Architectural Representation II (M.Arch. 3)

The course examines the history/theory and practice of representation, specifically the systems of drawing used in architecture. The objective is to develop the requisite discipline, accuracy, and visual intelligence to conceptualize and generate a relationship between space and form. The course focuses on two concurrent tasks: first to outline and analyze the historical development of representational logics and their impact on architectural ideation, and second to explain the codification and usage of specific geometries, including orthographic and isometric projection, central and parallel perspective, and architectural axonometric. We will see that, rather than a translation of reality, representation operates between perception and cognition as a transcription of reality and is a powerful instrument in the design and making of architecture. The relationship between the drawing forms and the tools used to produce them are brought into focus as manual, digital, photographic and physical applications driven by drawing intentions. This course is organized as a lecture/lab with emphasis on the practice of digital media and physical modeling. Emphasis is on participation and excessive absences will be noted. *Please Note:* The second half of the semester will focus on computing, for which each student is required to have a laptop computer. Credit 3 units.

### Arch 326A. Introduction to Computing in Architecture

This course is focused on the application of computer technologies in the analysis and design of our built environment. Computer technology is presented as a related tool for support of the architectural studio environment. Curriculum provides for the correct use of vector imaging (CAD),

raster imaging, and Internet technologies, as well as rapid prototyping techniques for architectural inquiry. Overlapping digital and physical projects will synthesize the dynamic nature of computing in a studio environment. Examples of technologies explored include (but are not limited to) large-format raster printing, multiresolution monitor presentation, distance collaboration, 2-D and 3-D digital model building, and laser cutter component output. These technologies will be utilized to analyze successful architectural works in order to explore the benefits and strengths of computing in the architectural process. Credit 3 units.

**Arch 326C. Advanced Concepts in Architectural Computing: Dynamic Materialism**

The current developments in digital technology allow mathematical expressions to transform complex dynamic systems that have shifted the formal discourse of architecture. The new digitally based techniques are being invented to inform creative processes in architecture through the manipulations of complex geometrical and topological forms. This course will focus on developing new techniques that translate these mathematical developments into diagrammatic design strategies. The animation and modeling software MAYA will be deployed by the students for the investigation. Students will be taught MAYA with a conceptual development for defining and inventing dynamic-based architectural proposals with multiple perceptions in spatial formations. Credit 3 units.

**Arch 326D. Prototyping the Responsive Dynamic Media Wall**

The seminar focuses on designing and constructing a working prototype for a Responsive Dynamic Media Wall currently being developed by the College of Architecture and the Computer Science department. The seminar will develop and solve certain design problems in tectonics, material, mechanization, electronics, and computational, spatial, and social issues addressing the project. The seminar will endorse more of a research lab atmosphere with a collaborative working environment between designers and scientists. Credit 3 units.

**Arch 326E. Dynamics as Strategy**

Dynamics manifest the interrelationships among the elements of space, time, and force/energy. All elements in some way affect others, whether by physical manipulation or purely through abstract constructions. This course will explore conceptual modeling techniques through the use of dynamic simulations. Students will be given a design problem and will use MAYA to model and animate their diagrams. Their final version will incorporate rendering, animating, and compositing techniques to present the solution. This class will deploy MAYA as a conceptual and mechanical tool, no prior experience necessary. Credit 3 units.

**Arch 3283. Architectural History I: Pre-Modern Encounters in World Architecture**

This course explores the history of architecture from its origins until the beginnings of the modern period from a global perspective, focusing on patterns of interaction and exchange between and within both elite and vernacular building cultures. Using selected examples from Eurasia, sub-Saharan Africa, and the Americas, the course will trace the major elements of change and development in the design of the Earth's built environment, including technologies and materials, typology, the organization of labor and capital systems to the profession and the public. Course requirements include a mid-term, final exam, and research paper. Credit 3 units.

**Arch 3284. Architectural History II: Architecture since 1880**

An introductory survey of the history and theory of architecture and urbanism in the context of the

rapidly changing technological and social circumstances of the past 120 years. In addition to tracing the usual history of modern architecture, this course also emphasizes understanding of the formal, philosophical, social, technical, and economic background of other important architectural directions in a global context. Topics range from architects' responses to new conditions in the rapidly developing cities of the later 19th century, through early 20th-century theories of perception and social engagement, to recent efforts to find new bases for architectural interventions in the contemporary metropolis. Credit 3 units.

**Arch 333. Case Studies in 20th-Century Architecture**

Through a series of analytical, critical, and interpretative studies of singular works of architecture in the 20th century, this course will focus on the manifold processes and contexts of their production. Each work will be examined as a physical and cultural artifact with precise formal, intellectual and ideological intentions and meanings. The architectural object, understood as a synthesis of multiple criteria and frameworks, will be explored from its conception through its realization based on certain principles (fundamental precepts of the discipline of architecture) and a broad range of concepts (abstract ideas understood as the products of speculative and reflective thought). Credit 3 units.

**Arch 336A. Sustainability**

This student-initiated course seeks to define sustainability and its relation to our built environment through the lens of anthropology, environmental science, business, law, and architecture. The course networks the University's resources by bringing professors from varying disciplines to speak weekly on the issues of sustainability and design. We will examine broad issues from history, philosophy, and literature to practical studies of current land use, climate, and technology. Credit 3 units.

**Arch 336B. Designing Sustainable Environments**

The seminar will introduce fundamental concepts of sustainability and sustainable development. Emphasis will be placed on understanding natural systems, the development of the built environment within natural systems, and the economic, social, ecological, ethical, philosophical, political, psychological, aesthetic, and cultural issues that help shape design decisions. Students will evaluate a range of methods that may be used to identify and select sustainable solutions to design problems, improve existing solutions, and develop critical thinking. The LEED™ Rating system will be presented within the context of its role in professional practice and larger issues of human and environmental health, including how LEED fits into the realm of high performance design and the effective use of the LEED Rating System and principles of sustainability. The course will be divided into three phases: 1) research current interpretations of sustainability in architecture, examining theories and practices that encourage the development of ecological consciousness as the context of Sustainable Design; 2) critical comparison of the underlying principles of sustainability and design proposed by the different rating systems available today and evaluation of the ways of assessing the sustainability of the built environment currently in use, including the LEED rating system; and 3) the development of a project design in studio that will follow the LEED-NC Version 2.2 Manual as the organizing structure. In this final project, students will be required to obtain a minimum of 26 points on the LEED-NC rating system in order to have their project certified. Students will produce the necessary documentation required for LEED-NC certification and make an oral presentation to a

panel of guest critics. Credit 3 units.

**Arch 339. Concepts and Principles of Architecture I**

This weekly seminar course will address issues of Western architectural thought through a focused series of readings and discussions. The necessity and role of architectural theory in general will be examined. Issues of tectonics, historicism, typology, regionalism, modernism, post-modernism, and other critical frameworks for the consideration of architecture will be thematic subjects of discussion. Selected readings include Vitruvius, Alberti, Laugier, Semper, Ruskin, Le Corbusier, Gropius, Kahn, Rossi, Venturi, Eisenman, Libeskind, and Koolhaas. Weekly reading assignments, attendance, participation, one summary and discussion introduction based on a reading topic, final paper. Required for first-semester M.Arch. 3 students. Fulfills history/theory elective for M.Arch. 2 students. Credit 3 units.

**Arch 346. Building Systems I**

The first of a two-course building systems sequence. The course progresses from a survey of the physical and structural properties of building materials through an analysis of building assemblies and systems. Structural systems are examined relative to their performance characteristics and issues related to manufacturing and construction. Structural systems in wood, steel, and concrete along with masonry systems are reviewed in this class. Additionally, the primary and secondary performance characteristics of enclosure systems are identified and analyzed in this course. This course also covers the design of egress systems and vertical transportation systems in buildings. Though the course focuses primarily on the underlying principles associated with these building systems, industry standards and building code requirements are an integral part of the review. Credit 3 units.

**Arch 347. Building Systems II**

Building Systems II is a lecture/workshop course. It is the capstone course in the technology sequence. The course is composed of a series of lectures related to technical theory, an analysis of technical precedent, and an integration exercise. The lectures focus on structure and enclosure systems, active and passive climate control systems, natural and artificial lighting systems, mechanical and electrical services for buildings. The lectures will take place over the course of the semester. During the first half of the course, students conduct the analysis of technical precedent in architecture exercise. Technical precedents will be analyzed relative to their performance characteristics and their relationship to other technologies in the building. During the second half of the semester, students conduct an integration exercise. Technical systems will be selected based on architectural issues, performance characteristics and systems integration. Credit 3 units.

**Arch 402A. Measured Representation**

This course proposes to investigate and create a series of measured drawings. The drawings, as architectural objects, configure architectural knowledge, perception, and vision. We will begin by studying precedent drawings in relation to each architect's theoretical framework, project description, and technique. The range of works will relate different types of construction (perspectives, axonometrics, diagrams, ideagrams, assemblages, montages, descriptive geometry, and mapping) with integral and symbiotic theoretical agendas. Each student will learn the techniques of representation in their case study and from this example construct an interpretation of a specified site in this language. With a collection of theoretical frameworks and workshops on various techniques, the class will qualify a series of sites through drawing/interpreting the shadows present. Shad-

ows may be thought of as reductions of the real object—in this sense, the drawings will act as abstractions or reductions that promote vision. Instead of simply discussing qualities of space, narratives of metaphor, intangible phenomena, implications of constructed geometry, this architectural research project attempts to propose methods of seeing such that the representation may play a more active role in the shaping of design. This course centers on the creation of imaginative processes of representation. Credit 3 units.

#### **Arch 402B. Drawing Workshop**

Define and draw (y)our environment with what you don't see. Explore medium and media. Discussion of Visual Literacy. Open to all architecture students; no prerequisite. Credit 1 unit.

#### **Arch 405A. Furniture Design for the Architect**

Students will be designing and fabricating furniture. The box and chair will be used as vehicles to study historic examples of furniture design, structure, fabrications, and finishing techniques. Other issues to be addressed are material awareness and craftsmanship. Evaluation of the final products will be based on design, structure, craftsmanship, material use, beauty, and finish. Credit 3 units.

#### **Arch 405D. Furniture Design**

The course will focus on the design of tables using wood as the primary material in response to "rational and irrational strategies" (systematic and emotional). Each student will design, develop, and build prototypes of two tables using the same material. One table will be the product of a systematic analysis of material qualities, production procedures, and other constructivist principles. The other table will be the product of more explicitly intuitive, emotional, and interpretive responses to the nature of the material and its production. Course limited to 10 students. Credit 3 units.

#### **Arch 406J. Woodworking**

The content of this workshop will be woodworking technique and appropriate design for this material. Credit 1 unit.

#### **Arch 406L. Perspective Drawing**

A study in perspective drawing methods, using the traditional construction methods as a starting point and then exploring alternative approaches. The fundamentals of one-point and two-point will be covered along with rendering techniques for formal and informal representations. A variety of rendering techniques will be presented depending on situation of design and time allowed. Credit 1 unit.

#### **Arch 406M. Mold-Making and Casting**

Credit 1 unit.

#### **Arch 406N. GIS Workshop**

Credit 1 unit.

#### **Arch 406P. 3-D Digital Tools for Studio**

Credit 1 unit.

#### **Arch 406R. Model Making**

Credit 1 unit.

#### **Arch 406S. Real Estate Workshop**

Credit 1 unit.

#### **Arch 406T. Re-representing the Skylines: Mapping Vertical Structures**

This workshop provides a forum for employing digital techniques to trace and project coordinates of new objects and programs. The flow of information, people, and consumer goods shifting across fixed boundaries has demonstrated the unpredictable disturbances in our cultural network. This notion challenges the ever-multiplying systems of exchange, communication, and action by unfolding the wide spectrum of new architectural and urban conditions. Questions of aesthetics in speed, movement, deformation, infrastructure, surfacing, and fragmentation will be allocated as the vehicle for the research. This research intends to

develop a process of "design methodology" with an emphasis on conceptualization and abstraction as a means of generating design strategies. The workshop investigates the methods of producing spatial interventions based on perception of the urban skyline as a field of dynamic, cross-referenced organizational systems. Credit 1 unit.

#### **Arch 406W. Simple Book Structures**

Students will investigate the form of the visual book through construction of several different book structures, among them, the accordion, the flag book, the tunnel, simplified case binding, and a portfolio case. This class will investigate the organization of the visual book through the sequencing of images and the structure of the book as a reflection of content. It is hoped that the class will permit the student to pursue new approaches to presenting visual information in book form. Credit 1 unit.

#### **Arch 406Y. The Diagram**

The purpose of this workshop is to fully understand how we can exploit the concept and method of the diagram in order to better access ideas, reveal themes, discover underlying processes and relationships, and ultimately, to better represent our final design intentions. The goal of the workshop is to understand the position of the diagram in the architectural design process by looking at examples of architect's drawings/other diagrams; to understand what diagrams can mean and specifically how to use them in design; to test methods of drawing and diagramming through a series of targeted exercises; and to be able to further exploit ideas and designs through their representation—skills for the larger context of the architecture studio and for future analyses. Credit 1 unit.

#### **Arch 406Z. Vertical and Horizontal Structures**

Designing with advanced digital modeling and CAD/CAM output through laser cutting and CNC milling. Students will develop complex structural systems through virtual design tools and translate them into physical objects that can be programmed for human interaction. Credit 1 unit.

#### **Arch 408A. Digital Visualization Workshop: 2-D Representation**

This workshop is an introduction to basic AutoCAD drawing layout and organization with printing process. The workshop will introduce students to importing and exporting into other graphic software (Photoshop and Illustrator), allowing a basic understanding of resolution and line types with articulated graphic awareness to develop complex 2-D drawing capabilities. Required for all 317-level M.Arch. 3 students, who will be given priority in enrolling. Open to all other architecture students as space allows. Credit 1 unit.

#### **Arch 408B. Digital Visualization Workshop: Advanced 3-D Modeling**

This workshop is an introduction to complex digital modeling in RHINO 4.0 with basic NURBS surface, poly surface, solids, and plug-in T-spline for subdivision modeling techniques. These skills are needed for rapid-prototyping outputs such as 3-D printing and CNC milling. The workshop will introduce students to layer and object organization with file-size management allowing complex and detail modeling. Required for all Arch 318 students. Credit 1 unit.

#### **Arch 408C. Digital Visualization Workshop: Advanced Rendering**

This workshop is an introduction to complex digital rendering in RHINO 4.0 with plug-ins Flamingo, VRay, Maxwell, and Fry Rendering Engines. These skills are needed for sophisticated rendering outputs for more hyper-real visualization. The workshop will introduce students to material, lighting, camera, and global illumination processes. This workshop is required for all M.Arch students at the 419 level, who will be

given priority for registration in this course. Open to other upper-level undergraduate and graduate architecture students as available space allows. Credit 1 unit.

#### **Arch 410C. Bamboo, Wood, and Paper: Design Exercises**

A workshop focusing on innovative design, detailing, and construction in bamboo, wood, and paper through construction of large-scale and full-scale models and prototypes. Credit 1 unit.

#### **Arch 410D. Printmaking**

Credit 1 unit.

#### **Arch 410G. Scale: Measure, Proportion, Perception**

Through a series of drawing exercises, students will become familiar with issues of scale. Studies focus upon human measure, developments of proportioning systems, and ways in which the perception of scale can be utilized to create subjective readings of space. Credit 1 unit.

#### **Arch 410J. Masterclass in Design Practice**

Credit 1 unit.

#### **Arch 410K. Masterclass in Environmental Design**

*Same as CE 510K.*

Credit 1 unit.

#### **Arch 410M. Portfolio Workshop**

Credit 1 unit.

#### **Arch 410P. LEED and Sustainable Design Thinking**

Credit 1 unit.

#### **Arch 411. Architectural Design III**

Prerequisite: Satisfactory completion of Arch 312. Credit 6 units.

#### **Arch 412. Architectural Design IV**

Prerequisite: Satisfactory completion of Arch 411. Credit 6 units.

#### **Arch 419. Architectural Design III (M.Arch. 3)**

The third of a three-semester sequence of design studios. Continues examination of issues raised in Arch 317 and 318. Credit 6 units.

#### **Arch 421I. A Tale of Two Cities: Urban Form and Society in Chicago and St. Louis**

*Same as AMCS 4210.*

#### **Arch 421J. Building a Better World: Architecture and Social Reform in America**

Architects, planners, and social reformers have addressed urban issues of poverty, crime, delinquency, labor unrest, and class and ethnic tensions through activist models of the public library and school, the YMCA, the playground, and the model home—or by a retreat from the city in the form of utopian settlements. This seminar will examine the history of environmentalist thinking and social reform in the United States and to some extent, Europe, from the Enlightenment to the Second World War, including the work of Andrew Jackson Downing, Frederick Law Olmstead, Ernest Flagg, and Frank Lloyd Wright and critics such as Jane Jacobs and Prince Charles. The class will become familiar with reform architecture and its context and assess the effectiveness of this strategy as a solution to social problems. Open to graduate and upper-level undergraduate students. Fulfills History/Theory requirement. Credit 3 units.

#### **Arch 421K. Modern vs. American: Rethinking the Architectural Relationship**

What is American about American architecture? Architects, historians, and theorists have asked this question throughout our nation's history, but it gains renewed importance in this age of globalization. Can we, should we, continue to apply national labels to our architecture? This seminar will examine the architectural culture of the United

States in the 20th century, with special attention to the relationship between national identity and the internationalizing forces of modernity, particularly European modernism. Through analysis of theoretical writings, developments in education and practice, and key projects like the Chicago Tribune Tower Competition, the Illinois Institute of Technology, and U.S. embassies around the world, students will gain insight into the dynamic between the local and the global in the design of the built environment. Course requirements include in-class presentations, field trips, and a substantial research paper. Fulfills History/Theory elective requirement. Credit 3 units.

**Arch 423. History of Landscape Architecture**  
This seminar will review the history of gardening in the Western tradition from the Renaissance to the present and in the Chinese and Japanese traditions. Park-making, neighborhood design, and the rise of landscape architecture as a profession will receive attention, including several classes held at notable St. Louis examples. Course requirements will include readings, a design or research project, and a final exam. Fulfills History/Theory elective. Credit 3 units.

**Arch 4284. Architectural History II: Architecture Since 1880**

An introductory survey of the history and theory of architecture and urbanism in the context of the rapidly changing technological and social circumstances of the past 120 years. In addition to tracing the usual history of modern architecture, this course also emphasizes understanding of the formal, philosophical, social, technical, and economic background of other important architectural directions in a global context. Topics range from architects' responses to new conditions in the rapidly developing cities of the later 19th century, through early 20th-century theories of perception and social engagement, to recent efforts to find new bases for architectural interventions in the contemporary metropolis. This course is required for all M.Arch. 3 students. Credit 3 units.

**Arch 4285. Architectural History I: Pre-Modern Encounters in World Architecture**  
This course explores the history of architecture from its origins until the beginnings of the modern period from a global perspective, focusing on patterns of interaction and exchange between and within both elite and vernacular building cultures. Using selected examples from Eurasia, sub-Saharan Africa, and the Americas, the course will trace the major elements of change and development in the design on the Earth's built environment including technologies and materials, typology, the organization of labor and capital systems, and the codification and transmission of architectural knowledge and symbolism to the profession and the public. Course requirements include a midterm, final exam, and research paper. Credit 3 units.

**Arch 430. The Design of Practice in America**  
The Design of Practice in America will trace the changes and developments of architectural practice in the United States from the mid-19th century through the present. Through historical case studies, students and professor will explore how architects and designers shaped and responded to the changing demand for their services in the marketplace through periods of growth, depression, and change. Key examples will illustrate how figures such as Frank Lloyd Wright, Albert Kahn, and John Portman developed working structures, partnerships, and business models to put forth their ideas and designs and make a living. We will look at a variety of strategies that architects have developed over time to define, validate, and sell architecture as an artistic enterprise, community service, and profession. Weekly discussion will fo-

cus around themes in the creative design of architectural practice. Local practitioners will be invited to class to share their experiences in a variety of practice settings. Students also will undertake a semester-long research project on a St. Louis firm whose papers have been preserved or whose history is maintained through oral history. The goal is to familiarize the students with the process of primary research and the inner workings and development of a firm. This fulfills the History/Theory elective requirement. Credit 3 units.

**Arch 434L. Materials Study: History, Technology and Design**  
*Same as F20 Art 434L.*

The course will study the history of utilization of one specific building material within the disciplines of art and architecture through readings and precedent analysis by students. Concrete will be the focus for the spring semester. Physical properties, chemical makeup, and possibilities for tectonic and material expression will also be explored. Exercises employing the material will allow student to gain direct experience with its characteristics. The final project will be a habitable exhibition space constructed from the material. Presentation of precedent analysis will be displayed in conjunction with the exhibition. A small number of field trips to appropriate sites in and around St. Louis will be scheduled. Credit 3 units.

**Arch 436. Mapping Soft Bodies/Constructing Complex Objects**

Theory and research on digital design and manufacturing. "Body and soul are thus constructed in the same manner, at the intersection of a cluster of radii of curvature. Both are then simply effects of convergence that are constituted in space, on either side of the surface of the work that envelops them. It follows that the body is no less ideal than the mind," Bernard Cache, *Earth Moves*. This course explores the complex systems of geometries that compose the human body. The students are to invent techniques of digital mapping the contours of the soft bodies and to define the potential for developing new forms of spatial effects uncovered through the digital representation. The mapping procedures are developed to trace and project the human scale and material interface imposed by the fluctuating movements of the bodies in dynamics. Through the making of these forms each student will manufacture new objects through alternative prototyping techniques. Credit 3 units.

**Arch 438A. Digital Diversions**

This course will employ advanced digital computing tools to examine the fabrication and assembly of materials diverted from the construction industry waste stream for new possibilities within design. While current digital fabrication techniques are commonly used to produce cut sheets and fabrication instructions for the assembly of custom components, this often results in a large amount of raw material entering the waste stream despite complex nesting (cut sheet configuration) software. In addition, the EPA estimates that building-related construction and demolition debris totals approximately 136 million tons per year, accounting for nearly 60 percent of total non-industrial waste generation in the United States. Given the scale of materials available and the introduction of powerful, advanced computing techniques, this course will closely consider the construction waste stream as a point of entry for the digital design of highly repetitive assembly systems. Students will research and develop design proposals that minimize the production of waste using standard CNC production techniques or propose innovative methods to employ digital tools to assem-

ble materials destined for the waste stream. Students will follow a research trajectory throughout the semester that utilizes one or more of the advanced computing techniques being addressed in the course (scripting and/or parametric modeling) to design a prototypical assembly system that makes "something out of nothing." Prerequisite: familiarity with Rhino 4.0; must have taken A46 436, Mapping Soft Bodies, or have the permission of the instructor. Credit 3 units.

**Arch 440. Explorations in Structural Principles**

This course begins with a series of presentations (lectures) about primary systems in an effort to familiarize students with basic structural principles. This is a nonmathematical exploration of how structures work and why. We will attempt to become conversant in "the language of structures." Students will identify a particular system and do case studies exploring its characteristics and how, where, and why the system has been used. These explorations will ultimately lead to the development of large-scale (testable) models. Credit 3 units.

**Arch 447A. Structures I**

Statics and strength of materials through beam and column theory. Loads are defined and states of stress are identified and analyzed. The context of structural behavior is identified and optimal structural behavior and material efficiency structural design is reviewed. Form-active, bulk-active, and vector active structural options are explored relative to the transference of load along the length of structural members. The course applies structural theory to the analysis and design of structural members—beams, trusses, arches, and columns. Credit 3 units.

**Arch 448A. Structures II**

Continuation of Arch 447A with consideration of the effects of forces on structural members of various materials. Introduction to the design of structural members in steel, reinforced concrete, and wood. Prerequisite: Arch 447A. Credit 3 units.

**Arch 450B. Readings in Architecture**

This weekly seminar course will address issues of Western architectural thought through a focused series of readings and discussions. The necessity and role of architectural theory in general will be examined. Issues of tectonics, historicism, typology, regionalism, modernism, post-modernism, and other critical frameworks for the consideration of architecture will be thematic subjects of discussion. Selected readings include Vitruvius, Alberti, Laugier, Semper, Ruskin, Le Corbusier, Gropius, Kahn, Rossi, Venturi, Eisenman, Libeskind, and Koolhaas. Weekly reading assignments, attendance, participation, one summary and discussion introduction based on a reading topic, final paper. Fulfills History/Theory requirement. Credit 3 units.

**Arch 453. The Art Museum: History, Theory, and Design**

This course will study the conceptual basis of the institution of the art museum in the United States and Europe, including its history, theoretical foundations, design, and cultural function. We will begin with the origins of the modern museum in the 18th century and earlier; trace the development in the 19th century of the earliest national art museums in the United States and Europe; consider the opportunities and problems of museums of modern and contemporary art in the 20th century; address the question of appropriate architectural strategies for art museums of the past and the present; and consider a variety of developments in the art museum today. We will study and visit art museums in St. Louis and will take a field trip to selected art museums in Davenport, Iowa City, and Des Moines. Credit 3 units.

### Arch 454A. Contemporary Discourses on Public Space

Since the 1980s, public space has been a subject of intense theoretical debate and the key to urban revitalization strategies in cities such as Barcelona, Amsterdam, Berlin, London, Jerusalem, Curitiba, Toronto, New York, etc. Evident from the investigation into this theory and practice, is the notion that the design of public space according to the typology of either the 19th century or modern city does not suffice and that the domain of contemporary public space demands a new discourse. This seminar will investigate the theoretical framework and practice of various contemporary discourses on public space in order to reveal the implicit intellectual frameworks and practices. Discourses to be investigated include public space as the mimicry of history to public space as non-place; and from public space as the enclave of fear and marginality to public space as the theater of economic and social exchange. The seminar will also situate the design discourse in the broader political, social, and philosophical discourses of the public sphere. Credit 3 units.

### Arch 455A. Urban Books: Imag(en)ing St. Louis

*Same as F20 ART 455A.*

Since the beginning of the 20th century, art, architecture, and urbanism together have investigated the production of images that shape the symbolic dimension of our experience of large cities. This seminar will critically embrace this tradition and bring together different methodologies for the visual analysis and representation of contemporary urban phenomena, using St. Louis as a focal point. The goal will be to design and produce individual books as a result of research, visual documentation, readings and discussions in a seminar and workshop structure. Each student will select and develop a theme related to the urbanization of St. Louis that will be organized into books that present how this metropolitan area has been conceived through images. The course will be divided into three parts combining readings, research, and design activities, each of which will culminate in the presentation of an individual project; a total of two study books and a final book. Fulfills Urban Issues elective requirement. Credit 3 units.

### Arch 462H. Information Modeling for Sustainable Design

This course will focus on the principles of sustainable design as examined through Building Performance Analysis (BPA) and applied Building Information Modeling (BIM) methodology. The foundation for this course will be an introduction to BIM and BPA and the significance of both for the future of sustainable architectural design practice supported by analytical modeling. This emphasis on the suitability of building modeling for analytical purposes and on the interpretation of such data will provide the basic knowledge necessary for the second phase of this course, in which students will use a previous or current studio project for an in-depth study of their building's performance in the context of its chosen site. Exploring the interaction between the simulated environment (climate, isolation) and the virtual building with its physical characteristics (materials, assemblies, passive design strategies, heat transfer, daylighting, embedded energy), we will attempt to confirm and test the principles of sustainable design at the schematic level of project development. The model analyzed by each team will provide sufficient comparative information for a design approach whose desired goal is carbon neutrality in the lifecycle of the building. Students will be encouraged to investigate the suitability of analytical modeling software, in the context of critical design methodology. Prerequisites for this course are a basic understanding of BIM methodology

and insight into sustainable design practices. Credit 3 units.

### Arch 464A. Architecture and Photography

Seminar that deals with issues raised by use of photography by architects, historians, and critics. Seminar will confront the assumption that our knowledge of notable buildings and architectural space is based primarily on the photographic image. Photographs are tacitly accepted as objective facts, and the pervasiveness of photography in magazines, books, and exhibits as substitute for direct experiences are rarely questioned. Goal of seminar: to foster a healthy skepticism of photographs and to investigate the role of photography as a means of record and convey complex spatial conditions by the ordering conventions of the frame. While not technical, the course will introduce students to technical aspects of photography that are particularly relevant to architectural photography: parallax, lighting, lens distortion, depth of field, format and grain, cropping, photomontage, and point of view. Fulfills History/Theory requirement. Credit 3 units.

### Arch 464E. Spatial Representations in Contemporary Culture

The main objective of this seminar is to analyze the crisis of representation in contemporary culture and its relationship to architecture and the urban landscape, looking for a critique of architecture beyond formal aspects. The framework for the seminar is the transition of modernity into the contested terrain of postmodernity, and the limitations and possibilities faced by architects in the thinking and in the production of space. The activities are mainly organized along the reading and discussion of texts drawn from a multidisciplinary theoretical approach, and by the analysis of examples of representation from films, artworks, architecture, and the city. Credit 3 units.

### Arch 464F. Contemporary Theories in Architecture and Urban Practices

Since the 1960s, the practice of design in architecture and urbanism has been increasingly associated with a theoretical framework. Theory has both provided support to the investigation of the phenomena related to the built environment, and it has faced problems in the translation of abstract constructs into the practice of design. This seminar will present examples of relevant contemporary interpretive and critical theory, and confront them with current practices in architecture and urbanism. The purpose of this confrontation is to develop skills to articulate individual critiques of design as a mediation between discourse and practice. Required work: The seminar activities will take place in the form of reading and discussion of texts, and analyses of current examples of architecture and urban practices. Each student must investigate an individual case study to be presented in the form of a seminar as well as a final paper. Prerequisite: Arch 222 or 223. Fulfills History/Theory elective. Credit 3 units.

### Arch 464G. Drawing and Urbanism

This class investigates the tools of representation from an era when there was widespread belief in the use of new technologies. Visually, spatially, and in nuance of ideology, the groups of the Metabolists, Archigram, and the Situationists hold an indirect conversation regarding the status of society where the abstract qualities of media and technology gain significance within a context of liberating freedom, leisure, and mobility of a post-industrial class. We will examine the cultural image of their representations, their consideration of ideological frameworks to privilege constructive environments, the desire to analyze through data and diagram the essential qualities of site and the ability to connect spatiality with local conditions and temporal events. Activities are split between

lecture/discussion and the making of models anticipated for exhibition in the Kemper Art Museum as part of a larger proposal on drawing and urbanism. The models act as a vehicle for rediscovery and allow for careful consideration of their design intentions. To explore the ambiguous dialogue between drawing, and models, the two would be exhibited alongside one another; the models constructed of similar materials as in the 1960s, with the added precision of digital fabrication and consequential translation with drawing. The representations of this time provide a point of reference for current debates on technology and social freedoms. Given that drawings, diagrams and models act as theoretical constructs of projected desires in the world of architecture, these instruments test out ideas regarding networking and specifics of local site conditions that describe anticipated events and possibilities. Credit 3 units.

### Arch 467. The Visible and the Invisible

A seminar on philosophy, criticism, and architecture providing an intellectual framework for making architecture, by investigating the development of thought and ideas in other disciplines, and the effect they have had in the arts. Specific assigned readings will be presented and discussed by the class weekly. Emphasis placed in the discussion and the formulation of personal interpretations developed after careful and thoughtful reading. Offers an arena in which theory and practice, often seen as irreconcilable, can be understood as inseparable aspects of the same realm, informing both the author and the work. Fulfills History/Theory requirement. Credit 3 units.

### Arch 470D. The Description of Place

The means by which we come to an understanding of a place profoundly affects any subsequent action taken in that place—specifically the action of building. The possibility for place to gather and hold, not only things, but also ourselves, our memories and our imaginations—the event of place—is defined as place becomes concretely defined and choreographed as a static background for action, rather than as a fluid and dynamic action itself. In order to reassert the active reflecting and gathering power of place and, subsequently, of architecture, the process of knowing and describing where we build needs to be reconsidered. This seminar will focus on the potential for visual description to affect alternative readings of place that are otherwise obscured, and speculate regarding the implications of such readings on the making of architecture. The course will be divided equally between theory and making. In addition to discussions surrounding assigned readings, students will select a specific place of study in St. Louis from which they will develop different methodologies for observation and description over the course of the semester. Students will have a choice of submitting either a final paper or project that speculates as to what new understandings have emerged and what possible actions could result from their study. Credit 3 units.

### Arch 471A. Continuity and Transformation

Throughout history and across cultures, certain ideas, concepts, and organizational strategies have persisted in architecture, despite advances in social ideals and technological capabilities. The seminar explores the phenomenon of this continuity with the goal of uncovering the manner in which these ideas and strategies are transformed. Whether classified by use, characteristic form, or compositional device, the continuity of these notions is clearly traceable as a body of knowledge waiting to be revealed, understood, assessed and, when valid, built upon. The transformation of ideas and strategies is one of the most fundamental activities of the designer, but relies on careful study. We will discover evidence of this phenomenon in vernacular architecture, patterns of settle-

ment and habitation, and in the work of many of our most influential practitioners, such as Le Corbusier, Kahn, Moneo, and Zumthor, as well as in the realm of painting and sculpture including Cubism, Suprematism, and Expressionism. Credit 3 units.

**Arch 472. Sustainable Development**  
Credit 3 units.

**Arch 476. Approach: A Studio in Publication Design**

*Same as F20 ART 476.*

Publishing has a rich history in architecture, the book form alternately used for documentation, presenting new ideas, exploration of the past, or self-promotion. This course will look critically at the architectural book, historical to present, and establish a framework to develop a new model for the graduate journal *Approach*. Students will share responsibilities of setting the editorial and design direction of this journal, editing text and images, designing pages, working with guest writers, and making models of the book as bound structure—all with the intention of bringing the newly re-designed journal *Approach* to publication. Students will emerge from this experience with an understanding of the following skills: defining an editorial “voice”; preparation of images for publication; sequencing a collection of images into a coherent, narrative; use of publication design programs (InDesign and Illustrator) to explore the typographic landscape of the page; binding structures; basic print materials and technologies. Students will be required to produce two documents of their own authorship/design in addition to the work they do on *Approach*. This course is open to graduate students in Architecture and seniors in Communication Design. Credit 3 units.

**Arch 4782. Modern Architecture in St. Louis**  
*Same as Art-Arch 4782.*

**Arch 484B. Notations on Florentine Architecture**

This seminar proposes a historical survey of significant buildings and urban spaces in Florence through the graphic documentation and spatial analysis of selected sites and buildings from antiquity to the Renaissance and to modernism. The general framework of our analysis is to understand the relationship between the historic development of the city and its most symbolic architecture. This approach is based on the work of Italian scholars, such as Giulio Carlo Argan, who define the history of architecture as the history of the city. The course will be methodically divided into two blocks of exercises. In the first part of the semester, we will be focusing on readings, site visits, sketches, analytical drawings and photos, as well as the mapping of the urban development of Florence. In the second part of the semester, students will focus on the tectonic study of specific buildings through the construction of representational and experimental models. Each student’s individual work will contribute to a collective 2-D and 3-D final project to be presented as an exhibition in the Florence Studio during the spring and to be shown at the College of Architecture in the fall. Credit 3 units.

**Arch 490. Architecture Service Learning Practicum**  
Credit 2 units.

**Arch 511. Architectural Design V**  
Prerequisite: Satisfactory completion of Arch 412.  
Credit 6 units.

**Arch 512. Architectural Design VI**  
Prerequisite: Satisfactory completion of Arch 511.  
Credit 6 units.

**Arch 520. Shifting from Lines to Surfaces/Virtual to Empirical**

Digital Media Design: Introduction to Exploring Digital and CAD/CAM Technology. This is a course in computing theory and techniques on 2-dimensional digital software and advanced 3-dimensional modeling software. Weekly demonstrations on software operations and individual projects will be developed. This course bridges the gap between 2-D computational tools that define lines and the 3-D tools that develop complex surfaces. These surfaces explore the possibilities of creating and articulating the non-linear geometries manipulated on the digital environment. The final project consists of 2-D drawings, digital models, and physical models produced by advanced CAD/CAM technology. By employing alternative techniques and emerging technologies of manufacturing, new forms of objects and perceptions will redefine multiple design processes. Credit 3 units.

**Arch 525H. The Structure and Morphology of the City**

This seminar will investigate both the origin and evolution of the settlement pattern, structure, and form of Western cities; that is, the morphology and morphogenesis of the urban landscape. It will explicate the detailed interplay of land, subdivision, buildings, and their combined patterns of use as well as the natural, physical, economic, and social forces that have changed the physical form of cities. A number of metropolitan St. Louis cities will be analyzed to reveal the evolution of city form from the 19th century to the contemporary situation, and the indeterminate complexity and richness of morphological layering and traces in the urban fabric. The objective of the course is to understand the urban condition as a basis for critical practice in the design studio. Fulfills Urban Issues elective for M.Arch. degree. Undergraduate enrollment is allowed by arrangement with the instructor. Limit 12 students. Credit 3 units.

**Arch 525K. LAND Arch URB: landscapearchitectureurbanism**

New disciplinary dynamics: blurs and exchanges. Over the past decade, the various professions engaged in the construction of the built environment have been investigating (both in theory and practice) a specific and deliberate blurring, hybridization, and expansion of the traditional semantic and historical categories of landscape, architecture, and urbanism in an attempt to confront changing situations, environments, and cultures. Across geographical and cultural boundaries, the proliferation of projects (speculative and built) and essays appearing in recent years makes this phenomenon more than a passing trend or the product of individual reflection. Architecture, for example, as a conventional discipline with its own tasks, internal logic, and *modus operandi* has become so heterogeneous that it can no longer adequately authenticate its products from within the limits of its historical category. The same holds true of the allied fields of landscape and urbanism. Strict disciplinary boundaries are no longer capable of attending to the complexity of contemporary demands produced by mobility, density, de-urbanization, hybrid programs, changing uses, and ecological concerns. The contemporary world forcibly imposes the need for greater flexibility and indeterminacy and for new techniques of practice that are anticipatory, receptive to change, and capable of opening an aperture to the future. This course will explore these disciplinary slippages and hybrid contacts between until-now-distinct categories through essays and built or speculative works. Fulfills History/Theory elective. Fulfills Urban Issues elective. Credit 3 units.

**Arch 527G. Louis Kahn and Alvar Aalto: Critical Studies**

This intensive seminar will examine the two signal architects of the late 20th century, through focused examinations of their biographies, written statements, and significant buildings: the Salk Institute and the British Art Center, among others, by Kahn and the Saynatsalo Town Hall and the Villa Mairea, among others, by Aalto. The course structure will intertwine the progress of each architect’s career and production with the other’s, and place them both as well in their historical and theoretical contexts. Thematic issues of site, tectonics, purposes, and formal principles will be addressed, and the subsequent critical interpretations of the built works will be reviewed. Selected works will be the subject of analysis through surveys of archival drawings and constructed models. An overview of the legacy of Kahn and Aalto as represented in contemporary architectural culture will conclude the seminar. Field trips to selected buildings of Kahn in the United States are planned; an optional field trip to Finland for the experience of Aalto’s works also is envisioned. Fulfills History/Theory requirement. Credit 3 units.

**Arch 527H. The Architecture and Urban Design of Aldo van Eyck**

A graduate seminar undertaking a systematic examination of the architecture and urban design of Aldo van Eyck (1918–1999), one of the most important and influential of the second generation of Modern architects. Van Eyck, through his work and writings, both criticized and effectively redirected mid-century Modernism, which had become an international style, universally applied without respect to history, human nature, context, climate, culture, and building traditions. In place of this, Van Eyck both articulated and practiced a humane, holistic, historically informed, and contextually sensitive version of Modern architecture and urbanism. He achieved this by regrounding Modern architecture in the accomplishments of early Modernism in all the arts; by reconnecting Modern architecture to the spatial history of non-Western cultures; and by radically redefining the progress-dominated and technologically determined intentions of Modern architecture—most often summarized as “space and time”—in the entirely humanist, localized and experiential terms of “place and occasion.” Introductory lectures by the professor will present general conceptions and perceptions essential to understanding Van Eyck’s works and writings. Students will individually research selected works of architecture and urban design, preparing both in-class presentation and summary research paper. This fulfills the History/Theory elective requirement. Credit 3 units.

**Arch 527J. The Architecture of Carlo Scarpa**

A course examining the major works of the Italian architect Carlo Scarpa (1906–1978). Scarpa was a unique figure among second-generation Modern architects, being at once deeply embedded in the archaic and anachronistic culture of Venice, and at the same time transforming this place by weaving the most Modern of spatial conceptions into its material fabric. This course will focus on Carlo Scarpa’s redefinition of the concepts of renovation and preservation, and his reinterpretation of Modern architecture as constituting an integrated part of its historical place and culture; Scarpa’s re-engagement of the traditional building methods and materials of the Veneto, reviving lost arts as well as introducing new structures, constructions, and materials into historic contexts; Scarpa’s deployment of the articulate detail as a fundamental ordering idea; and Scarpa’s engagement of Modern culture, including the integration within his works of concepts drawn from Modern painting and sculpture. Architectural works covered in this

course include the Brion Cemetery, the Castelvecchio, the Querini Stampalia Gallery, the Olivetti Showroom, the Banco Popolare di Verona, the Canova Plaster Gallery, among others, and will include his many interior renovations, his exhibition designs, and his glass designs for Venini. The class will consist of lectures by professor and in-class presentations by students. Students will individually research and analyze selected works of architecture, preparing presentations and summary research paper. Credit 3 units.

**Arch 528M. Architectural Association, 1971–1990: Texts, Buildings and Drawings**  
Credit 3 units.

**Arch 537H. The Architecture and Urban Design of Aldo van Eyck**  
Credit 3 units.

**Arch 538A. Technology Transfer**

The course will explore design, manufacturing, and production strategies employed for the development of technology in industries typically outside of the architectural domain. The performance characteristics of these technologies will be considered as they relate to desired impact, technical theory, and process. The course will investigate the role of computation in design and production through an analysis of industry techniques related to Computer Modeling, Performance Analysis, CAD/CAM, Rapid Prototyping, and Robotics. The class will explore recent developments in the automotive, aerospace, and shipbuilding industries among others for this research. In addition to analysis, students will be asked to develop and critique postulations related to the appropriate engagement of these technologies, design methodologies, and production techniques in the “making” of architecture. Students will be asked to participate in discussions regarding their findings, write a report, and make a formal presentation of their work. Credit 3 units.

**Arch 544A. Acoustics and Lighting**

Acoustics will be covered with lectures, discussions, and case studies exploring the nature of sound as a design parameter on a nonmathematical basis along with a general survey of source material. Lighting will be analyzed as an architectural design tool. Semantics and methodology for the communication and realization of light design will be developed. Credit 3 units.

**Arch 546C. Climate and Light**

This course focuses on the principles of climate control and active and passive climate control systems for buildings. Lectures and projects are organized to follow the design process, with emphasis on the architectural implications of technological systems. Where possible, students’ design studio projects are used as the vehicle for class assignments. Climate and region are approached as a context for design. Principles of thermal comfort, regional design strategies, and bioclimatic design theory are covered. Systems for heating, cooling, and lighting are addressed holistically. Class exercises focus on schematic design strategies. Credit 3 units.

**Arch 552B. Site Planning**

Course work ranges in scale from the national landscape to the specific site and includes a broad investigation of the built landscape, from physical land-form and technical issues to case studies of typological and prototypical examples of site design. Credit 3 units.

**Arch 562D. Community Development I**

Not-for-profit organizations are a major force in the development of urban areas. These groups range from neighborhood-based Community Development Corporations (CDC) to the St. Louis Alliance of Community Organizations (SLACO) and other governmental and private funding agen-

cies and foundations. Housing, small business opportunities, job centers, transitional housing, neighborhood development, homeless shelters, and other types of projects are generally the concern of these corporations. It is the intent of this course to examine the role of not-for-profit corporations and the other players in the development of projects where not-for-profits played a significant role either as organizer, owner, or developer. Representatives of various organizations, governmental agencies, and foundations describing their institutional, legal, and ethical role in the projects will make presentations throughout the semester. The case studies of specific projects will be presented by teams at the end of the semester and a report will be filed as part of an archive on urban and community development. The question we will be asking is: how does community development occur using not-for-profit corporations? Open to juniors, seniors, and graduate students; however, Master of Urban Design students will be given preference. Fulfills Urban Issues elective requirement. Credit 3 units.

**Arch 564A. Urban Development Seminar**

Project-based research and discussions focus on the legal policy, social, and architectural issues affecting the redevelopment of St. Louis and suburban areas such as Darst Webbe, Clayton, Westminster Place, and prototypical redevelopment of public housing projects of Carr Square, Darst Webbe, and Vaughn into tenant ownership and market-rate housing neighborhoods. Topics include public policy issues affecting development, the availability and types of housing, transportation linkages, business, zoning issues, and social and historical precursors. Through interaction with community leaders, teams of students from each discipline prepare a design proposal for an actual problem in the St. Louis area. This seminar is an interdisciplinary effort taught by faculty members of Washington University College of Architecture and the Saint Louis University Schools of Law and Social Work and Department of Public Policy Studies. Prerequisite: 400 level and above. Limit eight students. Fulfills Urban Issues elective for M.Arch. degree. Credit 3 units.

**Arch 564F. Infrastructure, Monument, Utopia**

The work of the Tennessee Valley Authority (TVA) was one of the most significant and comprehensive design projects in the history of the United States. The agency’s purview included landscape, architecture, urban design, and engineering projects, and the scale of its work ranged from regional planning to doorknobs. The eroded, impoverished Tennessee Valley of the early 1930s was remade for a series of interrelated, forward-looking uses and as a series of ideal types. The TVA’s work became a kind of Utopian propaganda, choreographed and broadcast to inform the public about what planning and design could achieve. The first part of the course will examine the historical and ideological context of the TVA (the Great Depression and the New Deal) and the physical components of its design (dams, power plants, roads, new towns, and recreational landscapes). The second part of the course will investigate a series of projects that, like the TVA, proposed monumental visions for regions and landscapes. Credit 3 units.

**Arch 564G. The Fragmented City: Reconsidering Marginalized Urban Zones**

When considering the city, it is necessary to examine the fragmented identities and boundary conditions that lie dormant throughout the urban environment. This seminar will discuss issues regarding urban decline, revitalization, and the factors that have led to marginalized areas in the American city, with an emphasis on St. Louis. We will ask questions and look at how social factors, public and private policy, and the physical envi-

ronment have contributed in both positive and negative ways to the condition of these areas. Finally, we will attempt to draw conclusions as to how we as architects, planners, and citizens can respond to the issues brought forward. The seminar will be balanced between discussions surrounding required theoretical texts and actual study in the field. Students will select an area in the St. Louis region that they will study throughout the semester, each week through a slightly different lens in conjunction with the reading. Through these discussions and encounters, it is hoped that a clearer understanding of the actual problems that face these areas will emerge. Fulfills Urban Issues elective requirement. Credit 3 units.

**Arch 564H. Hybrid Landscapes: Ecology, Infrastructure, and Cultural Expression**  
*Same as EnSt 464.*

Almost all of the places we know are hybrid landscapes—they’ve been shaped by a combination of natural process and cultural intervention. These places take many forms, but in some way or another almost all of them express the tension between fluctuating ecological systems and human attempts to create stasis and predictability. This seminar will examine the ways in which landscapes have been manipulated at a large scale to permit inhabitation. We will look at case studies at a range of scales and over a cross-section of disciplines, including architecture, landscape architecture, urban design, and engineering. We will concentrate on examples that deal with infrastructure and urban form. One category for study will be the topographical history of cities where urban development transformed physical geography. Another category will include rural landscapes, both agricultural and rustic, that have been re-made for cultural ends. A third category will include landscapes that are defined by infrastructure, like rivers, canals, dams, and roads. We’ll study these hybrid landscapes over time in order to understand their evolution. We’ll consider them not only as built artifacts, but also as the products of social practice. We’ll also talk about their representation and their role in the development of cultural ideas. The course work will involve reading, research, and discussion. Each member of the seminar will produce a paper or project that relates a particular hybrid landscape to the themes that we discuss together. Fulfills Urban Issues elective requirement. Credit 3 units.

**Arch 564J. Sustainability in the Built Environment: Infrastructure, Landscapes and Buildings**

This seminar will investigate the contemporary debates and practices with respect to the design and development of sustainable cities, communities, and environments. With more than three-quarters of the world’s population living in cities by 2050 together with cities being the world’s largest consumer of resources, it will be the design of cities that frames the essential understanding and practice of sustainability. Consideration will be given to the indicators of sustainability, the ecological footprint, green infrastructure, environmental and regenerative design, smart growth, social equity, air and water quality, climate change, and sustainable energy and transportation practices as they relate to the development of cities. Credit 3 units.

**Arch 567. Primary Architectural Images**

Authentic architectural experiences arise from encounters with certain primary architectural situations rather than with visual elements of architectural composition or geometry. Primary architectural images—floor, roof, wall, door, window, hearth, stair, bed—consist of verb-like confrontations that create mental foci which structure our experiences of house and home. The seminar ex-

plores the essence of these images as expressed in buildings, paintings, cinema, and literature. Architectural imagery is investigated through the framework of phenomenology and depth psychology. Prerequisites: Arch 4282, 4283. Credit 3 units.

**Arch 567B. Convergences: Studies in Art and Architecture**

*Same as F20 ART 467B.*

This interdisciplinary course will examine the convergence of artistic and architectural ideas, techniques, and practices, through selected historical and contemporary studies. Emphases will range from the figure of the artist/architect (Michelangelo and Leonardo, for example, to Le Corbusier and Libeskind), to critical reflections (Vasari, Greenough, Serra) to boundary-crossing practices (Whiteread, Webster, Irwin, Lin, Judd, Miss) to collaborations and collaborative works (Ando/Kelly/Serra at the Pulitzer Foundation). The course will emphasize empathy and productive work across the artistic disciplines. Field trips to the Pulitzer Foundation for the Arts (St. Louis) and the Chinati Foundation (Marfa, Texas) are planned. Fulfills History/Theory elective requirement for the M.Arch. degree. Credit 3 units.

**Arch 569. Exhibit Design**

This seminar/workshop will develop, design, and produce an exhibit on Modern Architecture in St. Louis (1947–73). Students will be responsible for the research of primary materials, editing and documenting, designing, and mounting this exhibit in Givens Hall. The seminar will also include lectures and readings related to the history of contemporary exhibit design. Credit 3 units.

**Arch 575. Painting into Architecture: Shared Speculations on the Nature of Modern Space, 1900–Present**

*Same as F20 ART 575.*

A graduate seminar exploring the rich tradition within the Modernism since 1900, where shared concepts of space, order, and perception have been engaged in parallel developments in the pedagogy and practice of painting and architecture. The major part of the course will consist of the examination of these shared principles through their practical implications and applications, exemplified through a series of selected pairings of architects and painters, from the early Modern period and from contemporary practice. Three types of parallels between individual painters and architects are proposed to be found within the Modern tradition: parallels in practice, an actual relationship of contemporary equals; parallels across time, an actual albeit one-way relationship of chronologically distant practitioners; parallels of principle, a purely speculative relationship of contemporary equals on non-crossing paths. The course also will examine the pattern of shared principles through their critical engagement in the writings of Jose Ortega y Gasset, Sigfried Giedion, Colin Rowe, Robert Slutzky, and John Berger, among others, as well as in their educational deployment in selected schools of architecture around the world. Students will research and analyze two examples of practical implications and applications, and one example of critical engagement or educational deployment; prepare three in-class presentations, and provide summary documentation. Course open to students in architecture, art, and art history. This course fulfills the History/Theory elective requirement for M.Arch. students. Credit 3 units.

**Arch 580. Design Thinking: Research and Design Methods**

Covers the fundamentals of project planning, proposal writing, and alternative research and design methods. This course is a prerequisite for Design Project (Arch 616). Grade of B– or better required in preceding two studios. Credit 3 units.

**Arch 611. Architectural Design VII**

Prerequisite: Satisfactory completion of Arch 512. Credit 6 units.

**Arch 612. Architectural Design VIII**

Prerequisite: Satisfactory completion of Arch 611. Credit 6 units.

**Arch 616. Degree Project**

Independently initiated design and research projects based on Design Thinking (Arch 580) proposal to fulfill final requirements for degree award. Prerequisite: Design Thinking (Arch 580). Credit 6 units.

**Arch 623B. History of Urban Design**

Examines the history of urban design, with an emphasis on the period 1890 to the present. Major topics include the urbanism of the Spanish Laws of the Indies; the development of the row house and the urban square; the park, parkway, and suburban planning of Frederick Law Olmsted and others; the urban planning ideas of Camillo Sitte, Ebenezer Howard, Otto Wagner, Antonio Sant'Elia, Eric Mendelsohn, Tony Garnier, Le Corbusier, the Soviet urbanists and disurbanists, CIAM (Congrès Internationaux d'Architecture Moderne), Team 10, Aldo Rossi, Venturi and Scott-Brown, the Situationists, New Urbanism; and various other approaches to be determined. Credit 3 units.

**Arch 623C. Developing a Discipline: American Urban Design Education 1950–70**

Credit 3 units.

**Arch 623D. Urban Design Since 1935: Toward a Global Survey**

Although cities have been designed for many thousands of years, urban design as a discipline has only emerged in the past 70 years or so. While its emphases have varied, it has often included efforts to synthesize architecture with landscape architecture and urban planning and to find formal vocabularies considered appropriate to specifically urban conditions. Using the course syllabus and in consultation with the professor, students in this seminar will choose a city, region, or country and then present and write research reports on the development of urban design there. These individual studies will become part of an ongoing process to create a global survey of urban design practice and education. Fulfills History/Theory elective requirement. Fulfills Urban Issues elective requirement. Credit 3 units.

**Arch 626C. Urban Movement Nodes: Analysis and Documentation**

This course will examine and document several important mixed-use urban movement nodes in the Northeastern U.S. and in Chicago. These include Grand Central Station and Rockefeller Center in New York, the Penn Center in Philadelphia, Harvard Square Station in Cambridge, and the Illinois Center/Grant Park Complex in Chicago. In every case, we will examine their often-complicated interfaces between rail lines, pedestrian movement, and office, retail, and sometimes residential uses. Interfaces with auto access and parking also will be examined. After an introduction to the history of these complexes and their urban surroundings, the faculty and students then will travel to visit the sites. This trip also will include some studio visits to other architecture schools where similar issues are being addressed. On their return, students grouped in teams will use digital modeling techniques to make detailed 3-dimensional presentations for the remainder of the semester, possibly using video as well. These presentations will serve as the basis for discussions about the future of such complexes and their role in urban design. Prerequisite: Arch 326C or the permission of the professor. Credit 3 units.

**Arch 646. Professional Practice I**

Develops an awareness and understanding of ar-

chitectural practice including the relation of the profession to society as well as the organization, management and documentation of the process of providing professional services. Covers the areas of (1) project process and economics, (2) business practice and management, and (3) laws and regulations. Prerequisite: 500-level studio placement or above. Credit 3 units.

**Arch 647A. Advanced Professional Practice**

Advanced study of professional practice topics focusing particularly on firm management and project management. Firm-related topics will include starting a practice, financial management, marketing, staffing and risk management. Project-related topics will include fee negotiation, project structures and participants, scheduling, use of AIA contracts and management documents, and construction document systems. Prerequisite: Arch 646 Professional Practice I. Credit 3 units.

**Arch 648F. Project Design Realization: From Concept to Construction**

Advanced study of professional practice topics focusing particularly on project management, construction documents production, and construction phase services and responsibilities of the architect. Students will select a project they have produced previously in design studio and will create construction documents for this project. Likewise, the individual projects will be used to discuss project management processes and construction administration. This is not a technology course but rather focuses on concepts and systems used by the architectural profession to describe architectural designs for the purpose of bidding the project, and creating a legally binding document on behalf of architectural clients. Credit 3 units.

**Arch 651D. Defining Urban Design: Architects and Urban Form Since 1900**

Over the past century, architects have attempted to shape the form of cities in a variety of ways. Although today architects are often unable to reshape cities as they would like, this was not always the case in the past. Through lectures, field trips, discussions, and films, this course will examine some of the most important episodes in 20th-century urbanism, including the City Beautiful and Garden City movements; early modern efforts in housing and planning, such as those of CIAM, the International Congress of Modern Architecture; the work of the Tennessee Valley Authority; the era of massive urban change around the time of the Second World War; postwar re-planning efforts in various situations; the development of the discipline of urban design under Josep Lluís Sert at Harvard and elsewhere; the ideas and influence of Kevin Lynch; visionary projects of the 1960s; the work of the Congress for the New Urbanism; and the urban neo-avant garde urbanism of figures such as Rem Koolhaas, Zaha Hadid, and others. Required readings will include the writings of Daniel Burnham, Raymond Unwin, Catherine Bauer, Le Corbusier, Sert, Lynch, and others. Students will be required to participate in class discussions and write weekly reading summaries and a final research paper and presentation. Prerequisite: Architectural History I and II. Fulfills History/Theory elective requirement for M.Arch. students. Fulfills Urban Issues elective requirement for M.Arch. students. Credit 3 units.

**Arch 652H. Metropolitan Development: What's in a Plan?**

This course explores pluralist, pragmatic, and progressive planning strategies for American urbanism. It will provide students with an introduction to the design and planning of American cities in the context of this country's democratic tradition, its multicultural society, and the particular morphology of its urban areas. Contemporary American cities have urbanized in unprecedented and distinctive ways that suggest the creation of a

unique urban culture, despite the seeming globalization of urban trends or the apparent universalization of urban forms. Identifying the role design can play in this culture requires a lucid appraisal of the context in which metropolitan development takes place. Four study modules will introduce basic issues in planning law, real estate finance, urban economics, and environmental planning through lectures and research projects, as well the presentation of Metropolitan St. Louis development case studies by professional and political leaders. Credit 3 units.

#### **Arch 654D. Metropolitan Landscapes**

*Same as EnSt 455.*

The course will examine the landscapes that comprise the contemporary metropolis, from the rural outskirts to the inner core. We will examine the city as a product of natural and cultural influences, and we will work toward an understanding of the city as an ecological entity. Case studies will range in scale from the garden to the region. Required for MUD students. Fulfills Urban Issues elective. Credit 3 units.

#### **Arch 654F. The Philosophy of Place: Architecture and Urbanism**

This course will investigate architecture using the phenomenological method and approach in which architecture and a city is understood to have purpose and meaning relevant to the concept of dwelling in the contemporary condition. The discussion will engage the philosophical concepts of space and place, the relationship of body to place, and how architecture and cities utilize various concepts of space that give presence to place. Readings will include Heidegger, Bachelard, Foucault, Deleuze and Guattari, as well as various architectural theorists. Credit 3 units.

#### **Arch 656. Metropolitan Urbanism**

The seminar course will investigate the morphology and morphogenesis of the contemporary America metropolitan urban landscape. The investigation will attempt to define and understand the

changing pattern, form and use of the metropolitan transect from the central city to the rural fringe. The objective of the course is to understand the indeterminate complexity and richness of morphological layering and traces in the urban landscape as a basis for critical practice. Credit 3 units.

#### **Arch 664. Historic Preservation/Urban Design**

This class will explore the history and current practice of historic preservation in the United States and will relate them to local issues of contextual architecture, sustainable development, cultural tourism, and urban design. Emphasis will be placed on the practical knowledge needed to participate professionally in historic preservation: how to evaluate the associative and architectural significance of a property or district, how to provide legal protection and redevelopment incentives for historic resources, how to appropriately restore, rehabilitate, adapt, and add to historic buildings and how to incorporate historic preservation into the sometimes contentious framework of community planning. The course will focus on readings, student discussion, and case studies that draw extensively on real preservation situations in the region including trips to the innovative Cupples Warehouse and Bohemian Hill projects, the endangered Old North St. Louis neighborhood, and a charrette in the Central West End. Credit 3 units.

#### **Arch 711. Elements of Urban Design**

The first of a three-semester sequence of design studios for students in the Master of Urban Design program. Credit 6 units.

#### **Arch 713. Metropolitan Design Elements**

The second in a three-semester sequence of design studios for students in the Master of Urban Design program. Credit 6 units.

#### **Arch 714. Metropolitan Urban Design**

The third in a three-semester sequence of design studios for students in the Master of Urban Design program. This is a summer studio held in an urban location away from St. Louis. Credit 6 units.

## College of Art

**Jeff Pike, M.F.A.**

Dean

Jane Reuter Hitzeman and Herbert F. Hitzeman, Jr. Professor

### **A Professional Art College Within a University**

The College of Art offers you the opportunity to study art or design while taking both required and elective courses through other schools and divisions of the University. The College of Art, which has its own faculty and facilities, has been a degree-conferring division of Washington University since 1879.

As an undergraduate student at the College of Art, you have a wide variety of options from which to choose to meet your individual needs and to satisfy your interests. The Bachelor of Fine Arts (B.F.A.) curriculum has been designed around the philosophy that the study of art has no natural boundaries; all human experience—intellectual, technological, and social—can at some point become part of the purposes of an artist or designer. College of Art courses provide a structural base upon which you are able to build.

When you major in art at Washington University, you may choose among such areas of concentration as communication design, digital imaging and photography, fashion design, painting, printmaking/drawing, or sculpture.

Our diverse student body is composed of young people who have records of high achievement in both art and academic subjects. Most of our students are planning for professional careers; some head for more traditional careers; others invent new opportunities and directions. Because the College provides such a comprehensive learning environment, it is an excellent place for you to mature as an artist or designer.

### **Facilities**

The College of Art studios are in Bixby Hall, Earl E. and Myrtle E. Walker Hall, Steinberg Hall, and Lewis Center. Bixby Hall, located on the University's Danforth Campus, was built for the College of Art in 1926 through a generous gift of William K. Bixby. Walker Hall was completed in the summer of 2006 as part of the new Sam Fox School of Design & Visual Arts. The renovation of Steinberg Hall was completed in fall 2007. Lewis Center, housing the graduate studios, is located one mile from the Danforth Campus. Lewis Center offers 28,000 square feet of studio space.

Resources at the College of Art include the Whitaker Learning Laboratory, which has computers and software for graphics and design, as well as video equipment, and the Nancy Spirtas Kranzberg Studio for the Illustrated Book, located in Walker Hall.

## Undergraduate Programs

### Bachelor of Fine Arts

The Bachelor of Fine Arts curriculum consists of a concentration of studio art courses in two-year components, the introductory Core program and majors. In addition, courses in art history, literature, social science, and natural science or math are required and provide a well-rounded educational experience.

The first year includes a planned sequence of drawing and design courses taken in conjunction with academic requirements and electives. The second year continues with intermediate studio experiences, based not in media but on concepts and methods of visual organization. It is recommended that you also complete an art elective in your intended major. Once this Core curriculum is completed, you begin your major.

During your third and fourth years, you spend the majority of your time in your selected major, while continuing to complete both academic requirements and studio electives. Major areas of study are communication design, digital imaging and photography, fashion design, painting, printmaking/drawing, and sculpture.

### Core Program

The Core program of courses is central, not only as preparation for later study but also as a substantial educational experience in itself. The first-year Core program (12 units) consists of a specified group of required courses: two-dimensional design, three-dimensional design, and two semesters of drawing. The courses emphasize building awareness, competence, and confidence through the studio experience. Expressive growth, new skills, and analytical development are all by-products of this experience.

The second-year Core program (12 units) builds on the experience of the first. Courses are based on professionally significant concepts, not on media. They are designed to help you organize visual experience in a new way, offering growth through a combination of freedom and discipline.

For this course of study, you are able to select from a group of Core courses, taking two courses each semester. This "menu" approach gives you the opportunity to begin making choices that reflect your developing interests. You select your courses in consultation with a faculty adviser.

### The Major

During the third year, you may enter a major area of concentration and begin to apply the general art skills developed in the Core program.

During the third and fourth years, the major accounts for approximately one-half of the credit units earned each semester; the remainder are taken in the art and academic areas most appropriate to your professional goals and interests.

Students entering the communication design, digital imaging and photography, and fashion design majors are required to purchase a specified computer and software.

The computer and software are purchased through the College of Art to yield the greatest possible savings to the student through educational discounts and bulk purchasing. The computer package for each major varies.

Computers for digital imaging and photography and communication design majors will be purchased during the summer and will be billed on the fall tuition statement. Computers for fashion design will be purchased in the fall and billed on the spring tuition statement. Charges are assessed according to the course registration on June 15 (fall) and November 25 (spring). If you have not registered for a major by these deadlines, you are responsible for any computer and software price increases, and you run the risk of not having a computer available at the start of classes. In the event that you decide you do not wish to remain in one of these majors, payment for the computer remains your responsibility.

### The Split Major

If you have a grade point average of 3.0 ("B") or better, you may pursue two majors within the College of Art, such as one in painting and one in printmaking/drawing. To do so, you must have permission of the associate dean of students (Bixby Hall, Room 1), and you must consult with your major faculty adviser. Although the split major is a rigorous program, it does not require additional credit units for graduation.

### Art Electives

Art electives, available in all the major areas, introduce you to the materials, techniques, and aesthetic issues of particular disciplines. First- through fourth-year students are enrolled in the same elective courses, each working at different levels.

If you are enrolled in the Core program, you should sample a number of electives before choosing your major; you should take at least one elective course from the area of your intended major. If you are an advanced student, art electives offer you the opportunity to explore areas outside your major and to gain experiences that complement and expand your expertise.

A minimum of 15 units of art electives, of which 9 must be in areas other than your major, is required for the B.F.A. degree.

### Combined (Dual) Degree

Students may pursue a second bachelor's degree from another division within the University. To do this, the student must satisfactorily complete all of the requirements for both degrees.

### The Second Major

As an art student, you may earn a second major in the College of Arts & Sciences, the Olin Business School, or the School of Engineering & Applied Science (computer science) while completing the requirements for the B.F.A. degree. If you choose to take advantage of this option, you will graduate with a B.F.A. degree with two majors—one in art and one in another school.

You must successfully complete all of the

degree requirements for the B.F.A. and all of the requirements for the second major. Unlike a combined degree program, you do not need to complete the distribution requirements necessary for a degree in the College of Arts & Sciences, the Olin Business School, or the School of Engineering & Applied Science (computer science).

The second major option can be completed within four years if careful planning begins during the first year. If you are interested in this option, you should consult with the associate dean of students in the College of Art.

### Art Education

If you wish to teach art at the elementary and secondary levels, you may obtain Missouri state certification by taking additional credit units of required education courses offered by the University's Department of Education in the College of Arts & Sciences. These courses may be taken as academic electives within the B.F.A. program.

In addition to course work in education, prospective art teachers must complete specific courses in general education (communications, humanities, mathematics, natural sciences, and social sciences). For information on general education requirements, you should consult with the associate dean of students (Bixby Hall, Room 1) or the Department of Education (McMillan Hall, Room 215). Missouri state certification normally takes an additional semester of study.

Application to enroll in the teacher education program is made through the Department of Education and should be done no later than the beginning of the sophomore year. Part of the application process involves successfully passing College Base, an achievement test focused on general education content. (This test is periodically given on the Washington University campus.) Acceptable scores on the SAT or the ACT also must be submitted. Interested students may also apply for admission to the Master of Education degree program offered by the Education Department.

### Bachelor of Fine Arts Degree Requirements

To receive the Bachelor of Fine Arts degree, you must meet the requirements of the College of Art and take academic courses with other undergraduates. Work in art can be combined with studies in architecture, business, humanities, natural and social sciences, and the other arts. You may take these courses for educational and intellectual enrichment or in direct correlation with your primary interests.

The specified number of credit units in courses in the areas listed below are required for the B.F.A.\*

*Art History* (15 units): Two one-semester

\* Specific courses that meet these requirements are listed in the College of Arts & Sciences section, pages 38 through 272.

introductory courses (Art-Arch 112E, 211) and three additional courses (or related courses with permission of the associate dean of students).

*Writing* (3 units): Writing I (C+ or better) is required in the first year.

*Literature* (6 units): Courses in English literature, comparative literature, classics, or literature courses in translation in the language departments.

*Natural Sciences or Mathematics* (6 units): Courses in biology, chemistry, earth and planetary sciences, physics, and mathematics.

*Social Sciences or Philosophy* (6 units): Courses in anthropology, economics, history, political science, psychology, philosophy, and women, gender and sexuality studies.

*Academic Electives* (9 units): Three additional electives chosen from any of the academic areas listed above including art history and foreign language studies.

### Bachelor of Fine Arts

<i>Academic Requirements</i>	<i>Units</i>
Writing I .....	3
Literature .....	6
Natural sciences or mathematics .....	6
Social sciences or philosophy .....	6
Academic electives .....	9
	30

### Art History Requirements

Art-Arch 112E and 211 .....	6
Art history electives .....	9
	15

### Studio Art Requirements

Core program—first year .....	12
Core program—second year .....	12
(Critical Frameworks required)	
Major—third year .....	16
Major—fourth year .....	20
Art electives .....	15
	75

### Additional Elective Requirements

Art and/or academic electives .....	8
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*Total Credit Units Required* .....128

### The Minor in Art Requirements

If you are in an undergraduate degree program at Washington University, you may pursue a minor in art from the College of Art. You must consult with the associate dean of students or the assistant dean/Registrar (Bixby Hall, Room 1). The requirements for all art minors are:

#### Art (15 units)

- Two selected from the following courses:
  - Drawing (F10 ART 101 and 102)†
  - 2-Dimensional Design (F10 ART 105 or 106)
  - 3-Dimensional Design (F10 ART 107 or 108)
- Minors may elect to take additional F10 ART 100-200 level or any F20 ART course as part of the elective requirement

#### Book Arts (15 units)

Introduction to Book Binding  
Introduction to Letterpress Printing  
Typography and Letterform: The Design

of Language  
History of Communication Design and/or Illustrated Entertainment: Pictorial Graphic Culture from Early Printing to Television  
Urban Books: Imag(en)ing St. Louis  
**Communication Design** (15 units)  
Communication Design I is required)  
Four selected from the following courses:  
2-Dimensional Design (F10 Art 105 or 106)  
Communication Design II  
Sound Design  
History of Communication Design  
Typography and Letterform: The Design of Language  
Special Topics in Communication Design: Communication Design and Business  
Basic Illustration  
Interactivity and Web Design

#### Digital Imaging and Photography (15 units)

Photography I  
Photography II  
History of Photography  
Two selected from the following courses:  
Digital Imaging  
Kinetic Image  
Photography III  
Non-silver Photography  
Advanced Photography Seminar  
Photography in Italy

#### Fashion Design (15 units)

2-Dimensional Design (F10 105 or 106)  
3-Dimensional Design (F10 107 or 108)  
2-Dimensional Fashion Design  
3-Dimensional Fashion Design  
Fashion: Textile Design

#### Painting (15 units)

Five selected from the following:  
Drawing (F10 ART 101)  
Color Systems  
Painting  
Painting II  
Intensive Intermediate Painting  
Special Topics in Painting  
(Color Systems may be waived in favor of a second drawing course)

#### Printmaking (15 units)

Five selected from the following:  
Drawing (F10 ART 101)  
Printmaking  
Printmaking (different course number than above)  
Printmaking: Themed and Boxed  
Special topics in Printmaking  
Independent Study with Major Faculty

#### Sculpture (15 units)

3-Dimensional Design (F10 Art 107 or 108) is required  
Independent study with major faculty is required.  
Three selected from the following:  
Dimension Studies  
Durational Systems  
Sculpture: Blacksmithing

Sculpture: Foundry  
Special Topics in Sculpture

Minors may elect to take Special Topics classes or additional first-year Core courses as part of the elective requirement.

Students earning a minor in art may transfer only one non-Washington University course to fulfill a minor requirement with pre-approval from the associate dean of students. Architecture majors may transfer only one (either drawing or design) Washington University architecture course to fulfill an art minor requirement.

Students earning a minor must take all art courses for credit. Only F10 or F20 courses may count for the minor.

## Academic Regulations

### Grades

In the College of Art, one semester unit of credit is assigned for every two hours of work completed in class and one hour of work completed outside of class per week for one semester. A grade point is a measure of quality assigned to units according to the following system:

<i>Grade Unit</i>	<i>Degree</i>	<i>Grade Points Per Credit</i>
<b>A+</b> superior	yes	4.0
<b>A</b> superior	yes	4.0
<b>A-</b> superior	yes	3.7
<b>B+</b> good	yes	3.3
<b>B</b> good	yes	3.0
<b>B-</b> good	yes	2.7
<b>C+</b> average	yes	2.3
<b>C</b> average	yes	2.0
<b>C-</b> average	yes	1.7
<b>D+</b> unsatisfactory	yes	1.3
<b>D</b> unsatisfactory	yes	1.0
<b>D-</b> unsatisfactory	yes	.7
<b>F</b> failing	no	.0
<b>I</b> course work incomplete	no	.0
<b>X</b> examination not taken	no	.0
<b>N</b> no grade reported	no	.0
<b>P</b> pass (P/F option)	yes	.0
<b>F</b> fail (P/F option)	no	.0
<b>L</b> successful audit	no	.0
<b>Z</b> unsuccessful audit	no	.0
<b>W</b> withdrawal	—	.0
<b>R</b> repeat	—	—

Grades of I, X, and N will become grades of F if the deficiency is not made up within the next two semesters of residence. For a course repeated, students earn credit and grade points based on the second grade received.

### Incomplete Courses

If, following the last day for withdrawal from courses, you experience medical or personal problems that make satisfactory completion of course work unlikely, you may request a grade of I (incomplete) from one or more instructors and should take the following steps:

- Discuss the request with the instructor before the final critique or portfolio review.
- With the instructor's consent, complete an Incomplete Grade Petition signed by both

† By taking two semesters of drawing (F10 101 and F10 102), it is possible to complete this requirement without the courses in design.

the instructor and the student.

3. Return the signed petition to the associate dean of students for final approval.

### Grade Point Average

Your undergraduate grade point average is determined by dividing the number of grade points earned by the number of semester units for which grades of A, B, C, D, or F have been recorded. Grades of P and F received for courses taken on the pass/fail option are not figured into the grade point average. The letter grade D+, D, or D- received by a senior in the major will not be counted toward degree requirements. A maximum of 8 units of grade D+, D, or D- received by a junior in the major may be counted toward degree requirements.

### Pass/Fail Grading

You may take one non-art course per semester on a pass/fail basis (exclusive of courses that must be taken pass/fail). Any additional courses taken pass/fail in a given semester will not be counted toward the degree. All art courses (those courses with an F10 or F20 department number) must be taken for credit. Writing I (L13 100) must also be taken for credit.

### Sophomore Review

If you have deficiencies in Core courses at the end of the sophomore year, you are required to submit a portfolio of work to a faculty committee that decides eligibility for study in the major, as determined by:

1. The quality of work in relation to standards of advanced training.
2. Your demonstrated ability to be responsible for individual progress.

If you are not approved for advancement to the major, you may be permitted to continue in Core courses and submit work again to the committee at a later time.

### Major Declaration and Transfer

You declare an art major simply by registering for one using the University's online registration system (WebSTAC). Once you have selected and registered for a major in the College of Art, you must obtain written permission to change to another major within the College. Students requesting a transfer of major must be in good academic standing. Major Transfer Request forms are available in Bixby Hall, Room 1, and must be filed before the drop deadline of the semester in which they wish to transfer. Credit transfers between majors are at the discretion of the accepting major faculty.

### Academic Probation and Suspension

A student whose semester grade point average is below 2.0 (equal to the grade of C) or has earned fewer than 12 credit hours toward the degree, will be placed on academic probation. If, after the following semester, the semester grade point average is still below 2.0, or if the student has earned fewer than 12 credit hours toward the degree, the student may be ineligible for normal advancement or may be suspended. While the College desires to give all students the opportu-

nity to prove themselves, it is not in the best interest of either the students or the College to permit students to continue indefinitely in educational programs in which they are not producing satisfactory results.

### Leave of Absence

You may request a leave of absence from the College for one semester at a time, up to one year. If this is granted, you may re-enroll at the end of that time without going through further admission or readmission procedures. A "Request for Leave of Absence" form, available in Bixby Hall, Room 1, must be completed before a leave of absence will be granted. In the case of a medical leave of absence, a letter of clearance is required from the director of Student Health Services before a student will be permitted to re-enroll.

### Transfer Credit

Students wishing to transfer credit for course work completed at another institution should bring a full catalog description of the course(s) to the associate dean of students for pre-approval. Upon receipt of an official transcript indicating a grade of "C" or better, courses will be considered for transfer. Grades for transfer courses will not appear on the student's Washington University record and will not figure into the student's grade point average. College courses taken to earn credit for high school graduation requirements will not be considered for transfer.

### Internships

Students may elect to do an internship as part of their B.F.A. degree. An internship is a structured and supervised professional experience related to a major area of study within the College. Credits vary from one to three per internship—no more than six credits may be considered as part of the art elective credits required for the degree. In order to receive credit, students must have on file an approved "Learning Contract" before beginning and an "Internship Evaluation" upon completion of the internship. Forms, guidelines, and requirements are available in Bixby Hall, Room 1.

### Study Abroad

Students in the College of Art may take advantage of various overseas study programs available through the College. Arrangements should be made by the end of the semester prior to departure. The College of Art offers both summer and semester programs in Florence, Italy. Summer courses are open to all students. First-year students may apply to spend the second semester of their sophomore year there.

To participate in other programs during the regular academic year, you must have a grade point average of 3.0 or better and be granted a leave of absence from the College. All overseas study programs must be approved by the associate dean of students. The College accepts earned grades and credits only from approved programs. You are urged to enroll in a program that offers an equivalent of your studio experience.

If as a third- or fourth-year student, you choose to participate in a program that does not offer an equivalent major experience, a written proposal describing the program and how the necessary credits will be accepted must be approved in advance by the faculty in the major and the associate dean of students. A portfolio review by the faculty in the major to confirm compliance with the proposal is required after you return. Full credit for the major may not be awarded if the terms of the proposal are not met.

### Retention of Student Work

The College reserves the right to hold your work(s) for exhibition purposes and holds reproduction rights of any work(s) executed in fulfillment of course requirements.

### Academic Honors

**Dean's List:** In recognition of exceptional scholarship, first-year, sophomore, junior, and senior art students who have completed at least 12 credit hours (excludes courses taken P/F or Audit) with a semester grade point average of 3.5 or higher during a semester will be cited on the Dean's List. **Senior Honors:** As an undergraduate art student, you may be named an Eliot Scholar if your academic performance has been outstanding, with a cumulative grade point average of 3.5 or higher through the final semester.

You may be considered for the Bachelor of Fine Arts degree cum laude, magna cum laude, or summa cum laude as determined by the dean.

### Academic Scholarships

The College of Art offers one full-tuition and up to five partial-tuition scholarships each year solely on the basis of merit. Applicants for this award may also qualify for scholarship aid based on need and will be considered for this as well. The full-tuition Conway or Proetz Scholarship is awarded to an entering first-year student whose artistic and academic potential is judged outstanding by a faculty selection committee. The scholarship is supported by two endowed funds. The Fred Conway Scholarship was established in memory of a distinguished professor of painting in the College of Art. The Arthur and Esther Proetz Scholarship was established to honor the commitment and dedication to the arts of these two individuals.

Competition is national in scope, with finalists invited each year to visit the College of Art at the College's expense. At this time, one student is chosen to receive the full-tuition scholarship, and the other finalists are awarded partial scholarships. These are renewable for each year of undergraduate study, assuming continued academic and artistic excellence.

To be eligible, an applicant must be a high school senior who meets the following criteria:

1. Ranks high in the senior class.
2. Has SAT or ACT scores in the upper range.

To enter the competition, the applicant

must follow the usual application procedures by completing a Washington University freshman application and sending a slide or digital portfolio of art work. All materials must be sent to the following address:

Office of Undergraduate Admissions  
Washington University in St. Louis  
Campus Box 1089  
One Brookings Drive  
St. Louis, Missouri 63130-4899

## Scholarships, Prizes, and Awards

The Scholars in Art Program provides named scholarship funds that have been donated to the University by individuals or companies specifically for this purpose. Selection is based on financial need and academic achievement. There is no application process. The total amount of the student's financial assistance package does not change.

### Endowed Scholarships

**The Thomas R. Blow Scholarship.** Sponsored by the Thomas R. Blow Estate.

**The Barbara Paton Bridgewater Scholarship.** Sponsored by the Bridgewater Family.

**The Clara Bromeyer Memorial Scholarship.** Sponsored by the Bertha Schuman Estate.

**The Richard Brunell Scholarship.** Established in tribute to Professor Richard Brunell.

**The Fred Conway Art Scholarship.** Sponsored by Mr. and Mrs. Lester Crancer.

**The de Compiegne-Wallace Foundation Scholarship.** Sponsored by the de Compiegne-Wallace Foundation.

**The Mildred Suliburk Dennis Memorial Scholarship.** Sponsored by bequest from Mildred Dennis.

**The Helen Faibish Memorial Scholarship.** Sponsored by Dr. and Mrs. George Faibish.

**The Natalie and Henry Freund Family Art Scholarship.** Sponsored by the Freund Family.

**The Laura and William Jens Scholarships.** Sponsored by the Ella Jens Boeschstein Estate.

**The Kerry S. Kuehner Scholarship.** Sponsored in Memory of Kerry Kuehner GB87 by her parents, Howard Kuehner BU40 and Hortense Kuehner LA40.

**The E. Desmond Lee Scholarship for Community Collaboration.** Sponsored by E. Desmond Lee.

**The Louise Roblee McCarthy Scholarship.** Sponsored by the Joseph H. and Flora A. Roblee Foundation.

**The McMillan Scholarship.** Sponsored by the Eliza McMillan Estate.

**The Milliken Scholarship.** Sponsored by the Emily Milliken Estate.

**The Tanasko Milovich Scholarship.**

**The Dr. Robert A. and Mrs. Rae W. Nussbaum Scholarship.** Sponsored by Carol Kantor.

**The Ernestine Betsberg and Arthur Osver Scholarship.**

**The Proetz Scholarship.** Sponsored by the Esther S. Proetz Estate.

**The Ruth Kelso Renfrow Art Club Scholarship.** Represented by Ms. Judith Ruchte.

**The Julia and Charlotte Secor Endowed Scholarship.** Sponsored by the Bessie Secor Estate.

**The H.B. and M.B. Simon Scholarship.** Sponsored by the Mildred Simon Estate.

**The Siroky Scholarship.** Sponsored by the Lumir R. Siroky Estate.

**The Sorger Scholarship.**

**The Jacqueline Ferrer Stern Scholarship.** Sponsored by Jackie Gutman.

**The Mary Louise Stone Scholarship.** Sponsored by Donald Stone in memory of his wife, Mary Louise Stone, FA61.

**The Yolanda Taylor Scholarship.** Sponsored by a bequest from Yolanda Taylor.

**The K. Virginia Toedtmann Art Scholarship.** Sponsored by a bequest from K. Virginia Toedtmann.

**The Eleanor Depree and Titus van Haitsma Scholarship.** Sponsored by bequest from Eleanor Depree and Dr. Titus van Haitsma.

**The Jeffrey Frank Wacks Scholarship.** Sponsored by Edward, Linda, Melissa, and Greg Wacks.

**The Henrietta Wahlert Scholarship.** Sponsored by the Henrietta Wahlert Estate.

**The Earl E. and Myrtle E. Walker Art Scholarship Fund.** Sponsored by Earl E. and Myrtle E. Walker.

**The Herb and Diane Weitman Scholarship.** Sponsored by Herb and Diane Weitman.

**The Edmund H. Wuerpel Memorial Scholarship.** Sponsored by the Dr. Edward L. and Mrs. Lois Wuerpel Bowles Estate.

**The Eugene and Tita Zeffren Foundation Scholarship.** Sponsored by Mr. and Mrs. Eugene Zeffren.

### Annual Scholarships

**The Allen Scholarship.** Sponsored by Marge and Allen Fleener.

**The Judith and Adam Aronson Scholarship.** Sponsored by Judy and Adam Aronson.

**The Dorothy Waldeck Bachar Scholarship.** Sponsored by Charlotte Waldeck Moro and Joseph Moro.

**The Richard and Charline Baizer Scholarship.** Sponsored by Charline Baizer.

**The Roberta and David Binder Scholarship.** Sponsored by Roberta and David Binder.

**The Elizabeth Bland Memorial Scholarship.** Sponsored by Charles Bland and the Elizabeth Bland Estate.

**The Mary Elliott Brandin Scholarship.** Sponsored by Pitty Brandin.

**The Nancee Siegel Dickens Scholarship for Graduate Studies.** Sponsored by Nancee Siegel Dickens.

**The Paul Dillinger Scholarship.** Sponsored by Paul Dillinger.

**The Yvette and John Dubinsky Scholarships.** Sponsored by Yvette Drury Dubinsky and John Dubinsky.

**The John D. Ezell Scholarship.** Sponsored by John D. Ezell.

**The Marilyn and Sam Fox Scholarship.** Sponsored by Marilyn and Sam Fox.

**The Ann Fertig Freedman Scholarship.** Sponsored by Ann Fertig Freedman.

**The Natalie E. Freund Scholarship.** Sponsored by Natalie E. Freund.

**The Alice Goodman Scholarship.** Sponsored by Mrs. Stanley Goodman.

**The Hamblett C. Grigg Memorial Scholarship.** Sponsored by Mrs. Margaret Blanke Grigg.

**The Marcia Jean Hart Scholarship.** Sponsored by Marcia Jean Hart.

**The Jane Reuter Hitzeman Scholarship.** Sponsored by Jane and Herbert Hitzeman.

**The Gene Hoefel Scholarship.** Sponsored by Dexter Fedor in honor of Gene Hoefel.

**The Kellwood Scholarship.** Sponsored by the Kellwood Company.

**The Liberman Scholarship.** Sponsored by Lee and Ann Liberman.

**The Anne Koelle McCann Scholarship.** Sponsored by Anne and Joseph McCann.

**The Charles E. Monfort, Jr. Scholarship.** Sponsored by Barbara McDonnell in memory of her father.

**The Kristi Nimmo and Paul Pulver Scholarship.** Sponsored by Kristi Nimmo and Paul Pulver.

**The Kristin Anderson Redington Scholarship.** Sponsored by Dr. Charles B. Anderson in honor of his daughter.

**The Florence Roschke Memorial Scholarship.** Sponsored by Margie Reisner in honor of her sister.

**The Marguerite Roschke Reisner Scholarship.** Sponsored by Duke and Margie Reisner.

**The Gnau and Schapp Family Scholarship.** Sponsored by Betsy and Ronald Schapp.

**The Sheldon and Lucy Smith Scholarship.** Sponsored by Sheldon and Lucy Silverberg Smith.

**The James Sterritt Sculpture Scholarship.**

**The Paula Varsalona Ltd. Scholarship.** Sponsored by Paula Varsalona.

**The Joseph A. Marino and Paula Varsalona Scholarship.** Sponsored by Mr. and Mrs. Joseph A. Marino.

**The Nancy Field Wilson Scholarship.** Sponsored by Nancy Field Wilson.

**The Anne Winters Woollyhan Scholarship.** Sponsored by Susan Caine in memory of her mother.

Several awards are made each year to art students who are selected by the faculty. These awards include the following:

### Prizes

**The Eda L. and Clarence C. Cushing Memorial Prize in Painting**

**The Anne Fuller Dillon Prize in Graphic Communications**

**The Hazel H. Huntsinger Memorial Prize in Painting**

**The John J. and Marjory B. Levin Photography Prize**

**The Jayne Ball Rousseau Memorial Prize in Graphic Communications**

**The Helen Faibish Prize in Sculpture**

**The Siroky Prize in Ceramics**

**The Herb Weitman Prize in Photography**

**The Caroline Risque Janis Prize in Sculpture**

**The Peter Marcus Prize in Printmaking**

**Awards**

*The Grace M. Bell Art Award*  
*The Thomas R. Blow Award*  
*The Belle Cramer Award in Printmaking*  
*The William Fett Drawing Award*  
*The Mary Cowan Harford Award in Watercolor*  
*The Graduate School of Art Award and Bill Kohn Travel Scholarship*  
*The John T. Milliken Foreign Travel Award*  
*The Kellwood Foundation Award in Fashion Design*  
*The Morris M. Horwitz Award in Photography*  
*The Marsha Hertzman Blasingame Award in Printmaking*  
*The Charles Harmon Memorial Award in Graphic Design*  
*The Edmund H. Wuerpel Award in Printmaking*  
*The Tanasko Milovich Award in Painting*  
*The Julia Mary and Charlotte Elizabeth Secor Award*  
*The Irving L. Sorger Award*

**Faculty****Endowed Professors**

**Carmon Colangelo**  
 E. Desmond Lee Professor for Collaboration in the Arts  
 M.F.A., Louisiana State University

**Joan Hall**

Kenneth E. Hudson Professor of Art  
 M.F.A., University of Nebraska

**Ronald A. Leax**

Halsey C. Ives Professor of Art  
 M.F.A., Cranbrook Academy of Art

**Patricia Olynyk**

Florence and Frank Bush Professor  
 M.F.A., California College of the Arts

**Jeff Pike**

Jane Reuter Hitzeman and Herbert F. Hitzeman, Jr. Professor  
 M.F.A., Syracuse University

**Professors****Michael Byron**

M.F.A., Nova Scotia College of Art and Design

**D. B. Dowd**

M.F.A., University of Nebraska

**Ron Fondaw**

M.F.A., University of Illinois–Urbana

**Stan J. Strembicki**

M.F.A., California Institute of the Arts

**Associate Professors****Sarah Birdsall**

B.F.A., University of Michigan

**Ken Botnick**

B.B.S., University of Wisconsin

**Lisa Schneider Bulawsky**

M.F.A., University of Kansas

**Heather Corcoran**

M.F.A., Yale University School of Art

**Richard Krueger**

M.F.A., University of Notre Dame

**Franklin Oros**

B.S., Western Michigan University

**Jleigh Singleton**

M.S., Kansas State University

**Robin VerHage-Abrams**

M.F.A., University of Michigan

**Denise D. Ward-Brown**

M.F.A., Howard University

**Cheryl Wassenaar**

M.F.A., University of Cincinnati

**Assistant Professors****James Adams**

M.F.A., Pennsylvania Academy of Fine Arts

**Arny Nadler**

M.F.A., Cranbrook Academy of Art

**Visiting Assistant Professor****Lindsey Stouffer**

M.F.A. Washington University

**Ken Wood****Senior Lecturers****Jana Harper**

M.F.A., Arizona State University

**Tom Huck**

M.F.A., Washington University

**Jon Navy**

M.F.A., School of the Art Institute of Chicago

**Patrick C. Renschen**

M.F.A., University of Nebraska–Lincoln

**Jennifer Colten Schmidt**

M.F.A., Massachusetts College of Art

**Linda Solovic**

B.F.A., Washington University

**John Sarra**

M.F.A., Washington University

**Lecturers****Laura Beard Aeling**

M.F.A., University of Washington

**Mary Borgman**

M.F.A., Fontbonne University

**Lou Ann Card**

Certificate, Washington University

**Traci Moore Clay**

B.S., University of Kansas

**Robert Gero**

Ph.D., New School for Social Research

M.F.A., California State University

M.A., California State University

**John Hendrix**

M.F.A., School of Visual Art

**Ben Kaplan**

B.F.A., New York University

**Noah Kirby**

M.F.A., Washington University

**Belinda Lee**

M.F.A., Southern Illinois University–Edwardsville

**Michele Owens**

M.F.A., Washington University

**Julia Randall**

M.F.A., Rutgers University

**Tom Reed**

M.F.A., University of Iowa

**Eric Troffkin**

M.F.A., Cranbrook Academy of Art

**Enrique von Rohr**

B.F.A., Washington University

**Regan Wheat**

M.F.A., Cranbrook Academy of Art

**Mary Jane Woehler**

B.S., Southern Illinois University–Carbondale

**Professors Emeriti****Edward Boccia****William Fett****Gene R. Hoefel****Peter Marcus****James McGarrell****Hylarie M. McMahon****William Quinn****Barry Schactman****W. Patrick Schuchard****Heikki Seppä****Robert C. Smith****Stanley Tasker****Undergraduate Courses**

F10 Art: Art Core and major studio courses

F20 Art: Art elective studio courses

Credit units apply to each semester of the course. Material fees may be required.

**First-Year Core****F10 Art 101. Drawing**

An introductory course that teaches the student to recognize and manipulate fundamental elements of composition, line, form, space, and modeling. Emphasis is placed on working accurately from observation, with an introduction to other methodologies. Students work in a variety of media. Demonstrations and illustrated lectures supplement studio sessions and outside projects. Credit 3 units.

**F10 Art 102. Drawing**

An introductory course that teaches the student to recognize and manipulate fundamental elements of line, tone, texture, volume, and plane with relation to representational drawing. Students work in a wide variety of media and techniques (charcoal, pencil, pastels, and wet media) from the model, still life, and environment. Demonstrations and illustrated lectures supplement studio sessions and outside projects. Credit 3 units.

**F10 Art 105-106. 2-D Design**

An introduction to basic design principles and their application on a 2-dimensional surface. Investigation of the functions and properties of the formal elements and their organization through the use of relational schemes. Includes an introduction to color and basic color theory. Problems stress systematic approach to visual communication. Credit 3 units.

**F10 Art 107-108. 3-D Design**

An introduction to basic design principles and their application to 3-dimensional form and real space and time. The design vocabulary is broadened through exercises that deal with mass, volume, weight, gravity, and movement. Students learn to use hand and power tools. Credit 3 units.

## Second-Year Core

### F10 Art 201C. Drawing from Invention

This course will examine drawing as a thinking process. Using a variety of media, students will move from departure concept to completed artwork, investigating pictorial traditions, technical and conceptual frameworks along the way. This is an intensive workshop. Outside reading required as well as frequent visits to the museum. Credit 3 units.

### F10 Art 201E-202E. Characters and Pictures: A Drawing Course

What does a hero look like? In life, of course, heroes are identified by action—not appearance. But the world of pictures is governed by different rules. This class identifies different character types and examines their role in narration. Using a variety of media, students move from departure concept to completed artwork, investing pictorial traditions and other frameworks—both technical and conceptual—along the way. Importantly, they gain understanding of the pictured character—whether male or female, super hero, knave, mother, or vamp. Credit 3 units.

### F10 Art 201F-202F. Picturing Men

This course emphasizes the pictorial representation of men, as well as encouraging students to explore the historical through the contemporary visual representation of males in the context of their own pictorial exploration. Credit 3 units.

### F10 Art 201G-202G. Pictures and Themes: A Drawing Course

Great themes such as Creation, Temptation, *The Odyssey*, Oedipus, Faust, and Frankenstein are examined and committed to picture. By semester's end, students have completed a group of mixed-media drawings that demonstrate control over mark, text, and subtext. Credit 3 units.

### F10 Art 203B-204B. Anatomy/Figure Structure

A rigorous drawing course focusing on human anatomy (muscular and skeletal systems), various proportional systems, as well as bio/psycho/social/political conditions having influenced figural representations. Credit 3 units.

### F10 Art 209-210. Activist Art

This course examines and puts into practice art as activism. The course introduces the history of activist art primarily focusing on the past 15 years but also links propaganda in art from the Renaissance throughout Modernism and into Postmodernism. Credit 3 units.

### F10 Art 211A-212A. Introduction to Design Processes

Studio exercises in freehand drawing and 2-dimensional design. Drawings emphasize the rendering of simple forms, interior and exterior spaces. Graphic design exercises explore various principles of composition, abstraction, and organization. Credit 3 units.

### F10 Art 213-214. Outdoor Design Installation

In this class, students go through the experience of planning and executing an outdoor design installation to be located on campus. Groups of three to four students work together to find an appropriate site, conceive of an idea, propose the plan to the University, and construct the piece. The focus is the creative articulation of existing space. Issues such as working methodologies, idea generation, preparatory site exploration and documentation, model making, and formal presentation of skills are addressed. Credit 3 units.

### F10 Art 215-216. Collaborative Projects

This class begins by introducing students to the works by collaborative groups. Students work collaboratively on 2-dimensional images, site-specific installation, and actions or happenings. Students

also work collaboratively on research, proposal, and the development of a body of work. Credit 3 units.

### F10 Art 217-218. Century Landscape

The goal of this class is to concern ourselves with the serious multidisciplinary approach to observe, document, research and offer solutions to urban blight and neglected environments through appropriate verbal and visual structures. Credit 3 units.

### F10 Art 221-222. Culture/Commerce Systems

Marketing and prototyping of the functional/utilitarian object and possibly product design. Projects can be either real (executed for the public) or mock (for classroom purposes only). Open to 2- and 3-dimensional design or digital solutions. Credit 3 units.

### F10 Art 223-224. From Daumier to Crumb

This course focuses on social satire via comics, printmaking, political cartooning, broadsheets, and zines. Students create an individual spread in the anthology GUTZ, which consists of work produced during the course. The publication is then distributed via the Internet by the students. The work of artists such as Crumb, Posada, Daumier, Grosz, Coe, and Breugel are explored. Credit 3 units.

### F10 Art 225-226. Artist and Self

A course that investigates the self-portrait from both the studio/visual aspect as well as the psychodynamic. Through assignments, readings, and in-class discussions, students will examine the motivations and implications of the portrait from an internal as well as external descriptions. Credit 3 units.

### F10 Art 263A-264A. The Human Figure in Two Dimensions

This course investigates traditional drawing techniques using the human figure as a point of departure. Strong emphasis on mark-making and the discipline of seeing. Subsidiary consideration of human representation as a major thrust of artistic ambition in history and across cultures. Credit 3 units.

### F10 Art 263B-264B. The Human Figure in Three Dimensions

This class is a 3-D investigation in the use of the figure to make art. Classical materials and methods of observation and understanding the figure and its context are emphasized. Example: Clay, plaster, rubber, and various low-tech materials and processes are used to create sculptural works. Credit 3 units.

### F10 Art 265-266. Conceptual Methods in Drawing

Communication of conceptual content through the invention of systems of signification related to language structure. Equates drawing with the primary formation of concepts. Anthropological models, serial structures, symbolic languages, spatial systems. Credit 3 units.

### F10 Art 267A-268A. Pattern, Repetition, and Accumulation

The exploration of excessiveness with materials, images, and/or gestures. Students will investigate the relationships between such issues as part/whole, order/chaos, seen/secret, permanence/ephemerality, formalism/meaning. Studio and site-specific work is open to 2-, 3-, and 4-dimensional solutions. Credit 3 units.

### F10 Art 273A-274A. Durational Systems

Investigation of duration as a mode of artistic production. Explores time-based objects and events. Open to digital, 3-D, and 4-D solutions. Credit 3 units.

### F10 Art 275-276. Critical Frameworks in the Visual Arts

A lecture course addressing basic issues in modern and postmodern criticism presented in historical context. Lectures alternating with discussion. Credit 3 units.

### F10 Art 2784. Drawing from Florence: The Sketchbook

Artists, for centuries, have come to Florence to study its art, architecture, and cultural artifacts. This course is designed to help students locate themselves within the history of art and ideas that still resonate in the museums, churches, and streets of Florence. Students will draw, in a number of ways and mediums, as a way of paying homage to a social, cultural, and art historical lineage. The sketchbook will serve as a visual document of the experience of studying abroad and as a resource for future work. College of Art's Semester Abroad Program in Florence, Italy. Credit 3 units.

### F10 Art 2788. Visiting Faculty Workshops

The students will participate in month-long workshops with visiting faculty from the College of Art. This course provides the students with the opportunity to examine different artistic disciplines. The course will be modified to accommodate the student's experience while abroad. College of Art's Semester Abroad Program in Florence, Italy. Credit 3 units.

### F10 Art 279-280. Recognition, Construction, and the Found

In this course, students will juxtapose, combine, and edit found objects, imagery, and text to create 2- and 3-dimensional artwork. Historical precedents, such as assemblage, collage, and installation will be examined. Credit 3 units.

### F10 Art 281-282. Body and Context

This course investigates the figure and its potential in contemporary art practice. The figure is investigated as both present and implied. A variety of media is explored. Emphasis on 3-dimensional work. Credit 3 units.

### F10 Art 283-284. Typography and Letterform: The Design of Language

This class examines and utilizes the letterform as visual image, as symbol and in its conventional role as language. Students investigate the ubiquitous presence of the typographic form in our visual landscape and learn to use it as a compositional tool. They question the boundary between "reading" language and "reading" image by looking at historical examples and through their own studio practice. Variety of media and processes will be explored. Credit 3 units.

### F10 Art 285-286. Color Systems

A sustained experience in color that includes the study of optical, theoretical, and cultural issues. Credit 3 units.

### F10 Art 287-288. Material Systems

Investigates object making via materials and various processes to explore visual and physical metaphor. Credit 3 units.

### F10 Art 291-292. Core New Topic

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

## Third-Year Majors

### F10 Art 311-312. Painting

Advanced study in painting with individualized criticism, lectures, and seminars, leading toward the development of personal idioms. Credit 8 units.

**F10 Art 313A-314A. Sculpture**

Exploration of advanced concepts and techniques. Involvement with larger scale, environmental relationships, and architectural considerations. Processes and materials include construction in a large variety of materials, firing, plaster mold making, direct plaster work, wood, and stone carving, foundry, plastics laminations, soft sculpture, welding, soldering, brazing, metalwork. Credit 8 units.

**F10 Art 315A-316A. Printmaking/Drawing**

A comprehensive investigation of both traditional and experimental drawing and printmaking techniques. Students are encouraged to explore large-scale mixed-media processes with an emphasis on the development of individual images and marking styles. Students have facilities available in papermaking and printmaking with capabilities for computer and photographic techniques. Credit 8 units.

**F10 Art 317A-318A. Digital Imaging and Photography**

Refining methods, materials, and techniques of photography, as well as developing working knowledge of chemistry, film, and paper. Assignments challenge students' insights into their own portfolios of photographs as well as those of other photographers. Credit 8 units.

**F10 Art 323-324. Fashion Design**

Creative approach to fashion design, with flat pattern and draping skills used in the development of original sample garments. Construction techniques and industrial methods presented and applied to specific structured design problems. Students work with visiting designer-critics. Garments are reviewed by a professional jury in the spring semester and selected for the annual student fashion show. Credit 8 units.

**F10 Art 337A-338A. Communication Design**

This course provides a foundational experience in professional communication design education through a comprehensive investigation of word and image relationships. Introductory studies in typography, image creation and editing, sequential design, messaging, publication design, basic art direction, and motion studies. Emphasis placed on developing creative methodologies for communication projects. Exposure to visual culture history and contemporary visual culture. Exploration of traditional and digital media; coverage of major computer applications used in industry practice. Credit 8 units.

**F10 Art 350. Independent Study**

Designed for non-art students fulfilling art minor requirements. Students study with major faculty. Credit variable, maximum 3 units.

**Fourth-Year Majors****F10 Art 411-412. Painting**

Continuation of F10 Art 311-312. Advanced study in painting with individualized criticism, lectures, and seminars, leading toward the development of personal idioms. Credit 10 units.

**F10 Art 413A-414A. Sculpture**

Continuation of F10 Art 313A-314A. Exploration of advanced concepts and techniques. Involvement with larger scale, environmental relationships, and architectural considerations. Processes and materials include construction in a large variety of materials, firing, plaster mold making, direct plaster work, wood and stone carving, foundry, plastics laminations, soft sculpture, welding, soldering, brazing, metalwork. Credit 10 units.

**F10 Art 415A-416A. Printmaking/Drawing**

Continuation of F10 Art 315A-316A. A comprehensive investigation of both traditional and experimental drawing and printmaking techniques. Stu-

dents are encouraged to explore large-scale mixed-media processes with an emphasis on the development of individual images and marking styles. Students have facilities available in papermaking and printmaking with capabilities for computer and photographic techniques. Credit 10 units.

**F10 Art 417A-418A. Digital Imaging and Photography**

Continuation of F10 Art 317A-318A. Courses deal with the establishment of the student's personal vision and the presentation of that vision. Weekly critiques and in-class discussions are primary format, in conjunction with visiting artists and professionals. The class assists students in preparing their portfolios and provides the necessary support material to enter the post-academic environment. Credit 10 units.

**F10 Art 423-424. Fashion Design**

Continuation of F10 Art 323-324. Original design concepts are developed in sketch, pattern, and muslin stages, prior to constructing each garment. Senior Design Studio is professionally equipped, affording the student an opportunity to work in design room setting. Fashion drawing develops techniques and skills necessary for preparing a senior portfolio. Designer-critics work with students on specific design problems in the development of a senior collection. Garments are reviewed by a jury in the spring semester and selected for the annual student fashion show—a professional showcase for student work. Credit 10 units.

**F10 Art 437A-438A. Communication Design**

Continuation of F10 Art 337A-338A. This course provides an intermediate experience in communication design. It builds on the broad-based junior curriculum and transitions to a set of more focused design studios, from which each student creates an individual developmental path. Sustained studio investigation may include publication design, information design, informational image making, editorial illustrations, messaging and art direction, cinema and motion studies for communication contexts, visual culture history and research. Emphasis on developing creative methodologies for communication projects on an increasingly individualized basis. Credit 10 units.

**F10 Art 450. Independent Study**

Designed for non-art students fulfilling art minor requirements. Students study with major faculty. Credit variable, maximum 3 units.

**Studio Electives****F20 Art 111-112 through Art 411-412. Painting**

Introduction to painting processes and materials. While there is emphasis on oil painting, students also are introduced to watercolor and acrylic paints and a wide variety of painting surfaces. Subject matter is varied, beginning with still-life material and ending with direct painting from the model. Technical skills and content are dealt with at the individual student's level. Credit 3 units.

**F20 Art 1113-1114 through Art 4113-4114. Special Topics in Painting**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

**F20 Art 1131-1132 through Art 4131-4132. Special Topics in Sculpture**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

**F20 Art 113A-114A through Art 413A-414A. Sculpture**

Explores contemporary sculptural concepts and processes in various media, including latex, plaster, plastics, metal, and wood fabrication, with emphasis on development of technical skills at what-

ever level of advancement is suited to the experience of the student. Credit 3 units.

**F20 Art 113E-413E through Art 114E-414E. Special Topics in Sculpture**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

**F20 Art 113F-413F through Art 114F-414F. Sculpture: Foundry**

The focus of this course is to introduce students to the basic principles of bronze and aluminum casting according to the lost wax method. Students will learn mold making, direct organic burnout, ceramic shell investment, metal chasing, and patination in order to create finished sculpture. In addition to metal casting, students will use other materials such as plaster, resin, steel, wood, rubber, plastic, and foam to create a mixed-media project that explores a specific idea or theme. Credit 3 units.

**F20 Art 113G-413G through Art 114G-414G. Sculpture: Wood**

The focus of this course is to introduce students to the basic principles of wood sculpture with an emphasis on furniture making. Credit 3 units.

**F20 Art 113H-413H through Art 114H-414H. Sculpture: Blacksmithing**

This course is an introduction to blacksmithing materials, tools, and techniques. Students will explore the fundamental techniques of hand-forged metal. Metal can be manipulated as a plastic material and offers enormous possibilities for 3-dimensional form. In this class, we explore these possibilities and expand our sculptural vocabulary. Credit 3 units.

**F20 Art 113I-413I through Art 114I-414I. Sculpture: Metal Fabrication**

Metal is the backbone of our modern world and a viable medium for self-expression. It can be employed as structure or as surface, it can be plastically deformed to create compound shapes, or it can be connected to most any other materials, tools, processes, and techniques. Students will explore the creative potential of this material in the fabrication of sculptural forms. Students learn to weld using both gas and electric arc machines as well as the safe operation of drilling, grinding, and finishing tools. Credit 3 units.

**F20 Art 115-415 through Art 116-416. Printmaking**

Survey of printmaking covering basic processes in intaglio, lithography, relief, and monotype. Emphasis on mixed media and experimentation with a foundation in traditional, historical, and philosophical aspects of printmaking. Students are encouraged to work at a level suited to their individual technical skills and conceptual interests. Credit 3 units.

**F20 Art 115D-415D through Art 116D-416D. Special Topics in Printmaking**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

**Art 115E-415E. Printmaking: Themed and Boxed**

Students will experiment with image making in thematically unified bodies of work in the form of a print portfolio. The history of the art form as well as the techniques used in its development will be covered in slide presentations as well as in demonstrations. The student will create a print portfolio based on a particular theme during the semester. Credit 3 units.

**F20 Art 115F-415F through Art 116F-416F. Guerilla Printmaking**

This is a studio course in printmaking that ex-

plores the ideology of print as cultural, social, and political activity. Through our projects we will embrace the value of the multiple in printmaking as a “democratic medium.” Our primary weapon will be in the domain of distribution. Strategies for projects include site-specific work, audience participation projects, performative work, etc. Projects will be both collaborative and individual. Students will learn to write proposals and manifestos, document their work in situ, and make digital presentations in support of their projects. Students also will learn to use print techniques such as woodcut, lithography, Pronto plates, Gocco printing, and digital applications to accomplish goals. However, technique will be dictated by the idea for each project and will not be limited to the traditional forms of printmaking. In other words, low-tech/low-cost alternatives and philosophically relevant approaches will be part of the mix. Credit 3 units.

#### **F20 Art 1183. Digital Photography**

This introductory level course will explore digital technology for capturing, enhancing, and producing still lens-based images. The course will address basic digital camera operations, the visual language of camera-generated images, computer workflow, and the connoisseurship of digital image output. The course assumes no prior knowledge or experience with digital imaging technologies or materials. Credit 3 units.

#### **F20 Art 1184. Digital Imaging (Photoshop)**

This course will address the use of technology and pixel-based software for generating, manipulating, and compositing still digital images. The course will examine the visual language and poetics of additive lens-based images while providing students with knowledge of software tools, input devices, production techniques, color management strategies, and output devices. Credit 3 units.

#### **F20 Art 1185. Kinetic Image/Digital Video**

This introductory level course will address the use of digital technology and software for capturing, editing, and producing moving images. The course will examine the visual language and poetics of moving images while providing students with foundation knowledge of camera operations, production storyboarding, software tools, and presentation strategies. The course assumes no prior knowledge or experience with kinetic imaging technologies or software. Credit 3 units.

#### **F20 Art 1186. Black-and-White Photography**

Introduction to the fundamentals of black-and-white photography. Emphasis on control of film, paper, and black-and-white photographic processes in the classical fine arts tradition. Topics may include portrait, landscape, street photography, the figure, and contemporary issues in photography. Credit 3 units.

#### **F20 Art 119-419 through Art 120-420. Ceramics**

An introduction to the design and making of functional pottery and cultural objects. Students will learn the basic forming processes of the wheel, coil, and slab construction. While the emphasis is on high-fired stoneware, students will be introduced to Raku and soda firing. Content and advanced processes and skills are encouraged according to the individual student’s level. Credit 3 units.

#### **F20 Art 123D-423D through Art 124D-424D. Fashion Design 2D**

Designed to familiarize students with techniques and materials used in drawing flats, floats, croquis, specs, and illustrations for fashion design. Design problems associated with designing groups, collections, and lines of apparel for popular and selected consumption are included. Credit 3 units.

#### **F20 Art 123E-423E through Art 124E-424E. Fashion Design 3D**

Designed to familiarize students with the equipment and technology peculiar to a career in fashion design. Emphasis on increased awareness of the capabilities of the materials and equipment. Development of skills peculiar to apparel design, and appreciation of the processes involved in the design and manufacturing of apparel. Credit 3 units.

#### **F20 Art 123F-423F through Art 124F-424F. Special Topics in Fashion Design**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

#### **F20 Art 123G-423G through Art 124G-424G. Fashion: Textile Design**

Introductory study of textiles, beginning with study of the basic fibers used in textile production, through weaving, knitting, dyeing, printing, and finishing. Class format includes lectures, field trips, garment study, and a variety of creative projects that replicate current textile production techniques such as weaving, silkscreen, dyeing, and printing. Credit 3 units.

#### **F20 Art 133-433 through Art 134-434. Basic Illustration**

An introduction to concepts, media techniques, and problem-solving approaches within contemporary illustration. Emphasis on individual solutions to the problems presented. Credit 3 units.

#### **F20 Art 135F-435F through Art 136F-436F. Interactivity and Web Design**

This course will combine investigations of image construction and editing, typography, and basic issues in interactivity to explore the world of interface design and beginning web development. Credit 3 units.

#### **F20 Art 135G-435G through Art 136G-436G. The Licensed Image: Development and Distribution**

An introduction to the concept and image development, design, market distribution, and methodology for creating licensed products. Projects will involve product idea development, market, and the development of image-driven products using images, design, and writing. Traditional drawing skills not required. Students can work by hand or on the computer. Ideal course for College of Art students whose work focuses on images, Communication Design minors, and students outside the College of Art interested in developing visual products, including business students. Credit 3 units.

#### **F20 Art 135I-435I through Art 136I-436I. Communication Design I**

An introduction to the field of communication design: graphic design, advertising design, and illustration. Through studio exercises and lectures, students will be exposed to the broad range of conceptual, aesthetic, and strategic issues inherent to the field. Additionally, the similarities, differences, and points of overlap within the three areas will be discussed. Strongly recommended for students considering the Communication Design major. An excellent introduction to the subject as a tool for business and marketing. Credit 3 units.

#### **F20 Art 135J-435J through Art 136J-436J. Communication Design II**

This course continues the elements of communication design in a more professional context. Students will advance their understanding of concept development and visual execution. They also will examine contemporary professional work in the field and will be introduced to the business of the profession, including working with clients. Course work will integrate fundamental design skills with

business presentations and team-based projects. The final course assignment will come from an external firm. Students will work in groups and make a professional presentation to the client. Credit 3 units.

#### **F20 Art 135K-435K through Art 136K-436K. Introduction to Animating in Three Dimensions**

This course addresses the fundamental principles of designing and constructing the 3-dimensional modeled world for film and video. Students will progress from an overview of the 3-D animation process to defining and implementing filmic ideas using their own modeled creations. Sketches are imported into modeling software (Maya), which is used to build and animate characters, create environments, and produce effects. Three-dimensional animation is created in its own virtual space and is navigated by cameras much like a traditional film studio or sound stage. Therefore, cinematic shot design and camera navigation within the virtual world are examined in depth. An animated 3-D short will be produced to convey a simple story in a modeled environment. Prerequisite: F10 Art 101 (Drawing) or equivalent or permission of instructor. Credit 3 units.

#### **F20 Art 135L-435L through Art 136L-436L. Communication Design and Business**

This course will provide an introduction to business communications in a visual environment. Subjects to be addressed include visual organization, introductory typography, basic identity development, message construction and business presentation development. Credit 3 units.

#### **F20 Art 1385-4385 through Art 1386-4386. Special Topics in Communication Design**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

#### **F20 Art 1481-4481 through Art 1482-4482. The Illustrated Book: Design and Production**

An investigation of text, image, design, and production within the broad realm of illustrated books. A series of exploratory exercises in the beginning of the semester will yield to a single sustained project to be proposed and developed by the student. Project emphases may include visual narrative, textual interpretation, creative writing, typography, structure and sequencing, and material investigation. Production methods may include relief and letterpress, engraving and intaglio, offset lithography, and digital. “virtual” media. Certain projects may require a second semester of study to complete. Credit 3 units.

#### **F20 Art 1484-4484. Special Topics in Book Arts**

Studies in special subjects. Topics vary from semester to semester. Consult course listings. Credit 3 units.

#### **F20 Art 150-450. Independent Study**

Credit variable, maximum 3 units.

#### **F20 Art 1501-4501. Internship**

Credit variable, maximum 3 units.

#### **F20 Art 171-471. Introduction to Letterpress Printing**

This class will serve as an introduction to printing with the Vandercook handpress. Through a series of assignments students will learn a systematic approach to planning, arranging, and printing type on a page. The students will receive a basic introduction to typography, history of letterforms, and history of the book. The mechanics of relief printing with the cylinder proof press, ink composition, and resolution of the typographic image also will be explored. As an exploration of the publishing process students will produce a chapbook of a short literary work. The class will primarily focus on typographic composition, but one assignment will employ a combination of word and image.

Credit 3 units.

**F20 Art 1713-4713 through Art 1714-4714. Introduction to Book Binding**

This class will serve as an introduction to the book as artifact of material culture. A variety of traditional and nontraditional book structures will be explored. Students will learn from historical approaches to constructing the codex form including the single signature pamphlet, the multi-signature case binding, the copic, and the medieval long stitch. Students will learn Japanese binding and its many variations. Several contemporary variations will be introduced, including the tunnel, the flag book, the accordion, and the carousel. Students will explore the visual book using found imagery and photocopy transfers and will produce a variety of decorated papers to be used in their bindings. Credit 3 units.

**F20 Art 2115-4115 through Art 2116-4116. Intensive Intermediate Painting**

In this course, we will explore the genres of painting from the inside out. We will focus on process and technical skill as well as the political and social underpinnings of several painting genres. As the course progresses, you will be much improved at oil painting, both in its traditional 20th-century use as well as having some technical and conceptual experience with its contemporary manifestation. Our main focus will be on perceptual studies, although we will also work with notions of abstraction in painting. There will be weekly homework assignments, as well as a few reading assignments. This is a very structured course, designed to develop your strengths and abilities as a painter and to further your conceptual understanding of the medium. Prerequisite: Painting elective or permission of instructor. Credit 3 units.

**F20 Art 211B-411B through Art 212B-412B. Painting II**

Intermediate painting focuses on the processes and concepts of oil painting. It is a structured course with an emphasis on perceptual studies, as well as an overview of historical and contemporary painting issues. Students are expected to possess good drawing skills and a beginner's familiarity with oil painting techniques. Critical readings and homework assignments are an important part of the course. Prerequisite: Beginning painting elective or permission of instructor. Credit 3 units.

**F20 Art 217I-417I through Art 218I-418I. Advanced Photography Seminar**

Designed for non-art students fulfilling art minor requirements in the photography minor. Topics to be covered include studio lighting and large format photography. Credit 3 units.

**F20 Art 217J-417J. Alternative Process Photography**

An exploration into the use of non-silver and alternative photographic processes. We explore the use of such processes as blue and brown printing and gum printing as well as photomechanical processes such as photocopying and color photocopying. Credit 3 units.

**F20 Art 2182. Photography II**

Introduction to the fundamentals of black-and-white photography. Emphasis on control of film, paper, and black-and-white photographic process in the classical fine arts tradition. Course adds to the experience of Photography I. Topics may include portrait, landscape, street photography, the figure, and contemporary issues in photography. Prerequisite: Photography I or permission of department. Credit 3 units.

**F20 Art 227A-427A through Art 228A-428A. History of Photography**

Survey of the history of photography and a look at

the medium from the camera obscura to contemporary developments. Social and technological developments examined in terms of their influence on the medium. Credit 3 units.

**F20 Art 2385-4385 through Art 2386-4386. The Art of Advertising**

The Art of Advertising elective will introduce students to the field by defining the role of advertising in American culture and economy. It will begin by exploring the evolving and devolving aspects of American advertising and the forces that both compel and repel consumer audiences. The class will explain the processes and criteria that, when properly utilized, elevate advertising and validate it as an art form. The course will consist of lectures and visiting instructors, brief essay quizzes, and a series of exercises designed to acquaint each student with administrative and creative processes and various disciplines within the advertising field. Major emphasis will be placed upon the creative disciplines. Credit 3 units.

**F20 Art 2622. Florence Seminar: Heritage, Site, and Significance**

This course will complement the two art studios in Florence. It will consist of slide lectures, film viewings, readings, and field trips, as well as general discussion about studio projects, contemporary theories in art, living and working in a foreign country, and art making in general. Some time will be devoted to building skills for specific projects in the studio, such as bookbinding skills or perspective drawing. Credit 3 units.

**F20 Art 2643-2644. Italian Level II**

This course is a continuation of the conversational Italian course required for study abroad students. Taught entirely in Italian, this class concentrates on conversational Italian. There is an emphasis on class participation accompanied by readings and writing. The student will develop facility speaking the language on an everyday basis. Credit 5 units.

**F20 Art 2661-2662. Semester Abroad Program Seminar**

This course will prepare students participating in the College of Art's Spring Semester Abroad Program in Florence, Italy. The seminar will meet eight times over the course of the semester. Credit 1 unit.

**F20 Art 301-401 through Art 302-401. Drawing**

An advanced drawing course for third- and fourth-year students. Individualized instruction allows students to explore various media and stylistic approaches in both figurative and nonfigurative modes. Credit 3 units.

**F20 Art 3017. Drawing in Italy: Drawing Then and Now: An Extension**

This course is designed to investigate the principal elements of drawing and to extend the body of form beyond that of line on a page. Students will explore drawing's relationship to objects, installation, time-based mediums, and documentation. Classical drawing will serve as the foundation for more experimental and extended ways of conceiving and making drawings. Through a series of structured exercises, students will learn to locate themselves within an art historical context and to use this rich history as a field from which to draw inspiration from contemporary works. Students will carry out research in the museums, churches, piazzas, and markets of Florence. Drawing on site and in the studio will be supported by slide lectures and readings. Students will end the course with knowledge of the conceptual and theoretical discourse surrounding drawing as well as an extended practical vocabulary for "bodying forth the creative idea." Prerequisite: Previous drawing experience or permission of instructor. Students taking this course must also register for F20 Art

3823. Credit 6 units.

**F20 Art 3117. Painting In and Around Florence**

Students will spend an intensive month painting in and around Florence. This course will provide daily opportunities for investigation of the city and a range of experience in oil painting, from one-day "sketches" to more finished work. Students will work from direct observation, painting on a French easel and will spend the first day buying any necessary materials. Students will record their daily visual experiences of the city in oil sketches at Piazzas Signoria, Annuciata, Santo Spirito, San Marco, and Santa Croce. The class will investigate some of the city's famous sites including the Duomo and the Battistero, and set up along the Arno to paint the Ponte Vecchio. For a more panoramic approach, work will be done in the relative calm of the Boboli Gardens and Belvedere Fortress and San Miniato al Monte and Piazzale Michelangelo. Students will also visit tea garden Giardino dei Semplici and the gardens at Villa Medicea di Castello. Trips to nearby towns of Fiesole and San Gimignano will offer a change of pace and an opportunity to paint the Tuscan landscape. Credit 3 units.

**F20 Art 3119. Painting and Drawing in Italy**

Experience working on location in Florence and the surrounding region. Day trips to places such as Lucca, Settignano, Siena, Pisa, and San Gimignano will allow students to develop a series of paintings and drawings based on subjects unique to Italy while discovering their own individual approach. Students will explore light-filled, natural landscapes/topographies as well as dense, urban environments overflowing with Renaissance art and architecture. Emphasis will be on transportable media such as watercolor. Students provide their own art supplies. Credit 3 units.

**F20 Art 3177. Photography in Italy**

Explore urban and rural Italian landscape through the photographic medium. Day trips in and around Florence and Tuscany provide ample opportunity for discovery. Students will be encouraged to invest time outside the studio and using the darkroom for film processing and proofing. Emphasis will be on the quality of images based on proofs and work prints created in a digital darkroom rather than a "portfolio" of fine prints. Prerequisite: Photography I or permission of instructor. Credit 3 units.

**F20 Art 3183-4183 through Art 3184-4184. Photography III**

This class is designed for the student who seeks to explore advanced issues in photography using a broad range of photographic practices and media. In addition to further mastering technique and craft, students will, through readings and class discussion, place their work within a context of contemporary issues in photographic image making, theory and criticism. Credit 3 units.

**F20 Art 339A-439A. History of Communication Design**

Historical development of communication design based on a survey of significant artists and designers and the ideas, styles, movements, forces, and individuals who influenced their work. This course is a component of the Communication Design major. Credit 3 units.

**F20 Art 345-435. Topics in the History of Book Illustration: The Book as Subject**

Within the past half-century, the book has moved from periphery to center, becoming the subject of an expanding body of work by writers and artists. Its formal qualities and physical processes, its habitual means of organizing, its strengths, its limitations and the meanings we attach to them, have become the subject of seemingly self-conscious,

inward-looking books. Postmodern as if by definition, playfulness and irony attend these works, and their complexities and subtleties often prove elusiveness a virtue. They command a reshaping of our sense of how books, texts, and illustrations react to and interact with one another, and how a reader/viewer experiences and makes sense of them. We will look at work by Vladimir Nabokov, Julio Cortazar, Italo Calvino, William H. Gass, Samuel Beckett, Jasper Johns, Tom Phillips, Anselm Kiefer, Susan Baron, Peter Greenaway, and others. This seminar explores aspects of the history of image and text conjoined in the western book, at once an object and a concept, a thing experienced and a conduit, a means of transmission. Utilizing a variety of analytical and critical approaches—psychoanalytical, deconstructive, New Historicist—we will examine the ways in which texts and images make and unmake meanings. Students will be asked to write two papers, one brief (6 to 8 pages), the other more extended (12 to 20 pages), and to give one in-class presentation. Credit 3 units.

**F20 Art 3477. Structure of the Visual Book**

This course will examine the book as the ultimate multimedia experience. What will result is a kind of personal catalogue of your visual experience of Florence and Italy. The class will explore up to 10 different book structures, all of which have an effect on how one thinks about the information the book holds. Students also will investigate the role it plays in making art, especially in the Italian tradition. Credit 3 units.

**F20 Art 3701. Illustrated Entertainment: Pictorial Graphic Culture from Early Printing to Television**

This course will address the production, distribution, aesthetics, and cultural significance of illustrated entertainment in Europe and especially the United States. The course will serve as a typological survey; that is, it will address important practitioners in significant categories of a very broad field. Subject coverage will include early printing, caricature and the art of the gazette, the development of comics, 20th-century American magazine illustration, early animation, the animated TV series, and, if time permits, online animation. Topics of consideration will include: the interplay of art, entertainment, and communication; the role of the individual creator versus the corporate concern;

the impact of the editor and art director, the self-image of the creator; the social context of the work; and the role of technological change. Credit 3 units.

**F20 Art 378C-478C. Characters and Pictures: A Drawing Class**

What does a hero look like? In life, of course, heroes are identified by action—not appearance. But the world of pictures is governed by different rules. This class will identify different character types and examine their roles in narration. Using a variety of media, students will move from departure concept to completed artwork, investigating pictorial traditions and other frameworks—both technical and conceptual—along the way. Students will improve their ability to conjure. They will develop an approach to technique, subject-matter, and the demands of the picture-plane. Importantly, they will gain understanding of the pictured character—whether male or female, super hero, knave, mother, or vamp. Credit 3 units.

**F20 Art 3823-3824. The Italian Renaissance in the City of Florence**

This course encompasses the Renaissance from Giotto through the High Renaissance. Students will be able to examine firsthand the works they are studying. Included are field trips to Rome and Venice. Credit 3 units.

**F20 Art 3825. Fifteenth- and 16th-Century Florence: Rethinking the Renaissance**

The 15th and 16th centuries in Florence were a time of great contradictions: they began with the rise to power of the powerful merchant family of the Medici and ended with the burning at the stake of the Dominican friar Savonarola. In this course, students will explore the complexities, innovations, and magnificence of two centuries of history through its visual production: architecture, painting, sculpture, costume, ornaments, etc. The principal goal is to challenge the established understanding of Renaissance Florence as a cohesive and homogenous phenomenon and search for and construct our notion of Florence's aesthetic language and identity. Beyond the assigned textbooks, our visual guide will be the city of Florence itself. Lectures will be complemented by twice-weekly visits to the city's monuments. Students will be asked to support their visual learning with readings of original sources including Petrarch, Boccaccio, Lorenzo de Medici, Leonardo,

Benvenuto Cellini (a bibliography will be available prior to departure for Italy). Students will be encouraged to construct their own trajectory of study and inquiry, and will be encouraged to explore those issues that best reflect their interests and inclinations. Students taking this course must also register for F20 Art 3017.

**F20 Art 387-487 through Art 388-488. Life After Art School Seminar**

This is a seminar for advanced students that focuses on the challenges of, and opportunities for, establishing a career as an artist. Course content includes reflective thinking, career expectations, job prospects, résumé and artist statements, portfolio development, exhibition opportunities, business practices, studio operations, health hazards, legal issues and resources, grants, fellowships, exhibition venues, artists' residencies, and continuing educational opportunities. This course is designed to provide strategies as one makes the transition from student to emerging artist. Credit 1 unit.

**F20 Art 394-494. New Topic (Sam Fox School) Studies in special subjects. Topics vary by semester. Consult course listings. Credit 3 units.**

**F20 Art 455A. Urban Books: Imag(en)ing St. Louis**

Since the beginning of the 20th century, art, architecture, and urbanism together have investigated the production of images that shape the symbolic dimension of our experience of large cities. This seminar will critically embrace this tradition and bring together different methodologies for the visual analysis and representation of contemporary urban phenomena, using St. Louis as a focal point. The goal will be to design and produce individual books as a result of research, visual documentation, readings, and discussions in a seminar and workshop structure. Each student will select and develop a theme related to the urbanization of St. Louis that will be organized into books that present how this metropolitan area has been conceived through images. The course will be divided into three parts combining readings, research, and design activities, each of which will culminate in the presentation of an individual project; a total of two study books and a final book. Credit 3 units.

***School of Engineering &  
Applied Science***

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## School of Engineering & Applied Science

Dean's Office  
314/935-6166

Department of Biomedical Engineering  
314/935-6164

Department of Computer Science and Engineering  
314/935-6160

Department of Electrical and Systems Engineering  
314/935-5565

Department of Energy, Environmental and Chemical Engineering  
314/935-5545

Department of Mechanical, Aerospace and Structural Engineering  
314/935-4337

Engineering Student Services  
314/935-6100

### Mission Statement

The mission of the School of Engineering at Washington University is to serve society as a center for learning in engineering, science, and technology. It is our duty to disseminate and create knowledge through teaching, research, publications, and the transfer of important ideas and research into the development of new products and technologies. We strive to provide an environment that nurtures critical thinking and the education of innovators and leaders for the future.

### Undergraduate Degree Programs

The School of Engineering offers four-year, full-time programs of instruction leading to several professional Bachelor of Science degrees. Bachelor of Science degrees are available in the fields of biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, mechanical engineering, and systems science and engineering.

If you are not preparing for a professional engineering career but are interested in an academic program broadly based on the engineering sciences, the School offers the Bachelor of Science (B.S.) degree with several options. These degree options provide more flexibility for students who do not intend to become licensed engineers and want to select their course work according to their personal educational objectives. For example, some students use this flexibility to gain technical background and training available from selected engineering and applied science courses while pursuing or preparing for professional training in medicine, business, or law. However, although the flexibility exists to do so, it is not necessary to combine this degree program with another major or degree. Students also can use this added flexibility to achieve a well-rounded undergraduate education by selecting courses from across the University while pursuing a major in the School of Engineering or to deepen

their understanding in their chosen major. Licenses to practice do not exist in computer science. Therefore, the Department of Computer Science and Engineering has designed the Bachelor of Science with a major in computer science so that students selecting this more flexible option will have the solid foundation they need to practice in that field.

Undergraduate engineering students may pursue multiple majors and/or degrees, both within the School and with other undergraduate and graduate divisions of Washington University. Students should apply for minors before the end of their junior year.

### Combined Major and/or Degree Opportunities

#### Multiple Majors in Engineering

If you are enrolled in the School of Engineering and you wish to pursue more than one major from the School, you must satisfactorily complete all of the requirements for each major, after which you will be awarded two degrees, a bachelor's degree for each major. See degree requirements on page 320.

#### Multiple Majors: Combining Engineering with Others

All undergraduate divisions at Washington University allow students to pursue majors and degrees in more than one division. The following options are available:

**Second majors.** A student pursuing a bachelor's degree in engineering may also pursue second majors offered by all undergraduate divisions. Upon completion, the student's transcript would show an engineering degree and all earned second majors.

**Second degrees.** A student in any undergraduate division of the University may be allowed by another division to pursue a second bachelor's degree. For this, the student must satisfactorily complete all of the degree requirements for both degrees. These requirements typically include a "residency" requirement. For engineering majors, this residency requirement is stated on page 321. The College of Arts & Sciences requires any student earning an A.B. degree and a bachelor's degree from another division to earn a minimum of 150 units. Other divisions do not have this requirement.

#### Minors

Many departments and schools in the University offer minors. An engineering student who applies for a minor and who completes all of the requirements will have the award of the minor noted on the official transcript. A student must be approved for admission to a minor program by the department offering the minor.

### Special Combined Programs

#### Process Control Systems

The Department of Energy, Environmental and Chemical Engineering and the Department of Electrical and Systems Engineering jointly sponsor a double-degree program in process control systems. Undergraduate degrees are earned in both Chemical Engineering and in Systems Science and Engineering.

The emphasis in this course of study is on the science and technology of process automation with a solid traditional foundation in the two major disciplines. Graduates of the program can contribute, through automation, to improved product quality, reduced manufacturing costs, greater capital productivity, and improved safety and environmental quality. See page 369.

#### B.S.-M.S. in Engineering Program

This program provides undergraduate engineering students with the opportunity to plan a coordinated five-year program of studies in the School leading to both the bachelor's and master's degrees. The program requires at least 150 units and normally takes five years to complete. With departmental approval, up to six units completed at the School for the master's degree may be used to count toward the engineering undergraduate degree; however, at least 150 applicable degree units must still be completed. The degrees available to students are the traditional engineering master's degrees offered by the School of Engineering and do not include interdisciplinary graduate degrees with other schools on campus or master's degrees offered by the Sever Institute Program of Continuing Studies.

The program is open to students who have at least 3.0 cumulative GPAs; some departments may require higher minimum cumulative GPAs. Students must apply no later than September 1 of their senior year. Approval by the department and the dean's office is required.

Undergraduate financial support is not extended for the additional semesters to complete the master's degree requirements. Students are classified as graduate students in their final year of study. Their tuition charges are at the graduate student rate.

#### Combined Bachelor's/Master's Program

The combined Bachelor's/Master's program is designed to enable students in other Washington University schools (other than Engineering) to pursue a coordinated five-year study leading to a bachelor's degree outside engineering and a master's degree in the School of Engineering. The admission process and the graduation requirements for this program are identical to those of the B.S.-M.S. in Engineering program.

#### B.S.-M.B.A. Program

The School of Engineering and the Olin Business School offer a five-year program leading to the professional Bachelor of Science engineering degree and the Master of Business Administration degree. The purpose of the program is to provide you with the opportunity to develop an educational background particularly in demand by industry.

You should apply to this joint program by February 1 of your junior year. You must complete the application for admission to the Olin Business School, available through the business school. You should have a cumulative grade point average of B+ or better, and

you must take the Graduate Management Admission Test (GMAT) administered by the Educational Testing Service. Registration materials for the test may be obtained through the business school. Applicants are judged on undergraduate performance, GMAT scores, summer and/or co-op work experience, recommendations, and personal interviews.

The B.S.–M.B.A. student's fourth-year curriculum is composed largely of business courses. The fifth-year curriculum is divided almost evenly between business and engineering courses. Because merging of the two curricula results in very tight scheduling, it is possible that course overloads may be necessary to complete both programs in 10 semesters. You are strongly urged to meet with your advisers to plan the remaining years of the program.

### **Dual-Degree Program**

The School of Engineering offers a Dual-Degree Program with several other colleges and universities. Qualified students earn both a non-engineering baccalaureate from the first school and a Washington University bachelor's degree in engineering by attending the affiliated institution for three or four years, then completing the program with two years of concentrated engineering study at Washington University.

If you are enrolled at an affiliated institution, you may apply for admission to dual-degree study under this program, provided you are recommended by an official representative of your college or university and will receive or have received the non-engineering baccalaureate.

To be able to complete a bachelor of science in engineering in a two-year period, you should have completed the following requirements prior to enrolling in the School:

**Total Course Work:** At least 60 semester hours of transferable college credit. Courses with grades below C– do not transfer.

**Mathematics:** Calculus through differential equations.

**Physics:** One-year calculus-based sequence.

**Biology (required for Biomedical Engineering only):** A pre-approved three-semester sequence in modern biology.

**Chemistry:** One-year sequence, with laboratory. (For chemical engineering, a one-year sequence in organic chemistry is also required.)

**Computer Science:** One course or proficiency.

**English Composition:** Evidence of proficiency as demonstrated by previous course work, acceptable examination scores, or college certification.

**Humanities and Social Sciences:** The School's requirement (see page 321) should be satisfied before arrival at Washington University.

### **Co-operative Education**

The Engineering Co-op Program offers students a unique opportunity to gain in-depth engineering experience prior to graduation. Co-op students learn about a field of engi-

neering by working alongside practicing engineers on extensive projects, which are typically held by entry-level engineers. This type of experience gives students a chance to preview a career path and employment options, gain career clarification, improve communication and team project skills, and enhance marketability with future employers. The Co-op experience is typically completed over the course of a semester and a summer term.

The Engineering Co-op Program is coordinated through the Career Center.

For more information on Co-ops, please visit the Career Center's web site at [www.careers.wustl.edu](http://www.careers.wustl.edu), or call 314/935-5930.

### **Premedical Education**

The School of Engineering makes available, as options within its undergraduate degree programs, curricula that prepare you for entry into medical or dental school while you pursue the undergraduate degree.

These curricula were formulated in recognition of the increasing importance in medicine of the methods and subject matter of the basic engineering sciences. The student who successfully completes one of the curricula will be well prepared for the study of medicine and will have, in addition, a solid background in engineering. Moreover, the student who decides not to go on to medical school will have an exceptionally wide selection of options, including not only those commonly open to the graduate in engineering, but also those of graduate study in biomedical engineering. In accordance with the recommendations of the School's Premedicine Committee, all curricula include, in addition to the normal degree requirements, the following courses:

**Biology:** Biol 2960, 2970, 3058.

**Chemistry:** Chem 111A, 112A, 151, 152.

**Organic Chemistry:** Chem 251, 252, 257.

Many medical schools have other assorted prerequisites, which you can find in the Medical Schools Admissions Book. You may purchase this by going to the Association of American Medical Colleges (AAMC) web site at [www.aamc.org](http://www.aamc.org) on the publications page, where you can order online.

If you are interested in attending medical or dental school, you must consult and register with the Premedicine Committee before the end of your sophomore year. There is extensive detailed information concerning the Medical College Admission Test, the choice of advanced biology or chemistry courses, and the choice of medical school that should be discussed prior to the beginning of the junior year. Students requesting letters of recommendation from the Premedicine Committee must do so in writing by the end of the fall semester of the senior year. The Premedicine Committee reserves the right not to write letters for students deemed not qualified.

### **Engineering Summer School**

The School of Engineering offers a wide variety of engineering courses each summer. Class times are varied to accommodate both

traditional daytime students and those with full- or part-time employment. The Engineering Summer School calendar comprises one full eight-week evening session as well as several accelerated sessions of shorter duration.

If you are interested in enrolling in an engineering summer course, you can obtain further information, advice, and registration materials in 204 Lopata Hall, 314/935-5484.

### **University College Courses**

Engineering students may enroll in courses offered by Washington University's University College. The School evaluates these courses as if they were taken at another institution. Although a student's official record will show each course with its title, units, and grade, the units and grade are not counted. Each course must be pre-approved and evaluated for its applicability toward an engineering bachelor's degree. If the course is transferable, a separate entry is inserted into the student's record, with the transfer units and the day-school equivalent course. Normally, University College courses are counted as being humanities or social sciences using the College of Arts & Sciences course classification system. University College courses that are labeled TH (Textual and Historical Studies) and LA (Languages and the Arts) will satisfy the School's humanities requirement. University College courses that are labeled SS (Social Sciences) satisfy the School's social sciences requirement. Students must earn a minimum grade of C– for the units to transfer. Grades do not transfer.

### **Degree Requirements**

#### **Professional Degrees**

To earn any of the professional degrees (B.S. in ...), you must satisfy all of the following general distribution requirements:

1. Complete the Common Studies program (outlined below).
2. Satisfy the specific degree requirements of one of the professional degree programs, as outlined in other sections of this Bulletin.
3. Satisfy the requirements listed under All Undergraduate Degrees (below).

#### **The Bachelor of Science**

To earn the Bachelor of Science degree (applied science or major in ...), you must satisfy all of the following general distribution requirements:

1. Complete at least 120 applicable units.
2. Complete at least 48 units of the 120 in mathematics, natural sciences, and engineering.
3. Satisfy the English composition, humanities, and social sciences requirements of the School of Engineering.
4. Complete at least 42 of the total 120 units at the 300 level or higher.
5. Complete the specific requirements of the major.
6. Satisfy the requirements outlined under All Undergraduate Degrees.

## All Undergraduate Degrees

To earn any undergraduate degree in the School, you must accomplish all the following:

1. Earn at least a C (2.0) cumulative grade point average in all applicable courses taken at Washington University.
  2. Earn at least the minimum total number of units specified for the particular degree. All degrees require students to complete at least 120 applicable units.
  3. Receive no grades below C– in more than one-fourth of the total number of units in the total course of study, nor in more than one-fourth of the units of the subjects in the particular area in which the degree is sought.
  4. Satisfy the School's residency requirement by completing a minimum of 30 units of 300-level or higher courses from the School, while matriculated at Washington University in a degree program. Students in the Biomedical Engineering program may count 200-level or higher biology courses toward this requirement for one of the Biomedical Engineering degrees. An engineering course transferring from an exchange program sanctioned by the School of Engineering may be counted as a School equivalent course for the purpose of satisfying this requirement.
- For students pursuing multiple engineering B.S. degrees, for each B.S. degree from the School, these 30 resident units must include at least 15 units of courses that:
- A. Are not included in any Common Studies requirement, and
  - B. Are specifically listed as required or elective for the specific degree program, and
  - C. Are not used to satisfy this residency requirement for any other B.S. degree from the School.
5. Complete the English composition requirement.

### English Composition Requirement

Every student must demonstrate proficiency in reading and writing the English language. Students are considered proficient if they have earned one of the following scores: a 5 on the Advanced Placement English Examination of the College Board, or a score of 750 or higher on the SAT W examination, or a score of 36 on the ACT English exam, or a score of 7 on the International Baccalaureate examination. Proficiency is most commonly demonstrated by satisfactory performance on the Freshman English Composition proficiency test administered by the School of Engineering.

Students who do not demonstrate satisfactory proficiency on the test are required to enroll the following semester in the course or sequence of courses specified by the test's administrator. The School's English composition requirement is then satisfied only by a grade of C+ or better in the University's Writing 1 course (E Comp 100). English composition courses taken at other institutions to satisfy the School's requirement

must be pre-approved by the School's English composition coordinator. If the course is so approved, the student must pass with a grade of B or better. Writing 1 does not count toward the Humanities and Social Sciences requirement of the School of Engineering. Waivers of the Writing 1 requirement via the AP, SAT, ACT, IB, or other proficiency exam do not carry degree credit.

The English composition requirement must be completed as soon as possible. Undergraduate students who have not yet satisfied this requirement must enroll in Writing 1 (or an approved alternative course) at the first possible opportunity, commonly their first spring semester. Enrollment in English composition courses for subsequent semesters may be required until the proficiency requirement is satisfied.

Before enrolling in Writing 1, some students may be required to complete English Composition 1001 or 200; these courses will not be counted toward the student's degree requirements.

### Humanities and Social Sciences Requirement

To earn any bachelor's degree from the School, you must complete the School's humanities and social sciences requirement:

1. Minimum units: at least 18 units of humanities and social sciences courses must be completed with passing grades. Humanities and social science courses, other than transfer courses, may be taken for pass/fail credit.
2. Breadth: at least 6 units of the 18 must be in the humanities and at least 6 units must be in the social sciences.
3. Upper-level: at least 3 units of the 18 units completed must be from one or more courses numbered 300 or higher.

The School categorizes Washington University courses as being humanities or social sciences using the College of Arts & Sciences course classification system. Courses that are labeled TH (Textual and Historical Studies) and LA (Languages and the Arts) satisfy the School's humanities requirement. Courses that are labeled SS (Social Sciences) satisfy the School's social sciences requirement.

Washington University courses labeled NS (Natural Sciences and Mathematics), and courses not classified as SS, TH, or LA, do not count toward the School's humanities and social sciences requirement.

College of Art courses, coded as F10 and F20 courses, will count toward the School's humanities requirement. College of Architecture courses and School of Business courses that are approved through the Engineering Student Services Office will count toward the School's humanities or social sciences requirement.

Other Washington University courses (e.g., University College), and courses taken elsewhere, are treated as transfer courses. Transfer courses must be approved by the Engineering Registrar's Office as acceptable transfer credit and as applicable humanities and social sciences courses. All transfer courses must be taken for credit (not

pass/fail), and students must earn a C– or better in transfer courses for the credit to transfer to the School. Grades do not transfer.

### Applicable Undergraduate Engineering Degree Requirements

Undergraduate engineering students are required to satisfy those engineering degree requirements that are published in the Undergraduate Programs catalog when they first enroll at the University as degree-seeking undergraduate students.

Undergraduate engineering students must complete all undergraduate degree requirements and graduate within 10 consecutive years of enrolling as degree-seeking undergraduate students at the University.

A student who does not graduate within 10 consecutive years will be required to satisfy the degree requirements that are in the most recently published Undergraduate Programs catalog and to retake courses identified by the chair of the department in which the student is seeking the degree.

- When a student wishes to return to complete course work and earn a degree after the 10-year time period has passed, the most recent Undergraduate Programs catalog is defined as the catalog in effect when the student re-enrolls in the School of Engineering as an undergraduate student seeking a degree.
- When a student has left the University and wishes to complete course work at another university to transfer back and graduate from the School, and more than 10 years have elapsed since the student was first enrolled as an undergraduate engineering degree-seeking student, the most recent Undergraduate Programs catalog is defined as the catalog in effect when the student files an intent to graduate for an engineering undergraduate degree. The course work the student intends to complete and transfer back to the School must be approved by the School before the student enrolls in the course work.

## Academic Regulations

### Units, Grades, and Grade Points

A credit unit is the equivalent of one recitation or lecture hour a week for one semester, or one laboratory of two and one-half hours a week for one semester.

A student's work is rated in terms of the following system of grades and grade points:

Grade	Degree Credit	Grade Points	
		Per Unit	
<b>A</b>	superior	yes	4.00
<b>B</b>	very good	yes	3.00
<b>C</b>	satisfactory	yes	2.00
<b>D</b>	unsatisfactory, but passable	yes	1.00
<b>F</b>	failure	no	0
<b>L</b>	successful audit	no	—

<b>Z</b>	unsuccessful audit	no	—
<b>I</b>	incomplete	no	—
<b>X</b>	no final examination	no	—
<b>N</b>	no grade	no	—
<b>W</b>	withdraw	no	—
<b>P#</b>	pass	yes	—
<b>F#</b>	fail	no	—
<b>R</b>	repeat	no	—

The addition of plus and minus marks to the grades of A, B, C, D, and F does not affect the value of the grade points earned by each letter grade. However, for students who enter beginning Fall 2010, plus and minus grades will count in grade points earned.

The grade I (incomplete) indicates that the work of a student has been generally acceptable but that extenuating circumstances led to certain requirements not having been met. The grade of X is recorded when a student is absent from a midterm or final examination because of illness or other unavoidable reason, provided the work has been otherwise satisfactory.

Grades of X and I must be removed no later than the close of the next full semester a student is in residence. On failure to make up an X or I, the student cannot receive credit for the course, and the grade will be changed to F unless the student has been explicitly excused by the associate dean.

Withdrawal without prejudice from a course, the grade W, is allowed up to near the end of the semester (see the current Course Listings for the specific deadline). Some deadlines might be overridden if sufficient verifiable reasons (such as serious health issues) can be provided. If such conditions exist, make an appointment to see the Engineering associate dean as soon as possible.

If a student repeats a course, only the second grade is included in the calculation of the grade point average. Both enrollments and grades are shown on the student's official transcript. The symbol R next to the first enrollment's grade indicates that the course was later retaken. Credit toward the degree is allowed for the latest enrollment only.

### Definition of Class Levels

For classification purposes, your undergraduate class level is defined according to the year in which you intend to graduate. You enter this information during the registration process.

### Academic Probation and Dismissal

A student whose work is of unsatisfactory quality is placed on academic probation. If a student on probation doesn't improve his or her academic record after a reasonable time, probation is followed by dismissal. The regulations governing probation and dismissal are as follows:

1. At the close of each semester, each student's semester grade point average is computed as the total grade points earned during the semester divided by the total credit units attempted. At the same time, the cumulative grade point average is computed as the quotient of the cumulative

total of grade points over the cumulative total of credit units attempted. The computations are made on the basis of the grade point scale indicated in the section on grades. Courses taken on a pass/fail basis are not included in these calculations.

2. At the close of each semester, each student's semester and cumulative grade point averages are reviewed. If either is below 2.0, the probation rules stated below under Grade Standards apply and the student is notified of any academic probation or dismissal action.
3. At the end of a semester, any student who in the judgment of the associate dean is not making adequate academic progress is required to meet with the student's academic adviser before enrollment is allowed for the following semester.
4. A student who is dismissed may, if he or she desires to continue, present a written statement setting forth reasons why the student believes the situation should be reconsidered. This statement should be addressed to the Undergraduate Academic Standards Committee and forwarded via the associate dean.

For students who enter beginning Fall 2010, students will be required to have at least a 2.0 grade point average in their major courses of study.

### Grade Standards

To graduate, a student must meet all of these criteria:

1. At least a C (2.0) cumulative average.
2. At least three-fourths of the total number of units in the total course of study must carry grades of C or above.
3. At least three-fourths of the units of courses in the major with grades of C or above.

### Probation and Dismissal Rules

1. Probation follows any semester during which either the semester or cumulative grade point average is less than 2.0, or a student has three I (incomplete) grades at the end of a semester, or a student was enrolled in credit courses and earns no degree credit at the end of a semester.
2. If a student has been on academic proba-

tion twice previously, dismissal may follow the next time the student is eligible for probation.

3. Dismissal may result if a student becomes eligible for probation in two sequential semesters.
4. Dismissal may result if any course is failed twice.

### Pass/Fail Option

All undergraduate engineering students are eligible to register each semester for up to 6 units on the pass/fail option, up to a maximum of 18 units attempted. Only elective courses may be taken on this option, including courses in other divisions of the University: humanities, social sciences, and some technical electives specifically allowed by individual engineering programs, as well as some engineering courses, both undergraduate and graduate that are not specifically required for your major program. Some programs do not allow courses, required or elective, in the program to be taken with the pass/fail option. Graduate courses taken on the pass/fail basis cannot be transferred later for credit toward a graduate degree. A given course may be selected on the pass/fail option only once.

Changes from the regular grade basis to pass/fail or vice versa may not be made after the last dates specified in the current Course Listings. The normal regulations for withdrawal or change to auditor status also apply to pass/fail courses.

A final grade of P# (pass) will replace the normal letter grade and will earn degree credit. A final grade of F# (fail) will be entered on the official record as F# and will not earn degree credit. Neither P# nor F# will affect the grade point average.

### Auditing

You may register for a specific course as an auditor. When a student uses the Audit grading option, the student is expected to attend all of the course's classes. Completion of homework and the taking of exams are not required. The grade L signifies a successful audit (class attendance) and the grade Z signifies an unsuccessful audit. Neither grade affects a student's grade point average, nor do the course's units contribute to the student's total cumulative units. Audit courses

## Common Studies Program

All students who wish to earn a professional degree (e.g., B.S. in Chemical Engineering) must complete the Common Studies program. Courses required by the Common Studies program:

	Units
English composition (by examination or at least a C+ in E Comp 100) .....	0
Calculus (Math 131, 132, 217, 233) .....	14
Physics (Physics 117A or 197, and Physics 118A or 198) .....	8
Chemistry (Chem 111A-112A, 151) <sup>1</sup> .....	8
Technical Writing (ENGR 310) .....	3
Humanities/social sciences electives .....	18
	51

<sup>1</sup>Some programs allow Chem 111A-151 in place of Chem 111A-112A, 151.

do not count toward any degree. Class attendance is required to earn the grade L; unsatisfactory attendance will result in a grade of Z. Certain computer science courses do not allow students with auditor status.

### **Military Training**

Army and Air Force ROTC programs are available at Washington University.

A student in the School of Engineering who takes an ROTC course will have the course name, number, credit units, and grade entered on the official transcript. If the course is numbered 100–299, the course's units and grade will not apply toward the student's degree requirements; if the course is numbered 300–499 and the grade is D– or better, the course's units will apply toward the student's degree requirements (as a free elective) but the grade will not affect the student's cumulative or semester grade point average.

Course descriptions for Air Force and Army and ROTC are listed on pages 324–325.

### **Physical Education**

Students in the School of Engineering are not required to enroll in physical education courses. These courses may be taken for recreation but not for academic credit.

### **Student Services**

#### **Engineering Student Services**

The Engineering Student Services Office, located in Lopata 303, has three main areas: Admissions, Advising Support, and Registrar. Our admissions officers work closely with the University Admissions Office to provide current and useful information to students and parents who are learning about our university, our community, and the opportunities available in the School of Engineering. The advising staff has a comprehensive knowledge of all campus resources and can help with such items as tutoring, international studies, assistance with the registration process, and general advising. The registrar handles class scheduling, transfer and AP credit, course registration, graduation eligibility, and other registrar related processes. Engineering Student Services serves all students, faculty, and staff. For an appointment, call 314/935-6100.

#### **Engineering Technical Writing Center**

The Engineering Technical Writing Center, located in Cupples II, room 11, offers all engineering students free help with their engineering communication needs. The faculty who staff the center work with students to define communication audiences and purposes, develop and organize ideas, create effective graphics and page design, and sharpen self-editing skills. Help is offered for résumés and employment correspondence, proposals, formal reports, lab reports, graduate program application statements, and both traditional and computer-based presentations. The center also houses videotape facilities for analyzing presentation rehearsals.

### **The Career Center**

The Career Center helps engineering students prepare for a lifetime of career management by offering innovative approaches to help prepare them for a successful Co-op, internship, and job search. The Career Center offers a variety of services and resources for Engineering undergraduate and graduate students.

Whether you are looking for a summer internship, a Co-op, or a full-time job, we are here to help. The Career Center offers a breadth of resources, including Career Options; an online job, Co-op and internship database; the Engineering Mentoring Program; Job and Internship Search Teams; special events; skill-building workshops; career fairs and on-campus interviews; and résumé referrals for job opportunities.

The Career Center offers one-on-one career guidance to students at any stage of their career-planning process. Students are encouraged to meet with a Career Advisor early in their academic career and at least once each year to establish a relationship. To schedule an advising appointment, please contact 314/935-5930 or [careers@wustl.edu](mailto:careers@wustl.edu), or visit the web site at [www.careers.wustl.edu](http://www.careers.wustl.edu).

### **Awards and Scholarships**

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

The Dean's List is composed of freshman, sophomore, junior, and senior engineering students who, for the preceding semester, have achieved a 3.6 or higher grade point average based on a minimum of 12 units of courses taken for grades (not pass/fail). An appropriate entry is added to their official transcripts.

#### **Final Honors**

The School's Undergraduate Board has the responsibility for determining which students will receive the designations cum laude, magna cum laude, and summa cum laude. The criterion for making the decision is academic achievement, and cumulative grade point average is the primary indicator of academic achievement. Grade point averages are reviewed the week of Commencement, after final grades are submitted, to determine which students are awarded final honors for each graduation year.

#### **Washington University Engineers' Scholarship Program**

The Engineers' Scholarship Program enables a sponsor—an individual, a group of individuals, or a company—to provide a named scholarship. The selection of students is made by the dean's office and is based on academic achievement and potential for professional attainment. There is no application process. The awards are need-based. The total amount of the financial aid package does not change, but the source of the scholarship funds is shifted to funds that have been specifically contributed to the University for that purpose.

## **Course Descriptions**

For administrative purposes, the School is subdivided into five academic departments. Each department may offer courses leading to one or more bachelor's, master's, and doctoral degrees.

The courses of instruction are numbered according to the following system:

- 100 to 199 are primarily for first-year students.
- 200 to 299 are primarily for sophomores.
- 300 to 399 are primarily for juniors.
- 400 to 499 are primarily for juniors and seniors, although certain courses may carry graduate credit.
- 500 or above are offered to graduate students and to juniors and seniors who have met all stated requirements. If there are no stated requirements, juniors and seniors should obtain permission of the instructor.

One unit of credit is given for each hour of lecture, and one unit for each two and one-half hours of laboratory. Each course description shows the course's credit. The course credit is further divided into three categories: engineering science, basic science, engineering design. The curricula outlined in the departmental chapters in the School of Engineering section of this Bulletin are designed to satisfy these specific requirements. A table of all engineering courses and, for each course, the division of its credits among the three categories is available and frequently updated on the School's web site at [www.engineering.wustl.edu](http://www.engineering.wustl.edu).

### **First-Year Program**

This first-year program is offered as a starting point for beginning students and their advisers when planning each student's individual course schedule.

A typical first-year course load totals 14 to 16 units for each semester, and it is not wise to enroll for more than 16 units during the first semester. It may be that a load of less than 14 units is desirable. You should enroll in the following courses:

**Calculus:** Beginning engineering students with previous calculus course work usually begin with Math 132 (Calculus II). Students with a strong mathematics background may be ready for Math 233 (Calculus III) or even Math 217 (Differential Equations).

**Physics and/or Chemistry:** If biomedical engineering or chemical engineering is a likely major, chemistry and physics should be completed during the first year; for other majors, physics is the recommended choice.

**Other courses:** Most first-year engineering students also enroll in one or more humanities/social sciences courses, engineering courses at the 100 level, and perhaps a computer science course. If you have a major or are strongly leaning toward a major, you should follow the recommendations for that major.

**English Composition:** The English composition requirement must be completed as soon as possible (see page 321).

Suggested Courses for First Semester	Units
Mathematics (Math 132).....	3
Physics (Physics 117A or 197).....	4
Chemistry (Chem 111A & 151).....	5
(Biomedical Engineering, Chemical Engineering, and premedicine)	
Humanities/social sciences elective .....	3
Engineering course(s) .....	3 or 6

Suggested Courses for Second Semester	Units
Mathematics (next course).....	3 or 4
Physics (Physics 118A or 198).....	4
Chemistry (Chem 112A & 152).....	5
(Biomedical Engineering, Chemical Engineering, and premedicine)	
Humanities/social sciences elective .....	3
Engineering course(s) .....	3-6

### Recommended Courses

The following list recommends course sequences for each engineering major.

Biomedical Engineering: BME 140 first semester, Biol 2960 second semester.

Chemical Engineering: EECE 146A, first semester.

Civil Engineering: MASE 202 first semester, MASE 101 second semester.

Computer Engineering: CSE 131 first semester, CSE 132 second semester.

Computer Science: CSE 131-132, first and second semester; CSE 240, second semester.

Electrical Engineering: CSE 131 and ESE 105 first semester.

Mechanical Engineering: MASE 202 first semester.

Systems Science and Engineering: CSE 131, first semester; ESE 309, first or second semester.

## Air Force ROTC— Aerospace Studies

### Professor

Michael R. Scott, Col.

The Air Force Reserve Officers Training Corp (AFROTC) offers an Aerospace Studies program (different from the School of Engineering's Mechanical and Aerospace programs), which is divided into two parts: the General Military Course (GMC), which is the first-year/sophomore-level curriculum, and the Professional Officer Course (POC), the junior/senior-level curriculum. The GMC covers two main themes: the Air Force Today and the Air Force Way. The courses of the POC emphasize the professional development of the future Air Force officer. The curriculum covers Air Force leadership and management and preparation for active duty. Field trips to Air Force bases supplement classroom instruction and familiarize the cadet with Air Force operations and organization. Participation in AFROTC is not required to take aerospace courses.

Leadership Laboratory is taken two hours per week throughout the student's enrollment in the AFROTC. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. The first two years of the Leadership Laboratory include studying Air Force customs and courtesies, drill and ceremonies; issuing military commands; instructing, directing, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about areas of opportunity available to commissioned officers. The last two years of Leadership Laboratory consist of activities classified as advanced leadership experiences. They involve the planning and control of military activities of the cadet corps; the preparation and presentation of briefings and other oral and written communications; and the provision of interviews, guidance, and information that will increase the understanding, motivation, and performance of other cadets.

AFROTC cadets must also successfully complete supplemental courses to enhance their utility and performance as commissioned officers. These include University courses in English composition and mathematical reasoning. Specific courses are designated by the professor of Aerospace Studies.

Cadets in the four-year program participate in four weeks of field training. Cadets in the two- or three-year programs (with exception for prior Air Force service) must attend the five-week field training session, which is identical to the four-week program plus 90 hours of GMC curriculum. Field training is offered during the summer months at selected bases throughout the United States, usually between a student's sophomore and junior years. Major areas of study include Air Force orientation, officer training, aircrew/aircraft orientation, survival

training, base functions, and physical training.

Students applying for entry into the two- or three-year program must successfully complete five weeks of field training prior to enrollment in the Professional Officer Course. The major areas of study included in the five-week field training program are essentially the same as those conducted at the four-week program, plus the academic curriculum of the General Military Course including Leadership Laboratory. No direct academic credit is awarded for field training.

Federal scholarships are available to AFROTC cadets with any academic major. Applications must be submitted by detachment personnel to Headquarters Reserve Officers Training Corps (AFROTC), Maxwell Air Force Base, Alabama. For additional information, contact AFROTC Detachment 207 at 314/977-8227 or 1-888/4-AFROTC.

### Lower Division (General Military)

Aerospace Studies courses (I02-101B through I02-202A) are basic courses designed to acquaint students with the U.S. Air Force and the opportunities available as an officer.

#### I02-101B-102. The Air Force Today

A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officer-ship and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for AFROTC cadets, and it complements this course by providing students with followership experiences. Classroom activity, one hour per week; Leadership Laboratory, two hours per week. Credit 2 units each semester.

#### I02-201B-202A. The Air Force Way

Survey course designed to facilitate the transition from Air Force ROTC cadet to Air Force ROTC candidate. Featured topics include: Air Force heritage, Air Force leaders, quality Air Force, an introduction to ethics and values, introduction to leadership, group leadership problems, and continuing application of communication skills. Leadership Laboratory is mandatory for Air Force ROTC cadets, and it complements this course by providing cadets with their first opportunity for applied leadership experiences discussed in class. Classroom activity, one hour per week; Leadership Laboratory, two hours per week. Credit 2 units each semester.

### Upper Division (Professional Officer)

Aerospace Studies courses I02-301B through I02-402A are advanced courses designed to improve communication and management skills required of Air Force officers.

#### I02 301B-302A. Air Force Leadership and Management

The study of leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Mandatory Leadership

Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles of this course. Classroom activity, three hours per week; Leadership Laboratory, two hours per week. Credit 3 units each semester.

### **I02 401A-402A. Preparation for Active Duty**

Examines the national security process, regional studies, advanced leadership ethics, Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. An additional Leadership Laboratory complements this course by providing advanced leadership experiences, giving students the opportunity to apply leadership and management principles of this course. Classroom activity, three hours per week; Leadership Laboratory, two hours per week. Credit 3 units each semester.

### **Field Training**

Field training provides leadership and officership training in a military environment, which demands conformity to high physical and moral standards. Within this structured environment, cadets are screened for officer potential as measured against field training standards. Motivation and professional development are achieved through various programs such as flight orientation, marksmanship, and survival training. Field training is offered during the summer months at selected bases throughout the United States. Students in the four-year program participate in four weeks of field training, usually between their sophomore and junior years. Major areas of study include: Air Force orientation, officer training, aircrew/aircraft orientation, survival training, base functions, and physical training.

For additional information, contact AFROTC Detachment 207 at 314/977-8227 or 1-888/4-AFROTC.

## **Army ROTC**

Courses offered by the Army ROTC program are not under the jurisdiction of the School of Engineering & Applied Science. These course descriptions are printed here for the convenience of the members of the Washington University community.

### **MILS 101C. Introduction to Army ROTC**

Make your first new peer group at college one committed to performing well and enjoying the experience. Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations, and basic marksmanship. Learn fundamental concepts of leadership in a profession in both classroom and outdoor laboratory environments. Credit 2 units.

### **MILS 102C. Introduction to Leadership**

Learn/apply principles of effective leading. Reinforce self-confidence through participation in physically and mentally challenging exercises with upper division ROTC students. Develop communication skills to improve individual performance and group interaction. Relate organizational ethical values to the effectiveness of a leader. Credit 2 units.

### **MILS 201C. Self/Team Development**

Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning of events, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Learn fundamentals of ROTC's Leadership Development Program. Credit 3 units.

### **MILS 202C. Individual/Team Military Tactics**

Introduction to individual and team aspects of military tactics in small unit operations. Includes use of radio communications, making safety assess-

ments, movement techniques, planning for team safety/security, and methods of pre-execution checks. Practical exercises with upper division ROTC students. Learn techniques for training others as an aspect of continued leadership development. Credit 3 units.

### **MILS 301C. Leading Small Organizations I**

Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead again in situations of increasing complexity. Uses small unit defensive tactics and opportunities to plan and conduct training for lower division students both to develop such skills and as vehicles for practicing leading. Credit 3 units.

### **MILS 302C. Leading Small Organizations II**

Continues methodology of Military Science 301C. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress. Examine and apply lessons from leadership case studies. Examine importance of ethical decision-making in setting a positive climate that enhances team performance. Credit 3 units.

### **MILS 401C. Leadership Challenges and Goal-Setting**

Plan, conduct, and evaluate activities of the Army ROTC cadet organization. Articulate goals and put plans into action to attain them. Assess organizational cohesion and develop strategies to improve it. Develop confidence in skills to lead people and manage resources. Learn/apply various Army policies and programs in this effort. Credit 3 units.

### **MILS 402C. Transition to Lieutenant**

Continues the methodology from Military Science 401C. Identify and resolve ethical dilemmas. Refine counseling and motivating techniques. Examine aspects of tradition and law as it relates to leading as an officer in the Army. Prepare for a future as a successful Army lieutenant. Credit 3 units.

# Biomedical Engineering

## Chair

**Frank C-P Yin** (1997)\*

Stephen F. and Camilla T. Brauer Distinguished Professor  
Ph.D., M.D., University of California–San Diego, 1970, 1973  
Biomechanics, biofluid mechanics, cell mechanics

## Associate Chair and Associate

### Professor

**Jin-Yu Shao** (1998)

Ph.D., Duke University, 1997  
Cell mechanics, receptor and ligand interactions, molecular biomechanics

### Endowed Professors

**Yoram Rudy** (2004)

Fred Saigh Distinguished Professor  
Ph.D., Case Western Reserve University, 1978  
Cardiac electrophysiology, modeling of the cardiac system

**Larry A. Taber** (1997)

Dennis and Barbara Kessler Professor  
Ph.D., Stanford University, 1979  
Mechanics of growth and development, cardiac mechanics

**Lihong Wang** (2006)

Gene K. Beare Distinguished Professor  
Ph.D., Rice University, 1991  
Biophotonics and multimodality optical imaging

**Younan Xia** (2007)

James M. McKelvey Professor of Materials  
Ph.D., Harvard University, 1996  
Nanostructured materials, self-assembly, soft matter

### Senior Professor

**Salvatore P. Sutera** (1968)

Ph.D., California Institute of Technology, 1960  
Viscous flow, rheology of suspensions, biomechanics

### Professors

**Igor R. Efimov** (2004)

Ph.D., Moscow Institute of Physics and Technology, 1992  
Cardiac imaging, mechanisms of arrhythmias, implantable stimulators

### Associate Professors

**Jianmin Cui** (2004)

Ph.D., State University of New York–Stony Brook, 1992  
Ion channels, channel structure-function relationship, biophysics

**Shelly E. Sakiyama-Elbert** (2000)

Ph.D., California Institute of Technology, 2000  
Cell adhesion, nerve regeneration, protein engineering

**Rohit V. Pappu** (2001)

Ph.D., Tufts University, 1996  
Macromolecular self assembly and function, computational biophysics

**David S. Sept** (2001)

Ph.D., University of Alberta, 1997  
Cytoskeletal dynamics, computational biophysics

**Kurt A. Thoroughman** (2002)

Ph.D., Johns Hopkins University, 1999  
Human motor control and motor learning, neural computation

### Assistant Professors

**Dennis L. Barbour** (2004)

M.D./Ph.D., Johns Hopkins University, 2003  
Auditory physiology, sensory cortex neuro-circuitry, functional neuronal imaging

**Donald L. Elbert** (2000)

Ph.D., University of Texas at Austin, 1997  
Biomaterials, polymer chemistry, proteomics

**Daniel W. Moran** (2001)

Ph.D., Arizona State University, 1994  
Motor control, neural engineering, neuro-prosthetics, movement biomechanics

### Joint Faculty

**Dora Angelaki**, Ph.D.

(Anatomy and Neurobiology)

**R. Martin Arthur**, Ph.D.

(Electrical and Systems Engineering)

**Philip V. Bayly**, Ph.D.

(Mechanical and Aerospace Engineering)

**Michael R. Brent**, Ph.D.

(Computer Science and Engineering)

**Elliot L. Elson**, Ph.D.

(Biochemistry and Molecular Biophysics)

**Joseph W. Klaesner**, Ph.D.

(Physical Therapy)

**Sándor J. Kovács**, M.D., Ph.D.

(Medicine)

**Garland R. Marshall**, Ph.D.

(Biochemistry and Molecular Biophysics)

**James G. Miller**, Ph.D.

(Physics)

**Marcus E. Raichle**, M.D.

(Radiology)

**William D. Richard**, Ph.D.

(Computer Science and Engineering)

**Matthew J. Silva**, Ph.D.

(Orthopedic Surgery)

**Gary D. Stormo**, Ph.D.

(Genetics)

**David C. Van Essen**, Ph.D.

(Anatomy and Neurobiology)

**Samuel A. Wickline**, M.D.

(Medicine)

## About Biomedical Engineering

Biomedical engineering is an interdisciplinary field in which the concepts, methods, and techniques of engineering are applied to solving problems in biology and medicine. It applies quantitative, analytical, and integrative methods from the molecular level to that of the whole organism to further our understanding of basic biological processes and to develop innovative approaches for the prevention, diagnosis, and treatment of disease.

As a student majoring in biomedical engineering, you will have the opportunity to participate in the research activities of engineering and medical faculty via the University's Institute of Biological and Medical Engineering, which offers world-class programs in biomedical and biological imaging, cardiovascular engineering, cell and tissue engineering, molecular engineering, and neural engineering. All students in biomedical engineering are encouraged to join and be active in the Biomedical Engineering Society.

## Mission Statement

Our department's mission is to serve society as a center for learning and knowledge-creation in engineering and science for the purpose of advancing biology and medicine.

Our overall objective is to educate practitioners of biomedical engineering for a variety of careers, including those that require more specialized training. Armed with a fundamental, broad knowledge of engineering, knowledge in the relevant sciences, mathematics and biology, as well as excellent teamwork, communication, and problem-solving skills, our graduates will have successful and effective careers in academia, industry, medicine, or other associated professions. Additionally, our graduates will have an understanding, appreciation, and motivation for ethical responsibility at all levels (individual, organizational, societal) as well as an appreciation of the importance of lifelong learning.

## Academic Programs

The Bachelor of Science in Biomedical Engineering (B.S.–B.M.E.) is designed to prepare graduates for the practice of engineering at a professional level and meets nationally recognized criteria for accreditation.

The curriculum is structured around a basic core of 98–101 units (see page 330). A complementary set of courses totaling at least 27 units completes the degree requirements. The latter courses are elected from the sciences (biology, chemistry, physics), mathematics, or engineering.

To satisfy Accreditation Board for Engineering and Technology requirements, all professional engineering curricula at the baccalaureate level must include the equivalent of one and one-half years (48 credits) of engineering topics, to include engineering sciences and engineering design appropriate to biomedical engineering. To satisfy this requirement, students, with the approval of their academic advisers, are free to take any engineering courses for which they have the necessary prerequisites, including available

\* The information presented about a faculty member includes the year the faculty member came to Washington University; the highest degree received, the institution bestowing the degree, and the year it was bestowed; and major areas of research.

500-level (graduate) B.M.E. courses. They may also receive up to 6 units of academic credit for a research or design project, by registering for BME 400, Independent Work. In addition, their course program must include sufficient laboratory experience to ensure competence in experimental design, data collection, and data analysis.

Students have the option of choosing one of four areas of concentration, or tracks, of biomedical engineering. These tracked curricula are offered in addition to a general curriculum without specialization. Corresponding to each of the tracked curricula, and the untracked curriculum as well, a specific professional core plus additional elective courses must be completed in addition to the basic core. For the tracked curricula the professional cores are designed to ensure that the individual student's undergraduate training provides adequate depth in the particular specialization of his/her choice. The professional core for the general curriculum aims to ensure adequate breadth across the entire field of biomedical engineering. The four specific tracks are:

- Biomechanics
- Bioelectrical Systems
- Biomolecular Systems
- Biotechnology

Beginning on page 330, these four tracks and the general curriculum are described and their corresponding professional core and track-specific electives listed. For each of these four options a sample curriculum is displayed.

Note: These are samples only. The official departmental requirements are in the undergraduate advising manual given to each student entering in the fall.

### Joint B.S.–M.S. Program

A five-year program leading simultaneously to the professional Bachelor of Science and the Master of Science degrees in Biomedical Engineering offers an opportunity to combine undergraduate and graduate studies in an integrated curriculum. Students who earn at least a B+ average during their third, fourth, and fifth semesters may apply for admission to the joint B.S.–M.S. program before the end of their junior year. Consistent with the general requirements defined by the School of Engineering, a minimum of 150 units of academic credit must be completed. The student has the option of completing the master's degree with or without thesis. Course selections must satisfy the requirements of both the B.S. and M.S. degrees.

### Double Majors

Another option available to students majoring in Biomedical Engineering is the double major, leading to a second professional Bachelor of Science degree in one of the other engineering disciplines. A degree in Biomedical Engineering combined with a professional degree in one of the traditional engineering disciplines can be expected to enhance employment options in industry. Depending upon the second major chosen, total unit requirements may range from 140 to 148 (or less if the student enters with AP

credits). Hence, some summer work may be necessary to complete a double major within four academic years. To determine the specific requirements to be satisfied for both degrees, the student is urged to consult with an adviser in the second department as early as possible.

### BME 140. Introduction to Biomedical Engineering

Introduction to Washington University's undergraduate program in Biomedical Engineering; degree requirements and curricular tracks. Historical perspectives of biomedical engineering; contemporary scope. Elements of human anatomy and physiology; key vocabulary and definitions; major organ systems of the body and some of the defects remediable through biomedical engineering. Application of basic principles of physics, chemistry, and engineering science to the quantitative analysis of physiological systems: e.g., biological flows and mass transport, cardiac electrophysiology, metabolism and energetics, orthopedic biomechanics. Survey of artificial organs and medical devices: mechanical heart and ventricular assist devices; heart valves; extracorporeal blood oxygenators and dialyzers; prosthetic joints; cochlear implant; neural stimulators. Current research areas at WU: presentations by faculty in engineering and medi-

cine on such topics as biomedical imaging, biotechnology and biomolecular systems, cardiovascular engineering, cell and tissue engineering, computational molecular biology, neural engineering and others. Corequisites: Phys.117A, Chem.111A. Credit 3 units.

### BME 201. From Concept to Market—The Business of Biomedical Engineering

This seminar course will introduce students to the fascinating and complex process of bringing new medical technologies from the concept stage to the market place. The course draws on experiences of successful entrepreneurs and industry professionals to address some of the most important elements of the technology life cycle. Topics include the theory, practice, challenges, and opportunities of business strategy development, FDA regulations, product development, finances, sales and marketing, patents and intellectual property protection, team and corporate culture, and professional ethics. The course exposes students to the real-world experiences of guest speakers with diverse backgrounds including practicing engineers, entrepreneurs, attorneys, investors, industrial psychologists, team development professionals, career development coaches, and other relevant professionals. The course provides fun, thought-provoking, and interactive learning throughout the semester, culminating in presentations by student

## Curriculum in Biomedical Engineering—Basic Core

	Units
<b>Physical Sciences</b>	
General Chemistry (Chem 111A, 112A) .....	6
General Chemistry Laboratory I, II (Chem 151, 152) .....	4
General Physics (Physics 117A, 118A) .....	8
	18
<b>Biological Science</b>	
Principles of Biology I, II (Biol 2960, 2970) .....	8
Physiological Control Systems (Biol 3058) .....	2
	10
<b>Mathematics</b>	
Calculus II & III (Math 132, 233) .....	7
Differential Equations (Math 217) .....	4
Engineering Mathematics (ESE 317) .....	4
Probability and Statistics for Engineers (ESE 326) .....	3
	18
<b>Engineering Science</b>	
Engineering and Scientific Computing (CSE 200)	
or Computer Science I (CSE 131) .....	3–4
Introduction to Electrical Networks (ESE 230) .....	3
Engineering Electromagnetics Principles (ESE 330) .....	3
Transport Phenomena in Biological Processes (ChE 366)	
or Transport Phenomena I (ChE 367) .....	3
	12–13
<b>Biomedical Engineering</b>	
Introduction to Biomedical Engineering (BME 140) .....	3
From Concept to Market (BME 201) .....	3
Biomechanics (BME 240) .....	3
Quantitative Physiology I, II (BME 301A, 301B) .....	7
Biomedical Engineering Design (BME 401) .....	3
	19
<b>Other</b>	
Humanities and Social Science .....	15
Engineering Practice and Professional Values (ENGR 450) .....	3
Technical Writing (ENGR 310) .....	3
	21
<b>Total, Basic Core</b>	<b>98–99</b>

groups at the end of the semester in lieu of a final exam. Student teams each conceive a hypothetical medical product and develop and present a complete business plan addressing issues covered throughout the course. Students bring remarkable creativity and imagination to the final project, bringing the course to a rousing conclusion. Business, Arts & Sciences, and other non-engineering students are encouraged to join the course and take advantage of the value it offers. Prerequisite: BME 140 or permission of the instructor. Credit 3 units.

#### **BME 240. Biomechanics**

Principles of static equilibrium and solid mechanics applied to the human anatomy and a variety of biological problems. Statics of rigid bodies with applications to load-bearing joints and other structures of the human body. Mechanics of deformable media including soft biologic tissues. Growth and residual stress in living tissue. Stress analysis of bone, muscle, arteries, and the heart. Prerequisite: Math 217. Credit 3 units.

#### **BME 301A. Quantitative Physiology I**

A course (lectures and supervised laboratory sections) designed to elaborate the physiological background necessary for advanced work in biomedical engineering. A quantitative model-oriented approach to physiological systems is stressed. Topics include nerve action potentials; electromyography; and skeletal muscle mechanics. Prerequisites: BME 140, CSE 131, ESE 230, Biol 296A, SSM 317, or permission of instructor. Corequisites: Biol 3050 or 3059, ESE 317, ENGR 310, or permission of instructor. Credit 4 units.

#### **BME 301B. Quantitative Physiology II**

A course (lecture and supervised laboratory sessions) designed to elaborate the physiological background necessary for advanced work in biomedical engineering. A quantitative model-oriented approach to physiological systems is stressed. Topics include electrocardiography; heart contractility; pulse wave propagation in arteries; pulmonary function; renal function; immune system; drug delivery. Prerequisites: BME 140, CS 265, EE 280, Biol 296A, SSM 314, or permission of the instructor. Corequisites: Biol 297A, ENGR 310, or permission of the instructor. Credit 3 units.

#### **BME 314. Physics of the Heart**

Same as Physics 314.

#### **BME 400. Independent Study**

Independent investigation on topic of special interest. This course has no engineering topics units. Prerequisites: Junior or senior standing and permission of program director. Credit variable, maximum 6 units.

#### **BME 400A. Independent Study**

Independent investigation on a topic of special interest. This course has 1 unit of engineering topics. The student and mentor must justify the number of engineering topic units being requested and the BME department's accreditation committee must approve the requested number of engineering topics. Prerequisites: Junior or senior standing and permission of program director. Credit variable, maximum 6 units.

#### **BME 400B. Independent Study**

Independent investigation on a topic of special interest. This course has 2 units of engineering topics. The student and mentor must justify the number of engineering topic units being requested and the BME department's accreditation committee must approve the requested number of engineering topics. Prerequisites: Junior or senior standing and permission of program director. Credit variable, maximum 6 units.

#### **BME 400C. Independent Study**

Independent investigation on a topic of special interest. This course has 3 units of engineering topics. The student and mentor must justify the number of engineering topic units being requested and the BME department's accreditation committee must approve the requested number of engineering topics. Prerequisites: Junior or senior standing and permission of program director. Credit variable, maximum 6 units.

#### **BME 401. Biomedical Engineering Design**

A design project experience to prepare students for engineering practice. Working individually or in small groups, students will undertake an original design or redesign of a component or system of biotechnological significance. The design experience will require application of knowledge and skills acquired in earlier classes and laboratory work; it will incorporate engineering standards and realistic constraints that include most of the following considerations: economic, environmental, ethical, manufacturability, sustainability, health and safety, social, and political. Students will prepare written reports and present their designs orally to their classmates and panels of faculty members and industrial representatives. Prototype construction is not generally required but may be encouraged subject to available time, financial, and material resources. Prerequisite: BME 301A, BME 301B, and senior standing. Credit 3 units.

#### **BME 402. Senior Design II**

BME 402 is a continuation of the BME 401 class. Working in small groups, students will take a paper design completed in BME 401, and build a prototype. The students will evaluate, optimize, and undertake the building of the design. The design experience will require application of knowledge and skills acquired in earlier course work; it will incorporate engineering standards and realistic constraints that include most of the following considerations: economic, environmental, sustainability, manufacturability, ethical, health and safety, social, and political. Students will prepare written reports and participate in oral design reviews to a panel of faculty members and industrial representatives. Prototype construction is the final goal of the class. Prerequisites: BME 401, senior standing, and approval of the instructor. Credit 3 units.

#### **BME 421. Kinetics of Receptor-Mediated Processes**

Same as BME 521.

Receptor-mediated processes impact many aspects of cell behavior, including cell proliferation, survival, migration, and death. This course will focus on the development of mathematical descriptions of cell signaling processes. In particular, we will highlight models that allow the formulation of testable, mechanistic hypotheses related to cell behavior. Additionally, we will examine methods to analyze the flux of information and metabolites through enzymatic cascades. Applications of these methods in cellular engineering, metabolic engineering, and systems biology will be described. Prerequisites: Senior or graduate standing. Credit 3 units.

#### **BME 431. Biological Control Systems I**

#### **BME 431B. Biological Control Systems**

#### **BME 433. Biomedical Signal Processing**

Same as BME 533, CSE 588A. An advanced undergraduate/graduate level course. Continuous-time and discrete-time application of signal processing tools to a variety of biomedical problems. Course topics include linear systems theory, frequency transforms, sampling theorem, basis functions, linear filtering, feature extraction, noise analysis, system identification. Concepts learned in class will be applied using software

tools to real biomedical signals such as speech, ECG, EEG, medical images. Prerequisites: ESE 317, ESE 351. Credit 3 units.

#### **BME 458A. Biological Transport**

Same as BME 558.

#### **BME 459. Intermediate Biomechanics**

Same as BME 559.

#### **BME 461. Principles of Protein Structure: Folding, Evolution, and Macromolecular Assemblies**

Same as BME 5610.

The goal of the course is to provide a molecular foundation for the determinants of protein structure, sequence-structure relationships, protein evolution, and protein design. The course will be divided into four modules: (1) Quantitative understanding of protein structures and sequence-structure relationships; (2) Thermodynamics and kinetics of protein folding; (3) Protein design; and (4) Protein evolution and structural informatics. This course is a 400/500-level course. Prerequisites: Biol 2960 or equivalent. Credit 3 units.

#### **BME 462. Protein Function and Interactions**

Same as BME 5620.

This course focuses on the interactions between proteins, nucleic acids, small molecules, and drugs. We begin with the elements of molecular recognition, binding, and prediction of interactions. We next move on to molecular kinetics, inhibition, and allosteric regulation. Finally, we look at modeling regulatory networks and signaling pathways using systems biology approaches. Credit 3 units.

#### **BME 463. Orthopaedic Biomechanics—Bones and Joints**

Same as BME 563.

#### **BME 464. Orthopaedic Biomechanics—Cartilage/Tendon**

Same as BME 564.

Basic and advanced viscoelasticity and finite strain analysis applied to the musculoskeletal system, with a primary focus on soft orthopaedic tissues (cartilage, tendon, and ligament). Topics include: mechanical properties of cartilage, tendon, and ligament; applied viscoelasticity theory for cartilage, tendon, and ligament; cartilage, tendon, and ligament biology; tendon and ligament wound healing; osteoarthritis. This class is geared to graduate students and upper-level undergraduates familiar with statics and mechanics of deformable bodies. Prerequisites: BME 240 or equivalent. Note: BME 463/563 Orthopaedic Biomechanics—Bones and Joints is NOT a prerequisite. Credit 3 units.

#### **BME 467. Cardiovascular Engineering II: Cardiac Mechanics**

Same as BME 567.

This course will present experimental and theoretical techniques for analyzing distributions of stress, strain, and material properties in the ventricular walls of the beating heart. A brief description of cardiac anatomy, histology, and physiology will be provided, together with the foundations of three-dimensional finite elasticity. This background material will be followed by a detailed explanation of state-of-the-art experimental preparations and the mathematical models used to simulate their behavior. Toward the end of the course, an introduction to the diagnostic value of ventricular wall stress, strain, and material property distributions will be made. Credit 3 units.

#### **BME 468. Cardiovascular Dynamics**

Same as BME 568.

This course focuses on the analysis of blood flow through the heart and blood vessels. Basic cardiovascular anatomy and physiology; principles of continuum mechanics. Flow through heart cham-

bers, valves, and coronary arteries; peristaltic flow in the embryonic heart. Steady and unsteady flow in tubes; wave propagation in blood vessels; flow in collapsible tubes; microcirculation. Prerequisites: BME 240 or equivalent and ChE 367 or MASE 341 or equivalent, or permission of instructor. Credit 3 units.

**BME 471. Bioelectric Phenomena**

This course is a quantitative introduction to the origins of bioelectricity with an emphasis on neural and cardiac electrophysiology. Topics will include electric fields and current flow in volume conductors; cell membrane channels and their role in generating membrane potentials; action potentials and their propagation in myelinated and unmyelinated axons as well as cardiac tissue. Minor topics of discussion will include both skeletal muscle and nonhuman (e.g. electric fish) sources of bioelectricity. Prerequisite: ESE 330. Credit 3 units.

**BME 472. Biological Neural Computation**

Same as BME 572.

This course will consider the computations performed by biological nervous systems. Readings and discussions will investigate the biophysical and physiological bases of computations made by ion channels, synapses, dendrites, neurons, and neuronal systems. Computer laboratories and a semester-long independent project will determine how simple mathematical models succeed or fail to represent observed biological function and organismal behavior. Readings will include classic and current primary research papers. (Note: Graduate students in psychology or neuroscience who are in the Cognitive, Computational, and Systems Neuroscience curriculum pathway may register for one credit. These students will attend all course meetings and complete the homework assignments but will not participate in the semester-long independent project. Registration may be pass/fail. All BME students should register for three credits). Prerequisites for 3-credit option: calculus, some experience with differential equations, and cell or systems biology. Junior and senior undergraduates need permission of instructor. Prerequisites for 1-credit option: permission of instructor, calculus II, and introductory biology. Credit variable, maximum 3 units.

**BME 482B. Biomedical Instrumentation: Principles and Practice**

**BME 494. Medical Imaging**

Same as ESE 483.

**BME 499. Independent Study**

Undergraduate independent study. Credit 3 units.

**BME 500. Independent Study**

**BME 501. Graduate Seminar**

**BME 502. Cardiovascular MRI—Physics to Clinical Application**

**BME 503A. Cell and Organ Systems Biology**

**BME 504. Optical Bioelectric Imaging**

Same as Biol 5467.

**BME 505. Advanced MRI and Molecular Imaging Techniques Journal Club**

Same as Biol 5465.

**BME 506. Seminar in Imaging Science and Engineering**

Same as ESE 596.

**BME 5068. Fundamentals of Molecular Cell Biology**

Same as Biol 5068.

**BME 507. Practicum in Imaging Science and Engineering**

Same as ESE 597.

**BME 511. Biotechnology Techniques for Engineers**

**BME 521. Kinetics of Receptor-Mediated Processes**

Same as BME 421.

**BME 523. Biomaterials Science**

**BME 524. Tissue Engineering**

**BME 525. Engineering Aspects of Biotechnology**

**BME 530. Molecular Cell Biology for Engineers**

**BME 531. Introduction to Biomolecular Statistical Thermodynamics**

Same as Biol 5316.

**BME 5329. Mathematical Methods for Biophysics and Biochemistry**

Same as Biol 5329.

**BME 533. Biomedical Signal Processing**

Same as BME 433.

**BME 537. Computational Molecular Biology**

Same as Biol 5495.

**BME 537A. Intensive Course in Computational Molecular Biology**

**BME 540. Modeling Biomolecular Systems II**

**BME 546. Algorithms for Computational Biology**

**BME 5494. Quantitative Cardiovascular Physiology**

Same as Biol 5494.

**BME 556. Experimental Methods in Biomechanics**

**BME 557. Cellular and Subcellular Biomechanics**

**BME 558. Biological Transport**

Same as BME 458A, ChE 558.

**BME 559. Intermediate Biomechanics**

Same as BME 459.

**BME 561. Principles of Protein Structure: Folding, Evolution, and Macromolecular Assemblies**

**BME 5610. Principles of Protein Structure**

Same as BME 461.

**BME 562. Mechanics of Growth and Development**

**BME 5620. Protein Function and Interactions**

**BME 563. Orthopaedic Biomechanics—Bones and Joints**

Same as BME 463.

**BME 564. Orthopaedic Biomechanics—Cartilage/Tendon**

**BME 5641. Computational Neuroscience**

Same as Biol 5641.

**BME 566. Cardiac Electrophysiology**

**BME 567. Cardiovascular Engineering II: Cardiac Mechanics**

**BME 568. Cardiovascular Dynamics**

**BME 572. Biological Neural Computation**

Same as Biol 5657, BME 472.

**BME 573. Applied Bioelectricity**

**BME 574. Quantitative Bioelectricity and Cardiac Excitation**

**BME 575. Molecular Basis of Bioelectrical Excitation**

**BME 582B. Biomedical Instrumentation: Principles and Practice**

**BME 586. Advanced Cognitive, Computational, and Systems Neuroscience**

Same as Biol 5619.

**BME 590K. Nonlinear Elasticity in Biomechanics**

**BME 590L. Special Topics: Engineering Aspects of Biotechnology**

Same as ChE 590L.

**BME 590P. Polymer Principles in Protein Structure**

**BME 590Q. Biological Neural Computation**

**BME 590S. Special Topics: Tissue Engineering**

**BME 590T. Applied Neural Communication**

**BME 590U. Special Topics: Biotechnology Techniques for Engineers**

**BME 590V. Special Topics: Bioelectrical Phenomena**

**BME 590W. Molecular Thermodynamics and Kinetics**

**BME 590X. Special Topics: Design of Artificial Organs**

**BME 590Y. Special Topics: Signal Transduction and Regulatory Networks**

**BME 590Z. Special Topics: Orthopaedic Biomechanics—Bones and Joints**

**BME 591. Special Topics: Biomedical Optics I: Principles**

**BME 5911. Cardiovascular Biophysics Journal Club**

**BME 592. Special Topics: Biomedical Optics II: Imaging**

**BME 599. Master's Research**

**BME 600. Doctoral Research**

**BME 601. Research Rotation for BME Doctoral Students**

**BME 883. Master's Continuing Student Status**

**BME 884. Doctoral Continuing Student Status**

**BME 885. Master's Nonresident**

**BME 886. Doctoral Nonresident**

**BME 887. Master's Candidate**

**BME 888. Doctoral Candidate**

**BME ELE1. Biomedical Engineering Elective (Fresh.)**

Credit 0 units.

**BME ELE2. Biomedical Engineering Elective (Soph.)**

Credit 0 units.

**BME ELE3. Biomedical Engineering Elective (Junior)**

Credit 0 units.

**BME ELE4. Biomedical Engineering Elective (Senior)**

Credit 0 units.

**BME ELE5. Biomedical Engineering Elective (Grad)**

Credit 0 units.

The Biomechanics Track is intended to provide students with a foundation of knowledge pertinent to the response of biological and nonbiological materials and structures to mechanical forces. This track is appropriate for students interested in, for example, the mechanical aspects of tissue engineering, physiologic flows and transport phenomena, cardiac mechanics, bone and joint mechanics, human body dynamics, and artificial organs, tissues, and joints. The professional core for this track consists of three courses.

In addition, three more courses must be elected from the list below. After one of the three core courses (i.e., BME 459/559, BME 463/563, and BME 464/564) is taken, the remaining two can also be taken as track electives. In the sample curriculum that follows, these electives are labeled “Track Elective.”

**BME 467/567. Cardiovascular Engineering II: Cardiac Mechanics**

**BME 468/568. Cardiovascular Dynamics**

**BME 458A/558. Biological Transport**

**MASE 321. Structural Behavior and Analysis**

**MASE 5510. Finite Element Analysis**

**MASE 5500. Elasticity**

**MASE 5521 Structure and Rheology of Complex Fluids**

**MASE 431 Structural Dynamics and Vibrations, or**

**MASE 5302 Theory of Vibrations**

### Sample Curriculum: BS-BME<sup>1</sup>—Biomechanics Track

	Units	
	Fall	Spring
<b>First Year</b>		
Introduction to Biomedical Engineering (BME 140).....	3	—
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory (Chem 151, 152).....	2	2
General Physics I, II (Physics 117A, 118A).....	4	4
Calculus II, III (Math 132, 233).....	3	4
Principles of Biology I (Biol 2960).....	—	4
	<u>15</u>	<u>17</u>
<b>Second Year</b>		
From Concept to Market (BME 201).....	3	—
Biomechanics (BME 240).....	—	3
Differential Equations (Math 217).....	4	—
Computer Science I (CSE 131).....	4	—
Introduction to Electrical Networks (ESE 230).....	—	3
Principles of Biology II (Biol 2970).....	4	—
Physiological Control Systems (Biol 3058).....	—	2
Engineering Mathematics (ESE 317).....	—	4
	<u>15</u>	<u>12</u>
<b>Third Year</b>		
Quantitative Physiology I, II (BME 301A, 301B).....	4	3
Technical Writing (ENGR 310).....	3	—
Engineering Electromagnetics Principles (ESE 330).....	—	3
Engineering Mechanics II (MASE 255).....	—	3
Thermodynamics (ChE 320 or MASE 301).....	3	—
Transport Phenomena in Biological Processes (ChE 366) or Transport Phenomena I (ChE 367).....	—	3
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Practice and Professional Values (ENGR 450).....	3	—
Humanities/social sciences elective.....	<u>3</u>	<u>—</u>
	<u>16</u>	<u>15</u>
<b>Fourth Year</b>		
Intermediate Biomechanics (BME 459/559) or Orthopaedic Biomechanics — Cartilage/Tendon (BME 464/564) or Orthopaedic Biomechanics — Bones/Joints (BME 463/563)	3	—
Track Elective I.....	3	—
Track Elective II, III.....	—	6
Biomedical Engineering Design (BME 401).....	3	—
Engineering/science electives <sup>2</sup> .....	—	3
Humanities/social sciences electives.....	<u>6</u>	<u>6</u>
	<u>15</u>	<u>15</u>
<b>Total Units</b> .....		<b>120</b>

<sup>1</sup> All students must complete the Common Studies program. This includes English composition, which may be satisfied by examination or a minimum grade of C+ in E Comp 100 or 199.

<sup>2</sup> One of these electives must be an engineering topics course.

### Professional Core: Biomechanics

	Units
<b>Engineering Science</b>	
Engineering Mechanics II (MASE 255).....	3
Thermodynamics (ChE 320/MASE 301).....	3
<b>Biomedical Engineering</b>	
Intermediate Biomechanics (BME 459/559).....	<u>3</u>
<b>Total, Professional Core</b> .....	<b>9</b>

The Bioelectrical Systems Track trains students to understand and to undertake research and design at the interface of biological systems and electrical engineering. Students learn how to investigate electrical phenomena in biological systems, design novel medical instrumentation, and process biologically derived signals. It is an ideal program for students seeking a career in the medical device industry or desiring a strong background for continued studies in neural engineering. The professional core for this track consists of four courses.

In addition, two more courses must be elected from the list below. In the sample curriculum that follows, these electives are labeled "Track Elective."

**BME 471. Bioelectric Phenomena****BME 572. Biological Neural Computation****BME 533. Biomedical Signal Processing****BME 504. Optical Bioelectric Imaging****BME 573. Applied Bioelectricity****BME 575. Molecular Basis of Bioelectric Excitation****Sample Curriculum: BS-BME<sup>1</sup>—Bioelectrical Systems Track**

	Units	
	Fall	Spring
<b>First Year</b>		
Introduction to Biomedical Engineering (BME 140).....	3	—
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory (Chem 151, 152).....	2	2
General Physics I, II (Physics 117A, 118A).....	4	4
Calculus II, III (Math 132, 233).....	3	4
Principles of Biology I (Biol 2960).....	—	4
	<u>15</u>	<u>17</u>
<b>Second Year</b>		
From Concept to Market (BME 201).....	3	—
Biomechanics (BME 240).....	—	3
Differential Equations (Math 217).....	4	—
Computer Science I (CSE 131).....	4	—
Introduction to Electrical Networks (ESE 230).....	—	3
Principles of Biology II (Biol 2970).....	4	—
Physiological Control Systems (Biol 3058).....	—	2
Engineering Mathematics (ESE 317).....	—	4
	<u>15</u>	<u>12</u>
<b>Third Year</b>		
Quantitative Physiology I, II (BME 301A, 301B).....	4	3
Technical Writing (ENGR 310).....	3	—
Introduction to Electronic Circuits (ESE 232).....	3	—
Engineering Electromagnetics Principles (ESE 330).....	—	3
Signals and Systems (ESE 351).....	—	3
Thermodynamics (ChE 320/MASE 301).....	3	—
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Practice and Professional Values (ENGR 450).....	—	3
Humanities/social sciences elective.....	<u>3</u>	<u>—</u>
	<u>16</u>	<u>15</u>
<b>Fourth Year</b>		
Biomedical Engineering Design (BME 401).....	3	—
Control Systems (ESE 441).....	3	—
Track Elective I.....	3	—
Track Elective II.....	—	3
Transport Phenomena in Biological Processes (ChE 366) or Transport Phenomena I (ChE 367).....	—	3
Engineering/science electives.....	—	3
Humanities/social sciences electives.....	<u>6</u>	<u>6</u>
	<u>15</u>	<u>15</u>
<b>Total Units</b> .....		<b>120</b>

<sup>1</sup> All students who wish to earn the professional degree must complete the Common Studies program. This includes English composition, which may be satisfied by examination or a minimum grade of C+ in E Comp 100 or 199.

**Professional Core: Bioelectrical Systems**

	Units
<b>Engineering Science</b>	
Introduction to Electronic Circuits (ESE 232).....	3
Signals and Systems (ESE 351).....	3
Control Systems (ESE 441).....	3
Thermodynamics (ChE 320/MASE 301).....	<u>3</u>
<b>Total, Professional Core</b> .....	<b>12</b>

The Biomolecular Systems Track focuses on the application of engineering principles in molecular and structural biology. The blend of courses allows prospective students to train in one of three thrust areas, namely, Structural Biology, Systems Biology, and Computational Biology. The professional core for this track consists of four courses.

In addition, two courses must be elected from the list below. In the sample curriculum that follows, these electives are labeled "Track Elective."

**Biol 451. General Biochemistry (requires Chem 252)**

**BME 546. Algorithms for Computational Biology**

**BME 531. Introduction to Biomolecular Statistical Thermodynamics**

**Chem 401. Physical Chemistry I**

**Chem 453. Bioorganic Chemistry**

**CSE 405/ESE411. Numerical Methods**

**BME 540. Modeling Biomolecular Systems II**

**BME 458A/558. Biological Transport**

**ChE 351. Engineering Analysis of Chemical Systems**

### Sample Curriculum: BS-BME<sup>1</sup>—Biomolecular Systems Track

	Units	
	Fall	Spring
<b>First Year</b>		
Introduction to Biomedical Engineering (BME 140).....	3	—
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory (Chem 151, 152).....	2	2
General Physics I, II (Physics 117A, 118A).....	4	4
Calculus II, III (Math 132, 233).....	3	4
Principles of Biology I (Biol 2960).....	—	4
	<u>15</u>	<u>17</u>
<b>Second Year</b>		
From Concept to Market (BME 201).....	3	—
Biomechanics (BME 240).....	—	3
Differential Equations (Math 217).....	4	—
Computer Science I (CSE 131).....	4	—
Introduction to Electrical Networks (ESE 230).....	—	3
Principles of Biology II (Biol 2970).....	4	—
Physiological Control Systems (Biol 3058).....	—	2
Engineering Mathematics (ESE 317).....	—	4
	<u>15</u>	<u>12</u>
<b>Third Year</b>		
Quantitative Physiology I, II (BME 301A, 301B).....	4	3
Organic Chemistry I (Chem 251).....	3	—
Technical Writing (ENGR 310).....	3	—
Engineering Electromagnetics Principles (ESE 330).....	—	3
Thermodynamics (ChE 320).....	3	—
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Practice and Professional Values (ENGR 450).....	—	3
Humanities/social sciences elective.....	3	3
	<u>16</u>	<u>15</u>
<b>Fourth Year</b>		
Biomedical Engineering Design (BME 401).....	3	—
Transport Phenomena Biological Processes (ChE 366) or Transport Phenomena I (ChE 367).....	3	—
Principles of Protein Structure (BME 461/5610).....	3	—
Protein Function and Interactions (BME 462/5620).....	—	3
Track Elective I/Track Elective II <sup>2</sup> .....	3	3
Engineering/science elective.....	—	3
Humanities/social sciences electives.....	3	6
	<u>15</u>	<u>15</u>
<b>Total Units</b> .....		<b>120</b>

<sup>1</sup>All students who wish to earn the professional degree must complete the Common Studies program. This includes English composition, which may be satisfied by examination or a minimum grade of C+ in E Comp 100 or 199.

<sup>2</sup>One of these electives must be an engineering topics courses.

### Professional Core: Biomolecular Systems

	Units
<b>Chemistry</b>	
Organic Chemistry I (Chem 251).....	3
<b>Engineering Science</b>	
Thermodynamics (ChE 320).....	3
<b>Biomedical Engineering</b>	
Principles of Protein Structure (BME 461/5610).....	3
Protein Function and Interactions (BME 462/5620).....	3
<b>Total, Professional Core</b> .....	<b>12</b>

The Biotechnology Track focuses on the study of chemical phenomena that govern interactions among molecules in biological systems. The track is appropriate for those students with interests in tissue engineering, drug delivery, biomaterials, gene therapy, protein engineering, and metabolic engineering. Students in this track follow a chemical engineering core curriculum, including thermodynamics, kinetics, and transport phenomena, thereby preparing themselves for a career in biotechnology, or the medical device industry. The professional core for this track consists of five courses.

In addition, one more course must be elected from the list below. In the sample curriculum that follows, this elective is labeled “Track Elective.”

**BME 523. Biomaterials Science**

**BME 525. Engineering Aspects of Biotechnology**

**BME 524. Tissue Engineering**

**BME 590X. Design of Artificial Organs**

**Sample Curriculum: BS-BME<sup>1</sup>—Biotechnology Track**

	Units	
	Fall	Spring
<b>First Year</b>		
Introduction to Biomedical Engineering (BME 140).....	3	—
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory (Chem 151, 152).....	2	2
General Physics I, II (Physics 117A, 118A).....	4	4
Calculus II, III (Math 132, 233).....	3	4
Principles of Biology I (Biol 2960).....	—	4
	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 15	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 17
<b>Second Year</b>		
From Concept to Market (BME 201).....	3	—
Biomechanics (BME 240).....	—	3
Differential Equations (Math 217).....	4	—
Computer Science I (CSE 131).....	4	—
Introduction to Electrical Networks (ESE 230).....	—	3
Principles of Biology II (Biol 2970).....	4	—
Physiological Control Systems (Biol 3058).....	—	2
Engineering Mathematics (ESE 317).....	—	4
	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 15	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 12
<b>Third Year</b>		
Quantitative Physiology I, II (BME 301A, 301B).....	4	3
Organic Chemistry I (Chem 251).....	3	—
Thermodynamics (ChE 320).....	—	3
Engineering Analysis Chemical Systems (ChE 351).....	3	—
Transport Phenomena in Biological Processes (ChE 366) or Transport Phenomena I (ChE 367).....	—	3
Technical Writing (ENGR 310).....	3	—
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Practice and Professional Values (ENGR 450).....	—	3
Humanities/social sciences elective.....	3	—
	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 16	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 15
<b>Fourth Year</b>		
Biomedical Engineering Design (BME 401).....	3	—
Transport Phenomena II (ChE 368).....	3	—
Chemical Reaction Engineering (ChE 471) or Kinetics of Receptor-Mediated Processes (BME 421).....	3	—
Engineering Electromagnetics Principles (ESE 330).....	—	3
Track Elective.....	—	3
Engineering/science electives.....	—	3
Humanities/social sciences electives.....	6	6
	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 15	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 0;"/> 15
<b>Total Units</b> .....		<b>120</b>

<sup>1</sup> All students who wish to earn the professional degree must complete the Common Studies program. This includes English composition, which may be satisfied by examination or a minimum grade of C+ in E Comp 100 or 199.

**Professional Core**

	Units
<b>Chemistry</b>	
Organic Chemistry I (Chem 251).....	3
<b>Engineering Science</b>	
Transport Phenomena II (ChE 368).....	3
Thermodynamics (ChE 320).....	3
Engineering Analysis Chemical Systems (ChE 351).....	3
Chemical Reaction Engineering (ChE 471) or Kinetics of Receptor-Mediated Processes (BME 421).....	3
<b>Total, Professional Core</b> .....	<b>15</b>

Students wishing to obtain the B.S.-B.M.E. degree without a concentration must complete the basic core (see page 327). To complete the balance of units necessary to attain the minimum of 120 units required for the BS by the School of Engineering, the students are free to take any engineering courses for which they have the necessary prerequisites, including available 500-level BME courses. However, it is important to recall that, in order to satisfy engineering accreditation requirements, the professional curriculum must encompass the equivalent of one and one-half years (approximately 3 semesters or 45 credits) of engineering topics, to include engineering sciences and engineering design appropriate to biomedical engineering. Consequently, unless the student enters the program with advanced placement, he or she is likely to need more than the 120-unit minimum to satisfy the engineering topics requirement.

### Sample Curriculum: BS-BME<sup>1</sup>—General Curriculum (No Track)

	Units	
	Fall	Spring
<b>First Year</b>		
Introduction to Biomedical Engineering (BME 140).....	3	—
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory (Chem 151, 152).....	2	2
General Physics I, II (Physics 117A, 118A).....	4	4
Calculus II, III (Math 132, 233).....	3	4
Principles of Biology I (Biol 2960).....	—	4
	<u>15</u>	<u>17</u>
<b>Second Year</b>		
From Concept to Market (BME 201).....	3	—
Biomechanics (BME 240).....	—	3
Differential Equations (Math 217).....	4	—
Computer Science I (CSE 131).....	4	—
Introduction to Electrical Networks (ESE 230).....	—	3
Principles of Biology II (Biol 2970).....	4	—
Physiological Control Systems (Biol 3058).....	—	2
Engineering Mathematics (ESE 317).....	—	4
	<u>15</u>	<u>12</u>
<b>Third Year</b>		
Quantitative Physiology I, II (BME 301A, 301B).....	4	3
Technical Writing (ENGR 310).....	3	—
Engineering Electromagnetics Principles (ESE 330) or Signals and Systems (ESE 351).....	—	3
Thermodynamics (ChE 320 or MASE 301).....	3	—
Fluid Mechanics (MASE 341) or Transport Phenomena in Biological Processes (ChE 366) or Transport Phenomena I (ChE 366/367).....	—	3
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Practice and Professional Values (ENGR 450).....	3	—
Humanities/social sciences electives.....	<u>3</u>	<u>3</u>
	16	15
<b>Fourth Year</b>		
Biomedical Engineering Design (BME 401).....	3	—
Engineering/science electives <sup>2</sup> .....	9	9
Humanities/social sciences electives.....	<u>3</u>	<u>6</u>
	15	15
<b>Total Units</b> .....		<b>120</b>

<sup>1</sup> All students who wish to earn the professional degree must complete the entire professional core and the Common Studies program. This includes English composition which may be satisfied by examination or a minimum grade of C+ in E Comp 100 or 199.

<sup>2</sup> Nine credits of these electives must be from engineering topics courses. Some elective courses are listed in the Appendix. Note that all courses in the Appendix are not engineering topics courses.

### Professional Core: General Curriculum

	Units
<b>Engineering Science</b>	
Thermodynamics (ChE 320/MASE 301).....	3
Engineering Electives.....	<u>12</u>
<b>Total, Professional Core</b> .....	<b>15</b>

# Computer Science and Engineering

## Chair

**Gruia-Catalin Roman** (1976)  
Harold B. and Adelaide G. Welge Professor of Computer Science  
Ph.D., University of Pennsylvania, 1976  
Software engineering, mobile computing, sensor networks, distributed and concurrent systems, formal methods

## Associate Chair and Professor

**Ron K. Cytron** (1993)  
Ph.D., University of Illinois at Urbana-Champaign, 1984  
Programming languages, middleware, real-time systems

## Endowed Professors

**Michael R. Brent** (1999)  
Henry Edwin Sever Professor of Engineering  
Ph.D., Massachusetts Institute of Technology, 1991  
Systems biology, computational and experimental genomics, mathematical modeling, algorithms for computational biology, bioinformatics

**Mark A. Franklin** (1970)  
Hugo F. and Ina Champ Urbauer Professor of Engineering  
Ph.D., Carnegie Mellon University, 1970  
Computer architecture, systems analysis and parallel processing, storage systems design

**Sally A. Goldman** (1990)  
Edwin H. Murty Professor of Engineering  
Ph.D., Massachusetts Institute of Technology, 1990  
Content-based image retrieval, algorithms, machine learning, computational learning theory

**Jonathan S. Turner** (1983)  
Barbara J. and Jerome R. Cox, Jr. Professor of Computer Science  
Ph.D., Northwestern University, 1982  
Design and analysis of internet routers and switching systems, networking and communications, algorithms

## Professors

**Raj Jain** (2005)  
Ph.D., Harvard University, 1978  
Wireless networks, network security, next generation Internet, sensor networks, telecommunications networks, performance analysis, traffic management, quality of service

## Associate Professors

**Jeremy Buhler** (2001)  
Ph.D., University of Washington, 2001  
Computational biology, genomics, algorithms for comparing and annotating large biosequences

**Roger D. Chamberlain** (1989)  
D.Sc., Washington University, 1989  
Computer engineering, parallel computation, computer architecture, multiprocessor systems

**Christopher D. Gill** (2001)  
D.Sc., Washington University, 2002  
Distributed real-time embedded systems, middleware, formal models and analysis of concurrency and timing

**Kenneth J. Goldman** (1990)  
Ph.D., Massachusetts Institute of Technology, 1990  
Programming environments, distributed systems

**Cindy M. Grimm** (2000)  
Ph.D., Brown University, 1996  
Surface modeling, art-based rendering, user interfaces, texture generation

**Robert Pless** (2000)  
Ph.D., University of Maryland, 2000  
Computer vision, medical imaging, sensor network algorithms

**William D. Richard** (1988)  
Ph.D., University of Missouri-Rolla, 1988  
Ultrasonic imaging, medical instrumentation, computer engineering

**Weixiong Zhang** (2000)  
Ph.D., University of California-Los Angeles, 1994  
Computational biology, artificial intelligence, machine learning, heuristic search, combinatorial optimization, algorithms

## Assistant Professors

**Burchan Bayazit** (2003)  
Ph.D., Texas A&M University, 2003  
Motion planning, robotics, graphics, human-machine interaction, sensor networks

**Yixin Chen** (2005)  
Ph.D., University of Illinois at Urbana-Champaign, 2005  
Mathematical optimization, artificial intelligence, planning and scheduling, data mining, learning data warehousing, operations research, data security

**Patrick Crowley** (2003)  
Ph.D., University of Washington, 2003  
Computer and network systems architecture

**Sergey Gorinsky** (2003)  
Ph.D., University of Texas at Austin, 2003  
Computer networking, robust communication protocols, distributed systems

**Tao Ju** (2005)  
Ph.D., Rice University, 2005  
Computer graphics, visualization, mesh processing, medical imaging and modeling

**Caitlin Kelleher** (2007)  
Ph.D., Carnegie Mellon University (2006)  
Human-computer interaction, programming environments, and learning environments

**Chenyang Lu** (2002)  
Ph.D., University of Virginia, 2001  
Real-time and embedded systems, wireless sensor networks, mobile computing

**William D. Smart** (2001)  
Ph.D., Brown University, 2002  
Machine learning, mobile robotics, human-robot interaction, brain-computer interfaces

## Senior Research Associates

**Fred Kuhns** (1997)  
M.S., Washington University, 1991  
Operating systems, networking, software frameworks, extensible architectures

**Kenneth F. Wong** (1984)  
D.Sc., Washington University, 1985  
Computer communications, networking, software architecture

## Research Associate

**David M. Zar** (1996)  
M.S., Washington University, 1993  
Computer engineering, simulation and design software

## Senior Professors

**Jerome R. Cox, Jr.** (1955)  
Sc.D., Massachusetts Institute of Technology, 1954  
Computer system design, computer networking, biomedical computing

**Richard A. Dammkoehler** (1960)  
M.S., Washington University, 1959  
Computer programming theory, information retrieval, computer systems architecture

**Takayuki D. Kimura** (1978)  
Ph.D., University of Pennsylvania, 1971  
Communication and computation, visual programming

## Professor Emeritus

**Seymour V. Pollack** (1966)  
M.S., Brooklyn Polytechnic Institute, 1966  
Intellectual property, information systems

## About Computer Science

Computer science is an interdisciplinary field, both in its origin and in its application. Computer science plays an important role in virtually all fields, including science and medicine, music and art, business, law, and human communication. Whether your goal is to become a practicing computer scientist or to take a few courses to develop a basic understanding of computer science for application to another field, the Department of Computer Science and Engineering at Washington University is committed to helping you gain the computing background you need.

People are attracted to the study of computer science for a variety of reasons. Consequently, the department offers a wide variety of academic programs, including a five-course minor, a second major, several undergraduate degrees, combined undergraduate and graduate programs, as well as undergraduate research opportunities and an undergraduate honors program. Each academic program can be tailored to your individual needs.

The field of computer science is very broad, encompassing all aspects of the de-

sign, analysis, implementation, and use of computer technology. These aspects may be best understood in terms of the general categories of software systems, hardware, theory, and applications.

**Software systems** are collections of interacting software components that work together to support the needs of computer applications. Courses in this area help you gain a solid understanding of how software systems are designed and implemented. Examples include operating systems that manage computational resources, network protocols that are responsible for the delivery of information, compilers that translate computer programs into executable form, and programming languages that support the construction of software systems and applications.

**Hardware** is the term used to describe the physical and mechanical components of a computer system. Courses in this area provide background in logic circuits that carry out basic computations, computer architecture that defines the organization of circuitry in a computer system, and peripheral devices such as disks and robot arms that are controlled by the computer system.

**Theory** is the study of fundamental possibilities and limitations of computer systems. A background in theory will help you choose among competing design alternatives on the basis of their relative efficiency, and will help you to verify that your implementations satisfy the specified requirements. Theory courses provide background in algorithms that describe how a computation is to be carried out, data structures that specify how information is to be organized within the computer, analysis that is used to understand the time or space requirements of a problem or solution, and verification techniques for proving that solutions are correct.

**Applications** are the ways in which computer technology is applied to support work in other disciplines. Most applications courses provide background not only in the applications themselves but also in how the applications are designed and implemented. Applications areas include artificial intelligence, computer graphics, database systems, and others.

A typical well-rounded study of computer science will include background in each of these areas. However, depending on your educational goals, you may prefer to concentrate on certain areas for greater depth of knowledge. If you are planning to take the Computer Science Graduate Record Exam, then you are strongly advised to take CSE 422S, CSE 431S, and CSE 547T. To help you balance your elective courses, most upper-level computer science courses are numbered with a designation in one of these categories: S for software systems, M for machines (hardware), T for theory, and A for applications. You are encouraged to meet with a faculty adviser in the Department of Computer Science and Engineering to discuss your options and develop a plan consistent with your goals.

## About Computer Engineering

The mission of the undergraduate program in computer engineering is to instill in students the knowledge and perspective appropriate for a professional career and for the pursuit of an advanced degree in computer engineering and in related fields. Such principles and practices include rigorous quantitative reasoning and robust engineering design in the context of a comprehensive and contemporary education in the engineering of computer systems. This includes developing an understanding of hardware and software issues as well as their interactions. Our graduates pursue studies leading to a knowledge of hardware systems (e.g., electrical networks, VLSI); a knowledge of software systems (e.g., algorithms, operating systems); and a knowledge of how these two domains interact (e.g., digital logic, computer architecture). The objectives of this program are to provide: (1) a breadth of knowledge in general engineering, computer engineering, and related topics; (2) a depth of knowledge in more focused areas of computer engineering; and (3) a general set of skills related to "preparation for life" (e.g., communication skills, etc.).

Computer engineering encompasses studies of hardware, software, and systems questions that arise in the design, development, and application of computers. When you graduate with the Bachelor of Science Degree in Computer Engineering, you will be able to understand the technical issues, evaluate the tradeoffs, and master the techniques for designing computer systems. You will also be prepared to clearly communicate your understandings and conclusions in oral and written form.

Training is provided through a variety of courses in computer science and electrical engineering; involvement in complete system development projects; and close association with computer laboratories such as the Computer and Communications Research Center, the Applied Research Laboratory, and the Electronic Systems and Signals Research Laboratory. Facilities include Sun computers and workstations, parallel computers, personal computers, numerous microprocessors, a variety of image-processing equipment, tools for VLSI design and digital systems fabrication, and extensive hardware and software capabilities for the development of special-purpose computers and the evaluation of new computer architectures.

The program is intended for well-qualified, highly motivated students who wish to study both computer hardware and software. Students who complete this program receive the Bachelor of Science in Computer Engineering. As an option, you may choose to pursue a double major by also satisfying the degree requirements of the B.S.C.S. or B.S.E.E.

## Undergraduate Programs

This section introduces you to the wide variety of undergraduate programs offered by the Department of Computer Science and

Engineering and will help you to start thinking about which options are right for you. We describe the Minor in Computer Science, the second major, the premedical option, the B.S. degree, the B.S.C.S. degree, the B.S. in Computer Engineering, combined undergraduate and graduate programs, the Undergraduate Research Opportunities Program, and the Cooperative Education Program. Additional information can be found at [www.cse.wustl.edu](http://www.cse.wustl.edu).

On the following pages are some sample schedules for several of the Computer Science and Engineering degree options. These schedules demonstrate some of the many course schedules that can be selected in completing your computer science or computer engineering degree. Some students choose to take some courses during the summer to reduce their course loads during the fall and spring semesters. Your adviser can help you design a program tailored to your individual needs.

Many nonmajors take a CS course to broaden their education. CSE 100B (1 unit), CSE 104 (3 units), CSE 126 (3 units), CSE 131 (4 units), and CSE 200 (3 units) do not require any computer science background. For a student who completes CSE 126 and then chooses to pursue any major or minor offered by the CSE department, CSE 131X (2 units) can be taken in lieu of CSE 131 (4 units). Guidance for nonmajors in selecting a CS course can be found at [cse.seas.wustl.edu/EntryCourses/](http://cse.seas.wustl.edu/EntryCourses/).

## Minor in Computer Science

If your goal is a basic foundation in computer science for application to another field, but you are not planning a career as a practicing computer scientist, the Minor in Computer Science is a good choice. The minor consists of five CSE courses, including three core courses and two electives. The core courses provide an introduction to computer science concepts and problem-solving techniques. The electives offer flexibility to integrate your computer science studies with your major area. You select the courses that are most important to you, whether your interests are in fine arts, linguistics, psychology, philosophy, law, business, medicine, the natural sciences, or anything else.

The requirements for the CS minor are:

1. Core: CSE 131, 132, 241
2. Electives: Any two additional CSE courses selected among CSE 200, CSE 240, and CSE courses with an S, M, T, or A suffix. (See About Computer Science on page 335 for an explanation of the suffix designations.)

For the electives, you may choose two related electives for depth of coverage, or you may choose two very different courses for breadth of exposure. Please be aware of prerequisites in selecting elective courses. Should you decide to go further in the field, all courses in the CSE minor except CSE 200 can be counted toward a computer science major or degree. All courses used for the Minor in Computer Science must be taken for a grade, and you must earn a C– or

better. A declaration form can be obtained in Lopata 303 or the CSE office (Bryan 509).

**Minor in Bioinformatics**

Mindful of the emerging opportunities at the interface of biology and computer science, the Departments of Biology and of Computer Science and Engineering are sponsoring a Bioinformatics Minor that will serve students from both departments, as well as other students from the natural sciences and engineering with an interest in this field.

The Bioinformatics Minor requires six or seven courses (20 to 24 units) as described below:

- Biol 280, DNA Workshop (4 units)
- or
- Biol 2960 (4 units) plus Biol 2970 (4 units)
- Math 2200, Elementary Probability and Statistics (3 units)
- or
- Math 3200 Elementary and Intermediate Statistics and Data Analysis (3 units)
- or
- ESE 326, Probability and Statistics for Engineering (3 units)
- CSE 131, Computer Science I (4 units)

CSE 241, Algorithms and Data Structures (3 units)

Plus one elective in advanced biology, selected from the following:

- Biol 3492 Laboratory Experiments with Eukaryotic Microbes (3 units)
- Biol 4181 Population Genetics (3 units)
- Biol 4342 Research Explorations in Genomics (4 units)
- Biol 437 Laboratory on DNA Manipulation (4 units)

And one elective in advanced computer science, selected from the following:

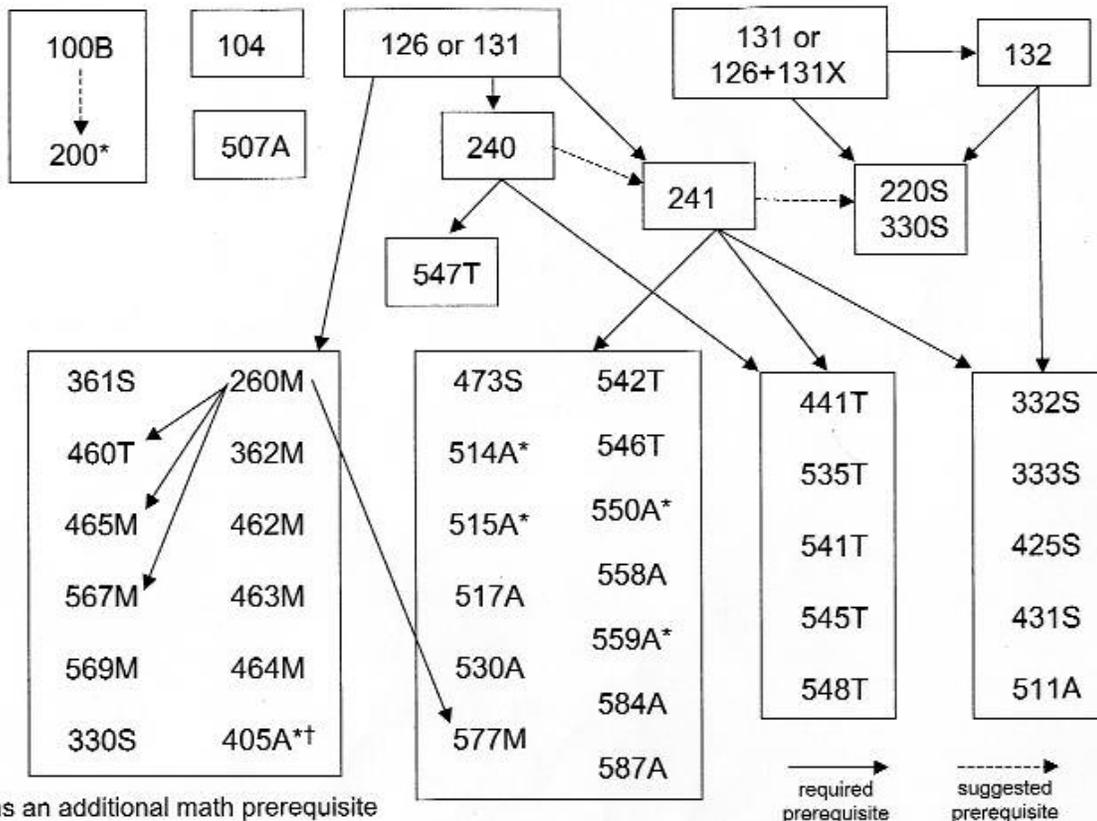
- CSE 584A Algorithms for Biosequence Comparison (3 units)
- CSE 587A Algorithms for Computational Biology (3 units)(same as Biol 5495)

It is anticipated that for those students majoring in biology, computer science, or computer engineering, some portion of the introductory sequence will overlap with courses required for the major, and these courses will be applicable to both the major and the minor. All upper-level courses in biology and CSE used to fulfill the minor may not be used to fulfill another major or minor

in Arts & Sciences. A minimum grade of C- is required for all courses to count toward the minor.

Note: Biol 280, DNA Workshop, will provide students with the grounding in molecular biology (DNA, RNA, proteins) and Mendelian genetics that will enable them to participate in the upper-level courses in the bioinformatics minor. Biol 280 is not appropriate for biology majors or premedical students but is designed to serve the needs of students in the physical sciences, math, or engineering who wish to pursue this minor. Students from the humanities, social sciences, and business are also welcome in this course. Students will be expected to earn a minimum grade of B in Biol 280 (or the Biol 2960-2970 sequence) to advance in the minor. Permission of the instructor will be required to use this course to satisfy the prerequisites for upper-level biology courses to insure that this standard has been met satisfactorily. Sarah Elgin (Biology) and Jeremy Buhler (Computer Science and Engineering) currently serve as advisers for the minor.

**CSE Prerequisites** (courses with required prerequisites above the 200 level are omitted)



\*has an additional math prerequisite  
 †alternate prerequisite of CSE 200

**Sample Schedules for Computer Science Degree Options\***

Degree Program	Year 1	Year 2	Year 3	Year 4
<b>Bachelor of Science in Computer Science (B.S.C.S.)</b>	Fall CSE 131 Math 132 Physics 117A Humanities/social sciences elective	CSE 240 Math 217 Chem 111A Chem 151 Humanities/social sciences elective	CSE 332S CSE 260M or 361S ENGR 310 ESE 326 Humanities/social sciences elective	CSE 422S, 425S, or 431S CSE elective Humanities/social sciences elective free elective free elective
	Spring CSE 132 Math 233 Physics 118A E Comp 100	CSE 241 CSE elective ESE 317, ESE 309, or Math 309 Humanities/social sciences elective free elective	CSE elective CSE elective Humanities/social sciences elective free elective free elective	CSE 436S CSE elective CSE elective free elective free elective
<b>Bachelor of Science (B.S.) with a major in Computer Science (starting freshman year)</b>	Fall CSE 131 Math 132 Humanities/social sciences elective free elective	CSE 241 Science or psych (4 units) Humanities/social sciences elective free elective free elective	CSE elective CSE elective ENGR 310 Humanities/social sciences elective free elective	CSE 422S, 425S, or 431S CSE elective Humanities/social sciences elective free elective free elective
	Spring CSE 132 CSE 240 Math 233 E Comp 100	CSE 332S CSE elective Science or psych (4 units) Humanities/social sciences elective free elective	CSE elective CSE elective ESE 326 or Math 3200 Humanities/social sciences elective free elective	CSE elective CSE elective free elective free elective free elective
<b>Bachelor of Science (B.S.) with a major in Computer Science (starting third semester)</b>	Fall Math 132 Humanities/social sciences elective free elective free elective free elective	CSE 131 Science or psych (4 units) Humanities/social sciences elective free elective E Comp 100	CSE 240 CSE 361S Humanities/social sciences elective free elective free elective	CSE 422S, 425S, or 431S CSE elective CSE elective ESE 326 or Math 3200 free elective
	Spring Math 233 Humanities/social sciences elective free elective free elective free elective	CSE 132 CSE 240 Science or psych (4 units) Humanities/social sciences elective	CSE 332S CSE elective CSE elective ENGR 310 Humanities/social sciences elective	CSE elective CSE elective CSE elective free elective free elective
<b>Bachelor of Science (B.S.) with a major in Computer Science (for a premedical student)</b>	Fall CSE 131 Math 132 Chem 111A Chem 151 Humanities/social sciences elective	CSE 240 Biol 297A Physics 117A E Comp 100 Humanities/social sciences elective	CSE 332S CSE elective Chem 251 Biology elective with lab (5 units)	CSE 422S, 425S, or 431S CSE elective CSE elective ENGR 310 Humanities/social sciences elective
	Spring CSE 132 Math 233 Chem 112A Chem 152 Biol 296A	CSE 241 Biol 3051 Physics 118A English Literature course (fills a humanities/social sciences elective)	CSE elective CSE elective CSE elective Chem 252 Chem 257 ESE 326 or Math 3200	CSE elective CSE elective CSE elective Humanities/social sciences elective Humanities/social sciences elective

\* At least 6 of the 18 units of the humanities/social sciences electives must be a humanities course and at least 6 of the 18 units must be a social sciences course. All elective courses are assumed to be 3 units unless otherwise stated.

### Sample Schedules for Computer Engineering Degree Options\*

Degree Program	Year 1	Year 2	Year 3	Year 4
<b>Bachelor of Science in Computer Engineering (B.S.Co.E.)</b>	Fall CSE 131 Math 132 Physics 117A Humanities/social sciences elective	CSE 240 CSE 361S Math 217 Chem 111A Chem 151	CSE 362M ESE 232 ESE 326 ENGR 310 Humanities/social sciences elective	CSE 465M CoE elective CoE elective Humanities/social sciences elective Free elective
	Spring CSE 132 CSE 260M Math 233 Physics 118A	CSE 241 ESE 230 ESE 317 E Comp 100 Free elective	CSE 462M CoE elective CoE elective Humanities/social sciences elective Free elective	CoE elective CoE elective Humanities/social sciences elective Humanities/social sciences elective Free elective
<b>Dual Degree of B.S.Co.E. and B.S.C.S. (also shows starting the calculus sequence with Math 131)</b>	Fall CSE 131 Math 131 Physics 117A Humanities/social sciences elective	CSE 241 CSE 361S Math 233 Chem 111A Chem 151	CSE 422S ESE 230 ESE 317 ENGR 310 Humanities/social sciences elective	CSE 465M CoE/CS elective CoE elective Humanities/social sciences elective Humanities/social sciences elective
	Spring CSE 132 CSE 240 Math 132 Physics 118A	CSE 260M CSE 332S Math 217 E Comp 100 Free elective	CSE 362M CSE 436S ESE 232 ESE 326 CS elective	CSE 462M CoE/ESE elective Humanities/social sciences elective Humanities/social sciences elective Free elective
<b>Dual Degree of B.S.Co.E. and B.S.E.E.</b>	Fall CSE 131 Math 132 Physics 117A Humanities/social sciences elective	CSE 361S ESE 230 Math 217 Chem 111A Chem 151	CSE 241 CSE 362M ESE 326 ESE 351 ENGR 310	CSE 465M CoE/EE elective ESE 331 or ESE 488 Humanities/social sciences elective Humanities/social sciences elective
	Spring CSE 132 ESE 105 Math 233 Physics 118A	CSE 240 CSE 260M ESE 232 ESE 317 E Comp 100	CSE 462M CoE/EE elective ESE 330 Humanities/social sciences elective Free elective	ESE 498 CoE elective CoE/EE elective Humanities/social sciences elective Humanities/social sciences elective

\* At least 6 of the 18 units of the humanities/social sciences electives must be a humanities course and at least 6 of the 18 units must be a social sciences course. All elective courses are assumed to be 3 units unless otherwise stated. A CoE/CS elective is a course that can be used as both a CoE and CS elective. Likewise, a CoE/EE elective is a course that can be used as both a CoE and EE elective.

**Sample Schedules for Joint CS/Graduate Degree Options\***

<b>Degree Program</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>B.S.–M.S.</b>	Fall CSE 131 Math 132 Humanities/social sciences elective Free elective	CSE 241 Science/psych (4 units) Humanities/social sciences elective Free elective Free elective	CSE (B.S.) elective CSE (B.S.) elective Free elective Free elective Free elective	CSE (B.S.) elective CSE (B.S./M.S.) elective CSE (M.S.) elective Humanities/social sciences elective Free elective	CSE (M.S.) elective CSE (M.S.) elective CSE (M.S.) elective Free elective Free elective
	Spring CSE 132 CSE 240 Math 233 E Comp 100	CSE 332S CSE (B.S.) elective Science/psych (4 units) Humanities/social sciences elective Free elective	CSE (B.S.) elective CSE (B.S.) elective ESE 326 or Math 3200 Humanities/social sciences elective Free elective	CSE 422S or 431S CSE (B.S./M.S.) elective CSE (M.S.) elective Free elective Free elective	CSE (M.S.) elective CSE (M.S.) elective CSE (M.S.) elective Free elective Free elective
<b>B.S.C.S.–M.B.A.</b>	Fall CSE 131 Math 132 Physics 117A Humanities/social sciences elective	CSE 240 Math 217 Chem 111A Chem 151 Humanities/social sciences elective	CSE 332S CSE 361S ENGR 310 Humanities/social sciences elective Free elective	Acct 5011 Fin 5200 Mgt 5311 Mgt 5303 MEC 5400 MEC 5410 Mkt 5500 OB 5600 OMM 5700 (18.5 units)	CSE 441T CSE 436S M.B.A. electives (9 units)
	Spring CSE 132 Math 233 Physics 118A E Comp 100	CSE 241 CSE elective ESE 317, ESE 309, or Math 309 Humanities/social sciences elective Free elective	CSE 332S CSE elective ESE 326 Humanities/social sciences elective Free elective	Acct 5012 M.B.A. electives (7.5 units) CSE elective Free elective	Mgt 5302 M.B.A. electives (6 units) CSE elective CSE elective

\* Either the B.S. with a major in Computer Science or the B.S.C.S. undergraduate degree can be used. For the B.S./M.B.A., all the CSE electives taken in years 4 and 5 must be courses that could be taken by a CS master's student. The humanities/social sciences requirement is the same as for all the undergraduate CSE degrees.

## Second Major in Computer Science

The second major provides an opportunity to combine computer science with another degree program. A second major in computer science can expand your career options and enable interdisciplinary study in areas such as cognitive science, computational biology, chemistry, physics, philosophy, and linguistics. The second major is also well suited for students planning careers in medicine, law, business, architecture, and fine arts. The requirements are as follows. There are no additional distribution or unit requirements for the second major.

1. Computer Science Core Requirements: CSE 131, 132, 240 (or Math 310), 241, and 332S. Each of these core courses must be passed with a grade of C– or better.
2. Computer Science Electives: At least 15 units of computer science electives, selected from any CSE courses with an S, M, T, or A suffix.
3. Math Requirement: Calculus (Math 131 or Math 121-122), Probability (ESE 326 or Math 3200, or the sequence QBA 120/QBA 121).
4. Capstone: An additional 6 units of course work (or independent study) at the 300 level or higher with a significant computational component. The capstone may be completed in any department and provides an opportunity for interdisciplinary study, such as a thesis that applies computer science to another field. Your CSE adviser must approve the capstone in advance.

## Dual Degree

An alternative to the second major is the dual-degree program that leads to two undergraduate degrees, one in the School of Engineering and one from another school. For this option you must complete all requirements (including distribution requirements) for both degrees. If Arts & Sciences is the other school, 150 credits are required for two degrees. (Only 120 credits are required for the second major since a single degree is earned.) See the Dual Degree Office (Lopata 303, 314/935-6100) for details.

## Premedical Option within Computer Science

Students may pursue a premedicine curriculum in conjunction with either the B.S. or B.S.C.S. degree options for computer science majors. On page 350, we have provided a sample schedule for a student pursuing the B.S. degree option. The B.S.C.S. option may result in some semesters with an 18-credit-hour load; however, students may reduce this load by taking physics over the summer.

## Bachelor of Science with a Major in Computer Science

The most flexible degree option in computer science is the Bachelor of Science (B.S.). The B.S. degree is designed for students who want a solid background for a career in computer science, with additional flexibility

to choose a well-rounded variety of courses. Because it has fewer specific course requirements than the B.S.C.S. and does not require the School of Engineering & Applied Science common studies (such as advanced mathematics, physics, chemistry, etc.), the B.S. degree program leaves room for you to select courses according to your particular needs and interests. Also, the B.S. works well if you want to complete another major along with computer science. This program is also well-suited for students planning to enter medical school or law school.

Students working toward a B.S. degree must meet all requirements for a Bachelor of Science Degree (see page 320) and the following course requirements:

1. Computer Science Core Requirements: CSE 131, 132, 240, 241, 332S, and either CSE 422S, 431S, or 425S. Each of these core courses must be passed with a grade of C– or better.
2. Computer Science Electives: At least 24 units of computer science electives, selected from any computer science course with an S, M, T, or A suffix. Students may use up to 6 units of approved independent work (CS 400, 493-494, CS 499) as part of their computer science electives.
3. Math Requirement: Calculus (Math 131-132-233), Probability (ESE 326 or Math 3200, or the sequence QBA 120/QBA 121). Upon completing a course in the calculus sequence (Math 131, 132, 233) with a grade of C– or better, you may apply to receive credit for the preceding courses in the calculus sequence.
4. Additional Requirements: 8 units in natural sciences or psychology (courses taken in the following departments will be counted: Chemistry, Earth and Planetary Sciences, Physics, Psychology, Biology, Philosophy–Neuroscience–Psychology), C+ or better in E Comp 100 (unless waived), ENGR 310 (or comparable demonstration of technical writing ability), and the humanities and social sciences electives.

Computer science and math courses taken for the above requirements as well as E Comp 100 and ENGR 310 cannot be taken on a pass/fail basis.

## Bachelor of Science in Computer Science

The Bachelor of Science in Computer Science (B.S.C.S.) is the traditional computer science degree in the School of Engineering. It is designed for students planning a career in computer science and desiring a degree with an engineering flavor. Students working toward a B.S.C.S. degree must meet all requirements for a professional degree (see page 320). In addition, there are the following departmental course requirements:

1. Common Studies Program Requirements (see page 322): Includes C+ or better in E Comp 100 or 199 (unless waived), Math 131-132-233, Math 217, Physics 117A-118A, Chem 111A-151, ENGR 310, and humanities and social sciences

electives. Upon completing a course in the calculus sequence (Math 131, 132, 233) with a grade of C– or better, you may apply to receive credit for the preceding courses in the calculus sequence.

2. Computer Science Core Requirements: CSE 131, 132, 240, 241, 332S, and 436S; either CSE 260M or CSE 361S; and either CSE 422S, 425S, or 431S. Each of these core courses must be passed with a grade of C– or better.
3. Computer Science Elective Requirements: At least 18 additional units in computer science or computer science-related courses with an S, M, T, or A suffix of which at least one must be a theory (T) course, at least one must be a systems (S) course, and at least one must be a machine (M) or application (A) course. Students may use up to 6 units of approved independent work (CS 400, 493-494, 499) as part of their computer science electives. Such independent work is not classified as S, M, T, or A.
4. Additional Departmental Requirements: ESE 317 (or ESE 309 or Math 309) and ESE 326.

All courses taken to meet the above requirements (with the exception of the humanities and social sciences electives) cannot be taken on a pass/fail basis.

## Bachelor of Science in Computer Engineering

Students working toward a B.S.Co.E. degree must meet all requirements for a professional degree (see page 320). Required courses and technical electives cannot be taken on a pass/fail basis. In addition, there are the following departmental course requirements:

1. Common Studies Program Requirements (see page 322): Includes C+ or better in E Comp 100 or 199 (unless waived), Math 131-132-233, Math 217, Physics 117A-118A, Chem 111A-151, ENGR 310, and humanities and social sciences electives. Upon completing a course in the calculus sequence (Math 131-132-233) with a grade of C– or better, you may apply to receive credit for the preceding courses in the calculus sequence.
2. Computer Engineering Core Requirements: CSE 131, CSE 132, ESE 230, ESE 232, CSE 241, CSE 260M, ESE 317, ESE 326, CSE 361S, CSE 362M, CSE 462M, CSE 465M. Each of these core courses must be passed with a grade of C– or better. (Note: Any student who took ESE 230 when it was 3-unit course must also take either ESE 102 or ESE 105.)
3. Computer Engineering Technical Electives: At least 21 units of technical electives, of which at least 15 units must be from the preferred list, and up to 6 units may be from the accepted list. At least 6 units must be “CS” courses (CSE courses with a T, S, or A suffix), and at least 6 units must be “EE” courses (CSE courses with a M suffix or ESE courses).
  - Preferred List: CSE 240, ESE 330, CSE

332S, ESE 351, CSE 422S, CSE 425S, CSE 431S, CSE 432S, CSE 436S, CSE 460T, CSE 463M, CSE 464M, CSE 467S, CSE 473S, ESE 482

• Accepted List: CSE 220S, CSE 320S, CSE 330S, ESE 331, CSE 333S, ESE 334, ESE 336, ESE 337, ESE 407, CSE 405A/ESE 411, ESE 430, ESE 432, ESE 436, ESE 438, CSE 441T, ESE 441, ESE 442, CSE 450A, CSE 451A, CSE 452A, ESE 471, ESE 488.

### Combined Undergraduate and Graduate Study

The Department of Computer Science and Engineering offers in-depth graduate study in many areas, including networking, distributed systems, algorithms, and artificial intelligence. Students entering the graduate programs require a background in computer science fundamentals equivalent to at least the minor in computer science. Washington University undergraduates seeking admission to the graduate degree program to obtain a master's in computer science or computer engineering do not need to take the Graduate Record Examination (GRE). For more information, contact the department office at 314/935-6160.

### The Joint B.S.–M.S.

This five-year program that leads to both the bachelor's and master's degrees offers the student an excellent opportunity to combine undergraduate and graduate studies in an integrated curriculum. The combination of the two programs extends the flexibility of the undergraduate curriculum to more advanced studies, thereby enabling students to plan their entire spectrum of computer science studies in a more comprehensive educational framework. Consistent with the general requirements defined by the School of Engineering (see page 319), a minimum of 150 units is required for completion of the B.S.–M.S. program. Provided that the 150-unit requirement is satisfied, up to 6 units of course work acceptable for the M.S. can be counted toward both the B.S. and M.S. requirement. Students in the B.S.–M.S. program can exploit the program's flexibility by taking graduate courses toward the graduate degree while still completing the undergraduate degree requirements. In the table on page 340, we have provided a sample schedule for the B.S.–M.S. program.

The B.S.–M.S. program offers early admission to the graduate programs in computer science and computer engineering in the junior year and allows you to complete the master's degree in only one additional year of study (instead of the usual three semesters). Undergraduate financial support is not extended for the additional semesters to complete the master's degree requirements. Students are classified as graduate students in their final year of study, and their tuition charges are at the graduate student rate.

If you plan to apply to this program, it is recommended that you complete at least an undergraduate minor in computer science, three additional computer science courses at the 400 level, and one at the 500 level during

your first four years. You must apply to this program by September 1 of your senior year, and a minimum GPA of 3.0 is required of all applicants.

### Combined Bachelor's/Master's Program

This program is designed to enable students in other Washington University schools to pursue a coordinated five-year study leading to a bachelor's degree outside of engineering and a master's degree in the School of Engineering. The admissions process and the graduation requirements for this program are identical to those of the B.S.–M.S. program. Such students usually complete a CS minor to obtain the background needed for their M.S. course work. Ideally, students will take CSE 131, CSE 132, CSE 240 (or some discrete mathematics course), CSE 241, CSE 361S, and CSE 332S as part of their undergraduate degree (typically as free electives).

### B.S.–M.B.A. Program

The growing importance of computer-based information systems in the business environment has produced a sustained high demand for graduates with master's degrees in business administration and undergraduate majors in computer science and engineering. General requirements for the joint degree program are given on page 319, and a suggested curriculum appears in the table on page 340.

### Research and Industry Experience

If you want to become involved in computer science or computer engineering research or get experience in industry while you are an undergraduate, there are many opportunities to do so. A few of these are listed below.

**Co-op:** The Cooperative Education Program allows you to get valuable experience working in industry while an undergraduate. Doing a Co-op can help give you another perspective on your education and may lead to full-time employment. Numerous companies participate in this program. More information is available from the Engineering Co-op and Internship Program that is part of the Career Center in Lopata 324.

**UROP:** The Undergraduate Research Opportunities Program in the Department of Computer Science and Engineering helps to match undergraduates with faculty and research groups. Research projects are available either for pay or for credit through CSE 400 (Independent Study). See [cse.seas.wustl.edu/urop](http://cse.seas.wustl.edu/urop) for details.

**Honors Program:** If you maintain a 3.5 GPA and complete a thesis describing research that you have performed while an undergraduate, then you will graduate "with distinction" and your thesis title will appear on your transcript. Besides being a valuable experience, completing a thesis can be advantageous if you apply to graduate school. When selecting this option, you should register for CSE 499, Undergraduate Honors Thesis. Students in the Honors Program are encouraged to take several graduate-level

courses and to serve as undergraduate teaching assistants for upper-level undergraduate courses.

### Computing Facilities

The School of Engineering & Applied Science has numerous undergraduate laboratories that are accessible to all students regardless of their major. In addition, the Department of Computer Science and Engineering maintains specialized instructional laboratories such as those in support of computer engineering classes. The department actively promotes a culture of strong undergraduate participation in research. Many undergraduates work in research labs with state-of-the-art equipment that provides them the opportunity to take part in computer science and computer engineering research. Robots, sensor networks, high-speed routers, specialized FPGA hardware, wireless devices, RF tags, digital cameras, large displays, and multiprocessors are just a few of the hardware devices undergraduates often use in their projects. Opportunities for exploring modern software development techniques and specialized software systems further enrich the range of research options and help undergraduates sharpen their design and programming skills.

### Advanced Placement/Proficiency

Students receiving a 4 or 5 on the AB Computer Science AP exam are awarded 3 units of credit equivalent to CSE 126. Students continuing their study of computer science should enroll in CSE 131 or CSE 131X. Students with unusually strong background beyond the scope of the AP exam can take a CSE 131 placement exam. Any student with a 4 or 5 on the AB Computer Science AP exam who also passes the CSE 131 placement exam will receive 4 units of credit for CSE 131 (instead of the CSE 126 credit). No credit is given for the A Computer Science AP exam.

Upon request, the computer science department will evaluate a student for proficiency for any of our introductory courses. If a student is determined to be proficient in a given course, that course will be waived (without awarding credit) in the student's degree requirements, and the student will be offered guidance in selecting a more advanced course.

### Undergraduate Courses

Course requirements for the minor and majors may be fulfilled by CSE 131 (or CSE 126 followed by CSE 131X), CSE 132, CSE 240, CSE 241, and CSE courses with a letter suffix in any of the categories: software systems (S), hardware (M), theory (T), and applications (A). In addition, with approval of the instructor, up to 6 units of CSE 400 can be used toward the CSE electives of any CSE degree. Other CSE courses provide credit toward graduation but not toward the CS elective requirements for the second major, B.S.C.S., B.S.Co.E., or B.S. with a major in Computer Science. Undergraduates are encouraged to consider 500-level courses. If

you are interested in taking a course but are not sure if you have the needed prerequisites, please contact the instructor.

#### **CSE 100B. Introduction to Computing Tools: MATLAB Skills**

This course is aimed at the acquisition of MATLAB skills through hands-on familiarization and practice. Students practice the array, vector, and meshgrid representations, use programming and plotting, and apply these skills to solve numerical problems and generate reports. Credit 1 unit.

#### **CSE 104. Web Development**

This comprehensive course does not assume prior programming background or web design experience. Explores elementary principles that go into designing, creating, and publishing an effective web site. Topics include the production process, design metaphors, interface/information design, page layout concepts, graphics preparation, color theory, development tools, HTML, style sheets, basic scripting techniques, search engine optimization, and site maintenance/marketing strategies. Credit 3 units.

#### **CSE 126. Introduction to Computer Programming**

This is a one-semester introduction to programming and using the object-oriented language Java. A structured approach to programming covers the software life cycle: problem definition, algorithm/program design, and program coding and debugging. Topics include: abstraction, decomposition, classes and inheritance, applets, data structures, recursion, graphics, numerical computation, and simulation. Basic computer hardware and software architectures are briefly presented. The course assumes no previous programming experience. Credit 3 units.

#### **CSE 131. Computer Science I**

Same as Math 130C.

A hands-on introduction to software concepts and implementation, emphasizing problem-solving through abstraction and decomposition. Introduces processes and algorithms, procedural abstraction, data abstraction, encapsulation, and inheritance. Recursion, iteration, and simple data structures are covered. Representation invariants, loop invariants, and exception handling are used as techniques for writing correct and robust programs. The impact of data representation on performance is discussed but not emphasized. Concepts and skills are mastered through programming projects, many of which employ graphics to enhance conceptual understanding. Java, an object-oriented programming language, is the vehicle of exploration. Prerequisites: Comfort with algebra and geometry at the high school level is assumed. Patience and good planning, organization, and problem solving skills will help you to succeed. Prior programming experience is helpful, but not necessary. Credit 4 units.

#### **CSE 131X. Computer Science I—Accelerated**

This accelerated version of Computer Science I is for students with significant computer science background and prior programming experience in Java, as evidenced by prior undergraduate course work or the computer science placement exam. Lectures emphasize topics from CSE 131 that are typically not covered in advanced placement courses or traditional introductory programming courses. Students complete a customized subset (approximately half) of the CSE 131 projects to round out their background before continuing to other computer science courses. Lab times are by arrangement with the instructor. Prerequisite: Permission of instructor. Freshmen considering CSE 131X should take the computer science placement exam during orientation week. Credit 2 units.

#### **CSE 132. Computer Science II**

CSE 132 builds on CSE 131's introduction to software systems as collections of communicating components. CSE 132 emphasizes more sophisticated uses of object-oriented concepts, design patterns, and techniques for managing communication among software components. An introduction to file I/O, graphical user interfaces, exception handling, threads, concurrency, synchronization, and network programming is provided. Algorithms and data structures are presented as needed to support discussion of these topics. Concepts and skills are mastered through software projects, many of which employ graphics to enhance conceptual understanding. Java, an object-oriented programming language, is the vehicle of exploration. Prerequisite: CSE 131 or equivalent. Credit 4 units.

#### **CSE 200.\* Engineering and Scientific Computing**

This course provides an introduction to numerical methods for scientific computation which are relevant to engineering problems. Topics addressed include interpolation, integration, linear systems, least-squares fitting, nonlinear equations and optimization and initial value problems. Basic procedural programming concepts (procedural and data abstraction, iteration, recursion) will be covered using MATLAB. C will be briefly covered so the students understand that the algorithms and programming concepts apply in both. Prerequisite: Math 217. Credit 3 units.

#### **CSE 220S. Software Design and Development Studio**

Same as CSE 320S.

This is a lab course that provides practical experience in designing, implementing, testing, documenting, and supporting a medium-sized software application. Topics to be covered will include application and user interface specification, module and API design, code reuse, code review, software maintenance and support, unit and integration testing, and debugging procedures. Students will gain experience in the application of common algorithms, design patterns, and data structures to novel problems. Students will have a choice of working in Java or C++, and will work both individually and in groups. Specific application areas will vary by semester. Prerequisites: Sophomore standing and CSE 132. CSE 241 is recommended. Credit 3 units.

#### **CSE 232. Programming Skills Workshop**

This course provides an overview of practical implementation skills to help beginning C++ programmers. Topics include compilation and linking, memory management, pointers and references, using code libraries, testing and debugging. The course will be offered as a series of four workshops in the first four weeks of the semester. Prerequisite: CSE 132. Credit 1 unit.

#### **CSE 240. Logic and Discrete Mathematics**

Introduces elements of logic and discrete mathematics that allow reasoning about computational structures and processes. Generally, the areas of discrete structures, proof techniques, and computational models are covered. Topics typically include propositional and predicate logic; sets, relations, functions, and graphs; proof by contradiction, induction, and reduction; and finite state machines and regular languages. Prerequisite: CSE 126, CSE 131 or other introductory programming background. Credit 3 units.

#### **CSE 241. Algorithms and Data Structures**

Study of fundamental algorithms, data structures, and their effective use in a variety of applications.

Emphasizes importance of data structure choice and implementation for obtaining the most efficient algorithm for solving a given problem. A key component of this course is worst-case asymptotic analysis, which provides a quick and simple method for determining the scalability and effectiveness of an algorithm. Other topics covered generally include: divide-and-conquer algorithms, sorting algorithms, decision tree lower bound technique, hashing, binary heaps, skip lists, B-trees, basic graph algorithms. Prerequisites: CSE 126 or CSE 131. CSE 240 (or some basic discrete mathematics background) is strongly recommended. Credit 3 units.

#### **CSE 260M. Introduction to Digital Logic and Computer Design**

Same as ESE 260.

Introduction to design methods for digital logic and fundamentals of computer architecture. Students learn to use hardware description languages and computer-aided design tools (simulation, circuit synthesis) and apply them to the design of a variety of digital circuits. Coverage includes both combinational and sequential circuits, ranging in complexity from basic arithmetic circuits to a simple processor. Students learn about the underlying causes of circuit delays and timing issues in sequential circuits (setup and hold times, minimum clock period analysis, metastability). They also study how logic minimization is done, learn to make basic design trade-offs (complexity vs. performance), and how look-ahead techniques can be used to speed circuit operation. Coverage also includes the operation of a programmable processor, common methods for enhancing processor performance, and the design of memory systems. Prerequisites: CSE 126 or CSE 131 or comparable programming experience. Credit 3 units.

#### **CSE 320S. Software Design and Development Studio**

Same as CSE 220S.

#### **CSE 330S. Rapid Prototype Development and Creative Programming**

This course introduces aspects of the rapid prototype development and creative thinking. Through this course, students will acquire necessary skills to develop modern applications for the new world of Web 2.0 and beyond. The concepts to be covered include: LAMP (Linux, Apache, MySQL, PHP), AJAX (Asynchronous Javascript and XML), XML-RPC (Remote Procedure Calls), script languages for rapid prototyping (Perl, Python), CMSs (Content Management Systems), current Web APIs and the new development tools and libraries. The course will be in an interactive studio format, i.e., after a formal presentation of a topic, students will develop a related project under the supervision of the instructor. Prerequisite: CSE 126, CSE 131 or equivalent. Credit 3 units.

#### **CSE 332S. Object-Oriented Software Development Laboratory**

Intensive focus on practical aspects of designing, implementing, and debugging software. Topics covered include developing, documenting, and testing representative applications using object-oriented and generic frameworks and C++. Design and implementation based on frameworks are central themes to enable the construction of reusable, extensible, efficient, and maintainable software. Prerequisite: CSE 132. Credit 3 units.

#### **CSE 361S. Introduction to Systems Software**

Introduction to the hardware and software foundations of computer processing systems. Examines the process whereby computer systems manage, interpret, and execute applications. Covers fundamental algorithms for numerical computation, memory organization and access, storage allocation, and the sequencing and control of peripheral

\* CSE 200 counts toward the computer science minor but not toward the second major or any CSE degree option.

devices. Weekly laboratories, exercises, and a final laboratory project. Prerequisites: CSE 126 or 131. Credit 3 units.

#### **CSE 362M. Computer Architecture**

Same as ESE 362.

Study of interaction and design philosophy of hardware and software for digital computer systems. Processor architecture, instruction set architecture, assembly language, memory hierarchy design, I/O considerations. Comparison of computer architectures. Prerequisite: CSE/EE 260M. Credit 3 units.

#### **CSE 400. Independent Study**

Possible topics may be found in the Undergraduate Research Opportunities Program listing, available in the department office and also at [www.cs.wustl.edu/cs/urop.html](http://www.cs.wustl.edu/cs/urop.html) on the World Wide Web. Prerequisite: junior standing. Credit variable, maximum 3 units.

#### **CSE 405A. Numerical Methods**

Same as ESE 411.

#### **CSE 422S. Operating Systems Organization**

Exploration of operating systems as managers of shared resources. Using UNIX and Windows XP as experimental frameworks, students study algorithms and data structures that support essential operating systems services. Concepts are reinforced through programming exercises and comparative studies. Topics include proportional sharing and real-time scheduling of processes and threads, I/O facilities, memory management, virtual memory, device management, concurrent programming, file system organization, and distributed object computing. Prerequisite: CSE 332S. Credit 3 units.

#### **CSE 425S. Programming Systems and Languages**

A systematic study of the principles, concepts, and mechanisms of computer programming languages: their syntax, semantics, and pragmatics; the processing and interpretation of computer programs; programming paradigms; and language design. Illustrative examples will be selected from a variety of programming language paradigms. Prerequisites: CSE 132, CSE 240, and CSE 241. Credit 3 units.

#### **CSE 431S. Translation of Computer Languages**

The theory of language recognition and translation is introduced in support of compiler construction for modern programming languages. Topics include syntactic and semantic analysis, symbol table management, code generation, and runtime libraries. A variety of parsing methods is covered, including top-down and bottom-up. Machine problems culminate in the course project, for which students construct a working compiler. Prerequisites: CSE 132, CSE 240, and CSE 241. Credit 3 units.

#### **CSE 432S. Pattern Oriented Software Design and Development**

Intensive focus on design and implementation of software using design patterns. Particular emphasis on successive refinement based on identification of unresolved design forces at each step of the design process, and on application of patterns to guide design refinement. Design implementations will be conducted in Java and C++ in a team setting, with weekly presentations and critiques of design and implementation decisions and outcomes throughout the course. Prerequisites: CSE 332S or graduate standing, and proficiency in Java and C++ software development. Credit 3 units.

#### **CSE 436S. Software Engineering Workshop**

An introduction and exploration of concepts and issues related to large-scale software systems development. Areas of exploration include technical complexities, organization issues, and communica-

tion techniques for large-scale development. Students participate through teams emulating industrial development. The projects cover the principal system development lifecycle phases from requirements analysis, to software design, and to final implementation. Issues relating to real-time control systems, human factors, reliability, performance, operating costs, maintainability, and others are addressed and resolved in a reasonable manner. Prerequisite: CSE 332S. Credit 3 units.

#### **CSE 441T. Advanced Algorithms**

Same as CSE 541T, Math 440C, Math 540C.

Provides a broad coverage of fundamental algorithm design techniques with the focus on developing efficient algorithms for solving combinatorial and optimization problems. The topics covered include: greedy algorithms, dynamic programming, linear programming, NP-completeness, approximation algorithms, lower bound techniques, and on-line algorithms. Throughout this course there is an emphasis on correctness proofs and the ability to apply the techniques taught to design efficient algorithms for problems from a wide variety of application areas. Prerequisites: CSE 240 and CSE 241. Credit 3 units.

#### **CSE 450A. Video Game Programming**

This course will teach the core aspects of a video game developer's toolkit including: Microsoft Windows Programming in C++, (OpenGL or DirectX) 3-D graphics programming, artificial intelligence, specialized game algorithms and data structures, game design patterns, physics programming, linear algebra, code optimization and practices, collision detection, rendering, particle systems, integration with animation software, designing and following technical design documents, and large scale software architecture. Students who take this course will be prepared to take CSE 451A, a course in which students will develop a complete 3-D video game in groups of 3 to 5 students. Prerequisite: CSE 332S and permission of instructor. Credit 3 units.

#### **CSE 451A. Video Game Programming II**

This class is a continuation of Video Game Programming I, CSE 450A. Students will work in groups, and with a large game software engine to make a full-featured video game. Students will have the opportunity to work on topics in graphics, artificial intelligence, networking, physics, user interface design, and other topics. Prerequisites: CSE 450A and permission of instructors. Credit 3 units.

#### **CSE 452A. Computer Graphics**

Introduction to computer graphics. Input, representation, manipulation, and display of geometric information. Two-dimensional display of three-dimensional objects: perspective, hidden surface, shading, animation. Display and input devices. Issues in designing interactive graphics systems. Issues in building three-dimensional renderers. Students develop interactive graphics programs with a standard graphics package and using various graphics input and output devices. Prerequisite: CSE 332S. Credit 3 units.

#### **CSE 460T. Switching Theory**

Same as ESE 460.

Advanced topics in switching theory as employed in the synthesis, analysis, and design of information processing systems. Combinational techniques: minimization, multiple output networks, state identification and fault detection, hazards, testability, and design for test are examined. Sequential techniques: synchronous circuits, machine minimization, optimal state assignment, asynchronous circuits, and built-in self-test techniques. Prerequisite: CSE 260M or equivalent. Credit 3 units.

#### **CSE 462M. Computer Systems Design**

Same as ESE 462.

Introduction to modern design practices, including the use of FPGA design methodologies. Students use a commercial CAE/CAD system for VHDL-based design and simulation while designing a selected computation system. Prerequisites: CSE 361S and 362M. Credit 3 units.

#### **CSE 463M. Digital Integrated Circuit Design and Architecture**

Same as ESE 463.

Brief review of device characteristics important to digital circuit operation, followed by detailed evaluation of steady-state and transient behavior of logic circuits. Implications of and design techniques for very large-scale integrated circuits including architecture, timing, and interconnection. Students must complete detailed design and layout of a digital circuit. Major emphasis on MOS digital circuits with some comparisons to other technologies. Prerequisites: ESE 232, and CSE 362M. Credit 3 units.

#### **CSE 464M. Digital Systems Engineering**

Same as ESE 464.

Design and characterization of digital circuits, reliable and predictable interconnection of digital devices, and information transfer over busses and other connections. Topics include: review of MOSFET operation; CMOS logic gate electrical characteristics; system and single-point noise margin and noise budgets; figures of merit for noise-margin and power-delay product, and trade-off between noise margin and propagation delay; transmission-line driving including reflection, termination, non-zero transition time, lumped and distributed capacitance loads, non-linear terminations, and applicable conditions for lumped approximations; coupled transmission lines, forward and backward crosstalk, short-line approximations, ground bounce, and simultaneous switching noise; timing, clocking, and clock distribution for digital circuits; and prediction of metastability error rates and design for acceptable probability of failure. Examples and design exercises using systems and interconnections selected from current Computer Engineering practice such as RAM-BUS, PCI bus, GTL, LVDS, and others. Prerequisites: ESE 232 and CSE 362M. Credit 3 units.

#### **CSE 465M. Digital Systems Laboratory**

Same as ESE 465.

Course covers procedures for reliable digital design, both combinational and sequential; understanding manufacturers specifications; use of special test equipment; characteristics of common SSI, MSI, and LSI devices; assembling, testing, and simulating design; construction procedures; and maintaining signal integrity. Several single-period laboratory exercises, several design projects, and application of a microprocessor in digital design. One lecture and one laboratory period a week. Prerequisites: CSE 260M and CSE 361S. Credit 3 units.

#### **CSE 467S. Embedded Computing Systems**

Same as ESE 467.

Introduces the issues, challenges, and methods for designing embedded computing systems—systems designed to serve a particular application, which incorporate the use of digital processing devices. Examples of embedded systems include PDAs, cellular phones, appliances, game consoles, automobiles, and iPod. Emphasis is given to aspects of design that are distinct to embedded systems. The course examines hardware, software, and system-level design. Hardware topics include microcontrollers, digital signal processors, memory hierarchy, and I/O. Software issues include languages, run-time environments, and program analysis. System-level topics include real-time operating systems, scheduling, power management, and

wireless sensor networks. Students will perform a course project on a real wireless sensor network testbed. Prerequisites: CSE 361S. Credit 3 units.

#### **CSE 471T. Communications Theory and Systems**

Same as ESE 471

#### **CSE 473S. Introduction to Computer Networks**

A broad overview of computer networking. Topics include layered models of networking protocols, basics of physical layer, data link layer, flow control, and error control; local area networks, e.g., Ethernet; wireless networks, IEEE 802.11 (WiFi), and cellular wireless networks; Internet protocols, transport protocols, and routing algorithms; and network security, network management, ATM networks and protocols for networking applications, such as World Wide Web, email and file transfer. Prerequisite: CSE 241. Credit 3 units.

#### **CSE 497. Senior Project I**

Implementation of a substantive project on an individual basis, involving one or more major areas in computer science. Problems pursued under this framework may be predominantly analytical, involving exploration and extension of theoretical structures, or may pivot around the design/development of solutions for particular applications drawn from areas throughout the University and/or community. In either case, the project serves as a focal point for crystallizing the concepts, techniques, and methodologies encountered throughout the curriculum. Students intending to take CSE 497-498 must submit a project proposal for approval by the department during the spring semester of the junior year. Prerequisite: senior standing. Credit 3 units.

#### **CSE 498. Senior Project II**

Implementation of a substantive project on an individual basis, involving one or more major areas in computer science. Problems pursued under this framework may be predominantly analytical, involving exploration and extension of theoretical structures, or may pivot around the design/development of solutions for particular applications drawn from areas throughout the University and/or community. In either case, the project serves as a focal point for crystallizing the concepts, techniques, and methodologies encountered throughout the curriculum. Students intending to take CSE 497-498 must submit a project proposal for approval by the department during the spring semester of the junior year. Prerequisite: senior standing. Credit 3 units.

#### **CSE 499. Undergraduate Honors Thesis**

Working closely with a faculty member, the student investigates an original idea (algorithm, model technique, etc.), including a study of its possible implications, its potential application, and its relationship to previous related work reported in the literature. Contributions and results from this investigation are synthesized and compiled into a publication-quality research paper presenting the new idea. Prerequisites: a strong academic record and permission of instructor. Credit 3 units.

### **Graduate Courses**

Undergraduates are encouraged to consider 500-level courses. If you are interested in taking a course but are not sure if you have the needed prerequisites, please contact the instructor.

#### **CSE 507A. Technology Entrepreneurship**

This is a course for students who plan to be, or work with, entrepreneurs. An entrepreneurial mindset is needed to create or grow economically viable enterprises, be they new companies, new groups within companies, or new University labo-

ratories. This course aims to cultivate an entrepreneurial perspective with particular emphasis on information technology (IT)-related activities. The course is jointly offered for business and CSE students, allowing for acculturation between these disciplines. In addition to an introductory treatment of business and technology fundamentals, course topics will include business ethics, opportunity assessment, team formation, financing, intellectual property, and University technology transfer. The course will feature significant participant and guest instruction from experienced practitioners. Prerequisite: None. Credit 3 units.

#### **CSE 511A. Introduction to Artificial Intelligence**

The discipline of artificial intelligence (AI) is concerned with building systems that think and act like humans or rationally on some absolute scale. This course is an introduction to the field, with special emphasis on sound modern methods. The topics include knowledge representation, problem solving via search, game playing, logical and probabilistic reasoning, planning, machine learning (decision trees, neural nets, reinforcement learning, and genetic algorithms) and machine vision. Programming exercises will concretize the key methods. The course targets graduate students and advanced undergraduates. Evaluation is based on written and programming assignments, a midterm exam, and a final exam. Prerequisite: CSE 132, CSE 240, and CSE 241, or permission of the instructor. Credit 3 units.

#### **CSE 514A. Data Mining**

Same as Biol 5506.

Many scientific computing problems are, by nature, statistical. Such problems appear in many domains, such as text analysis, data mining on the Web, computational biology, and various medical applications. Another source of the statistical nature of such problems is the lack of sufficient information of the problem domains as well as the specific problems at hand. What is available for a typical application is usually a set of data from observation or experiments. The main objective of this course is to gain experience of dealing with statistical data analysis problems by studying various statistical methods that can be used to make sense out of data, by reading and reviewing literature as well as by working on a specific statistical problem in a selected application domain. Prerequisites: CSE 241 and ESE 326 (or Math 3200), or their equivalent, or permission of the instructor. Credit 3 units.

#### **CSE 515A. Intelligent Data Analysis**

We very often cry for knowledge while immersed with huge amount of data. Finding models intrinsic to the production of data we collect and patterns characteristic to the nature of observations we make is of fundamental and practical importance. In this course, we study various advanced techniques (e.g., graphical models and spectral graph theory) from computer science, artificial intelligence, and statistics for analyzing a large quantity of data. We consider applications in selected domains, such as computational biology and text mining on the Web. Prerequisites: CSE 241 and either ESE 326 or Math 3200. Credit 3 units.

#### **CSE 517A. Machine Learning**

The field of machine learning is concerned with the question of how to construct computer programs that automatically improve with experience. Recently, many successful machine learning applications have been developed, ranging from data-mining programs that learn to detect fraudulent credit card transactions, to information-filtering systems that learn users' reading preferences, to autonomous vehicles that learn to drive. There have also been important advances in the theory

and algorithms that form the foundation of this field. This course will provide a broad introduction to the field of machine learning. Prerequisites: CSE 241. Credit 3 units.

#### **CSE 520S. Real-Time Systems**

This course covers software technologies for real-time systems and networking such as distributed multimedia, telecommunication management, automobiles, avionics, and smart manufacturing. Topics include real-time scheduling, distributed embedded middleware, adaptive performance management, and real-time wireless sensor networks. Prior knowledge on embedded and real-time systems is not required. Prerequisites: CSE 422S or equivalent. Credit 3 units.

#### **CSE 521S. Wireless Sensor Networks**

Dense collections of smart sensors networked to form self-configuring pervasive computing systems provide a basis for a new computing paradigm that challenges many classical approaches to distributed computing. Naming, wireless networking protocols, data management, and approaches to dependability, real-time, security, and middleware services all fundamentally change when confronted with this new environment. Embedded sensor networks and pervasive computing are among the most exciting research areas with many open research questions. This class will study a large number of research papers that deal with various aspects of wireless sensor networks. Students will perform a project on a real wireless sensor network composed of tiny devices each consisting of sensors, a radio transceiver, and a microcontroller. Prerequisites: CSE 422. Credit 3 units.

#### **CSE 522S. Advanced Operating Systems**

This course explores the core OS abstractions, mechanisms, and policies and their impact on support for general purpose, embedded, and real-time operating environments. Resource management is covered in detail including CPU scheduling, I/O scheduling, interprocess communication models (message passing, remote procedure call, and shared memory); virtualization models and techniques; synchronization models and techniques; and resource allocation strategies. Prerequisites: CSE 422S and significant C/C++ programming experience. Credit 3 units.

#### **CSE 528S. Software Project Management**

An introduction to the issues and basic methods used in managing software development projects. The course will include factors affecting software projects, lifecycle models, project scheduling, size and staffing, progress tracking, software metrics, managing people, and crisis management. The course will include lectures, hands-on training in selected project management tools, and case studies. In addition, each student will plan and manage a simulated software project. The course is designed to familiarize software engineers and computer scientists to the issues and problems involved in managing software projects. Prerequisite: CSE 436S, significant industrial software development or permission of instructor. Credit 3 units.

#### **CSE 530A. Database Management Systems**

A study of data models and the database management systems that support these data models. The design theory for databases is developed and various tools are utilized to apply the theory. General query languages are studied and techniques for query optimization are investigated. Integrity and security requirements are studied in the context of concurrent operations on a database, where the database may be distributed over one or more locations. The unique requirements for engineering design databases, image databases, and long transaction systems are analyzed. Prerequisite: CSE 241. Credit 3 units.

**CSE 531S. Theory of Compiling and Language Translation**

Algorithms and intermediate representations for automatic program analysis are examined, with an emphasis on practical methods and efficient engineering of program optimization and transformations. The course includes a thorough treatment of monotone data flow frameworks: a mathematical model in which most optimization problems can be specified and solved. The course primarily covers optimizations that are applicable to any target architecture; however, optimizations specific to parallel, distributed, and storage-hierarchical systems also are discussed. Prerequisite: CSE 431S or CSE 425S. Credit 3 units.

**CSE 532S. Advanced Multi-Paradigm Software Development**

Intensive focus on advanced design and implementation of distributed object computing (DOC) software. Topics covered include reuse of design patterns and software architectures, and developing representative applications using object-oriented and generic frameworks in C++. Design and implementation based on design patterns and frameworks are central themes to enable the construction of reusable, extensible, efficient, and maintainable DOC software. Prerequisites: CSE 332S or graduate standing and familiarity with C++, and either CSE 422S or CSE 522S. Credit 3 units.

**CSE 535T. Programming Language Theory**

This course presents the theoretical foundations of programming languages, using formal techniques. We study how to define programming languages in a formal way, and how to prove meta-theoretic properties about them. Type theory, including powerful typing constructs like polymorphic and recursive types, receives particular attention. The work for the course includes theoretical exercises as well as a project in which students implement selected aspects of advanced programming languages. Prerequisites: CSE 240 and CSE 241. Credit 3 units.

**CSE 536S. Distributed System Design: Models and Languages**

Formerly CS 576S.

Modern computing environments are highly distributed. This has been the result of major advances in networking technology and their rapid assimilation by a society that functions in a highly distributed and decentralized manner. The goal of this course is to familiarize students with basic concepts, models, and languages that shaped recent developments in distributed computing. The focus is on exploring new ways of thinking about computing and communication that made the development of distributed software systems possible. Competing concepts and design strategies will be examined both from a theoretical and a practical perspective. The course starts with a review of a broad range of models of concurrency and gradually shifts attention to specialized areas of growing import to the computing field, e.g., real-time processing, security, and multimedia. The emerging field of mobile computing will receive special coverage throughout the course. Prerequisite: CSE 240 and CSE 241. Credit 3 units.

**CSE 537S. Mobile Computing**

Internet and wireless communication are two technologies that share the common goal of providing ubiquitous access to distant resources. Their impact on the social fabric is immediately observable today. This course is concerned with methods and principles for the development of systems whose components exhibit some form of mobility across networks or within some physical space and require some knowledge about the domain within which the movement takes place. The course ma-

terial will cluster around several dominant themes: the delivery of connectivity to mobile nodes, languages that provide facilities for code migration, computational models that include the notion of locality, and design methods that support the development of new kinds of network applications. Prerequisites: senior or graduate standing. Credit 3 units.

**CSE 541T. Advanced Algorithms**

Same as CSE 441T.

**CSE 542T. Advanced Data Structures and Algorithms**

This course is concerned with the design and analysis of efficient algorithms, focusing principally on algorithms for combinatorial optimization problems. A key element in the course is the role of data structures in algorithm design and the use of amortized complexity analysis to determine how data structures affect performance. The course is organized around a set of core problems and algorithms, including the classical network optimization algorithms, as well as newer and more efficient algorithms. This core is supplemented by algorithms selected from the recent technical literature. Prerequisite: CSE 241. Credit 3 units.

**CSE 543T. Algorithms for Nonlinear Optimization**

Same as Math 542C.

The course will provide an in-depth coverage of modern algorithms for the numerical solution of multidimensional optimization problems. Unconstrained optimization techniques including gradient methods, Newton's methods, quasi-Newton methods, and conjugate methods will be introduced. The emphasis is on constrained optimization techniques: Lagrange theory, Lagrangian methods, penalty methods, sequential quadratic programming, primal-dual methods, duality theory, nondifferentiable dual methods, and decomposition methods. The course also will discuss applications in engineering systems and use of state-of-the-art computer codes. Special topics may include large-scale systems, parallel optimization, and convex optimization. Credit 3 units.

**CSE 545T. Introduction to Automated Theorem Proving**

Tools for automatically or semi-automatically proving logical formulas are increasingly important for applications in fields such as verification and artificial intelligence. In the first part of this course, we study algorithms for fully automated theorem proving. These include solutions to problems in standard logics including propositional logic, first-order logic, and equational logic. Decision procedures for decidable theories such as the first-order theory of the reals also are covered. In the second part of the course, proof assistants for human-aided proof based on higher-order logic are studied. The work for the course consists of theoretical and engineering exercises, as well as a project. Prerequisites: CSE 240 and 241. Credit 3 units.

**CSE 546T. Computational Geometry**

Computational geometry is the algorithmic study of problems that involve geometric shapes such as points, lines, and polygons. Such problems appear in computer graphics, vision, robotics, animation, visualization, molecular biology, and geographic information systems. This course covers data structures that are unique to geometric computing, such as convex hull, Voronoi diagram, Delaunay triangulation, arrangement, range searching, KD-trees, and segment trees. Also covered are algorithms for polygon triangulation, shortest paths, the post office problem, and the art gallery problem. Prerequisite: CSE 241. Credit 3 units.

**CSE 547T. Introduction to Formal Languages and Automata**

An introduction to the mathematical theory of languages and grammars. Topics include deterministic and nondeterministic finite state machines, push-down automata, and Turing machines; regular, context-free, and recursive languages; closure properties of languages; the concepts of computability and undecidability. Prerequisite: CSE 240. Credit 3 units.

**CSE 549T. Distributed Algorithms**

Distributed algorithms are the protocols by which computers in a distributed system cooperate toward the solution of a problem. Such algorithms must cope with unpredictable communication delays and failures of network components. The first half of the course will cover the theory of message passing distributed algorithms. We will cover proof techniques, key concepts, useful building blocks, and impossibility results. The second half of the course will use this conceptual foundation to understand and design algorithms for real systems. Examples from real systems will be used as case studies. Upon completion of this course, students will have a deeper insight into both distributed algorithms and distributed systems; they should be able to translate this insight into designing real world solutions to problems in distributed computing. Prerequisite: CSE 441T/541T or mathematical maturity. Credit 3 units.

**CSE 550A. Mobile Robotics**

An introduction to the design and implementation of intelligent mobile robot systems. This course will cover the fundamental elements of mobile robot systems from a computational standpoint. Issues such as software control architectures, sensor interpretation, navigation, and human-robot interaction will be covered, drawing from current research in the field. Students will work with real or simulated mobile robots and program them to perform tasks in real-world environments. Prerequisites: CSE 241 and either ESE 326 or Math 3200. Credit 3 units.

**CSE 552A. Advanced Computer Graphics**

This course covers advanced topics in graphics in the areas of modeling, rendering, volume rendering, image-based rendering, and image processing. Topics include, but are not limited to, subdivision surfaces, splines, mesh simplification, implicit or blobby modeling, radiosity, procedural textures, filtering, BRDFs, and procedural modeling. The class will have several structured programming assignments and an optional final group project. Students will be exposed to the wide variety of techniques available in graphics and also will pick one area to study in depth. Prerequisite: CSE 332S and CSE 452A. Credit 3 units.

**CSE 553S. Advanced Mobile Robotics**

This course covers advanced topics from the theory and practice of mobile robotics. Students will read, present, and discuss papers from the current research literature. There will be a substantial programming project, in which students implement and test ideas from the current research literature on one of the department's research robot platforms. Prerequisites: CSE 550A and strong programming skills (preferably in C++). Credit 3 units.

**CSE 556A. Human-Computer Interaction Methods**

This course is designed to introduce tools and methods from Human-Computer Interaction that will enable you to create effective user interfaces. We will cover techniques that can be used at different stages in the software development cycle and techniques that can be used both with and without involving users. We will study how to maximize interface usability and efficiency as well

as how to design for, and measure, things like fun and persuasiveness. You will gain experience applying HCI techniques through a group design, development, and evaluation project. Prerequisites: CSE 132 and at least one additional systems course. Students who enroll in this course are expected to be comfortable with the process of building user interfaces using Java JFC/Swing. Credit 3 units.

#### **CSE 558A. Motion Planning**

This course studies the general motion-planning problem: computing a sequence of motions that transforms a given (initial) arrangement of physical objects to another (goal) arrangement of those objects. Many motion-planning methods were developed in the realm of robotics research. For example, a typical problem might be to find a sequence of motions (called a path) to move a robot from one position to another without colliding with any objects in its workspace. However, the general motion-planning problem that will be studied arises in many other application domains as well. For example, assembly planning (e.g., finding a valid order for adding the parts when building an engine), mechanical CAD studies (e.g., can you remove a certain part from an engine without taking the engine apart), artificial life simulations (e.g., moving a herd of animals from one location to another), and medicine (e.g., can a drug molecule reach a protein molecule). Prerequisite: CSE 241. Credit 3 units.

#### **CSE 559A. Computer Vision**

Computer vision is the process of automatically extracting information from images and video. This course covers imaging geometry (camera calibration, stereo, and panoramic image stitching), and algorithms for video surveillance (motion detection and tracking), segmentation and object recognition. Final projects for the course will explore challenges in analysis of real-world data. Students with non-standard backgrounds (such as video art, or the use of imaging in physics and biology) are encouraged to contact the instructor. Prerequisites: CSE 241 and linear algebra. Credit 3 units.

#### **CSE 560M. Computer Systems Architecture I** Same as ESE 560.

An exploration of the central issues in computer architecture: instruction set design, addressing and register set design, control unit design, microprogramming, memory hierarchies (cache and main memories, mass storage, virtual memory), pipelining, bus organization, RISC (Reduced Instruction Set Computers), and CISC (Complex Instruction Set Computers). Architecture modeling and evaluation using VHDL and/or instruction set simulation. Prerequisites: CSE 361S and CSE 260M. Credit 3 units.

#### **CSE 561M. Computer Systems Architecture II** Same as ESE 561.

Advanced techniques in computer system design. Selected topics from: processor design (multi-threading, VLIW, data flow, chip-multiprocessors, application specific processors, vector units, large MIMD machines), memory systems (topics in locality, prefetching, reconfigurable and special-purpose memories), system specification and validation, and interconnection networks. Prerequisites: CSE 560M or permission of instructor. Credit 3 units.

#### **CSE 565M. Acceleration of Algorithms in Reconfigurable Logic**

Same as ESE 565.  
Reconfigurable logic, in the form of Field-Programmable Gate Arrays (FPGAs), enables the deployment of custom hardware for individual applications. To exploit this capability, the application developer is required to specify the design at the register-transfer level. This course explores tech-

niques for designing algorithms that are amenable to hardware acceleration as well as provides experience in actual implementation. Example applications are drawn from a variety of fields, such as networking, computational biology, etc. Prerequisites: basic digital logic (CSE 260M) and some experience with a hardware description language (e.g., VHDL or Verilog). Credit 3 units.

#### **CSE 566M. Reconfigurable System-on-Chip Design**

Same as ESE 566.

It is not unusual for complete systems to be implemented within a single integrated circuit. Such a system consists of multiple application modules interconnected by common infrastructure components. This course explores the challenges in designing and testing of modules and components for Systems-on-Chip (SoC). The course focuses on techniques for reusable component design and component interactions. Exercises are given to synthesize and simulate the components using modern Computer Aided Design (CAD) tools. Resulting systems are prototyped in reprogrammable hardware. Prerequisites: Experience with hardware design and synthesis. Credit 3 units.

#### **CSE 567M. Computer Systems Analysis**

Same as ESE 567.

Introduction to the basic tools of computer and communications systems analysis and evaluation. Deterministic and stochastic modeling concepts are presented. Queuing theory and discrete event (DES) simulation methods are studied with application to a variety of examples drawn from the computer and communications performance evaluation literature. A standard DES language is used in modeling and simulation studies. Topics of current interest such as computer input/output models, mass memory, bus models, and communications network models are discussed. A modeling project is typically required. Prerequisites: CSE 126 or CSE 131 and CSE 260M. Credit 3 units.

#### **CSE 569M. Parallel Architectures and Algorithms**

Same as ESE 569.

A number of contemporary parallel computer architectures are reviewed and compared. The problems of process synchronization and load balancing in parallel systems are studied. Several selected applications problems are investigated and parallel algorithms for their solution are considered. Selected parallel algorithms will be implemented in both a shared memory and distributed memory parallel programming environment. Prerequisites: graduate standing and knowledge of the C programming language. Credit 3 units.

#### **CSE 571S. Network Security**

A comprehensive treatment of network security. Topics include remote access security, DMZ, firewalls, VPNs, PKI architecture, X.509 public key infrastructure, Web security, S-HTTP, SSL, TTLS, intrusion detection systems, extrusion detection systems, electronic mail security, PGP, PEM, S/MIME, routing protocol security, wireless network security, traffic analysis tools and alert tools. Prerequisite: CSE 473S. Credit 3 units.

#### **CSE 573S. Protocols for Computer Networks**

An introduction to the design, performance analysis, and implementation of existing and emerging computer network protocols. Protocols include multiple access protocols (e.g., CSMA/CD, token ring), internet, working with the Internet Protocol (IP), transport protocols (e.g., UDP, TCP), high-speed bulk transfer protocols, and routing protocols (e.g., BGP, OSPF). General topics include error control, flow control, packet switching, mechanisms for reliable, ordered and bounded-time packet delivery, host-network interfacing and

protocol implementation models. Substantial programming exercises supplement lecture topics. Prerequisite: CSE 473S or permission of the instructor. Credit 3 units.

#### **CSE 574S. Advanced Topics in Networking**

In-depth, up-to-date studies of selected topics in computer networking. The topics vary by semester and include, among others, high-speed networking and switching, next generation networks, routing, congestion control, sensor networks, multicasting, network security, wireless networks, mobility, and hand-off. Prerequisites: CSE 473S or permission of the instructor. Credit 3 units.

#### **CSE 577M. Design and Analysis of Switching Systems**

Same as ESE 577.

Switching is a core technology in a wide variety of communication networks, including the Internet, circuit-switched telephone networks, and optical fiber transmission networks. The last decade has been a time of rapid development for switching technology in the Internet. Backbone routers with 10 Gb/s links and aggregate capacities of hundreds of gigabits per second are becoming common, and advances in technology are now making multi-terabit routers practical. This course is concerned with the design of practical switching systems and evaluation of their performance and complexity. Prerequisites: CSE 241, 260M and ESE 326. Credit 3 units.

#### **CSE 583A. Topics in Computational Molecular Biology**

Same as Biol 5497.

#### **CSE 584A. Algorithms for Biosequence Comparison**

Same as Biol 5504.

This course surveys fundamental algorithms for comparing and organizing biological sequences. Emphasis is placed on techniques that are useful for implementing biosequence databases and comparing long sequences, such as entire genomes. Many of these techniques also are of interest for more general string processing and for building and mining of textual databases. Algorithms will be presented rigorously, including proofs of correctness and running time where feasible. Topics include classical string matching, suffix trees and suffix arrays, multiple alignments, and the design of BLAST and related biosequence comparison tools. Students will complete written assignments and will implement advanced comparison algorithms to address problems in bioinformatics. This course does not require a biology background. Prerequisites: CSE 241, graduate standing, or permission of instructor. Credit 3 units.

#### **CSE 587A. Algorithms for Computational Biology**

Same as Biol 5495.

This course focuses on mathematical and algorithmic issues in the analysis of biological sequences and related topics, such as population genetics and systems biology. The essential biology and probability theory are introduced first. Sequence analysis topics include predicting protein-coding genes using Hidden Markov Models, conditional random fields, and comparative genomics; predicting gene function by comparing to known proteins; advanced sequence alignment, finding regulatory motifs; and predicting RNA structure. This course will include a combination of paper-and-pencil assignments and programming labs, some of which are carried out collaboratively during class. Prerequisites: CSE 241 or CSE 502N. Credit 3 units.

## Electrical and Systems Engineering

### Chair and Eugene and Martha Lohman Professor of Electrical Engineering

**Arye Nehorai** (2006)  
Ph.D., Stanford University, 1983  
Signal processing, imaging, biomedicine, and communications

### Associate Chair and Professor

**Hiroaki Mukai** (1975)  
Ph.D., University of California–Berkeley, 1974  
Theory and computational methods for optimization, optimal control, systems theory, electric power system operations, and differential games

### Endowed Professors

**Christopher I. Byrnes** (1989)  
Edward H. and Florence G. Skinner Professor in Systems Science and Mathematics  
Ph.D., University of Massachusetts, 1975  
Linear and nonlinear systems, adaptive control, dynamical systems

**R. Martin Arthur** (1969)  
Newton R. and Sarah Louisa Glasgow Wilson Professor in Engineering  
Ph.D., University of Pennsylvania, 1968  
Ultrasonic imaging, electrocardiography

**Ronald S. Indeck** (1988)  
Das Family Distinguished Professor in Electrical Engineering  
Ph.D., University of Minnesota, 1987  
Magnetic recording, information storage, thin films, and devices

**Joseph A. O'Sullivan** (1986)  
Samuel C. Sachs Professor of Electrical Engineering  
Ph.D., Notre Dame University, 1986  
Information theory, statistical signal processing, imaging science, data processing for data storage systems, recognition theory and systems, and tomographic, spectral, and optical imaging

### Professors

**I. Norman Katz** (1967)  
Ph.D., Massachusetts Institute of Technology, 1959  
Numerical analysis, differential equations, finite element methods, locational equilibrium problems, algorithms for parallel computations

**Daniel L. Rode** (1980)  
Ph.D., Case Western Reserve University, 1968  
Optoelectronics and fiber optics, semiconductor materials, light-emitting diodes (LEDs) and lasers, semiconductor processing, and electronics

**Ervin Y. Rodin** (1966)  
Ph.D., University of Texas–Austin, 1964  
Optimization, differential games, artificial intelligence, mathematical modeling

**Barry E. Spielman** (1987)  
Ph.D., Syracuse University, 1971  
High-frequency/high-speed devices, RF & MW integrated circuits, computational electromagnetics

**Tzyh Jong Tarn** (1969)  
D.Sc., Washington University, 1968  
Quantum mechanical systems, bilinear and nonlinear systems, robotics and automation, and life science automation

### Associate Professors

**Paul S. Min** (1990)  
Ph.D., University of Michigan, 1987  
Routing and control of telecommunication networks, fault tolerance and reliability, software systems, network management

**Robert E. Morley, Jr.** (1978)  
D.Sc., Washington University, 1977  
Computer and communication systems, VLSI design, digital signal processing

**Heinz M. Schättler** (1987)  
Ph.D., Rutgers University, 1986  
Optimal control, nonlinear systems, mathematical models in biomedicine

### Assistant Professors

**Jr-Shin Li** (2006)  
Ph.D., Harvard University (2006)  
Mathematical control theory, optimization, quantum control, and biomedical applications

**Lan Yang** (2007)  
Ph.D., California Institute of Technology (2005)  
Ultra-high-quality optical microcavities, ultra-low-threshold silicon-based microlasers, nano/micro fabrication, material physics

### Senior Professors

**Marcel W. Muller** (1966)  
Ph.D., Stanford University, 1957  
Solid-state physics, microwave electronics, magnetics, recording physics

**William F. Pickard** (1966)  
Ph.D., Harvard University, 1962  
Biological transport, electrobiology, energy engineering

**Barbara A. Shrauner** (1966)  
Ph.D., Harvard University (Radcliffe), 1962  
Plasma processing, semiconductor transport, symmetries of nonlinear differential equations

**Donald L. Snyder** (1969)  
Ph.D., Massachusetts Institute of Technology, 1966  
Communication theory, random process theory, signal processing, biomedical engineering, image processing, radar

### Affiliate Faculty

**David S. Gilliam** (1989)  
Ph.D., University of Utah, 1977  
Control of distributed parameter systems, partial differential equations

**Alberto Isidori** (1989)  
Libera Docenza, University of Rome, 1969  
Linear and nonlinear systems, stability, dynamical systems

**Anders Lindquist** (1989)  
Ph.D., Royal Institute of Technology, Sweden, 1972  
Optimization and system theory, stochastic realization and control

### Professors Emeriti

**William M. Boothby** (1959)  
Ph.D., University of Michigan, 1949  
Differential geometry and Lie groups, mathematical system theory

**Lloyd R. Brown** (1949)  
D.Sc., Washington University, 1960  
Automatic control, electronic instrumentation

**David L. Elliott** (1971)  
Ph.D., University of California–Los Angeles, 1969  
Mathematical theory of systems, nonlinear difference, and differential equations

**Robert O. Gregory** (1955)  
D.Sc., Washington University, 1964  
Electronic instrumentation, microwave theory, circuit design

**Raymond M. Kline** (1962)  
Ph.D., Purdue University, 1962  
Computer engineering, computer-aided design, control systems

**Charles M. Wolfe** (1975)  
Ph.D., University of Illinois, 1965  
Semiconductor materials, devices, statistical physics, optimization

### Lecturers

**Martha Hasting**  
Ph.D., St. Louis University (1989)

## About Electrical and Systems Engineering

The mission of our undergraduate programs is to instill in students the knowledge and perspective, appropriate both for a professional career and for the pursuit of advanced degrees, in fields that rely on key electrical engineering and systems principles and practices. Such principles and practices include rigorous quantitative reasoning and robust engineering design. This mission is accomplished by ensuring that students achieve both depth and breadth of knowledge in their studies and by maintaining a high degree of flexibility in the curriculum. Our programs also seek to provide good preparation for life, including the ability to communicate in written and oral forms and a desire to continue learning throughout life. In addition, they aim to provide the opportunity and training for students to acquire the skills and attitudes to become leaders.

The department offers courses of study leading to degrees in both electrical engineering and systems science and engineering. Opportunities for study and research currently available in the department include solid-state engineering (semiconductor theory and devices, plasma processing and nonlinear plasma theory, optoelectronics, microwave and magnetic information devices and systems), communication theory and systems, information theory, signal and image processing, linear and nonlinear dynamics and control, scheduling and transportation systems, robotics, automation, identification and estimation, multisensor fusion and navigation, machine vision and control, computational mathematics, finite elements, optimal control, mathematics of large-scale power systems, and intelligent systems. Students are encouraged to participate in research activities as soon as they have received training in the fundamentals appropriate for a given research area.

Electrical engineering is the profession for those intrigued with electrical phenomena and eager to contribute their skills to a society increasingly dependent on electricity and sophisticated electronic devices. It is a profession of broad scope with many specialty careers designed for engineers who seek an endless diversity of career paths on the cutting edge of technology. The Institute of Electrical and Electronics Engineers publishes transactions on about 60 different topics, from aerospace and electronic systems to visualization and computer graphics. This is a breadth so great that no single electrical engineering department can hope to span it. Moreover, those fields themselves encompass still more fascinating specialties. We give the basics; the future is yours to shape.

Systems science and engineering is based on an approach that views an entire system of components as an entity rather than simply as an assembly of individual parts; each component is designed to fit properly with the other components rather than to function by itself. The engineering and mathematics of systems is a rapidly developing field. It is one of the most modern segments of applied mathematics, as well as an engineering discipline. It is concerned with the identification, modeling, analysis, design, and control of systems that are potentially as large and complex as the U.S. economy or as precise and vital as a space voyage. Its interests run from fundamental theoretical questions to the implementation of operational systems. It draws on the most modern and advanced areas of mathematics. A very important characteristic of the systems field is that its practitioners must, of necessity, interact within a wide interdisciplinary environment, not only with various engineers and scientists but also with economists, biologists, or sociologists. Such interaction is both emphasized and practiced in the programs.

Our Department of Electrical and Systems Engineering offers a challenging basic curriculum, a broadly qualified faculty, and modern facilities so that you can receive a contemporary preparation for a career in electrical or systems engineering.

## Undergraduate Degree Programs

The Department of Electrical and Systems Engineering (ESE) offers four undergraduate degree programs: two professional degrees and two nonprofessional degrees. The two professional degrees are the Bachelor of Science in Electrical Engineering (B.S.E.E.) and the Bachelor of Science in Systems Science and Engineering (B.S.S.E.). These two programs are fully accredited by the Accreditation Board for Engineering and Technology (ABET). The two nonprofessional degrees are the Bachelor of Science in Applied Science (Electrical Engineering) and the Bachelor of Science in Applied Science (Systems Science and Engineering). All programs have flexible curricula as well as specific requirements, and students may elect programs of study tailored to individual interests and professional goals.

In the professional B.S.E.E. curriculum, there are required courses in electrical circuits, signals and systems, digital systems, and electromagnetic fields, along with laboratory and design courses, which provide students with a common core of experience. Subsequently, one may orient the program toward breadth, so that many disciplines within the profession are spanned or toward a specialty with more emphasis on depth in one or more disciplines. Areas of specialization include modern electronics, applied physics, telecommunications, control systems, and signal and image processing.

Students in the professional B.S.S.E. degree program take required courses in engineering mathematics, signals and systems, operations research, numerical methods, and automatic control systems, along with laboratory and design courses. This program emphasizes the importance of real-world applications of systems theory, and accordingly students are required to take a concentration of courses in one of the traditional areas of engineering or science. There are numerous elective courses in control theory and systems, signal processing, optimization, robotics, probability and stochastic processes, and applied mathematics.

Students enrolled in any of the ESE undergraduate degree programs have a variety of opportunities to augment their educational experience at Washington University. Students may participate in the Premedical Engineering program or in the Cooperative Education program. Some students pursue double majors, in which two sets of degree requirements, either within or outside the ESE department, are satisfied concurrently. The Process Control Systems program is one such double-degree program, involving the degrees Bachelor of Science in Systems Science and Engineering (B.S.S.E.) and Bachelor of Science in Chemical Engineering (B.S.Ch.E). Finally, students may earn both an undergraduate and a graduate degree while maintaining undergraduate student status, through the School's five-year B.S.–M.S. program.

Students who seek a broad undergraduate education in electrical engineering or sys-

tems science and engineering but plan on careers outside of engineering, may pursue the nonprofessional degrees: Bachelor of Science in Applied Science (Electrical Engineering) and Bachelor of Science in Applied Science (Systems Science and Engineering). These programs of study are appropriate for students planning to enter a medical, law, or business school, and desire a more technical undergraduate experience than what otherwise may be available to them.

The ESE department also offers a variety of educational opportunities for students enrolled in other departments. These include the Second Major in Systems Science, which is open to students outside of the School of Engineering such as the College of Arts & Sciences, the Minor in Electrical Engineering, and the Minor in Robotics.

## Bachelor of Science in Electrical Engineering

### Educational Objectives of the B.S.E.E. Degree Program

- A. Graduates will be technically competent within electrical engineering, including the ability to analyze and solve electrical engineering problems by applying basic principles of mathematics, science, and engineering sciences. They will be able to use modern engineering techniques, skills, and tools, particularly recognizing the role that computer programs play in engineering. They will be able to identify, formulate, and solve novel electrical engineering problems that are subject to realistic constraints.
- B. Graduates will be able to apply the knowledge and skills from a broad education with sensitivity to the global, societal, and environmental issues.
- C. Graduates will be prepared for professional practice in engineering as well as for graduate research programs. They will have an understanding of ethical, social, and professional responsibility; recognize the need for, and have the ability to engage in, lifelong learning; and have the ability to function and communicate effectively, both individually and within multidisciplinary teams.

### B.S.E.E. Degree Requirements

To obtain the degree Bachelor of Science in Electrical Engineering, students must complete a minimum of 120 units consistent with the residency and other applicable requirements of Washington University and the School of Engineering, and subject to the following departmental requirements.

1. Common Studies program of the School of Engineering: This includes courses in engineering, mathematics, chemistry, humanities, social sciences, and technical writing. The required chemistry sequence is Chem 111A-151, although Chem 111A-112A-151-152 is recommended.
2. Computer Science requirement: One of the following two courses in computer science: CSE 126 Introduction to Computer Programming, CSE 131 Computer Science I.

3. Engineering and science breadth requirements: 9 units in engineering or science outside of electrical engineering. These units must be taken in the following areas: biomedical engineering, chemical engineering, civil engineering, computer science and engineering, mechanical engineering, economics, mathematics, physics, biology, chemistry, earth and planetary sciences, and premedicine. These units must be at the level 200 or higher and shall not be used to satisfy the Common Studies requirements or the CS requirement. Courses in other fields can be arranged with special departmental approval.

Examples of engineering and science courses are MASE 252 Strength of Materials, MASE 255 Engineering Mechanics II, MASE 342 Heat Transfer, ChE 262 Introduction to Environmental Engineering, ChE 320 Thermodynamics, ChE 351 Engineering Analysis of Chemical Systems, CSE 200 Engineering and Scientific Computing, CSE 241 Algorithms and Data Structures, BME 201 From Concept to Market—The Business of Biomedical Engineering, BME 240 Biomechanics, Physics 217 Introduction to Quantum Physics I, Physics 318 Introduction to Quantum Physics II, CE 253, Biol 2960 Principles of Biology I, Biol 2970 Principles of Biology II, Chem 251 Organic Chemistry I, and Chem 252 Organic Chemistry II.

4. Twenty-nine units of required ESE courses. ESE 102/105, ESE 230, ESE 232, ESE 260, ESE 317, ESE 326, ESE 330, ESE 351, ESE 498. ESE 102/105 may be replaced by any additional electrical engineering elective course or any of the following freshman-level SEAS courses: BME 140 Introduction to Biomedical Engineering, ChE 146 Modern Technological Challenges, CE 146 Introduction to Civil Engineering, MASE 141D Introduction of Engineering Design: Project, or MASE 165 Introduction to Nanotechnology.
5. Two upper-level laboratory courses (6 units) from the following list: ESE 331, ESE 435, ESE 447, ESE 448, ESE 465, ESE 488.
6. Fifteen units of elective ESE courses in electrical engineering subjects, from the following list: ESE 330–399, ESE 400, 402, 405, 407, 409, 425, 430–499, ESE 503–589.
7. Each undergraduate course in the School of Engineering has associated with it a certain number of engineering topic units. Students must complete a selection of courses for which the accumulated engineering topics is 45 units.
8. Limitations. No more than 3 credits of ESE 400 (Independent Study) and no more than 3 credits of 500-level courses may be applied toward the Electrical Engineering requirement (Item 5) of the B.S.E.E. degree.
9. Limitations. No more than 6 units of the combined units of ESE 400 (independent study) and ESE 497 (undergraduate re-

search) may be applied toward the ESE elective requirement (Item 6) of the B.S.E.E. degree. Any remaining combined units are allowed as free electives to satisfy the requirement on the total number of units.

10. The courses taken to satisfy the following B.S.E.E. degree requirements must be taken for a letter grade and not on a pass/fail basis: Item 4 (required ESE courses), Item 5 (upper-level laboratory courses) and Item 6 (elective ESE courses).

### Bachelor of Science in Systems Science and Engineering

This program educates you in the engineering and science of systems. Graduates are expected to have mathematical competence and knowledge of systems analysis, and design methods, numerical methods, differential equations, dynamic systems theory, automatic control theory, system stability,

estimation, optimization, modeling, identification, simulation, and basic computer programming. You will have an engineering outlook and engineer's competence of your own and be able to interact fully with other engineers. You also will possess sufficient proficiency in computer use to design algorithms for simulation, estimation, control, and optimization.

The engineering departments of high-technology industries are staffed by large numbers of engineers with this type of expertise. However, graduates are by no means restricted to careers in traditional industry or in high-technology industries. Within the outlined framework, a salient feature of the program is its flexibility and interdisciplinary nature. It is possible for you to orient study toward preparation for systems science and engineering work in large complex systems such as transportation or power or communications networks or in societal systems such as the economy, ecology, the

### Bachelor of Science in Electrical Engineering (Pre-Med Sample Program)

	Units	
	Fall	Spring
<b>First Year</b>		
Calculus II, III (Math 132, 233) .....	3	4
General Physics I, II (Physics 117A, 118A).....	4	4
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory I, II (Chem 151, 152).....	2	2
Principles of Biology I (Biol 2960).....	—	4
Introduction to Electrical and Systems Engineering (ESE 105) .....	3	—
	15	17
<b>Second Year</b>		
Principles of Biology II, Physiological Control Systems (Biol 2970, 3058).....	4	2
Computer Science elective (CSE 131).....	4	—
Differential Equations (Math 217).....	4	—
Introduction to Electrical and Electronic Circuits (ESE 230).....	3	—
Engineering Mathematics (ESE 317) .....	—	4
Introduction to Electronic Circuits (ESE 232) .....	—	3
Introduction to Digital Logic and Computer Design (ESE 260).....	—	3
Humanities or social science electives.....	—	3
	16	15
<b>Third Year</b>		
Signals and Systems (ESE 351).....	3	—
Organic Chemistry I, II (Chem 251, 252) .....	3	3
Organic Chemistry Lab (Chem 257) .....	—	2
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Electromagnetics Fundamentals (ESE 330).....	—	3
EE laboratory .....	—	3
EE electives with engineering units.....	3	3
Technical Writing (ENGR 310).....	3	—
Humanities or social science elective.....	3	—
	15	17
<b>Fourth Year</b>		
EE electives with engineering units.....	6	3
EE laboratory .....	3	—
Electrical Engineering Design Projects (ESE 498) .....	—	3
EE engineering breadth requirement .....	3	—
Humanities or social science elective .....	6	6
	18	12

cities, or biological systems. You may wish to prepare for work along theoretical or professional lines. There is ample room in the program structure to accommodate all these interests and to make your preparation at the B.S. level ideally suited for your future plans and interests. This professional degree is accredited by the Accreditation Board for Engineering and Technology (ABET).

**Educational Objectives of the B.S.S.S.E. Degree Program**

A. Graduates will be technically competent in systems engineering including control engineering and operations research. They will have the ability to model, analyze, design, simulate, and optimize engineering and socioeconomic systems by applying basic principles and methodology of advanced mathematics, natural science, and engineering sciences. They will be able to use modern engineering techniques, skills, and tools, particularly recognizing the role that computer pro-

grams play in systems engineering. They will be able to identify, formulate, and solve novel engineering problems that are subject to realistic constraints from the overall system's point of view.

- B. Graduates will be able to apply the knowledge and skills from a broad education with sensitivity to the global, societal, and environmental issues.
- C. Graduates will be prepared for professional practice in engineering as well as for graduate research programs. They will have an understanding of ethical, social, and professional responsibility; recognize the need for, and have the ability to engage in, lifelong learning; and have the ability to function and communicate effectively, both individually and within multidisciplinary teams.

**B.S.S.S.E. Degree Requirements**

The course sequence designed to achieve the type of education outlined above requires at least 120 units, satisfies the residency and

other applicable requirements of Washington University and the School of Engineering, and meets the following program requirements:

1. Common Studies program of the School of Engineering. This includes courses in engineering, mathematics, physics, chemistry, humanities, social sciences, and technical writing. The required chemistry sequence is Chem 111A-151.
2. Required courses in systems science and engineering: ESE 105 Introduction to Electrical and Systems Engineering (3 units) or ESE 251 Introduction to Systems Science and Engineering (3 units); ESE 309, Matrix Algebra (3 units), or Math 429, Linear Algebra (3 units); ESE 317, Engineering Mathematics (4 units); ESE 326, Probability and Statistics for Engineering (3 units); ESE 351, Signals and Systems (3 units); ESE 403, Operations Research (3 units); ESE 411, Numerical Methods (3 units); ESE 441, Control Systems (3 units); ESE 448, Systems Engineering Laboratory (3 units); and ESE 499, Systems Design Project (3 units).
3. Two of the following five computer science courses: CSE 131, Computer Science I (4 units); CSE 241, Algorithms and Data Structures (3 units); CSE 132, Computer Science II (4 units); CSE 126, Introduction to Computer Programming (4 units); or CSE 200, Engineering and Scientific Computing (3 units). Students are encouraged to take CSE 131, Computer Science I (4 units) and CSE 241, Algorithms and Data Structures (3 units). The other possible sequences are CSE 126 and CSE 241 or CSE 200 and CSE 126.

Students interested in a Minor in Computer Science are recommended to take CSE 131, Computer Science I (4 units), CSE 132, Computer Science II (4 units), CSE 241, Algorithms and Data Structures (3 units), CSE 332S, Object-oriented Software Development Laboratory (3 units) and CSE 436S, Software Engineering Workshop (3 units).

4. One of the following three laboratory courses: ESE 447 Robotics Laboratory (3 units), ESE 449 Digital Process Control Laboratory (3 units), ESE 488 Signals and Systems Laboratory (3 units).
5. Twelve units in elective courses in systems science and engineering: ESE 400 through 429; ESE 440 through 459; ESE 470 through 489; ESE 497; ESE 500 through 529; ESE 540 through 559. Up to 3 units of the following business courses may be part of the 12 units of SSE electives: OSCM 356 Operations Management, OSCM 458 Operations Planning and Control, OMM 576 Foundations of Supply Chain Management, OMM 577 Information Technology and Supply Chain Management.
6. Twelve units in engineering concentration outside of systems science and engineering. These units must all be taken in one of the following engineering areas: Biomedical Engineering, Chemical Engi-

**Bachelor of Science in Systems Science and Engineering (Pre-Med Sample Program)**

	Units	
	Fall	Spring
<b>First Year</b>		
Calculus II, III (Math 132, 233) .....	3	4
General Physics I, II (Physics 117A, 118A).....	4	4
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory I, II (Chem 151, 152).....	2	2
Principles of Biology I (Biol 2960) .....	—	4
Introduction to Electrical and Systems Engineering (ESE 105) .....	3	—
	<u>15</u>	<u>17</u>
<b>Second Year</b>		
Principles of Biology II, III (Biol 2970, 3050).....	4	4
Computer Science elective from the approved list (CSE 131).....	4	—
Differential Equations (Math 217).....	4	—
Matrix Algebra (ESE 309) .....	3	—
Engineering Mathematics (ESE 317) .....	—	4
Probability and Statistics for Engineering (ESE 326).....	—	3
Computer Science elective from the approved list (CSE 241).....	—	3
Humanities or social science electives.....	—	3
	<u>15</u>	<u>17</u>
<b>Third Year</b>		
Signals and Systems (ESE 351).....	3	—
Organic Chemistry I, II (Chem 251, 252) .....	3	3
Organic Chemistry Lab (Chem 257) .....	—	2
Probability and Statistics for Engineering (ESE 326).....	—	3
Engineering Electromagnetics Fundamentals (ESE 330).....	—	3
EE laboratory .....	—	3
EE electives with engineering units.....	3	3
Technical Writing (ENGR 310) .....	3	—
Humanities or social science elective .....	3	—
	<u>16</u>	<u>17</u>
<b>Fourth Year</b>		
EE electives with engineering units.....	6	3
EE laboratory .....	3	—
Electrical Engineering Design Projects (ESE 498) .....	—	3
EE engineering breadth requirement .....	3	—
Humanities or social science elective .....	6	6
	<u>18</u>	<u>15</u>

neering, Civil Engineering, Computer Science and Engineering, Electrical Engineering (ESE 102; ESE 230 through 239; ESE 260 through 290; ESE 330 through 339; ESE 360 through 390; ESE 430 through 439; ESE 460 through 469; ESE 490 through 496; ESE 498; ESE 530 through 539; ESE 560 through 589), or Mechanical and Aerospace Engineering. Of the 12 units, 9 units must be at the level 200 or higher. Sequences for concentrations in economics, mathematics, physics, premedicine, and other fields can be arranged with special departmental approval in exceptional cases to meet your specific needs. When a non-engineering discipline is chosen as the outside concentration, the student needs to pay special attention to the next requirement, which is required of all students, and make sure that enough engineering contents are obtained from the other courses. The use of basic required courses to fulfill the requirement for an outside concentration requires special approval from the department.

7. The entire course sequence for the B.S.S.S.E. containing engineering topics of at least 45 units. Note that each engineering course is assigned engineering topic units. (See **registrar.seas.wustl.edu/courses/engineering-courseattributes.htm**).
8. Limitations. No more than 6 units of the combined units of ESE 400 (independent study) and ESE 497 (undergraduate research) may be applied toward the SSE elective requirement (Item 5) of the B.S.S.S.E. degree. Any remaining combined units are allowed as free electives to satisfy the requirement on the total number of units.
9. The courses taken to satisfy the following B.S.S.S.E. degree requirements must be taken for a letter grade and not on a pass/fail basis: Item 2 (required ESE courses), Item 4 (elective laboratory course) and Item 5 (elective ESE courses).

The program requirements for the B.S. in Systems Science and Engineering allow a double major with another department. Changes in the program to accommodate such double majors may be made with departmental approval. See a sample program for the B.S. in Systems Science and Engineering.

### **Bachelor of Science in Applied Science (Electrical Engineering)**

Students who do not plan to pursue a career in electrical engineering but seek a strong foundation in the principles of electrical engineering may choose the Bachelor of Science in Applied Science (Electrical Engineering). The program ensures that the student learns the foundations of electrical engineering through breadth requirements. In addition, there is flexibility in selecting upper-level courses to meet the student's in-

dividual objectives. This program may also be attractive for students interested in obtaining multiple degrees because the requirements are less strict than for the B.S.E.E. degree. Historically students have matched a degree in electrical engineering with degrees in other engineering disciplines, in the natural sciences, in music, in history, and in business; other combinations are possible. This may also be an attractive option for students planning graduate studies in a variety of disciplines including medicine, law, or business. This nonprofessional degree is not accredited by the Accreditation Board for Engineering and Technology (ABET).

The degree requirements include the residency and general requirements of the University and the School of Engineering and:

	Units
Humanities and social sciences electives ..18	
Mathematics, science, and engineering electives.....24	
Required courses in electrical engineering*.....9	
Upper-level elective courses in electrical engineering†.....21	
Free electives .....48	
	120

The program must include at least 48 units at the 300 level or higher.

### **Bachelor of Science in Applied Science (Systems Science and Engineering)**

This program provides you with the opportunity to prepare your academic career with maximum flexibility, but with enough organization to assure substantive, consistent training in systems science methodology and outlook. This program is recommended if you wish to pursue a course of study that does not follow conventional lines. It is an especially advantageous component for a double major in association with mathematics, physics, economics, or another engineering discipline. The program can be planned to provide a desirable background for graduate work in biological, medical, or management fields. This nonprofessional degree is not accredited by the Accreditation Board for Engineering and Technology (ABET).

The degree requirements include the residency and general requirements of the University and the School of Engineering and:

	Units
Humanities and social sciences electives ..18	
Mathematics, science, and engineering electives.....24	
Systems science and engineering electives‡.....24	
Free electives .....54	
	120

The program must include at least 48 units at the 300 level or higher.

### **A Second Major in Systems Science**

A second major is ideal for study in many areas such as physics, chemistry, economics, and computational biology. Students in undergraduate divisions other than engineering now have the opportunity to pursue a second major in the Department of Electrical and

Systems Engineering in the School of Engineering.

The requirements for a second major in systems science are: (1) ESE 105 Introduction to Electrical and Systems Engineering or ESE 251 Introduction to Systems Science and Engineering, (2) ESE 309 Matrix Algebra, (3) ESE 351 Signals and Systems, (4) ESE 403 Operations Research, (5) one of the following: ESE 317 Engineering Mathematics, ESE 326 Probability and Statistics for Engineering, or ESE 441 Control Systems Design, (6) eight 3-unit ESE courses in the Systems area chosen from ESE 400 through 429; ESE 440 through 459; ESE 470 through 489; 500 through 529; ESE 540 through 559.

Students may petition to substitute systems-oriented courses from other disciplines for two of these eight courses (for example, courses in computational physics, mathematical economics, or computational mathematics).

Within this second major in systems science, areas of concentration are possible in: robotics, control systems, and operations research.

This totals 34 to 40 units of systems science, depending on students' use of the substitution option for upper-level electives. To design a customized program, contact the departmental associate chair or the director of the program.

### **Minor in Electrical Engineering**

Students who complete 15 units of course work in electrical engineering subjects at Washington University as specified below may be awarded a Minor in Electrical Engineering. The required courses for the minor are: ESE 105, Introduction to Electrical and Systems Engineering or ESE 102 Introduction to Electrical and Computer Engineering; ESE 230, Introduction to Electrical and Electronic Circuits; ESE 330, Engineering Electromagnetics Principles; and ESE 351, Signals and Systems. Students may select one electrical engineering elective course from the following list: ESE 232, ESE 260, ESE 330–399, and ESE 430–499, with the exception of ESE 431. For more information, contact the director for the minor.

### **Minor in Robotics**

Robotic systems have wide application in modern technology and manufacturing. Robots can vary in complexity and use, from microrobots for surgical procedures to moderate-size robots common in manufacturing and undersea exploration to macrorobots used for disposal of nuclear wastes and as arms on space-station modules.

\*The required courses are ESE 102/105, ESE 230, and ESE 232.

†The upper-level elective courses in electrical engineering are ESE 260, ESE 326, ESE 330-399, ESE 400, 402, 405, 407, 409, 425, 430-499, ESE 503-589.

‡The systems science courses are ESE 105/251; ESE 309; ESE 317; ESE 326; ESE 351; ESE 400 through 429; ESE 440 through 459; ESE 470 through 489; 500 through 529; ESE 540 through 559.

The program designed for a minor in robotics provides a fundamental understanding of robotic operation and preliminary training in design and use of robots.

Prerequisites for the required courses are: Calculus, Math 217 (Differential Equations), Physics 117A, 118A (General Physics I, II), and CSE 131 (Computer Science I), or CSE 126 (Introduction to Computer Programming), or CSE 200 (Engineering and Scientific Computing), or MASE 201 (Numerical Methods and Matrix Algebra) or equivalent.

A total of six courses are required, including the following four courses:

**MASE 232. Engineering Mechanics II**

**ESE 351. Signals and Systems**  
or

**MASE 431. Structural Dynamics and Vibrations**

**ESE 446. Robotics: Dynamics and Control**

**ESE 447. Robotics Laboratory**  
and two courses chosen with the approval of the director of the program for a minor in robotics. Suggested courses are:

**CSE 313A. Artificial Intelligence Laboratory**

**CSE 452A. Computer Graphics**

**CSE 546T. Computational Geometry**

**MASE 313. Machine Elements**

**ESE 441. Control Systems**

or  
**MASE 4301. Modeling Simulation and Control**  
or

**MASE 4302. Aircraft Flight Dynamics and Controls**

**ESE 407. Analysis and Simulation of Discrete Event Systems**

**ESE 435. Electrical Energy Laboratory**

To find out more about this minor, contact the director (T. J. Tarn) of the program or the department associate chair.

### **B.S.–M.S. Programs in Electrical and Systems Engineering**

Students enrolled in any of the professional undergraduate degree programs in the School of Engineering may choose to extend their educational experience, while maintaining undergraduate student status, by enrolling in the five-year B.S.–M.S. program. The Master of Science in Electrical Engineering (M.S.E.E.), and Master of Science in Systems Science and Mathematics (M.S.S.S.M.) degrees are participating graduate degrees, and these may be combined with any undergraduate degree that provides the appropriate background.

### **Common Requirements for the B.S.–M.S. Programs**

General requirements for the B.S.–M.S. program include the residency and other applicable requirements of the University and the School of Engineering, which are found elsewhere in this catalog. In summary, stu-

dents must complete all the degree requirements for both the undergraduate and graduate degrees (at least 120 units plus 30 units, 150 units) but are not required to complete all the undergraduate degree requirements first.

### **Requirements for the B.S.–M.S.E.E. Degree**

The requirements for the M.S.E.E. degree include a total of 30 units, with 15 units being in graduate-level electrical engineering courses (ESE 513, ESE 516, ESE 520–589), and the other 15 units being in technical electives (not necessarily from the ESE department but approved by the ESE department) at the senior level or above. A maximum of one 500-level cross-listed ESE course whose home department is outside of ESE may be applied toward the 15-credit graduate-level course requirement. At least 15 units of the 30 total units applied toward the M.S.E.E. degree must be in ESE courses which, if cross-listed, have as the home department the Department of Electrical and Systems Engineering. Both a thesis option and a course option are available.

### **Requirements for the B.S.–M.S.S.S.M. Program**

Students in the joint B.S.–M.S. program seeking the degree of the M.S. in Systems Science and Mathematics are required to fulfill the following additional requirements: a total of 30 units, with at least 15 units at the graduate level, and the remaining units at the senior level or above. Required courses (15 units) for the M.S. degree include: ESE 520, 551, 552, 553, and either ESE 415, 516, or 556. The remaining courses in the program may be selected from senior- or graduate-level courses in Electrical and Systems Engineering or elsewhere in the University. Courses outside of Electrical and Systems Engineering must be in technical subjects relevant to systems science and mathematics and require the department's approval.

### **Undergraduate Courses**

**ESE 100. Independent Study**  
Credit 0 units.

#### **ESE 102. Introduction to Electrical and Computer Engineering**

A comprehensive introduction to the theory and practice of electrical and computer engineering. An application area such as multimedia communication systems is used as a theme throughout to motivate the diverse elements of the course. Many fundamental aspects of engineering are covered, including physics and physical devices, mathematical modeling, analytical problem-solving, engineering design, and laboratory experimentation. Course topics and skills are integrated in design projects covering contemporary applications of interest to the instructor and student. Prerequisite: Phys 117A and Math 131 or 141. Corequisite: CSE 131 or 126, plus MATLAB programming. Open only to freshmen and sophomores. Juniors and seniors who are planning to take this course are directed to E35-ESE-233 Electrical & Electronics Lab. Prerequisite: Phys 117A and Math 131 or 141. Corequisite: CSE 131 or 126, plus MATLAB programming. Credit 3 units.

#### **ESE 105. Introduction to Electrical and Systems Engineering**

A comprehensive introduction to the theory and practice of electrical and systems engineering. An application area such as multimedia communication systems is used as a theme throughout to motivate the diverse elements of this course, which span from electronic devices, electrical systems, control systems, and operations research. Many fundamental aspects of engineering are covered, including physics and physical devices, mathematical modeling, analytical problem-solving, engineering design, optimization, and laboratory experimental. Course topics and skills are integrated in design projects covering contemporary applications of interest to the instructor and student. Prerequisites: Physics 117A and Math 131. Credit 3 units.

#### **ESE 141. Introductory Robotics**

A hands-on introduction to robotics. Project-oriented course in which students build and program a robot guided by upper-division students. Friendly competition at the end of semester. Students will gain electrical lab experience, programming experience, and a guided introduction into the field of robotics. Recommended for freshmen and sophomores. Credit 0 units.

#### **ESE 145. Computer Control of a Robot**

This course is designed for engineering freshmen. Students learn to control a robot via a personal computer in the Systems Engineering Laboratory. Specifically, they learn the basics of programming, the interface between the computer and the robot, the use of the special software for controlling the interface and ultimately the real-time control of the robot. The course emphasizes team projects in which a group of students develop computer programs for controlling a robot. Credit 2 units. Design credit 2 units.

#### **ESE 230. Introduction to Electrical and Electronic Circuits**

Electron and ion motion, electrical current, and voltage. Electrical energy, current, voltage, and circuit elements. Resistors, Ohm's Law, power and energy, magnetic fields and DC motors. Circuit analysis and Kirchhoff's voltage and current laws. Thevenin and Norton transformations and the superposition theorem. Measuring current, voltage, and power using ammeters and voltmeters. Energy and maximum electrical power transfer. Computer simulations of circuits. Reactive circuits, inductors, capacitors, mutual inductance, electrical transformers, energy storage, and energy conservation. RL, RC, and RLC circuit transient responses, biological cell action potentials due to Na and K ions. AC circuits, complex impedance, RMS current, and voltage. Electrical signal amplifiers and basic operational amplifier circuits. Inverting, non-inverting, and difference amplifiers. Voltage gain, current gain, input impedance, and output impedance. Weekly laboratory exercises related to the lectures are an essential part of the course. Prerequisite: Phys 118A. Corequisite: Math 217. Credit 4 units.

#### **ESE 232. Introduction to Electronic Circuits**

Introduction to contemporary electronic devices and their circuit applications. Terminal characteristics of active semiconductor devices. Incremental and DC models of junction diodes, bipolar transistors (BJTs), and metal-oxide semiconductor field effect transistors (MOSFETs) are developed and used to design single- and multistage amplifiers. Models of the BJT and MOSFET in cutoff and saturation regions are used to design digital circuits. Prerequisite: ESE 230. Credit 3 units.

**ESE 233. Electrical and Electronics Laboratory**  
Lectures and laboratory exercises related to sophomore topics in introductory networks and basic

electronics. Prerequisite: ESE 230. Credit 3 units. Design credit 1 unit.

#### ESE 251. Introduction to Systems Science and Engineering

Introduction to the methodology of systems engineering: mathematical modeling, time- and frequency-responses, system identification, control system design. Each lecture, which provides a theoretical overview of a different phase of control system design, is followed by hands-on laboratory work, which emphasizes the use of software for both analysis and design and the actual implementation of each design on the laboratory hardware. (Not open to seniors or graduate students.) Prerequisite: Math 233. Corequisite: Math 217. Credit 4 units.

#### ESE 260. Introduction to Digital Logic and Computer Design

Same as CSE 260M.

#### ESE 309. Matrix Algebra

Same as Math 309.

#### ESE 317. Engineering Mathematics

The Laplace transform and applications; series solutions of differential equations, Bessel's equation, Legendre's equation, special functions; matrices, eigenvalues, and eigenfunctions; vector analysis and applications; boundary value problems and spectral representations; Fourier series and Fourier integrals; solution of partial differential equations of mathematical physics. Prerequisite: Math 217 or equivalent. Credit 4 units.

#### ESE 326. Probability and Statistics for Engineering

Study of probability and statistics together with engineering applications. Probability and statistics: random variables, distribution functions, density functions, expectations, means, variances, combinatorial probability, geometric probability, normal random variables, joint distribution, independence, correlation, conditional probability, Bayes theorem, the law of large numbers, the central limit theorem. Applications: reliability, quality control, acceptance sampling, linear regression, design and analysis of experiments, estimation, hypothesis testing. Examples are taken from engineering applications. Prerequisite: Math 233 or equivalent. Credit 3 units.

#### ESE 330. Engineering Electromagnetics Principles

Electromagnetic theory as applied to electrical engineering: vector calculus; electrostatics and magnetostatics; Maxwell's equations, including Poynting's theorem and boundary conditions; uniform plane-wave propagation; transmission lines, TEM modes, including treatment of general lossless lines, and pulse propagation; introduction to guided waves; introduction to radiation and scattering concepts. Prerequisite: ESE 317, or equivalent. Credit 3 units.

#### ESE 331. Electronics Laboratory

Laboratory exercises for juniors covering topics in computer-aided measurements, computer simulation, and electronic circuits. Prerequisites: ESE 102, 232. Credit 3 units.

#### ESE 332. Power, Energy, and Polyphase Circuits

Fundamental concepts of power and energy; electrical measurements; physical and electrical arrangement of electrical power systems; polyphase circuit theory and calculations; principal elements of electrical systems such as transformers, rotating machines, control, and protective devices, their description and characteristics; elements of industrial power system design. Prerequisite: ESE 230. Credit 3 units.

#### ESE 334. Network Analysis

Theoretical and practical aspects of electrical networks. Loop and nodal analysis of multiport networks. Transfer functions, admittance, and impedance functions, and matrices. Magnitude and phase relations. Butterworth, Chebyshev, and other useful network response functions. Network theorems. Computer-aided design. Synthesis of passive (LC, RC, RLC) networks and of active (RC) networks. Prerequisite: ESE 260/CSE 260M. Credit 3 units. Design credit 1 unit.

#### ESE 336. Principles of Electronic Devices

Introduction to the solid-state physics of electronic materials and devices, including semiconductors, metals, insulators, diodes and transistors. Crystal growth technology and fundamental properties of crystals. Electronic properties and band structure of electronic materials, and electron transport in semiconductor materials. Fabrication of pn junction diodes, metal-semiconductor junctions, and transistors and integrated-circuit chips. Fundamental electrical properties of rectifying diodes and light-emitting diodes, bipolar transis-

tors and field-effect transistors. Device physics of diodes and transistors, large-signal electrical behavior, and high-frequency properties. Prerequisite: Phys 118A. Credit 3 units.

#### ESE 337. Electronic Devices and Circuits

Introduction to semiconductor electronic devices: transistors and diodes. Device electrical DC and high-frequency characteristics. Bipolar transistors, field-effect transistors, and MOS transistors for analog electronics applications. Transistor fabrication as discrete devices and as integrated-circuit chips. Large-signal analysis of transistor amplifiers: voltage gain, distortion, input resistance, and output resistance. Analysis of multitransistor amplifiers: Darlington, Cascode, and coupled-pair configurations. Half-circuit concepts, differential-mode gain, common-mode gain, and differential-to-single-ended conversion. Transistor current sources, active loads, and power-amplifier stages. Applications to operational amplifiers and feedback circuits. Prerequisite: ESE 232. Credit 3 units.

## Bachelor of Science in Electrical Engineering (Sample Program)

	Units	
	Fall	Spring
<b>First Year</b>		
Calculus II, III (Math 132, 233) .....	3	4
General Physics I, II (Physics 117A, 118A).....	4	4
Computer Science elective (CSE 131).....	4	—
Introduction to Electrical and Systems Engineering (ESE 105) .....	3	—
English Composition (E Comp 100/199) .....	—	3
Humanities or social sciences elective.....	—	3
Elective (Freshman Seminar Engr 120).....	0	—
	14	14
<b>Second Year</b>		
General Chemistry I (Chem 111A) .....	3	—
General Chemistry Laboratory I (Chem 151) .....	2	—
Differential Equations (Math 217).....	4	—
Introduction to Electrical and Electronic Circuits (ESE 230).....	4	—
Engineering Mathematics (ESE 317) .....	—	4
Introduction to Electronic Circuits (ESE 232) .....	—	3
Introduction to Digital Logic and Computer Design (ESE 260).....	—	3
Engineering and Science breadth elective .....	—	3
Humanities or social sciences elective .....	3	3
	16	16
<b>Third Year</b>		
Signals and Systems (ESE 351).....	3	—
Electrical Engineering electives.....	3	6
Probability and Statistics for Engineering (ESE 326) .....	3	—
Engineering Electromagnetics Fundamentals (ESE 330).....	—	3
Electrical Engineering laboratory .....	—	3
Engineering and Science breadth elective .....	3	—
Technical Writing (ENGR 310).....	3	—
Humanities or social sciences elective .....	—	3
	15	15
<b>Fourth Year</b>		
Electrical Engineering electives.....	3	3
Electrical Engineering laboratory .....	3	—
Electrical Engineering Design Projects (ESE 498) .....	—	3
Humanities or social sciences electives .....	3	3
Engineering and science breadth elective.....	3	—
Free electives.....	3	6
	15	15

**ESE 351. Signals and Systems**

Introduction to concepts and methodology of linear dynamic systems in relation to discrete- and continuous-time signals. Representation of systems and signals. Fourier, Laplace, and Z-transforms and convolution. Input-output description of linear systems: impulse response, transfer function. State-space description of linear systems: differential and difference equation description, transition matrix. Time-domain and frequency-domain system analysis: transient and steady-state responses, system modes, stability, frequency spectrum. System design: filter, modulation. Continuity is emphasized from analysis to synthesis and implementation. Use of MATLAB. Prerequisites: Math 217 (Matrix Algebra), and Physics 117A-118A. Corequisite: ESE 317. Credit 3 units.

**ESE 362. Computer Architecture**

Same as CSE 362M.

**ESE 400. Independent Study**

Opportunities to acquire experience outside the classroom setting and to work closely with individual members of the faculty. A final report must be submitted to the department. Not open to first-

year or graduate students. Consult adviser. Hours and credit to be arranged. Credit variable, maximum 3 units.

**ESE 402. Computer-Aided Design Systems**

Introduction to computer-aided techniques in the solution of network and electronic design problems, including filters; analysis of linear and non-linear circuits; methods for numerical integration, evaluation of the Fourier integral; numerical methods for solving differential equations, automated methods for design; sparse matrix techniques. Use of problem-oriented languages such as SPICE. Methods for the analysis and design of digital circuits and systems. Prerequisites: ESE 232, 351. Credit 3 units. Design credit 1.5 units.

**ESE 403. Operations Research**

Same as ESE 503.

Introduction to the mathematical aspects of various areas of operations research, with additional emphasis on problem formulation. This is a course of broad scope, emphasizing both the fundamental mathematical concepts involved, and also aspects of the translation of real-world problems to an appropriate mathematical model. Sub-

jects to be covered include linear and integer programming, network problems, and dynamic programming. For graduate credit, a term project is required. Prerequisites: Math 217 and familiarity with matrix or linear algebra, or permission of instructor. Credit 3 units.

**ESE 404. Applied Operations Research**

Application of deterministic and stochastic operations research techniques to real-world problems. Emphasis is given to linear programming and simulation. The nature of the problems ranges from logistics and planning to operations management. The systems to be examined are transportation systems, supply chain systems, medical care delivery systems, urban service systems, management systems, manufacturing systems. Emphasis is placed on the problem formulation of real-world problems, the use of computer software and the analysis of the solutions. Prerequisites: ESE 326 and ESE 403 or equivalent. Credit 3 units.

**ESE 405. Reliability and Quality Control**

Same as ESE 505.

An integrated analysis of reliability and quality control function in manufacturing. Statistical process control, acceptance sampling, process capability analysis, reliability prediction, design, testing, failure analysis and prevention, maintainability, availability, and safety are discussed and related. Qualitative and quantitative aspects of statistical quality control and reliability are introduced in the context of manufacturing. For graduate credit, a term project is required. Prerequisite: ESE 326 or equivalent. Credit 3 units.

**ESE 407. Analysis and Simulation of Discrete Event Systems**

Study of the dynamic behavior of discrete event systems and techniques for analyzing and optimizing the performance of such systems. Covers both classical and recent approaches. Classical topics include Markov chains, queueing theory, networks of queues, related algorithms, and simulation methods. Recent approaches include decomposition and aggregation, approximation, and perturbation analysis of nonclassical systems. Applications are drawn from various areas, including production systems. Prerequisites: Math 217, ESE 326 or equivalent, CSE 126 or equivalent. Credit 3 units.

**ESE 411. Numerical Methods**

Same as CSE 405A, ESE 511.

An introduction to current numerical methods: root finding, direct solution of linear systems, iterative solution of linear systems, interpolation, data fitting, numerical differentiation and integration, application to physical and engineering problems. For graduate credit, a term project is required. Prerequisites: Math 217, CSE 131, 126 or 200 or equivalent, and sophomore standing. Credit 3 units.

**ESE 414. Calculus of Variations**

Same as ESE 514.

Introduction to the theory and applications of the calculus of variations. Theory of functionals; variational problems for an unknown function; Euler's equation; variable end-point problems; variational problems with subsidiary conditions; sufficient conditions for extrema; applications to optimum control and/or to other fields. For graduate credit, a term project is required. Prerequisite: ESE 317 or equivalent. Credit 3 units.

**ESE 415. Optimization**

Optimization problems with and without constraints. The projection theorem. Convexity, separating hyperplane theorems; Lagrange multipliers, Kuhn-Tucker-type conditions, duality; computational procedures. Optimal control of linear dynamic systems; maximum principles. Use of opti-

**Bachelor of Science in Systems Science and Engineering (Sample Program)**

	Units	
	Fall	Spring
<b>First Year</b>		
Calculus II, III (Math 132, 233) .....	3	4
General Physics I, II (Physics 117A, 118A).....	4	4
Matrix Algebra (ESE 309).....	—	3
Computer Science elective from the approved list (CSE 131).....	4	—
Humanities or social sciences electives.....	3	3
Elective (Freshman Seminar ENGR 120) .....	—	—
	<u>14</u>	<u>14</u>
<b>Second Year</b>		
General Chemistry I (Chem 111A) .....	3	—
General Chemistry Laboratory I (Chem 151) .....	2	—
Differential Equations (Math 217).....	4	—
Introduction to Electrical and Systems Engineering (ESE 105) .....	3	—
Computer Science elective from the approved list (CSE 241) .....	—	3
Engineering Mathematics (ESE 317) .....	—	4
Probability and Statistics for Engineering (ESE 326).....	—	3
Humanities or social sciences electives .....	3	3
Outside concentration elective.....	—	3
	<u>15</u>	<u>16</u>
<b>Third Year</b>		
Signals and Systems (ESE 351).....	3	—
Operations Research (ESE 403) .....	3	—
Numerical Methods (ESE 411).....	3	—
Outside concentration .....	—	3
Systems science and engineering elective .....	3	3
Control Systems (ESE 441).....	—	3
Systems Engineering Laboratory (ESE 448).....	—	3
Technical Writing (ENGR 310).....	3	—
Humanities/social sciences elective.....	—	3
	<u>15</u>	<u>15</u>
<b>Fourth Year</b>		
Systems Design Project (ESE 499) .....	3	—
Outside concentration .....	3	3
Humanities/social sciences elective .....	3	—
Elective Laboratory (ESE 447, 449, 488).....	3	—
Systems science and engineering electives.....	3	3
Electives .....	—	10
	<u>15</u>	<u>16</u>

mization techniques in engineering design. Prerequisite: ESE 309 or permission of instructor. Credit 3 units.

#### **ESE 416. Complex Variables**

Introduces analytical functions of a complex variable as a primary tool in the formulation and solution of engineering problems. Topics: Elementary functions, contour integration in the complex plane, power series, residue theory, conformal mapping, Laplace and Fourier inverse transforms, two-dimensional potential theory. Prerequisite: Engineering ESE 317 or equivalent. Credit 3 units.

#### **ESE 425. Random Processes and Kalman Filtering**

Probability and random variables; random processes; linear dynamic systems and random inputs; autocorrelation; spectral density; the discrete Kalman filter; applications; the extended Kalman filter for nonlinear dynamic systems. Kalman filter design using a computer package, mean square estimation; maximum likelihood; Wiener filtering and special factorization, LQG/LTR control. Prerequisite: ESE 326 or equivalent. Credit 3 units.

#### **ESE 428. Probability**

Same as Math 493.

#### **ESE 430. Engineering Electromagnetics Applications**

Study of important applications of electromagnetic theory. Solution of electrostatic and magnetostatic problems involving Laplace and Poisson's equations subject to boundary conditions. Maxwell's equations, including boundary conditions for dielectrics and conductors, reflection and transmission characteristics with effects due to losses. Study of guided waves in rectangular and optical wave guides, including effects of dispersion. S-parameters and transmission networks, including S-matrix properties, relation to impedance, reflection coefficient, VSWR, and Smith chart. Study of antennas, including exposure to terminology and thin-wire antennas. Prerequisite: ESE 330. Credit 3 units.

#### **ESE 431. Quantum Electronics**

Same as Physics 471.

#### **ESE 432. Advanced Analog Electronics**

Design and analysis of analog electronic circuits and operational amplifiers for use in control systems, instrumentation and telecommunications. Large-signal analysis of high-power circuits including transfer characteristics, distortion, power efficiency, impedance, and high-frequency behavior. Frequency response, stability, and frequency-compensation of multistage feedback amplifiers. Fundamental treatment of electronic noise in circuits including thermal noise, shot noise, and  $1/f$  noise. Review of general-purpose op-amps, wide-band video op-amps, and high-performance precision operational amplifiers and chip layout. Linear and nonlinear analog applications, including power-booster amplifiers, precision rectifiers, differentiators, integrators, phase-locked loops, high-frequency analog multipliers, and mixers. Prerequisite: ESE 337. Credit 3 units.

#### **ESE 433. Radio Frequency and Microwave Technology for Wireless Systems**

Same as ESE 533.

Focus is on the components and associated techniques employed to implement analog and digital radio frequency (RF) and microwave (MW) transceivers for wireless applications, including: cell phones; pagers; wireless local area networks; global positioning satellite-based devices; and RF identification systems. A brief overview of system-level considerations is provided, including modulation and detection approaches for analog and digital systems; multiple-access techniques and wireless standards; and transceiver architec-

tures. Focus is on RF and MW: transmission lines; filter design; active component modeling; matching and biasing networks; amplifier design; and mixer design. Prerequisite: ESE 330. Credit 3 units.

#### **ESE 434. Solid-State Power Circuits and Applications**

Study of the strategies and applications power control using solid-state semiconductor devices. Survey of generic power electronic converters. Applications to power supplies, motor drives, and consumer electronics. Introduction to power diodes, thyristors, and MOSFETs. Prerequisites: ESE 232, 351. Credit 3 units.

#### **ESE 435. Electrical Energy Laboratory**

Experimental studies of principles important in modern electrical energy systems. Topics include: power measurements, single-phase transformers, batteries, three-phase circuits and transformers, static frequency converters, thermoelectric cooling, solar cells, electrical lighting, induction, commutator, brushless motors, and synchronous machines. Corequisite: ESE 332. Credit 3 units.

#### **ESE 436. Advanced Electronic Devices**

The physics of state-of-the-art electronic devices. Devices to be studied include novel diode structures (light-emitting diodes, semiconductor laser diodes), high-power devices (SCRs, TRIACs, and power transistors), and high-speed devices. High-speed devices include heterojunction bipolar (HBT), heterojunction field-effect (HFET), and high-electron mobility (HEMT) transistors used in very high-speed systems (up to 100 GHz). Advanced bipolar transistors (poly-Si), used in high-speed microprocessors, examined; also materials properties, transport mechanisms, band structure, and physics of these devices. Prerequisite: ESE 336. Credit 3 units.

#### **ESE 438. Applied Optics**

Same as ESE 538A.

Topics relevant to the engineering and physics of conventional as well as experimental optical systems and applications explored. Items addressed include geometrical optics, Fourier optics such as diffraction and holography, polarization and optical birefringence such as liquid crystals, and nonlinear optical phenomena and devices. Prerequisite: ESE 330 or equivalent. Credit 3 units.

#### **ESE 441. Control Systems**

Same as ChE 431, ESE 541.

Introduction to theory and practice of automatic control for continuous-time systems. Representations of the system: transfer function, block diagram, signal flow graph, differential state equation, and output equation. Analysis of control system components. Transient and steady-state performance. System analysis: Routh-Hurwitz, root-locus, Nyquist, Bode plots. System design: PID controller, and lead-lag compensators, pole placement via state feedback, observer, stability margins in Nyquist and Bode plots. Emphasis on design principles and their implementation. Design exercises with a MATLAB package for specific engineering problems. Same as ESE 541, which requires a project. Prerequisite: ESE 351. Credit 3 units.

#### **ESE 442. Digital Control Systems**

The control of physical systems with digital computer, microprocessor, or special-purpose digital hardware is becoming very common. Course continues ESE 441 to develop models and mathematical tools needed to analyze and design these digital, feedback-control systems. Linear, discrete dynamic systems. The Z-transform. Discrete equivalents to continuous transfer functions. Sampled-data control systems. Digital control systems design using transfer and state-space methods. Systems composed of digital and continuous sub-

systems. Quantization effects. System identification. Multivariable and optimum control. Prerequisites: ESE 351 and 441, MASE 4301, or permission of instructor. Credit 3 units.

#### **ESE 443. Control Systems Design by State Space Methods**

Same as ESE 543.

Advanced design and analysis of control systems by state-space methods: review of linear algebra (vector space, change of basis, diagonal and Jordan forms), linear dynamic systems (modes, stability, controllability, state feedback, observability, observers, canonical forms, output feedback, separation principle and decoupling), nonlinear dynamic systems (stability, Lyapunov methods), approximate linearization feedback linearization. Design exercises with CAD (computer-aided design) packages for engineering problems. Prerequisite: ESE 351, or MAE 417, or permission of instructor. ESE 543 requires a project. Credit 3 units.

#### **ESE 446. Robotics: Dynamics and Control**

Homogeneous coordinates and transformation matrices. Kinematic equations and the inverse kinematic solutions for manipulators, the manipulator Jacobian and the inverse Jacobian. General model for robot arm dynamics, complete dynamic coefficients for six-link manipulator. Synthesis of manipulation control, motion trajectories, control of single- and multiple-link manipulators, linear optimal regulator. Model reference adaptive control, feedback control law for the perturbation equations along a desired motion trajectory. Design of the control system for robotics. Prerequisites: ESE 317, 351 or 441, and knowledge of a programming language. Credit 3 units.

#### **ESE 447. Robotics Laboratory**

Introduces the students to various concepts such as modeling, identification, model validation, and control of robotic systems. The course focuses on the implementation of identification and control algorithms on a two-link robotic manipulator (the so-called pendubot) that will be used as an experimental testbed. Topics include: Introduction to the mathematical modeling of robotic systems; nonlinear model, linearized model; identification of the linearized model: input-output and state-space techniques; introduction to the identification of the nonlinear model: energy-based techniques; model validation and simulation; stabilization using linear control techniques; a closer look at the dynamics; stabilization using nonlinear control techniques. Prerequisite: ESE 351 or MASE 4301. Credit 3 units.

#### **ESE 448. Systems Engineering Laboratory**

Experimental study of real and simulated systems and their control. Identification, input-output analysis, design and implementation of control systems. Noise effects. Design and implementation of control laws for specific engineering problems. Corequisite: ESE 441 and knowledge of a programming language. Credit 3 units.

#### **ESE 449. Digital Process Control Laboratory**

Same as ChE 433.

#### **ESE 460. Switching Theory**

Same as CSE 460T.

#### **ESE 462. Computer Systems Design**

Same as CSE 462M.

#### **ESE 463. Digital Integrated Circuit Design and Architecture**

Same as CSE 463M.

#### **ESE 464. Digital Systems Engineering**

Same as CSE 464M.

#### **ESE 465. Digital Systems Laboratory**

Same as CSE 465M.

**ESE 467. Embedded Computing Systems**

Same as CSE 467S.

**ESE 471. Communications Theory and Systems**

Introduction to the concepts of transmission of information via communication channels. Amplitude and angle modulation for the transmission of continuous-time signals. Analog-to-digital conversion and pulse code modulation. Transmission of digital data. Introduction to random signals and noise and their effects on communication. Optimum detection systems in the presence of noise. Elementary information theory. Overview of various communication technologies such as radio, television, telephone networks, data communication, satellites, optical fiber, and cellular radio. Prerequisites: ESE 351 and ESE 326. Credit 3 units.

**ESE 482. Digital Signal Processing**

Introduction to analysis and synthesis of discrete-time linear time-invariant (LTI) systems. Discrete-time convolution, discrete-time Fourier transform, z-transform, rational function descriptions of discrete-time LTI systems. Sampling, analog-to-digital conversion, and digital processing of analog signals. Techniques for the design of finite impulse response (FIR) and infinite impulse response (IIR) digital filters. Hardware implementation of digital filters and finite-register effects. The Discrete Fourier Transform and the Fast Fourier Transform (FFT) algorithms. Prerequisite: ESE 351. Credit 3 units.

**ESE 483. Medical Imaging**

Same as ESE 583, BME 494.

Introduction to the mathematical, physical, and engineering principles underlying modern medical imaging systems including x-ray computed tomography, ultrasonic imaging, and magnetic resonance imaging. Mathematical tools including Fourier analysis and the sampling theorem; the Radon transform and related transforms; reconstruction algorithms for computed tomography; tomographic imaging with diffracting sources; Bloch equations; free induction decay, spin echoes and gradient echoes; one-dimensional Fourier magnetic resonance imaging; three-dimensional magnetic resonance imaging and slice excitation. ESE 583 requires a project. Prerequisite: ESE 351. Credit 3 units.

**ESE 488. Signals and Systems Laboratory**

A laboratory course designed to complement the traditional EE course offerings in signal processing, communication theory, and automatic control. Signals and systems fundamentals: continuous-time and discrete-time linear time-invariant systems, impulse and step response, frequency response, A/D and D/A conversion. Digital signal processing: FIR and IIR digital filter design, implementation and application of the Fast Fourier Transform. Communication theory: baseband, digital communication, amplitude modulation, frequency modulation, bandpass digital communication. Automatic control: system modeling, feedback control systems, closed-loop transient and frequency response. Laboratory experiments involve analog and digital electronics, and mechanical systems. Computer workstations and modern computational software used extensively for system simulation, real-time signal processing, and discrete-time automatic control. Prerequisite: ESE 351. Credit 3 units.

**ESE 497. Undergraduate Research**

Undergraduate research under the supervision of a faculty member. The scope and depth of the research must be approved by the faculty member prior to enrollment. A written final report and a web page describing the research are required. Credit variable, maximum 3 units.

**ESE 498. Electrical Engineering Design Projects**

Working in teams, students address design tasks assigned by faculty. Each student participates in one or more design projects in a semester. Projects are chosen to emphasize the design process, with the designers choosing one of several paths to a possible result. Collaboration with industry and all divisions of the University is encouraged. A written report, a web page, and an oral presentation are required. Prerequisite: senior standing. Credit 3 units.

**ESE 499. Systems Design Project**

Term design project, directed by a faculty adviser, requiring use of systems theory, techniques, engineering, and concepts. This project is carried out in cooperation with either local industry or university laboratories. The solution of a real technological or societal problem is carried through completely, starting from the stage of initial specification, proceeding with the application of systems engineering methods, and terminating with an actual solution. Required documents are a written proposal, a final report, and a web page on the project. An oral presentation of the project also is required. Prerequisite: SSE senior standing. Credit 3 units.

## Energy, Environmental and Chemical Engineering

### Chair

**Pratim Biswas** (2000)

Stifel and Quinette Jens Professor  
Ph.D., California Institute of Technology, 1985

Aerosol science and engineering, air quality and pollution control, nanotechnology, environmentally benign processing

### Endowed Professor

**Milorad P. Duduković** (1974)

Laura and William Jens Professor  
Ph.D., Illinois Institute of Technology, 1972  
Chemical reaction engineering, multiphase reactors, visualization of multiphase flows, tracer methods, environmentally benign processing

### Senior Professor

**James M. McKelvey** (1957)

Ph.D., Washington University, 1950  
Thermodynamics, polymer processing, rheology, polymer technology

### Professors

**Muthanna Al-Dahhan** (1994)

D.Sc., Washington University, 1993  
Reaction engineering, multiphase reactors, bioprocessing

**Richard L. Axelbaum** (1990)

Ph.D., University of California–Davis, 1988  
Combustion, fluid mechanics, thermal sciences

**William P. Darby** (1976)

Ph.D., Carnegie Mellon, 1975  
Environmental planning and management

**Rudolf B. Husar** (1973)

Ph.D., University of Minnesota, 1971  
Environmental informatics, aerosol science and engineering

**Himadri Pakrasi** (2005)

Ph.D., University of Missouri–Columbia, 1984  
Systems biology, photosynthesis, metal homeostasis

**P. A. Ramachandran** (1984)

Ph.D., University of Bombay, 1971  
Chemical reaction engineering, applied mathematics, process modeling, waste minimization, environmentally benign processing

**Nathan Ravi** (2000)

Ph.D., Virginia Polytechnic Institute, 1980  
Cataract, ocular biomaterials

**Radhakrishna Sureshkumar** (1997)

Ph.D., University of Delaware, 1996  
Complex fluids dynamics, nanostructured materials, multiscale modeling and simulation

**Associate Professors****Da-Ren Chen** (2001)

Ph.D., University of Minnesota, 1997  
Particle identification and control, aerosol instrumentation

**Daniel Giammar** (2002)

Ph.D., California Institute of Technology, 2001  
Aquatic chemistry, environmental engineering, water quality, water treatment

**John T. Gleaves** (1988)

Ph.D., University of Illinois, 1975  
Heterogeneous catalysis, particle chemistry

**Jay R. Turner** (1994)

D.Sc., Washington University, 1993  
Environmental engineering; air quality measurements, characterization and policy; aerosol science and engineering

**Assistant Professors****Young-Shin Jun** (2008)

Ph.D., Harvard University, 2005  
Aquatic processes, molecular issues in chemical kinetics, environmental chemistry, surface/physical chemistry, environmental engineering, biogeochemistry, nanotechnology

**Cynthia Lo** (2007)

Ph.D., Massachusetts Institute of Technology, 2005  
Surface structure and reactivity, biomaterials, aquatic environmental interfaces, computational chemistry and molecular modeling

**Affiliate Professors****Charles N. Carpenter** (1995)

Ph.D., Ohio State University, 1973  
Process design

**Robert Heider** (2003)

M.M.E., Washington University, 1996  
Process control and process design

**Nicholas J. Nissing** (2002)

B.S., Washington University, 1996  
Product development and process design

**Robin L. Shepard** (1997)

D.Sc., Washington University, 1996  
Unit operations, safety, materials

**Terry L. Tolliver** (2004)

Ph.D., University of Missouri–Rolla, 1982  
Process simulation and control

**Research Professors****Stefan Falke** (1999)

D.Sc., Washington University, 1999  
Environmental engineering

**Dong Qin** (2007)

Ph.D., University of Pennsylvania, 1996  
Soft lithography, nanofabrication, scanning probe microscopy, scanning electron microscopy, and surface enhanced Raman spectroscopy

**Grygoriy S. Yablonsky** (1999)

Ph.D., Borekov Institute of Catalysis (Russia), 1971  
Theory and modeling of heterogeneous catalysis and surface phase transitions

**Research Associates****Ruth Chen** (2006)

Ph.D., University of Michigan, 1984  
Environmental toxicology, risk assessment, risk management, public health

**Raymond Ehrhard** (2007)

B.S., University of Missouri–Rolla, 1977  
Water and wastewater treatment technologies, process energy management

**About Energy, Environmental and Chemical Engineering (EECE)**

Our department focuses on environmental engineering science, energy systems, and chemical engineering. We provide integrated and multidisciplinary programs of scientific education. Our mission is accomplished by: instilling a tradition of “lifelong learning”; a curriculum of fundamental education coupled with application in an advanced focal area and strengthened by our breadth in other disciplinary areas; participation in cutting-edge research with faculty and industrial partners; and access to state-of-the-art facilities and instrumentation. The basic degree is an undergraduate degree in chemical engineering. Graduate degrees (Master of Science and Doctor of Philosophy) in Energy, Environmental and Chemical Engineering are offered by the department.

Chemical engineers are involved in the transfer of scientific discoveries to modern technologies and novel products that benefit society and minimize the impact on the environment. They deal with multiscale aspects of generating clean energy, producing novel and superior materials, and utilizing the biological revolution to manufacture new products. They are involved in the development and manufacture of consumer products, as well as in design, operation, and control of processes in a variety of industries (e.g., petroleum, petrochemical, chemical, consumer products, food, feed, pharmaceuticals). Their broad training in basic sciences (e.g., chemistry, physics, biology, mathematics) coupled with a strong foundation in chemical engineering principles (e.g., thermodynamics, mass and energy balances, transport phenomena, kinetics, separations, reaction engineering, control, product development, and process design) makes them invaluable team members and leaders in any engineering enterprise. It also prepares them well for graduate studies in biochemical, biomedical, chemical, environmental, and materials engineering. In addition, the B.S. degree in chemical engineering is a great starting point for pursuing a degree in business, law, or medicine.

The curriculum is planned so as to provide students with a strong background in basic chemical engineering concepts, while allowing individual latitude to emphasize study in a specialized area. The faculty devotes a considerable amount of time to individual advising. A contemporary approach to chemical engineering is focused on the multiscale aspects of the discipline, consistent with modern developments in computer-sup-

ported problem solving. Molecular-level understanding is utilized in product development and process design, which in turn are evaluated in terms of their impact on the environment and society according to the principles of green engineering.

**Mission Statement**

The mission of the department is to teach chemical and biochemical principles and their application in an inspiring learning environment and to prepare students for engineering careers by developing the skills of critical thinking, analytical abilities, and communication proficiency and by instilling a sense of professional ethics and societal responsibility.

**Program Objectives**

Our Program Educational Objectives (PEOs) are that within a few years after graduation, graduates employed in the chemical processing, life sciences, and manufacturing industries will have applied process design tools and product development concepts, assisted in plant operation and process control, and taken on managerial responsibilities. Graduates pursuing doctoral studies will demonstrate superior preparedness by making reasonable progress toward a degree, excelling in course work, and conducting productive research. Graduates capitalizing on the versatility of our program will excel in diverse career paths such as business, law, government, and education. Within a few years after graduation, they will have taken concrete steps toward advancing their careers in such areas. Graduates will demonstrate an appreciation for ethical behavior, social responsibility, and diversity in their chosen professions. Graduates also will be engaged in lifelong learning through further graduate education, short courses, or other training programs in their chosen professions.

**Advising**

The department takes pride in the mentoring of undergraduate students. Each student who declares chemical engineering as a (potential) major is assigned an academic adviser from the tenure-track department faculty. Typically, the same adviser follows the student's academic progress and serves as a mentor from the freshman year through graduation.

**Bachelor of Science Degree in Chemical Engineering**

This ABET (Accreditation Board for Engineering and Technology)-accredited B.S. ChE degree requires satisfactory completion of a minimum of 127 units as indicated in Table 1. The program of study consists of 38 units of basic sciences (i.e., physics, biology, chemistry, and mathematics), 11 units of engineering sciences, 39 units of core chemical engineering courses, and 21 units of humanities, social sciences, and technical writing. The remaining 18 units are chosen from the approved list of engineering (or science) electives (consult the EECE department web site for more details). A sample year-by-year ChE curriculum is shown in Table 2. The

program objectives for the B.S. ChE degree are stated above.

The curriculum is designed to provide opportunities for students to explore areas of interest within chemical engineering. Students in collaboration with their advisers design a course of study (subject to department faculty approval) for the 18 units of chemical engineering electives. A draft plan is developed as early as possible and shall be approved by the department faculty by no later than the spring semester of the sophomore year. Consult the EECE department web site for the requirements for the 18 units of chemical engineering electives.

In addition to the accredited B.S. degree in Chemical Engineering, another choice is to pursue the proposed course of study leading to the B.S. degree in Applied Science Major in Chemical Engineering.

### **Double Majors, Minor, Premedical Program**

Some students may be able to take more than the 127-unit minimum during a four-year program, especially if they have Advanced Placement units. This permits the choice of additional free electives from such areas as biology, computer science, the social sciences, or other engineering courses. It also provides an opportunity to pursue a double major. The rules for combining majors in engineering and multiple majors involving other university divisions are described on pages 319–320. Particularly popular with chemical engineering students is a double major with biomedical engineering or a combined degree program in process control systems described on page 369.

Traditionally, the undergraduate chemical engineering degrees, both the accredited degree and the applied science option, have been popular with students interested in medicine because the curriculum automatically satisfies most of the premedical requirements. The additional needed courses are taken as electives.

### **Bachelor of Science Degree with the Applied Science Major**

This degree serves students who like a more flexible curriculum yet want to be exposed to key chemical engineering principles. Consult the EECE department web site for the specific requirements needed to earn this degree.

### **Minor in Environmental Engineering Science**

The EECE Department sponsors an undergraduate minor in environmental engineering science. This 18-unit program prepares the student to seek an entry-level position as an environmental engineer, scientist, or analyst. The minor also provides a solid foundation for undertaking graduate study in environmental engineering. Consult the EECE department web site for the requirements for the Minor in Environmental Engineering Science.

## **Undergraduate Courses**

### **ChE 146A. Introduction to Energy, Environmental and Chemical Engineering**

Key technical issues that face our society and some of the emerging technologies that hold promise for the future are examined and discussed. Relationship to chemical engineering principles is outlined. Credit 2 units.

### **ChE 240. Independent Work**

Prerequisite: sophomore standing. Credit variable, maximum 9 units.

### **ChE 257. Organic Chemistry Laboratory for Chemical Engineers**

Introduction to laboratory methods in organic chemistry, with emphasis on methods of separation and purification of organic compounds. Corequisite: Chem 251. Credit 2 units.

### **ChE 262. Introduction to Environmental Engineering**

The objective of this course is to introduce students to the field of environmental engineering. The course will emphasize basic principles of mass and energy conservation that govern physical, chemical, and biological processes. Applications include the estimation of contaminant concentrations and the design of environmental controls. Credit 3 units.

### **ChE 275. Modeling and Computing in Chemical Engineering**

Modeling and numerical methods to solve engineering, design, and scientific problems encountered in thermodynamics, transport phenomena, separation processes, and reaction kinetics. Use of conservation principles in model building, dimensionless representation of problems, multiscale modeling, and transient modeling. Numerical methods for solution of common problems in linear algebra, regression analysis, non-linear algebraic equations, ordinary and partial differential equations, and boundary value problems. Use of MATLAB as a computational tool. Brief introduction to statistical techniques and Monte Carlo methods. Use of various MATLAB toolboxes. Illustrative application examples. Prerequisite: Familiarization with MATLAB and spreadsheet. Credit 3 units.

### **ChE 320. Thermodynamics**

Classical thermodynamics. First and second laws, properties of pure substances, mixtures, and solutions. Phase equilibria, chemical reaction equilibria. Prerequisites: Chem 111A, Math 132, and Physics 117A. Credit 3 units.

### **ChE 325. Materials Science**

Chemistry and physics of engineering materials. Emphasis on atomic and molecular interpretation of physical and chemical properties, the relationships between physical and chemical properties, and performance of an engineering material. Prerequisite: Math 217, Chem 111A. Credit 3 units.

### **ChE 344. Air Pollution**

Generation, transport, and fate of gaseous and particulate air pollutants. Meteorology and its coupling to air quality. Photochemical smog formation, visibility impairment, pollutant dispersion modeling, and source apportionment. Prerequisite: Chem 112, ESE 317, or permission of instructor. Credit 3 units.

### **ChE 345. Pollution Abatement and Waste Minimization**

Same as EnSt 345. Strategies and methods for waste minimization and pollutant emission reduction. Hierarchical design strategies. Air pollution abatement: principles and technology. Waste water treatment: principles and technology. Design of mass exchange networks for waste reduction. Design of membrane

based systems, adsorption and absorption equipment. Prerequisite: ChE 320 or permission of instructor. Credit 3 units.

### **ChE 351. Engineering Analysis of Chemical Systems**

Introduction to the use of mathematics and methods of engineering in analysis of chemical and physical processes. Use of conservation balances and basic rate laws to describe processes with and without chemical reaction in both transient and steady state conditions. Prerequisites: Chem 112A, Math 233. Corequisites: ChE 320, Math 217. Credit 3 units.

### **ChE 357. Mass Transfer Operations**

Stagewise and continuous mass transfer operations, including distillation, gas absorption, humidification, leaching, liquid extraction, and membrane separations. Prerequisites: Math 217, ChE 351 and ChE 320. Credit 3 units.

### **ChE 359. Molecular Transport Processes and Chemical Kinetics**

Molecular motions, kinetic theory of gases, kinetic theory of dense phases, chemical kinetics. Prerequisite: ChE 320. Credit 3 units.

### **ChE 366. Transport Phenomena in Biological Processes**

Same as ChE 367.

### **ChE 367. Transport Phenomena I**

Same as ChE 366.

Development of pointwise conservation equations for mass, momentum, and energy. Application in analysis of physical processes where molecular transport mechanisms are dominant. Prerequisites: ChE 320, ChE 275, Math 217, ESE 317 or permission of instructor. Credit 3 units.

### **ChE 368. Transport Phenomena II**

Introduction to the concept of boundary layers and transition to turbulence. Application of pointwise mass, momentum, and energy conservation equations in physical processes where convective transport mechanisms play a dominant role. Prerequisites: ChE 366 or 367. Credit 3 units.

### **ChE 369. Heat Transfer**

Introductory treatment of the principles of heat transfer by conduction, convection, or radiation. Mathematical analysis of steady and unsteady conduction along with numerical methods. Analytical and numerical methods of forced and natural convection systems. Boiling and condensation heat transfer. Radiation between black-body and real surfaces. Radiation network analysis. Prerequisite: ChE 367 or equivalent. Corequisite: ChE 368 or equivalent. Credit 3 units.

### **ChE 400. Independent Study**

Prerequisite: junior or senior standing. Credit variable, maximum 9 units.

### **ChE 408A. Environmental Engineering Lab**

Laboratory experiments to illustrate the application of engineering fundamentals to environmental systems. Applications of experimental design and data analysis principles. Introduction to relevant analytical instrumentation and laboratory techniques. Laboratory work supported by theoretical analysis and modeling as appropriate. Prerequisite: ChE 443 or equivalent and consent of instructor. Credit 3 units.

### **ChE 431. Control Systems I**

Same as ESE 441.

### **ChE 433. Digital Process Control Laboratory**

Same as ESE 449.

Applications of digital control principles to laboratory experiments supported by a networked distributed control system. Lecture material reviews background of real-time programming, data acquisition, process dynamics, and process control. Exercises in data acquisition and feedback control

design using simple and advanced control strategies. Experiments in flow, liquid level, temperature, and pressure control. Term project. Prerequisite: ESE/ME 441 or ChE 462 or equivalent. Credit 3 units.

**ChE 438. Environmental Risk Assessment and Toxicology**

Same as EnSt 437.

Essentials of human and ecological toxicology. Relationship between toxicology and risk assessment. Concepts of environmental exposures and their practical applications. Qualitative and quantitative evaluation of human and animal studies. Estimations of individual risk and aggregate risk. Risk assessment methodology in regulatory decision-making. Application of risk assessment in environmental exposures and evaluation of hazardous waste site. Risk communication and remediation. Prerequisites: senior or graduate standing or permission of the instructor. Credit 3 units.

**ChE 443. Environmental Chemistry**

Same as EnSt 443.

Introduction to the chemistry of air, water, and soil systems. Emphasis on the application of chemical equilibrium principles to quantitatively describe environmental systems. Chemical basis for processes occurring in the natural environment and industrial pollution control systems. Prerequisite: Chem 112A. Credit 3 units.

**ChE 449. Sustainable Air Quality**

Same as ChE 549.

Introduction to sustainability and sustainable air quality. Systems science as an organizing principle for air quality management. Setting of air quality goals. Observing the status and trends. Establishing causal factors: energy use and chemical processing. Natural sources and variability. Corrective actions to reach air quality goals. Process design for emission reductions. Adoptive response to air pollution episodes. A web-based class project will be conducted through the semester. Credit 3 units.

**ChE 450. New Product and Process Development**

An overview of product development, innovative solutions to technical problems, designed experimentation, evaluation of abstract data, product design, and the basics of intellectual property. Prerequisites: Junior standing and Chem 251, ChE 320 or by permission of the instructor. Credit 3 units.

**ChE 450A. Engineering and Molecular Microbiology Techniques**

Same as ChE 550A.

Basic concepts in biology are introduced to provide the basis to understand advanced molecular techniques that target cellular components such as DNA, RNA, proteins, etc. Next, techniques such as polymerase chain reaction (PCR), restriction fragment length polymorphism (RFLP), hybridizations, and micro array are studied and applications of these techniques are shown in engineering research. In addition, a laboratory experiment with fluorescence in-situ hybridization (FISH) and a phylogeny project with 16S rDNA sequences will be performed. Prerequisite: A biology or microbiology course, or equivalent, or permission of instructor. Credit 3 units.

**ChE 453. Bioprocess Engineering I: Fundamentals and Applications**

Same as ChE 553.

The course covers the fundamentals and provides the basic knowledge needed to understand and analyze processes in biotechnology in order to design, develop, and operate them efficiently and economically. This knowledge is applied to understand various applications and bioprocesses, such as formation of desirable bio and chemical materi-

als and products, production of bioenergy, food processing, and waste treatment. The main objective of the course is to introduce the essential concepts and applications of bioprocessing to students of diverse backgrounds. An additional project is required to obtain graduate credit. Prerequisite: Biol 2960 or equivalent or permission of instructor. Credit 3 units.

**ChE 454. Industrial Accidents and Disasters—Case History Studies**

Same as ChE 554.

Learn industrial safety by reviewing actual case studies of events and incidents. The course will study major accidents, fires and explosions, and environmental and biological disasters. Learn how much risk is acceptable by applying appropriate hazard and risk assessment analysis. The course also will study accident investigation procedures and methods of forensic engineering. Prerequisites: ChE 320 or MASE 30, or Chem 421 or permission of instructor. Credit 3 units.

**ChE 455. Bioprocess Engineering II: Biological Processes**

Same as ChE 555.

This course considers in detail the fundamental concepts of biological processes that are relevant to fermentation biotechnology and wastewater treatment engineering applications. The students first tackle the stoichiometry and kinetics of biochemical reactions and then use the obtained knowledge to evaluate and model biological processes. After taking this course you should be able to use your basic process understanding, modeling tools, and knowledge gathered from current literature in evaluating existing large-scale biological process plants. An additional project is required to obtain graduate credit. Prerequisite: permission of instructor. Credit 3 units. Design credit 1 unit.

**ChE 462. Chemical Process Dynamics and Control**

A state-of-the-art industrial virtual plant is used for the development of dynamic simulations, selection of instrumentation, statistical analysis of variability, and implementation of process control to improve process operation and efficiency. Prerequisite: Math 217 and ChE 351. Credit 3 units.

**ChE 471. Chemical Reaction Engineering**

Introduction to chemical reaction engineering principles and applications in process and product development. Evaluation of reaction rates from mechanisms and experimental data, quantification of pertinent transport effects, and application to reactor and product design. Prerequisites: ChE 320, 351, 359, 367. Credit 3 units.

**ChE 473A. Chemical Engineering Laboratory**

Laboratory experiments designed to illustrate the principles of transport (heat, mass, and momentum), thermodynamics, kinetics and reaction engineering, and separations that apply to chemical and biological systems. Experiments include traditional chemical engineering unit operations and emerging areas such as biotechnology, bioenergy, and materials. One laboratory period and one workshop are alternating once a week. Lecture session(s) on process engineering components and process safety are scheduled every week. Prerequisites: ChE 357, 366 or 367 and 471. Credit 4 units.

**ChE 476. Engineering Properties of Materials**

A detailed look at the chemical, catalytic, optical, electronic, magnetic, and thermal properties of materials. Topics include the catalytic properties of metals and oxides, corrosion of metals, the interaction of light with solids, luminescence, photoconductivity, lasers, electrical conduction, semiconductors, piezoelectric, and ferroelectric materials, diamagnetism, paramagnetism, and fer-

romagnetism. Prerequisite: ChE 325. Credit 3 units.

**ChE 478A. Process and Product Design**

Application of engineering science and design, fundamentals of process and product development, computational techniques, and economic principles to design of chemical and biological processes and procedures. A design project and/or an AIChE national design contest is included. Prerequisites: ChE 320, 357, 366 or 367, 450. Corequisites: ChE 374, 471. Credit 3 units.

**ChE 478B. Honors Design Project for AIChE Student Contest Problem**

Application of engineering science and design, fundamentals of process and product development, computational techniques and economic principles to design of chemical and biological processes and procedures in solving the AIChE national student contest problem. Up to two single and up to two group (2 to 3 per group) solutions may be chosen for national competition. Concurrent with ChE 478A. Prerequisites: ChE 320, 357, 366 or 367, 450. Corequisites: ChE 374, 471. Credit 1 unit.

**ChE 478C. Mentored Process and Product Design and Project(s)**

Application of engineering science and design, fundamentals of process and product development, computational techniques, and economic principles to design of chemical and biological processes and procedures. A design project is provided by a local company to last for one to two semesters. Students are chosen by interviews in a previous semester. Spring, summer, and/or fall semesters as an elective course. Prerequisites: ChE 320, 357, 366 or 367, 450. Corequisites: ChE 374, 471. Credit 3 units.

**ChE 478D. Introductory Hysys and AspenPlus Workshop**

Eight or more examples are presented to introduce the student to Hysys and AspenPlus simulations. Some instruction is self teaching at the student's own pace. Offered in the fall semester. Prerequisites: ChE 320, 357, 366 or 367, 450. Credit 1 unit.

**ChE 479. Chemical Process Safety**

Same as ChE 569, Env 569.

Analysis and management of fire and explosion hazards. Control of human exposure to toxic materials. Codes, standards, and regulations. Transportation and disposal of noxious substances. Analysis of drift from clouds, flares, and stacks. Venting of pressure vessels. Hazard evaluation and safety review of processes. Emergency plans for accidents and disasters. Prerequisite: ChE 320 or Chem 421, or permission of instructor. Credit 3 units.

**ChE 480. Principles of Surface and Colloid Science**

Interfacial phenomena play key roles in such industrial operations as emulsification, catalysis, and detergency. Introduction to principles of surface science. Particular attention to describing the nature of the liquid/gas, liquid/liquid, solid/liquid, and solid/gas interfaces. Specific topics include methods of measuring surface tension, interfacial adsorption, surface area and particle size determinations, dispersion stabilization/flocculation, emulsification, and wetting. Prerequisite: ChE 320 or permission of instructor. Credit 3 units.

**ChE 483. Elements of Bioprocessing and Bioseparations**

Same as ChE 583.

This course prepares students for a successful career at a pharmaceutical or biotech company. The course introduces unit operations that are commonly used for separation and purification of bio-

logical molecules, as well as the underlying scientific and engineering fundamentals. Principles and practice of membrane separations and chromatography are discussed in detail. Issues around scale-up of these unit operations and economics of bioprocessing is addressed. Prerequisites: ChE 366/367 or equivalent. Credit 3 units.

#### ChE 499. Senior Thesis

Research project to be selected by the student with the permission and recommendation of a faculty supervisor and the approval of the department chair. At conclusion of project, student prepares a report in the form of a senior thesis. Credit variable, maximum 6 units.

#### ChE 500. Independent Study

Credit variable, maximum 9 units.

#### ChE 508A. Environmental Engineering Lab

Same as ChE 408A.

#### ChE 510. Dynamics of Air Pollution

Physicochemical processes governing the dynamics of pollutants from point and non-point sources: generation, transport, and decay. Application of fundamental thermodynamics, mass/heat transfer, and fluid mechanics principles to environmental systems. Prerequisites: ChE 320 or MASE 301, ESE 317, and ChE 44, or equivalent, or permission of instructor. Credit 3 units.

#### ChE 516. Turbulent Transport Processes

This course will offer graduate students and practicing engineers an introduction to the state-of-the-art techniques in turbulence modeling and simulations and explore how they can be applied to better model and design industrially relevant processes that involve the turbulent transport of mass, momentum, and heat. The topics discussed include turbulent mixing, description of flow and scalar transport in continuously stirred tanks, turbulent flow reactors with applications to chemical, electrochemical and CVD processes, multiphase turbulent flows (bubbly flows and particle-laden

flows) and turbulent friction control by polymer and surfactant additives. Prerequisites: EECE 501, MASE 5410 or equivalent. Credit 3 units.

#### ChE 518. Aerosol Science and Technology

Fundamental properties of particulate systems—physics of aerosols, size distributions, mechanics and transport of particles: diffusion, inertia, external force fields. Visibility and light scattering. Aerosol dynamics—coagulation, nucleation, condensation. Applications to engineered systems: Nanoparticle synthesis, atmospheric aerosols, combustion aerosols, pharmaceutical aerosols. Prerequisites: ChE 367, MASE 341, ESE 317. Credit 3 units.

#### ChE 523. Biological Treatment Processes

Fundamental concepts of biological processes that are relevant for wastewater treatment engineering applications. The course tackles the stoichiometry and kinetics of biochemical reactions and then uses the obtained knowledge to evaluate and model wastewater treatment systems. Prerequisite: permission of instructor. Credit 3 units.

#### ChE 525. Industrial and Environmental Catalysis

Major industrial and environmental catalytic processes. Principal theories of heterogeneous catalysis. Experimental methods and techniques used to develop modern catalytic systems. Examples from the petrochemical industry, automotive exhaust systems, and industrial emissions abatement. Prerequisites: Chem 112, 252. Credit 3 units.

#### ChE 539. Industrial Ecology

Industrial/technical solutions to environmental concerns as a means to achieve sustainable development. An appreciation for the interactions between industrial activities, environmental processes, and societal needs will be developed. Links between current environmental concerns and industrial/societal activities will be explored. Ecological cycles, full cost accounting, life cycle analysis, sustainable development, and design for the environment methods is used to evaluate current industrial activities. Prerequisite: Basic knowledge of chemistry and biology. Credit 3 units.

#### ChE 540. Transportation–Air Quality Relationships

Environment-related aspects of the transportation planning process with emphasis on air quality issues. Statutory, regulatory, and other policy elements driving air quality analysis of transportation systems and projects. Critical assessment of tools for modeling motor vehicle emissions and pollutant dispersion near roadways. Prerequisite: Senior or graduate standing or consent of instructor. Credit 3 units.

#### ChE 549. Sustainable Air Quality

Same as ChE 449.

#### ChE 550A. Engineering and Molecular Microbiology Techniques

Same as ChE 450A.

#### ChE 553. Bioprocess Engineering I: Fundamentals and Applications

Same as ChE 453.

#### ChE 554. Industrial Accidents and Disasters—Case History Studies

Same as ChE 454.

#### ChE 555. Bioprocess Engineering II: Biological Processes

Same as ChE 455.

#### ChE 558. Biological Transport

Same as BME 558.

**Table 1: Outlines of ChE Curriculum**

### Basic Sciences (Biology, Chemistry, Mathematics and Physics)

General Chemistry (Chem 111A, 112A) .....	6
General Chemistry Laboratory (Chem 151, 152) .....	4
General Physics (Physics 117A, 118A or Physics 197, 198) .....	8
Organic Chemistry and Laboratory (Chem 251, ChE 257) .....	5
Fundamentals of Biology I (Biol 2960) .....	4
Accelerated Calculus (Math 132, 233) .....	7
Differential Equations (Math 217) .....	4
	<hr/> 38

### Engineering Sciences

Engineering Mathematics (ESE 317) .....	4
Probability and Statistics (ESE 326).....	3
Introduction to Computing Tools: MATLAB Skills (CSE 100B).....	1
Modeling and Computing in Chemical Engineering (ChE 275).....	3
	<hr/> 11

### Chemical Engineering Core Courses

Introduction to Energy, Environmental and Chemical Engineering (ChE 146A) .....	2
Thermodynamics (ChE 320) .....	3
Materials Science (ChE 325).....	3
Analysis of Chemical Engineering Systems (ChE 351) .....	3
Mass Transfer Operations (ChE 359) .....	3
Molecular Transport Processes (ChE 359) .....	3
Transport Phenomena I (ChE 367) .....	3
Transport Phenomena II (ChE 368) .....	3
Heat Transfer (ChE 359) .....	3
Chemical Process Dynamics and Control (ChE 462).....	3
Chemical Reaction Engineering (ChE 471) .....	3
Chemical Engineering Laboratory (ChE 473A) .....	4
Process and Product Design (ChE 478A) .....	3
	<hr/> 39

### Humanities and Social Sciences and Communications

Humanities and Social Sciences .....	18
Technical Writing (ENGR 310).....	3
	<hr/> 21
Total ChE Core .....	109

### Chemical Engineering Elective (from approved list)

18 units, student-devised and faculty-approved course of study .....	18
	<hr/> 127

**ChE 563. Measurement Techniques for Particle Characterization**

Same as Env 563.

The purpose of this course is to introduce students to the principles and techniques of particle measurement and characterization. Practical applications of particle technology include air pollution measurement, clean manufacturing of semiconductors, air filtration, indoor air quality, particulate emission from combustion sources and so on. The course will focus on (1) integral moment measurement techniques, (2) particle sizing and size distribution measuring techniques, and (3) particle composition measurement techniques. The related issues such as particle sampling and transportation, the instrument calibration, and particle standards also will be covered. Credit 3 units.

**ChE 566. Statistical Process Control**

Same as ChE 466.

**ChE 569. Chemical Process Safety**

Same as ChE 479.

**ChE 583. Elements of Bioprocessing and Bioseparations**

Same as ChE 483.

**ChE 590L. Special Topics: Engineering Aspects of Biotechnology**

Same as BME 590L.

**ChE 593A. Special Topics in Reaction Engineering: CFD for Multiphase Systems**

With this course we intend to provide detailed

knowledge on the physical foundation of multiphase flow models and the associated numerical solution methods. Due to its relevance for many industrial applications, the emphasis during the course will be on multiphase flows. The course includes computer sessions in which several flow simulators (developed in-house) will be used to solve complex multiphase fluid flow problems. Credit 3 units.

**ChE 599. Master's Research**

Credit variable, maximum 9 units.

**ChE 600. Doctoral Research**

Credit variable, maximum 9 units.

**ChE 6135. Research Seminar on Reaction Engineering**

Credit 1 unit.

**ChE 652. Polymer Rheology and Processing**

Formerly same as MATL 652. Credit 3 units.

**ChE 653. Technology of Composite Materials**

Credit 3 units.

**ChE 654. Mechanical Behavior of Composite Materials**

Formerly same as MATL 654. Credit 0 units.

**ChE 657. Materials Characterization Techniques I**

Formerly same as MATL 657. Credit 3 units.

**ChE 658. Materials Characterization Techniques II**

Formerly same as MATL 658. Credit 3 units.

**EECE 501. Transport Phenomena in Energy, Environmental, and Chemical Engineering**

The aim of the course is for students to develop skills in applying principles of momentum, heat, and mass transport in a unified manner to problems encountered in the areas of energy, environmental, and chemical processes. A systems approach will be followed so that the general principles can be grasped and the skills to develop mathematical models of seemingly different processes will be emphasized. This provides the students with a general tool that they can apply later in their chosen field of research. Credit 3 units.

**EECE 502. Mathematical Methods in Engineering**

The course will introduce students to mathematical principles essential for graduate study in any engineering discipline. Applied mathematical concepts will be demonstrated by applications to various areas in energy, environmental, biomedical, chemical, mechanical, aerospace, electrical, and civil engineering. Credit 3 units.

**EECE 503. Kinetics and Reaction Engineering Principles**

The course is aimed at a modern multiscale treatment of kinetics of chemical and biochemical reactions and application of these fundamentals to analyze and design reactors. Application of reaction engineering principles in the areas related to energy generation, pollution prevention, and chemical and biochemical processes will be studied and illustrated with case studies and computer

**Table 2: Sample ChE Curriculum**

<b>Year 01—Fall</b>	Units	<b>Year 01—Spring</b>	Units
Chem 111A General Chemistry I.....	3	Chem 112A General Chemistry II .....	3
Chem 151 General Chemistry Laboratory I.....	2	Chem 152 General Chemistry Laboratory II .....	2
Physics 117A or (197) General Physics I.....	4	Physics 117A (or 198) General Physics II .....	4
Math 132 Calculus II .....	3	Math 233 Calculus III.....	4
ChE 146A Introduction to EECE .....	2	Humanities/social sciences elective .....	3
CSE 100B Introduction to Computing Tool: MATLAB.....	1		16
	15		
<b>Year 02—Fall</b>		<b>Year 02—Spring</b>	
ChE 320 Thermodynamics .....	3	ChE 275 Modeling and Computing in Chemical Engineering ..3	
ChE 351 Analysis of Chemical Engineering Systems .....	3	ChE 359 Molecular Transport Properties.....	3
Chem 251 Organic Chemistry I .....	3	ChE Elective .....	3
Chem 257 Organic Chemistry Laboratory for Chemical Engineers ..2		ESE 317 Engineering Mathematics .....	4
Math 217 Differential Equations .....	4	Biol 2960 Fundamentals of Biology I .....	4
Humanities/social sciences elective .....	3		17
	18		
<b>Year 03—Fall</b>		<b>Year 03—Spring</b>	
ChE 325 Materials Science.....	3	ChE 357 Mass Transfer Operations .....	3
ChE 367 Transport Phenomena I .....	3	ChE 368 Transport Phenomena II .....	3
ChE elective .....	3	ChE elective .....	3
ESE 326 Probability and Statistics for Engineering.....	3	ENGR 310 Technical Writing.....	3
Humanities/social sciences elective .....	3	Humanities/social sciences elective .....	3
	15		15
<b>Year 04—Fall</b>		<b>Year 04—Spring</b>	
ChE 462 Chemical Process Dynamics and Control.....	3	ChE 478A Process and Product Design.....	
3		ChE 369 Heat Transfer .....	3
ChE 471 Chemical Reaction Engineering .....	3	ChE elective .....	3
ChE 473A Chemical Engineering Laboratory .....	4	ChE elective .....	3
ChE elective .....	3	Humanities/social sciences elective .....	3
Humanities/social sciences elective .....	3		16
	16		15

models. Description of the role of mass and heat transport in reacting systems is also provided with numerous examples. Credit 3 units.

#### EECE 508. Research Rotation

First-year doctoral students in EECE should undertake research rotation as a requirement prior to choosing a permanent research advisor. The rotation will require the student to work under the guidance of a faculty member. Credit 0 units.

#### EECE 509. Seminar in Energy, Environmental and Chemical Engineering

All graduate students in EECE should attend the Departmental Seminar Series to gain exposure in various diverse fields of research. Students also are expected to participate in journal clubs and other discussion formats to discuss topical research areas. The course is required of all graduate students every semester of residency in the Program. Credit 0 units.

#### EECE 534. Environmental Nanochemistry

This course involves the study of nanochemistry at various environmental interfaces, focusing on colloid, nanoparticle, and surface reactions. The course will also (1) examine the thermodynamics and kinetics of nanoscale reactions at solid-water interfaces in the presence of inorganic or organic compounds and microorganisms; (2) investigate how nanoscale interfacial reactions affect the fate and transport of contaminants; (3) introduce multidisciplinary techniques for obtaining fundamental information about the structure and reactivity of nanoparticles and thin films, and the speciation or chemical form of environmental pollutants at the molecular scale; (4) explore connections between environmental nanochemistry and environmental kinetic analysis at larger scales. This course will help students attain a better understanding of the relationship between nanoscience/technology and the environment—specifically how nanoscience could potentially lead to better water treatments, more effective contaminated-site remediation, or new energy alternatives. Credit 3 units.

#### EECE 5404. Combustion Phenomena

Same as MASE 5404.

#### EECE 590. Special Topics: Energy and Environmental Economics and Risk Management Decision-Making

This course teaches economic principles in energy and environmental management decision-making. After evaluating public and private projects for selection based on economic considerations in resource allocation, students use principles of decision-making and risk assessment in case studies. Other tools are essentials of conditional probability, value of information and testing, and utility. Credit 3 units.

#### EECE 591. Special Topics: Computational Chemistry of Molecular and Nanoscale Systems

This course will teach the art of computational chemistry as applied to molecular and nanoscale systems of current academic interest. The theoretical frameworks of electronic structure theory, density functional theory, and molecular dynamics simulations, will be presented in the context of calculating the structure, properties, and reactivity of chemical systems. Applications to nanostructured materials, aqueous systems, and biomolecules will be explored. Prerequisites: Chem 401-402 or permission of instructor. Credit 3 units.

## Mechanical, Aerospace and Structural Engineering

### Interim Chair

**Kevin Z. Truman** (1985)

Albert P. and Blanche Y. Greensfelder Professor  
Ph.D., University of Missouri—Rolla, 1985  
Engineering mechanics, structural analysis and design, massive concrete systems, steel structures, structural optimization

### Associate Chair

**Kenneth L. Jerina** (1981)

Earl E. and Myrtle E. Walker Professor of Engineering  
D.Sc., Washington University, 1974  
Materials, design, solid mechanics, fatigue and fracture

### Endowed Professors

**Ramesh K. Agarwal** (2001)

William Palm Professor of Engineering  
Ph.D., Stanford University, 1975  
Computational fluid dynamics and computational physics

**Philip V. Bayly** (1993)

Lilyan and Lisle Hughes Professor of Mechanical Engineering  
Ph.D., Duke University, 1993  
Dynamics, vibrations

**Shirley J. Dyke** (1996)

Edward C. Dicke Professor  
Ph.D., Notre Dame University, 1996  
Earthquake engineering, structural control, structural health monitoring

**Phillip L. Gould** (1966)

Harold D. Jolley Professor  
Ph.D., Northwestern University, 1966  
Structural analysis and design, shell analysis and design, biomedical engineering

**Thomas G. Harmon** (1982)

Clifford W. Murphy Professor and Director, Structural Engineering Laboratory  
Ph.D., Massachusetts Institute of Technology, 1973

Reinforced and prestressed concrete, structural design, fiber reinforced polymers

**Mark J. Jakiela** (1996)

Lee Hunter Professor of Mechanical Design  
Ph.D., University of Michigan, 1988  
Mechanical design, design for manufacturing, optimization, evolutionary computation

**David A. Peters** (1975)

McDonnell Douglas Professor of Engineering  
Ph.D., Stanford University, 1974  
Aeroelasticity, vibrations, helicopter dynamics

**Shankar M. L. Sastry** (1992)

Catherine M. and Christopher I. Byrnes Professor of Engineering  
Ph.D., University of Toronto, 1974  
Materials science, physical metallurgy

### Professors

**Mary J. Sansalone** (2006)

Ph.D., Cornell University, 1986  
Structural engineering, structural damage detection

**Srinivasan Sridharan** (1980)

Ph.D., University of Southampton, 1978  
Structural stability, nonlinear behavior of composite structures, interactive buckling, shell structures

### Assistant Professors

**Guy M. Genin** (1999)

Ph.D., Harvard University, 1997  
Solid mechanics, fracture mechanics

**Michael Swartwout** (2000)

Ph.D., Stanford University, 2000  
Design and control, spacecraft operations

### Lecturer

**Raimo J. Hakkinen** (1991)

Ph.D., California Institute of Technology, 1954  
Aerodynamics, experimental methods in fluid dynamics

**Ruth Okamoto** (1997)

D.Sc., Washington University, 1997  
Biomechanics, solid mechanics

### Adjunct Professors

**Xavier Avula** (2003)

Ph.D., Iowa State, 1966  
Design, Micro-electrical-mechanical systems

**Harold J. Brandon** (1980)

D.Sc., Washington University, 1969  
Energetics, thermal systems

**Andrew Cary** (2005)

Ph.D., University of Michigan, 1997  
Computational fluid dynamics

**Jerry Craig** (1984)

M.S., Kansas State University, 1972  
Engineering graphics

**Richard Dyer** (2004)

Ph.D., Washington University, 2001  
Propulsion, thermodynamics, fluids

**Mario P. Gomez** (1978)

Ph.D., Stanford University, 1964  
Materials science and metallurgy, fracture mechanics, engineering design

**D. C. Look** (2003)

Ph.D., University of Oklahoma, 1969  
Thermodynamics

**Gholam Masoumy** (1984)

D.Sc., Washington University, 1980  
Structural design

**Ernst H. Petzold, III** (1979)  
M.S., Washington University, 1973  
Structural engineering

**Dale M. Pitt** (1982)  
D.Sc., Washington University, 1980  
Aeroelasticity

**Gary D. Renieri** (1989)  
Ph.D., Virginia Polytechnic Institute and  
State University, 1976  
Structural applications, composite materials

**Frederick Roos** (1999)  
Ph.D., University of Michigan, 1968  
Aerodynamics, fluid mechanics

### Senior Professors

**Richard A. Gardner** (1969)  
Ph.D., Purdue University, 1969  
Fluid mechanics, heat transfer, magneto-  
fluid mechanics

**Paul C. Paris** (1976)  
Ph.D., Lehigh University, 1962  
Classical mechanics, solid mechanics,  
dynamics, fracture mechanics, stochastic  
processes

**Barna A. Szabo** (1968)  
Ph.D., State University of  
New York–Buffalo, 1968  
Numerical simulation of mechanical  
systems, finite-element methods

### Professors Emeriti

**Wallace B. Diboll, Jr.** (1954)  
M.S.M.E., Rensselaer Polytechnic Institute,  
1951  
Dynamics, vibrations, engineering design

**John C. Georgian** (1949)  
M.S., Cornell University, 1941  
Engineering design, dynamics of machinery,  
vibrations, turbomachinery

**Leonard B. Gulbransen** (1954)  
Ph.D., University of Utah, 1949  
Physical metallurgy, materials science, solid  
state

**Lonnie E. Haefner** (1973)  
Ph.D., Northwestern University, 1970  
Design, planning, evaluation of urban land  
use and transportation systems, traffic flow  
theory, urban and regional quantitative geo-  
graphy

The department of Mechanical, Aerospace and Structural Engineering (M.A.S.E.) offers two distinct engineering degrees: a Bachelor of Science in Mechanical Engineering (B.S.M.E.) and a Bachelor of Science in Civil (Structural) Engineering (B.S.C.E.). In addition, minors in aerospace, robotics, and structural engineering as well as related scientific and engineering fields are available to the students. The M.A.S.E. curriculum is designed on the premise that mechanics, the study of forces, of materials and systems constitutes the core of the disciplines of mechanical, aerospace, and structural engineering. The common curriculum during the student's early academic development offers a breadth of understanding, encouraging interdisciplinary thinking and cre-

ativity. The undergraduates in M.A.S.E. learn to analyze, model, design and implement a variety of structural systems such as aircraft skeletons, mechanical systems such as braking devices for automobiles, and biomedical devices such as orthopaedic braces. This wide range of possibilities is seen in the core courses at the freshman, sophomore, and early junior years, but takes on a more focused form in the later years where students choose electives that emphasize their specific interests and prepare them for a specialized professional or research career. The undergraduate curriculum for both B.S.M.E. and B.S.C.E. degrees provides the M.A.S.E. students with a strong fundamental mathematical, scientific, and engineering base; diverse applications of mechanics and materials; and the flexibility to explore creative ideas through undergraduate research and project-based courses.

Mechanical, aerospace, and structural engineers are involved in a variety of emerging technologies of today and tomorrow that will have a significant impact in the world. Artificial organs (heart, lungs, etc.), prosthetic joints, robotic devices for manufacturing, morphing or self-healing materials, innovative structures (stadiums, skyscrapers, satellites), propulsion devices (rockets), aerospace structures, control systems (computerized control) for missiles, machinery or robots and energy conversion can be cited as examples of cutting-edge technologies that would benefit from M.A.S.E. engineers. The in-depth study of mechanics, thermal systems, material science, and computational methods are at the heart of these technologies and are the underpinnings of the B.S.M.E. and B.S.C.E. degrees within M.A.S.E.

### Bachelor of Science Degree in Mechanical Engineering

The mission of the undergraduate program in mechanical engineering is to prepare students within the broad and steadily changing field of mechanical engineering. The program is aimed at instilling in the students an appreciation of and capacity for creative design through critical and analytical thinking, and providing them with the knowledge that is essential to postgraduate study as well as independent, lifelong learning and professional development as well as the ability to communicate their ideas clearly and to conduct themselves in a manner that is ethical and socially responsible.

The curriculum is a four-year program leading to the first professional degree, Bachelor of Science in Mechanical Engineering, which is accredited by the Accreditation Board for Engineering and Technology (ABET). The curriculum prepares the student for professional or postgraduate education in a broad spectrum of mechanical and other engineering or professional fields. The curriculum provides critical knowledge in solid mechanics, fluid mechanics, thermodynamics and heat transfer, materials science, dynamics and control, and design.

The undergraduate program provides the necessary foundations in these areas, de-

pending on your particular interests. Specialization is accomplished by judicious choice of engineering electives taken in 300-, 400-, or 500-level courses as approved by your adviser. At the end of the four-year program, this education and training puts the graduate on a path to pursue further graduate education, research, or professional practice.

### Mission Statement

The mechanical engineering faculty is committed to providing the best undergraduate mechanical engineering education possible. The faculty strives to nurture the intellectual, professional, and personal development of the students, to achieve a process of continuous improvement of the curricula, to be professionally current in their field and to maintain state-of-the-art facilities. Our goal is to prepare students for professional practice with a solid, scientifically grounded foundation in the major systems of mechanical engineering: mechanics, mechanisms, mechanical design, dynamics, control, fluid mechanics, thermal science, and materials science.

### Program Objectives

The aspiration of Washington University's mechanical engineering undergraduate faculty is to make positive, substantive, and lasting contributions to the lives of our students. This intent is embodied in the following program educational objectives:

- To inspire graduates to have the curiosity and desire for learning that will motivate them to be constantly sharing their knowledge with others, improving their knowledge, and adapting to changes in technology and world needs.
- To recognize the benefit of a high-quality and rigorous engineering education that is enriched by a flexible curriculum with opportunities for solving problems, investigating design alternatives, developing communication skills, and demonstrating professionalism.
- To apply their comprehensive education in a manner that enables them to respond to society's needs through the application of design, analysis, and synthesis to the development of mechanical and thermal systems by pursuing successful career paths in basic and applied research in either the engineering profession or an alternative field.

### Bachelor of Science Degree in Civil (Structural) Engineering

Structural engineers are designers and builders of the world's structural systems. They are integral in the planning, design, manufacturing, and construction of these systems—systems that range from the human skeleton to buildings and bridges and their materials, including aircraft, automobiles, morphing or self-healing structures, prosthetic devices, machinery, stadiums, industrial plants, and energy-based technologies such as windmills, solar panel supports, and hydrogen containers. Structural engineers must create systems for a wide spec-

trum of operating conditions, from space and lunar surfaces, to deep beneath the seas, to seismic and hurricane-laden locations or possibly highly corrosive environments. This multifaceted professional degree is based on a sound, progressive curriculum that will prepare the student for further graduate education, research, or professional practice.

The curriculum is a four-year program leading to a professional degree, Bachelor of Science in Civil Engineering, which is accredited by the Accreditation Board for Engineering and Technology (ABET). The curriculum provides a fundamental background in the engineering and physical sciences, in mathematics and in contemporary civil engineering specialties while providing significant depth in the area of structural engineering. Upon graduation, each student may choose from among numerous graduate opportunities in advanced engineering or professional areas such as business, law, and medicine or the student may choose to enter professional practice.

This degree requires 120 units consisting of required courses, technical electives, and humanities/social science electives. The required courses provide a strong scientific and technological basis to enter the world of modern engineering. Technical electives, 300-, 400- and 500-level electives are used to gain depth and to specialize in areas related to structural engineering.

### Mission Statement

The mission of the undergraduate civil engineering program is to prepare qualified students to enter the world of modern civil engineering. This is accomplished through rigorous education in fundamental scientific disciplines with emphasis on design and analysis of civil engineering systems. The program seeks to nurture critical thinking and innovation, team-playing, and leadership qualities, and an awareness of the societal impact of engineering decisions and the critical need for lifelong learning.

### Program Objectives

The Civil Engineering program's educational objectives are to produce graduates who:

- Have fundamental knowledge necessary for civil engineering practice, with emphasis placed on the following applications: structural, fluid mechanics, environmental science and engineering management.
- Are prepared to pursue graduate studies. Have an understanding (through exposure) of the necessity for basic and applied research in civil engineering.
- Understand the societal implications, professional requirements, and lifelong learning commitment required to practice in the civil engineering profession.
- Are contributors in their workplace as team members, leaders, and innovators in both technical and nontechnical roles.

### Minor in Aerospace Engineering

Whether you are an aviation buff or enthusiast about flying machines, a minor in aerospace engineering can satisfy your scientific

curiosity and be very rewarding in providing you knowledge and understanding that might help you decide on a career path. The Minor in Aerospace Engineering is available to all undergraduates but is most attractive to those pursuing a degree in mechanical engineering. It requires a minimum of 14 units of courses selected from lists A and B, and it is possible to earn the minor in aerospace engineering without increasing the number of units (120) required for the B.S. degree in mechanical engineering.

Aerospace engineering deals with the analysis, design, and performance of flight vehicles such as transport and military aircraft, helicopters, missiles and launch vehicles (rockets), and spacecraft such as the space shuttle. Understanding the principles of flight requires a strong background in mathematics and physics. Aerospace engineering combines the disciplines of aerodynamics, flight dynamics and control, avionics and navigation, aerospace propulsion, aerospace structures and materials, and aerospace manufacturing. Knowledge of aerodynamics is needed to understand why and how an aircraft lifts itself and flies. Knowledge of aircraft structures and materials is required in order to build the wings, fuselage, and tails of the aircraft. Knowledge of the science of propulsion is needed to build aircraft engines to propel the craft into the atmosphere. An understanding of aircraft dynamics and stability is needed for the design of control systems to guide an aircraft along a desired flight path. Aerospace engineers apply their knowledge and skills to the design of aircraft components (e.g., wings and fuselages) or systems (e.g., control systems) or spacecraft components and systems.

After introducing aerospace engineering through an introductory course, the students learn about aerospace engineering by taking courses in aerodynamics, aircraft flight dynamics and control, aerospace propulsion, aerospace structures, and aerospace vehicle design. Students may also have the opportunity to gain experience in aerospace engineering design through collaborative programs with local industries such as Boeing. Current Boeing aerospace engineers participate in teaching several courses at Washington University, and most of the faculty who teach in the program have extensive aerospace industry experience.

#### List A

Required courses:

**MASE 2701. Introduction to Aerospace Vehicles** (2 credits)

**MASE 5700. Aerodynamics** (3 credits)

**MASE 411. Aerospace Engineering Design Project** (3 credits)

**MASE 4302. Aircraft Flight Dynamics and Control** (3 credits)

#### List B

Select one of the following electives:

**MASE 5701. Aerospace Propulsion** (3 credits)

Or:

**MASE 321. Structural Behavior and Analysis** (4 credits)

Or:

**MASE 5703. Analysis of Rotary-Wing Systems** (3 credits)

To find out more about this minor, contact the department chair or the adviser for the minor in aerospace engineering.

### Minor in Structural Engineering

Any element or system that is required to carry or resist a load can be considered a structure. Therefore, human skeletons, aircraft, buildings, automobiles, prosthetic devices, electronic components (thermal loads), and satellites are examples of systems that have structural elements or systems requiring individuals with structural knowledge. Understanding the principles of structural behavior provides the necessary tools for analyzing, designing, and developing structural solutions for problems in the fields of architecture, mechanical engineering, aerospace engineering, electrical engineering, biomedical engineering, and others. The structural minor provides the fundamental information required for those wanting to increase their understanding of structural systems. The knowledge gained can be rewarding for many different professionals and will lead to a solid understanding of structural behavior, analysis, and design.

A total of five courses are required for this minor:

**MASE 253. Engineering Mechanics I** (3 credits)

**MASE 350. Engineering Mechanics III** (3 credits)

**MASE 321. Structural Behavior and Analysis** (4 credits)

**MASE 361. Materials Science** (4 credits)

**MASE 421. Analysis and Design of Modern Structures I** (3 credits)

Or:

**MASE 422. Analysis and Design of Modern Structures II** (3 credits)

To find out more about this minor, contact the department chair or the adviser for the minor in structural engineering.

### Minor in Robotics

Robotic systems have wide application in modern technology and manufacturing. Robots can vary in complexity and use, from microrobots for surgical procedures to moderately sized robots common in manufacturing and undersea exploration to macrorobots used for disposal of nuclear wastes and as arms on space-station modules.

The program designed for a minor in robotics provides a fundamental understanding of robotic operation, preliminary design, and use of robots.

Prerequisites for this minor are: Calculus, Math 217 (Differential Equations), Physics 117A, 118A (General Physics I, II), and CSE 131 (Computer Science I) or CSE 126 (In-

roduction to Computer Programming) or CSE 200 (Scientific Computing) or MASE 201 (Numerical Methods and Matrix Algebra) or equivalent.

A total of six courses are required, including the following four courses:

**MASE 232. Engineering Mechanics II**

**ESE 351. Signals and Systems**

Or:

**MASE 431. Structural Dynamics and Vibrations**

**ESE 446. Robotics: Dynamics and Control**

**ESE 447. Robotics Laboratory**

and two courses chosen with the approval of the director of the program for a minor in robotics.

Suggested courses are:

**CSE 313A. Artificial Intelligence Lab**

**CSE 452A. Computer Graphics**

**MASE 311. Machine Elements**

**ESE 407. Analysis and Simulation of Discrete Event Systems**

**ESE 435. Electrical Energy Laboratory**

**ESE 441. Control Systems**

**MASE 4302. Aircraft Flight Dynamics and Control**

To find out more about this minor, contact the department chair or the adviser of the minor in robotics.

**Premedical Option**

Research as well as practice in the biological and medical sciences is becoming increasingly dependent on advanced mechanical, structural, and electrical technology. For those interested in preparing for a career in the biological and medical sciences, the pre-medical option in Mechanical, Aerospace and Structural Engineering makes it possible to obtain an accredited Bachelor of Science and simultaneously meet the admission requirements of most medical and dental schools. The program also provides a foundation for graduate study and research in biomedical engineering.

The essential requirements of this premed option are two semesters of general biology (Biol 296A, 297A), two semesters of organic chemistry (Chem 251, 252), and two additional semesters of laboratory (Chem 152, 257). Organic chemistry is

counted as an upper-level elective, so one must include a minimum of 6 units of upper-level mechanical, aerospace, and structural engineering electives in the program instead of 12. Because of the large number of required units, this option is easier for those who have a high school background in biology or, by reason of advanced placement, have reduced requirements in the Common Studies portion of the curriculum. For additional information on the premedical option, please refer to the premedical education section located in the introduction to the School of Engineering's Undergraduate Programs.

**Graduate Programs**

The department offers programs for graduate study at both the master's and doctoral levels. All programs are designed to direct advanced study into an area of specialization and original research that includes the most recent scientific and technological advances.

A growing number of mechanical, aerospace, and structural engineers are recognizing the advantages and rewards for pursuing a graduate degree. For some, this takes the form of professional, course-option masters degrees while others pursue research-based master's or Ph.D. degrees. The undergradu-

**B.S. in Mechanical Engineering Curriculum<sup>1</sup>**

**First Year—Fall Semester**

	Units
Math 132 Calculus II .....	3
Physics 117A Physics I (or Physics 197) .....	4
MASE 202 CAD .....	3
Humanities and social sciences elective <sup>3</sup> .....	3
Humanities and social sciences elective <sup>3</sup> .....	3

Semester Total 16

**Second Year—Fall Semester**

Math 217 Differential Equations .....	4
MASE 253 Engineering Mechanics I .....	3
Chem 111A Chemistry .....	3
Chem 151 Lab .....	2
Humanities and social sciences elective <sup>3</sup> .....	3

Semester Total 15

**Third Year—Fall Semester**

MASE 301 Thermodynamics .....	3
MASE 341 Fluid Mechanics .....	4
MASE 361 Materials Science .....	4
MASE 350 Engineering Mechanics III .....	3

Semester Total 14

**Fourth Year—Fall Semester**

MASE 431 Structural Dynamics and Vibration .....	4
MASE 411 Mechanical Engineering Design .....	3
MASE elective <sup>5</sup> .....	3
MASE elective <sup>5</sup> .....	3
Physical or life science elective <sup>6</sup> .....	3

Semester Total 16

**First Year—Spring Semester**

	Units
Math 233 Calculus III .....	4
Physics 118A Physics II (or Physics 198) .....	4
Free elective or MASE 101 <sup>2</sup> .....	3
Humanities and social sciences elective <sup>3</sup> .....	3

Semester Total 14

**Second Year—Spring Semester**

ESE 317 Engineering Mathematics .....	4
MASE 255 Engineering Mechanics II .....	3
GenEng 310 Technical Writing .....	3
CSE 126 <sup>4</sup> Introduction to Computer Programming .....	3
Humanities and social sciences elective <sup>3</sup> .....	3

Semester Total 16

**Third Year—Spring Semester**

MASE 201 Numerical Methods and Matrix Algebra .....	3
MASE 311 Machine Elements .....	4
MASE 342 Heat Transfer .....	4
Humanities and social sciences Elective <sup>3</sup> .....	3

Semester Total 14

**Fourth Year—Spring Semester**

MASE 401 Quality Control and Uncertainty Analysis .....	3
MASE 412 Design of Thermal Systems .....	3
GenEng 450 Engineering Practice & Professional Values .....	3
MASE elective <sup>5</sup> .....	3
Free elective .....	3

Semester Total 15

<sup>1</sup>A minimum of 120 units are required for the B.S.M.E. degree.

<sup>2</sup>MASE 101 or Introduction to MASE suggested but not required.

<sup>3</sup>Eighteen units of Humanities & Social Sciences electives are required.

<sup>4</sup>CSE 131 Computer Science I is preferred.

<sup>5</sup>300 level or above, 9 units are required.

<sup>6</sup>200 level or above with NS attribute (natural science) in physical or life sciences in EPSc, EnSt, Physics, Chem, or Bio.

ate curriculum provides an excellent foundation for graduate study, and a careful selection of electives in the third and fourth years will facilitate the transition to graduate work. The master's degrees can be pursued on a part-time or full-time basis while Ph.D. degrees are typically pursued by full-time students.

**Undergraduate Courses**

**MASE 1001. Machine Shop Practicum**

Operation of basic machine tools including lathe, drill press, grinder, and mill. Student shop privilege requires completion of this practicum. Credit 1 unit.

**MASE 101. Introduction to Mechanical and Structural Engineering**

The challenges engineers face and the innovative approaches they are using to address them. Stu-

dents learn how various forms carry load using principles of statics, mechanics, and material behavior. Topics include the historical, economic, social, and political context of modern engineering; case studies of structures, analytical, and experimental methods; fundamentals of mechanical and aerospace engineering; the behavior of materials; material selection for performing engineering function; fluid mechanics; heat transfer; automotive engineering; engineering design and product development; patents and intellectual property; and engineering ethics. Credit 3 units.

**MASE 1701. Introduction to Aircraft and Spacecraft Engineering**

A hands-on introduction to air and space engineering. Students will work in multidisciplinary teams on one of several ongoing space engineering projects. Example projects include Space Shuttle-based Get-Away Special Canisters; microgravity and space environment experiments; mi-

cro-satellites; microprobes; and launch vehicles. Credit 1 unit.

**MASE 201. Numerical Methods and Matrix Algebra**

This course provides students with computational tools for solving mechanical, structural, and aerospace engineering problems. An introduction to MATLAB will be presented, including data input/output, program flow control, functions, and graphics. Topics covered include matrices; determinants; rank; vector spaces; solutions of linear systems; interpolation and curve fitting; numeric differentiation and integration, eigenvalue and initial-value problems; nonlinear equations; and optimization. Each topic will be treated in the context of a typical engineering application. Prerequisite: Math 217 Credit 3 units.

**MASE 202. Computer-Aided Design**

An introduction to computer-aided engineering design in the context of mechanical and structural

**BS in Civil Engineering Curriculum<sup>1</sup>**

**FIRST YEAR**

<u>Fall Semester</u>	<u>Units</u>	<u>Spring Semester</u>	<u>Units</u>
Math 132 Calculus II.....	3	Math 233 Calculus III.....	4
Phys 117A Physics I (or Phys 197).....	4	Phys 118A Physics II (or Phys 198).....	4
MASE 202 CAD.....	3	Free elective or MASE 101 <sup>2</sup> .....	3
Humanities and social sciences elective <sup>3</sup> .....	3	Humanities and social sciences elective <sup>3</sup> .....	3
Humanities and social sciences elective <sup>3</sup> .....	3		
Semester Total	16	Semester Total	14

**SECOND YEAR**

<u>Fall Semester</u>	<u>Units</u>	<u>Spring Semester</u>	<u>Units</u>
Math 217 Differential Equations.....	4	MASE 201 Numerical Methods and Matrix Algebra.....	3
MASE 253 Engineering Mechanics I.....	3	MASE 255 Engineering Mechanics II.....	3
Chem 111A Chemistry.....	3	GenEng 310 Technical Writing.....	3
Chem 151 Lab.....	2	CSE 126 <sup>4</sup> Introduction to Computer Programm.....	3
Humanities and social sciences elective <sup>3</sup> .....	3	Humanities and social sciences elective <sup>3</sup> .....	3
Semester Total	15	Semester Total	15

**THIRD YEAR**

<u>Fall Semester</u>	<u>Units</u>	<u>Spring Semester</u>	<u>Units</u>
ESE 317 Engineering Mathematics.....	4	MASE 361 Materials Science.....	4
MASE 301 Thermodynamics <sup>7</sup> .....	3	MASE 421 Analysis and Design of Modern Structures.....	3
MASE 321 Structural Behavior and Analysis.....	4	MASE 341 Fluid Mechanics.....	4
MASE 350 Engineering Mechanics III.....	3	Humanities and social sciences elective <sup>3</sup> .....	3
Semester Total	14	Semester Total	14

**FOURTH YEAR**

<u>Fall Semester</u>	<u>Units</u>	<u>Spring Semester</u>	<u>Units</u>
GenEng 450 Engineering Practice and Professional Values.....	3	MASE 401 Quality Control and Uncertainty Analysis.....	3
MASE 422 Analysis and Design of Modern Structures.....	3	MASE 423 Behavior & Design of Structural Systems.....	4
MASE elective <sup>5</sup> .....	4	MASE elective <sup>5</sup> .....	3
MASE elective <sup>5</sup> .....	3	MASE elective <sup>5</sup> .....	3
Physical or life science elective <sup>6</sup> .....	3	Free elective.....	3
Semester Total	16	Semester Total	16

<sup>1</sup>A minimum of 120 units are required for the BSCE degree.

<sup>2</sup>MASE 101 Introduction to MASE suggested but not required

<sup>3</sup>18 units of humanities and social sciences electives are required.

<sup>4</sup>CSE 131 Computer Science I is preferred

<sup>5</sup>300 level or above, 13 units are required.

<sup>6</sup>200 level or above with NS attribute (natural science) in physical or life science in EPSc, EnSt, Physics, Chem, or Biol.

<sup>7</sup>ESE 230 Introduction to Electrical Networks may be substituted.

engineering. Students learn the fundamentals of spatial reasoning and graphical representation. Freehand sketching skills, including pictorial and orthographic views, are applied to the design process. Computer modeling techniques provide accuracy, analysis, and visualization tools necessary for the design of structures, devices, and machines. Topics include detailing design for production, fasteners, dimensioning, tolerancing, creation of part and assembly drawings, computer-aided design, analysis and optimization of parts and assemblies; solid modeling of complex surfaces, assembly modeling, assembly constraints, and interference checking. Credit 3 units.

#### **MASE 253. Engineering Mechanics I**

Principles of statics, solid mechanics, force systems and equilibrium. Equivalent systems of forces and distributed forces. Applications to trusses, frames, machines, beams, and cables. Mechanics of deformable solids and indeterminate problems. Stress, strain, deflection, yield and fracture in beams, columns, and torsion members. Prerequisite: Physics 117A. Corequisite: Math 217. Credit 3 units.

#### **MASE 255. Engineering Mechanics II**

Review of vector algebra and calculus. Kinematics of a particle. Newton's laws and the kinetics of a particle. Work and energy. Impulse and momentum. Kinematics of rigid bodies. General theorems for systems of particles. Kinetics of rigid bodies. The inertia tensor. Prerequisite: Math 217. Credit 3 units.

#### **MASE 2701. Introduction to Aerospace Vehicles**

Aerospace vehicles (i.e., aircraft and spacecraft) involve a range of engineering disciplines, from structures to controls to electronics to project management. This course introduces the elements of aerospace vehicles as well as the analytic and testing tools used by aerospace engineers. Throughout the course, specific aircraft, rotorcraft and spacecraft will be used as instructive examples. As a final project, teams of students will perform case studies of the design and performance of an aerospace vehicle. This course is suitable for non-engineering majors. Corequisite: Math 131 (Calculus I). Credit 2 units.

#### **MASE 301. Thermodynamics**

Topics include classical thermodynamics, thermodynamic properties, work and heat, first and second laws, entropy, irreversibility, availability, thermodynamic cycle analysis, mixtures of ideal gases, combustion processes, and chemical equilibrium. Applications to engineering systems are discussed. Prerequisites: Chem 111A, Math 132, Phys 117A. Credit 3 units.

#### **MASE 311. Machine Elements**

Overview of the steps in the engineering design process and an introduction to several classes of machine elements such as bearings, gears, belts, brakes, and springs. Underlying analytical models of the machine elements are presented along with guidelines about designing and choosing such elements for practical applications. A case study of the steps of the design process as well as the rationale for choosing particular machine elements. Prerequisites: MASE 253, MASE 361. Credit 4 units.

#### **MASE 321. Structural Behavior and Analysis**

Basic theory of elasticity, basic properties of aerospace and structural materials, principles of stressed skin construction; bending, shear, and torsion of open and closed cross-section beams including shear center, structural idealization, loads, joints, and fittings. Introduction to indeterminate structural analysis techniques and influence line, analysis for continuous beams, trusses, and frames. Prerequisite: MASE 253. Credit 4 units.

#### **MASE 341. Fluid Mechanics**

Fundamental concepts of fluids as continua. Topics include viscosity, flow fields, velocity, vorticity, streamlines, fluid statics, hydrostatic forces, manometers, conservation of mass and momentum, incompressible inviscid flow, dimensional analysis and similitude, flow in pipes and ducts, flow measurement, boundary-layer concepts, flow in open channels. Laboratory exercises focus on fluid properties and flow phenomena, calibration of equipment, acquisition and analysis of data. Prerequisites: ESE 317, MASE 255. Credit 4 units.

#### **MASE 342. Heat Transfer**

Introductory treatment of the principles of heat transfer by conduction, convection, or radiation. Mathematical analysis of steady and unsteady conduction along with numerical methods. Analytical and semi-empirical methods of forced and natural convection systems. Boiling and condensation heat transfer. Radiation between black-body and real surfaces. Radiation network analysis. Physical laboratory exercises focusing on heat-transfer phenomena. Calibration and use of a variety of laboratory instrumentation; acquisition, processing, and analysis of data. Prerequisites: MASE 341, ESE 317. Credit 4 units.

#### **MASE 350. Engineering Mechanics III**

Selected topics in the mechanics of deformable solids, presented at a level intermediate between introductory strength of materials and advanced continuum mechanics. Lectures will discuss structural stability, inelastic material behavior (plasticity, viscoelasticity), one-dimensional structures (cables, arches, curved beams), two-dimensional structures (plates, membranes, shells), and energy methods. Prerequisite: MASE 252 or 253. Credit 3 units.

#### **MASE 3601. Materials Engineering**

The application of fundamental materials science principles in engineering disciplines. Topics include design of new materials having unique property combinations, selection of materials for use in specific service environment, prediction of materials performance under service conditions, development of processes to produce materials with improved properties, structural and functional use of metals, polymers, ceramics, and composites. Credit 3 units.

#### **MASE 361. Materials Science**

Introduction to the chemistry and physics of engineering materials. Topics include atomic and molecular interpretation of physical and chemical properties, the relationships between physical and chemical properties, and performance of an engineering material. Laboratory exercises focus on the properties and structure of engineering materials. Prerequisite: Chem 111A. Credit 4 units.

#### **MASE 3701. Spacecraft Design**

Design of spacecraft involve a range of engineering disciplines, from structures to controls to electronics to project management. This course builds on the work presented in MASE 2701, introducing advanced design and analysis tools for each major subsystem. New technologies being developed for space missions will be introduced, and particular emphasis is placed on orbital mechanics, attitude control, systems engineering, and aerospace project management. Students will participate in the design, fabrication, and/or operations of ongoing space projects in the School of Engineering. Prerequisite: MASE 2701 or permission of the instructor. Credit 4 units.

#### **MASE 400. Independent Study**

Independent investigation on topic of special interest. Prerequisites: junior or senior standing and permission of department chair. Credit variable, maximum 6 units.

#### **MASE 401. Quality Control and Uncertainty Analysis**

An integrated analysis of reliability, quality control, and uncertainty analysis in mechanical and structural engineering. Statistical process control, acceptance sampling, process capability analysis, reliability prediction, design, testing, failure analysis and prevention, maintainability, availability, and safety are discussed and related. Qualitative and quantitative aspects of statistical quality control and reliability are introduced in the context of manufacturing. Probability distribution functions used in structural engineering are discussed. Methods for estimating parameters and determining distribution models from observational data are introduced. Examples of the application of probabilistic methods to structural system design are presented. Prerequisite: Math 233. Credit 3 units.

#### **MASE 4101. Manufacturing Processes**

Manufacturing processes and machinery are explained and described. Topics include analytical tools of machine science, heat transfer, vibrations, and control theory applied to the solution of manufacturing problems, analytical development, and application of engineering theory to manufacturing problems, machine tools, and automated production equipment. Credit 3 units.

#### **MASE 411. Mechanical Engineering Design Project**

Feasibility study for a mechanical design project of an open-ended, original design or a creative redesign of a mechanical component or system requiring the application of engineering science principles. Feasibility is subject to economic, safety, legal, environmental, ethical, aesthetic, and other constraints in a competitive manufacturing environment. Project teams perform the detailed design and optimization of the concept developed in the feasibility study. Presentations and reports with manufacturing drawings and prototypes are completed by each team. Prerequisite: MASE 311. Credit 3 units.

#### **MASE 412. Design of Thermal Systems**

Analysis and design of advanced thermo-fluid systems. Student teams participate in the design process, which could involve research, design synthesis, codes, standards, engineering economics, a design project report, and formal presentations. Topics include thermo-fluid systems and components such as power, heating, and refrigeration systems; pumps, fans, compressors, combustors, turbines, nozzles, coils, heat exchangers, and piping. Prerequisite: MASE 301 Thermodynamics. Credit 3 units.

#### **MASE 421. Analysis and Design of Modern Structures I**

Behavior and design of steel structures by deterministic and load-resistance factor design methods. Design of beams, columns, beam-columns, plate girders, connections, multistory frames, and bridge girders. Plastic analysis and design. Exercises focusing on phenomena of structural behavior, analysis, and design. Prerequisite: MASE 321. Credit 3 units.

#### **MASE 422. Analysis and Design of Modern Structures II**

Analysis and design of concrete elements and structures for strength and deformation. Design and use of concrete beams, beam-columns, long columns, one-way and two-way slab systems, and footings as used in indeterminate frames. Exercises focus on phenomena of structural behavior analysis and design. Prerequisite: MASE 421. Credit 3 units.

**MASE 423. Behavior and Design of Structural Systems**

Analysis and design of realistic building and bridge structures with computer-aided design tools. Capstone use of analysis and design concepts in the design of real-world structures. Prerequisite: MASE 422. Credit 4 units.

**MASE 4301. Modeling, Simulation, and Control**

Introduction to simulation and control concepts. Topics include block diagram representation of single- and multiloop systems, control system components, transient and steady-state performance, stability analysis, Nyquist, Bode, and root locus diagrams, compensation using lead, lag, and lead-lag networks, design synthesis by Bode plots and root-locus diagrams, state-variable techniques, state-transition matrix, state-variable feedback. Prerequisite: ESE 317. Credit 3 units.

**MASE 4302. Aircraft Flight Dynamics and Control**

An integrated treatment of aircraft stability, flight control, aircraft dynamics, flying qualities, and the application of control theory to the synthesis of automatic flight control systems. Topics include flight stability and control, military and civilian aircraft, automatic control systems to provide stabilization, autopilots to aid in navigation and landing. Prerequisites: ESE 317, MASE 341. Credit 3 units.

**MASE 431. Structural Dynamics and Vibrations**

Free and forced vibration of multidegree of freedom and distributed parameter mechanical systems and structures. Methods of Laplace transform, complex harmonic balance, matrix formulation, and Fourier series. Transient response of continuous systems by partial differential equations and nonlinear structural response. Laboratory experiments. Prerequisites: MASE 255, ESE 317. Credit 4 units.

**MASE 4401. Combustion and Environment**

Introduction to combustion and its application in devices. Topics include chemical thermodynamics and kinetics; ignition and explosion; deflagration and detonation waves, transport phenomena and the governing equations for heat and mass transfer in chemically reacting flows; laminar and turbulent flame propagation; non-premixed flames; the emission of combustion-generated pollutants and subsequent interaction with the environment; toxic-waste incineration; and practical combustion devices. Prerequisites: MASE 301, MASE 342 or equivalent. Credit 3 units.

**MASE 500. Independent Study**

Independent investigation on topic of special interest. Prerequisites: graduate standing and permission of the instructor. Credit variable, maximum 6 units.

**MASE 5001. Optimization Methods in Engineering**

Analytical methods in design. Topics include mathematical methods; linear and nonlinear programming; optimality criteria; fully stressed techniques for the design of structures and machine components; topological optimization; search techniques; and genetic algorithms. Calculus and computer programming are prerequisites. Credit 3 units.

**MASE 501. Graduate Seminar**

This is a required pass/fail course for master's and doctoral degrees. A passing grade is required for each semester of full-time enrollment. A passing grade is received by attendance at the weekly seminars. Credit 0 units.

**MASE 5101. Analysis and Design of Fluid-Power Systems**

Design of hydraulic and pneumatic control and power systems using advanced concepts and analytical tools. Topics include analysis of fluid flow through orifices and between parallel and inclined planes; theory of spool and flapper valves; feasibility, synthesis, analysis, and applications of fluid systems; configuration of pumps, motors, fluid lines, and valves; accumulators and storage devices; integration of components into systems; power systems; servo-systems; hydrostatic transmissions; performance diagrams using MATLAB and SIMULINK; and design and analysis of fluid power systems. Credit 3 units.

**MASE 5102. Materials Selection in Design**

Analysis of the scientific bases of material behavior in the light of research contributions of the past 20 years. Development of a rational approach to the selection of materials to meet a wide range of design requirements for conventional and advanced applications. Although emphasis will be placed on mechanical properties, acoustical, optical, thermal, and other properties of interest in design will be discussed. Credit 3 units.

**MASE 5201. Advanced Topics in Concrete Systems**

Analysis and design of pre-stressed concrete members. Topics include direct design of composite and noncomposite members for flexure; design of continuous beams; flexural strength, shear strength, and design of anchorage zone. Credit 3 units.

**MASE 5202. Advanced Topics for Structural Systems**

Advanced topics and current research on plastic design and analysis of space frames, plate and box girders, and torsion in structures. Prerequisite: permission of instructor. Credit 3 units.

**MASE 5203. Earthquake Resistant Structures**

Seismic risk analysis. Topics include review of structural response, lateral resistant systems, response spectrum method, equivalent static effects, code provisions, structural design and detailing for earthquake effects, considerations for foundations, assessment of structural damage and seismic retrofitting. Credit 3 units.

**MASE 5204. Structural Design Project**

A structural design project is to be proposed by the student and approved by the adviser. A preliminary report, final report, and oral presentation are required, including calculations, drawings, and cost estimates, if appropriate. Prerequisite: permission of the instructor. Credit 3 units.

**MASE 5302. Theory of Vibrations**

Analytical methods in vibrations. Topics include Duhamel's integral, Laplace and Fourier transforms, and Fourier series with applications to transient response, forced response, and vibration isolation; Lagrange's equations for linear systems, discrete systems, degrees of freedom, reducible coordinates, holonomic constraints, and virtual work; matrix methods and state variable approach with applications to frequencies and modes, stability, and dynamic response in terms of real and complex modal expansions; dynamic response of continuous systems by theory of partial differential equations; Rayleigh-Ritz and Galerkin energy methods; finite difference, and finite element algorithms. Credit 3 units.

**MASE 5401. General Thermodynamics**

General foundations of thermodynamics valid for small and large systems, and for equilibrium and non-equilibrium states. Topics include definitions of state, work, energy, entropy, temperature, heat

interaction, and energy interaction. Applications to simple systems, phase rule, perfect and semi-perfect gas, bulk-flow systems, combustion, energy and entropy balances, availability analysis for thermo-mechanical power generation, and innovative energy-conversion schemes. Prerequisite: Graduate standing or permission of instructor. Credit 3 units.

**MASE 5402. Radiation Heat Transfer**

Formulation of the governing equations of radiation heat transfer. Topics include electromagnetic theory of radiation, properties of ideal and real surfaces, techniques for solutions of heat transfer between gray surfaces, radiation in absorbing, emitting, and scattering media. Credit 3 units.

**MASE 5403. Conduction and Convection Heat Transfer**

Analytical solutions to homogeneous and nonhomogeneous conduction heat-transfer problems in Cartesian, cylindrical, and spherical coordinate systems are presented using the separation of variables and integral transform techniques. Conservation of mass, momentum, and energy equations for convective heat transfer problems are presented with analytical and semi-empirical solutions to free and forced convection in the laminar and turbulent regimes. Credit 3 units.

**MASE 5404. Combustion Phenomena**

Same as EECE 5404.

Introduction to fundamental aspects of combustion phenomena including relevant thermochemistry, fluid mechanics, and transport processes. Emphasis is on elucidation of the physico-chemical processes, problem formulation, and analytical techniques. Topics covered include ignition, extinction, diffusion flames, particle combustion, deflagrations, and detonations. Prerequisite: Graduate standing or permission of instructor. Credit 3 units.

**MASE 5410. Fluid Dynamics I**

Formulation of the basic concepts and equations governing a Newtonian, viscous, conducting, compressible fluid. Topics include transport coefficients and the elements of kinetic theory of gases, vorticity, incompressible potential flow; singular solutions, flow over bodies and lifting surfaces, similarity methods, viscous flow, boundary layer, low Reynolds number flows, laminar, and turbulent flows. Credit 3 units.

**MASE 5411. Fluid Dynamics II**

Governing equations and thermodynamics relations for compressible flow. Topics include kinetic theory of gases, steady, one-dimensional flows with friction and heat transfer, shock waves, Rankine-Hugoniot relations, oblique shocks, reflections from walls and flow interfaces, expansion waves, Prandtl-Meyer flow, flow in nozzles, diffusers and inlets, two- and three dimensional flows, perturbation methods, similarity rules, compressible laminar and turbulent boundary layers, acoustic phenomena. Emphasis is relevant to air vehicles. Credit 3 units.

**MASE 5412. Computational Fluid Dynamics**

Computational fluid dynamics relevant to engineering analysis and design. Topics include fundamentals of finite-difference, finite-volume, and finite-element methods; numerical algorithms for parabolic, elliptic, and hyperbolic equations, convergence, stability, and consistency of numerical algorithms; application of numerical algorithms to selected model equations relevant to fluid flow, grid-generation techniques, and convergence acceleration schemes. Prerequisites: Senior or graduate standing or permission of the instructor. Credit 3 units.

**MASE 5422. Solar Energy Thermal Processes**  
Extraterrestrial solar radiation, solar radiation on earth's surface, and weather bureau data. Review of selected topics in heat transfer. Methods of solar energy collection including flat plate and concentrating collectors. Solar energy storage. Transient and long-term solar system performance. Prerequisite: MASE 342 or equivalent. Credit 3 units.

**MASE 5500. Elasticity**  
Elastic constitutive relations for isotropic and anisotropic materials. Formulation of boundary-value problems. Application to torsion, flexure, plane stress, plane strain, and generalized plane stress problems. Solution of three-dimensional problems in terms of displacement potentials and stress functions. Solution of two-dimensional problems using complex variables and conformal mapping techniques. Variational and minimum theorems. Credit 3 units.

**MASE 5501. Mechanics of Continua**  
A broad survey of the general principles governing the mechanics of continuous media. Topics include large deformation theory, general tensor analysis, deformation, stress and stress rate, principles of continuum mechanics and thermodynamics, constitutive relations, and two-dimensional continua. Prerequisite: ESE 501-502 or instructor's permission. Credit 3 units.

**MASE 5502. Plates and Shells**  
Unified presentation of classical theories of plates and shells. Topics include curvilinear coordinates, vector formulation, and basic engineering applications. Emphasis on understanding of geometrical and load-carrying characteristics of plate and shell structures and interpretation of numerical solutions. Prerequisite: MASE 5500 or equivalent. Credit 3 units.

**MASE 5503. Structural Stability**  
Theorems of equilibrium and stability. Topics include classification of instability phenomena, postbuckling behavior and imperfection-sensitivity, systems with multiple degrees of freedom, buckling of columns, beam-columns, and frames using classical and variational methods and stability and nonlinear behavior of plates and shells. Credit 3 units.

**MASE 5504. Fracture Mechanics**  
Classical fracture and fatigue analysis and their limitations. Topics include Griffith-Irwin, linear-elastic fracture-mechanics analysis, historical aspects, formulation of stability criteria, sub-critical crack growth, anisotropic and inhomogeneous effects, fracture-control analysis, with applications to fracture-safety analysis relating to nuclear reactors, aircraft, rotating machinery, elastic-plastic fracture-mechanics analysis and future prospects and applications. Prerequisite: Graduate standing or permission of instructor. Credit 3 units.

**MASE 5510. Finite Element Analysis**  
Theory and application of the finite element method. Topics include basic concepts, generalized formulations, construction of finite element spaces, extensions, shape functions, parametric mappings, numerical integration, mass matrices, stiffness matrices and load vectors, boundary conditions, modeling techniques, computation of stresses, stress resultants and natural frequencies, and control of the errors of approximation. Prerequisite: Graduate standing or permission of instructor. Credit 3 units.

**MASE 5512. Composite Structures**  
Introduction to composite materials. Topics include anisotropic elasticity and laminate theory; beams and columns of composite materials; plates and panels; transverse shear deformation effects; twisting and stretching shear coupling; honeycomb core sandwich panels; composite shells; energy methods for statics, stability, and dynamics; hygrothermal effects; strength and failure theories. Credit 3 units.

**MASE 5513. Computational Structural Mechanics**  
An introduction to the analysis and design of structures using finite elements. Topics include elementary theory of elasticity, plate theories, and buckling of plate structures; finite element formulation of 2-D elasticity; and plate problems. Hands-on use of finite element software is emphasized. A major design project is included. Credit 3 units.

**MASE 5520. Advanced Analytical Mechanics**  
Lagrange's equations and their applications to holonomic and nonholonomic systems. Topics include reduction of degrees of freedom by first integrals, variational principles, Hamilton-Jacobi theory, general transformation theory of dynamics, applications such as theory of vibrations and stability of motion, and use of mathematical principles to resolve nonlinear problems. Prerequisite: Senior or graduate standing or permission of instructor. Credit 3 units.

**MASE 5521. Structure and Rheology of Complex Fluids**  
Complex fluids are a broad class of materials that have a microstructure that is much smaller than the macroscopic scale but much larger than molecular size. These materials are central to a wide range of industrial, environmental, and biomedical applications. This course will cover basic rheological and structural measurements and data interpretation of complex fluids. We will study structure, dynamics, and flow properties of polymers, colloids, liquid crystals, and other substances with both liquid and solid-like characteristics. Selected topics include rheology of polymer solutions, colloidal suspensions, constitutive equations, self-assembling fluids such as surfactants, liquid crystals, block copolymers, and their roles in nanotechnology; geophysical flows (granular flow, lava flow, etc); microfluidics (blood flow, cells in microchannels). Credit 3 units.

**MASE 5601. Mechanical Behavior of Materials**  
A materials science-based study of mechanical behavior of materials with emphasis on mechanical behavior as affected by processes taking place at the microscopic and/or atomic level. The class will study the response of solids to external or internal forces as influenced by interatomic bonding, crystal/molecular structure, crystalline/noncrystalline defects, and material microstructure. The similarities and differences in the response of different kinds of materials viz., metals and alloys, ceramics, polymers, and composites will be discussed. Topics covered include physical basis of elastic, viscoelastic, and plastic deformation of solids; strengthening of crystalline materials; viscoelastic deformation of polymers as influenced by molecular structure and morphology of amorphous, crystalline, and fibrous polymers; deformation and fracture of composite materials; mechanisms of creep, fracture, and fatigue; high strain-rate deformation of crystalline materials; and deformation of noncrystalline materials. Credit 3 units.

**MASE 5603. Materials Characterization Techniques I**  
An introduction to the basic theory and instrumentation used in transmission electron, scanning electron, and optical microscopy. Practical laboratory experience in equipment operations, experimental procedures, and material characterization. Credit 3 units.

**MASE 5605. Mechanical Behavior of Composites**  
Analysis and mechanics of composite materials. Topics include micromechanics, laminated plate theory, hygrothermal behavior, creep, strength, failure modes, fracture toughness, fatigue, structural response, mechanics of processing, nondestructive evaluation, and test methods. Prerequisite: Permission of the instructor. Credit 3 units.

**MASE 5700. Aerodynamics**  
Fundamental concepts of aerodynamics, equations of compressible flows, irrotational flows and potential flow theory, singularity solutions, circulation and vorticity, Kutta-Joukowski theorem, thin airfoil theory, finite wing theory, slender body theory, subsonic compressible flow and Prandtl-Glauert rule, supersonic thin airfoil theory, introduction to performance, basic concepts of airfoil design. Prerequisite: Graduate standing or permission of instructor. Credit 3 units.

**MASE 5701. Aerospace Propulsion**  
Propeller, jet, ramjet, and rocket propulsion. Topics include fundamentals of propulsion systems, gas turbine engines, thermodynamics and compressible flow, one-dimensional gas dynamics, analysis of engine performance, air-breathing propulsion system, the analysis and design of engine components, and the fundamentals of ramjet and rocket propulsion. Credit 3 units.

**MASE 5702. Advanced Space Mission Design**  
Students perform a "Phase A" study of a space mission, culminating in an overall system description, preliminary design and subsystem-level requirements, and a feasibility study for developing this mission. Students are responsible for developing requirements and performing trade studies, preliminary sizing and mission analysis for all necessary subsystems including structures, power, thermal control, communications, command and data handling, attitude control, and navigation. Where possible, hardware prototypes and simulations will be created. Prerequisite: Graduate standing or permission of instructor. Credit 3 units.

**MASE 5703. Analysis of Rotary-Wing Systems**  
This course introduces the basic physical principles that govern the dynamics and aerodynamics of helicopters, fans, and wind turbines. Simplified equations are developed to illustrate these principles, and the student is introduced to the fundamental analysis tools required for their solution. Topics include harmonic balance, Floquet theory, and perturbation methods. Credit 3 units.

**MASE 5801. Micro-Electro-Mechanical Systems I**  
Introduction to MEMS. Topics include electronic microsensors, thermocouples, thermopiles, diodes, capacitors and transistors, transducer principles, virtual work, electro-mechanical analysis, testing, dynamical macro-models, material properties, fabrication and micro-machining, design principles, and case study. Prerequisite: Graduate standing or permission of the instructor. Credit 3 units.

**MASE 5802. Micro-Electro-Mechanical Systems II**

A second course in MEMS. Topics include physical microsystems, pressure sensors, accelerometers, microfluids and micro-scale thermal phenomena, electroosmotic flows, microvalves, micropumps, optical MEMS, active flow control, system and constraints on microsystem design, compliant mechanisms, micro-fabricated electrochemical sensors, bio-MEMS and case studies. Prerequisite: MASE 5801 or permission of instructor. Credit 3 units.

**MASE 599. Master's Research**  
Credit variable, maximum 6 units.

**MASE 600. Doctoral Research**  
Credit variable, maximum 9 units.

**Process Control Systems****Coordinating Committee****Pratim Biswas**

(Energy, Environmental and Chemical Engineering)

**I. Norman Katz**

(Electrical and Systems Engineering)

**Jay R. Turner**

(Chemical Engineering)

**Hiroaki Mukai**

(Electrical and Systems Engineering)

**A Jointly Sponsored Undergraduate Program**

Process Control Systems is a program intended to provide students with a broad background in chemical and systems engineering, with emphasis on the science and technology of process automation. Through a careful selection of courses in chemical engineering and systems engineering, a unified approach is developed to the analysis, design, operation, and control of chemical and other manufacturing processes. Electives in systems engineering allow further in-depth specialization in applied mathematics, dis-

**The Process Control Systems Program**

	Units	
	Fall	Spring
<b>First Year</b>		
Calculus II, III (Math 132, 233) .....	3	4
General Physics I, II (Physics 117A, 118A).....	4	4
General Chemistry I, II (Chem 111A, 112A).....	3	3
General Chemistry Laboratory I, II (Chem 151, 152).....	2	2
Matrix Algebra (ESE 309).....	—	3
Humanities or social sciences electives.....	6	—
	18	16
<b>Second Year</b>		
Organic Chemistry I (Chem 251) .....	3	—
Organic Chem Lab for Chemical Engineers (Chem 257) .....	2	—
Fundamentals of Biology (Biol 2960).....	—	4
Differential Equations (Math 217).....	4	—
Introduction to Electrical and Systems Engineering (ESE 105) .....	3	—
Engineering and Scientific Computing (CSE 200) .....	3	—
Engineering Mathematics (ESE 317) .....	—	4
Probability and Statistics for Engineering (ESE 326) .....	—	3
Thermodynamics (ChE 320).....	—	3
Engineering Analysis of Chemical Systems (ChE 351).....	3	—
Humanities or social sciences elective .....	—	3
	18	17
<b>Third Year</b>		
Signals and Systems (ESE 351).....	3	—
Operations Research (ESE 403) .....	3	—
Numerical Methods (ESE 411).....	3	—
Transport Phenomena I, II (ChE 367, 368) .....	3	3
New Product and Process Development (ChE 450) .....	—	3
Mass Transfer Operations (ChE 357) .....	—	3
Systems science and engineering elective .....	—	3
Materials Science (ChE 325).....	3	—
Technical Writing (ENGR 310).....	—	3
Humanities or social sciences elective .....	3	3
	18	18
<b>Fourth Year</b>		
Control Systems or Chemical Process Dynamics and Control (ESE 441 or ChE 462).....	3	—
Systems Design Project or Process Design (ESE 499 or ChE 478).....	—	3
Chemical Reaction Engineering (ChE 471) .....	3	—
Chemical Engineering Laboratory (ChE 473A).....	4	—
Computer Science elective from the approved list.....	3	—
Humanities or social sciences elective.....	—	3
Digital Process Control Laboratory (ESE 449 or ChE 433) .....	—	3
Systems science and engineering elective .....	3	6
Chemical Engineering elective .....	—	3
	16	18

crete-event systems, robotics, quality control, optimization, and dynamical systems.

In addition to the traditional laboratory work in chemistry, physics, and chemical engineering, a laboratory course in digital process control is offered based on computers and advanced commercial distributed-control equipment. Familiarity with computers and with process modeling, data acquisition, and control software is an essential component of the training. In the senior year, you can elect to complete a major design project either in chemical processing systems (chemical engineering) or in technological or engineering systems (systems engineering).

Upon successful completion, you receive both the Bachelor of Science in Chemical Engineering and the Bachelor of Science in Systems Science and Engineering.

The Process Control Systems program satisfies an increasing demand by manufacturing and petrochemical companies for professionals trained in advanced automation to improve product quality, to reduce costs, to improve capital productivity, and to improve safety and environmental quality. This interdisciplinary program provides the background necessary to combine traditional engineering skills with new systems-engineering techniques and meet these challenges. The program is staffed by faculty members from both departments and is supervised by a coordinating committee. You are assigned two advisers, one from each department, who are members of the committee.

To satisfy the core requirements of the School of Engineering, the following courses are required:

	Units
Physics 117A, 118A	8
Chem 111A, 112A, 151, 152	10
Math 132, 233, 217	11
Humanities/social sciences electives	18

To complete the core requirements of both chemical engineering and systems engineering, the following additional requirements apply:

	Units
Chem 251, ChE 257	5
ChE 325	3
ESE 317	4
ESE 326	3
ENGR 310	3
CSE 200	3
Biol 2960	4

The balance of the curriculum is carefully structured to satisfy the combined degree requirements and to meet the objectives of the program. The general degree requirements include the residency and other applicable requirements of the University and the School of Engineering & Applied Science.

The curriculum meets the requirements of both degrees and can be completed in four years. The total number of units required is 139. The semester course load exceeds the usual school-wide average of 15 units per semester, so you must be highly motivated to accomplish this objective in eight semesters. The course load in individual semesters may be lightened by attending summer school or by adding an additional semester. A number of courses (e.g., ChE 320; CSE 200; ENGR 310; ESE 309, 317, 326, 351, 411; and humanities and social sciences courses) are usually offered in the summer as well.

Further information about the program can be obtained from the coordinating committee through either of the cooperating departments.

## **University of Missouri– St. Louis/Washington University Joint Undergraduate Engineering Program**

### **Dean**

**(at University of Missouri–St. Louis)**

**Kevin Z. Truman**

Ph.D., University of Missouri–Rolla

### **Associate Dean**

**(at University of Missouri–St. Louis)**

**Bernard J. Feldman**

Ph.D., Harvard University

### **Academic Adviser**

**(at University of Missouri–St. Louis)**

**Mary E. McManus**

M.Ed., University of Missouri–St. Louis

In 1993, Washington University and the University of Missouri–St. Louis held the first classes in the Joint Undergraduate Engineering Program. This partnership, the first of its kind in the United States, offers University of Missouri–St. Louis students the opportunity to benefit from the engineering program at Washington University and its century-long tradition of excellence. Effective in October 1999, the three bachelor's degrees (civil, electrical, and mechanical engineering) offered in our joint program were accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Besides being the first undergraduate engineering degrees offered in a public/private partnership, they are also the first such degrees to receive ABET accreditation.

The courses are organized for both full-time students and part-time students with daytime commitments who need to attend classes in the evening. Students who enter the program take about half their course work—mathematics, physics, chemistry, humanities, and social sciences—on the campus of the University of Missouri–St. Louis. The remaining half of the degree program, consisting of upper-level engineering courses and laboratories, is taken on the Washington University campus. Students may choose civil, electrical, or mechanical engineering. Students receive their undergraduate engineering degrees from the University of Missouri.

For information about this program, please contact the University of Missouri–St. Louis Joint Undergraduate Engineering Program at 314/516-6800 or the Washington University School of Engineering at 314/935-8013.

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