

# SCIENCE, TECHNOLOGY, AND SOCIETY

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Courses given in Science, Technology, and Society have the subject code STS. For a complete list of subject codes, see Appendix.

Technology and science are activities of central importance in contemporary life, intimately bound up with society's evolving character, problems, and potentials. If scientific and technological pursuits are to further enhance human wellbeing, they and their effects on society and the individual must be better understood by non-technical professionals and ordinary citizens as well as by engineers and scientists. Issues of professional ethics and social responsibility confront technical practitioners. At the same time, lawyers, public officials, civil servants, and business people are increasingly called upon to make decisions requiring a basic understanding of science and technology and their ethical, social, and environmental consequences. Ordinary citizens, moreover, are being asked with increasing frequency to pass judgment on controversial matters of public policy related to science and technology. These circumstances require education befitting the complex sociotechnical character of the contemporary era.

Science, Technology, and Society (STS) is an interdisciplinary program devoted to understanding the natures, consequences, and shaping of technological and scientific activities in modern and contemporary societies. Achieving this understanding requires critical analysis of the interplay of science and technology with human values and world views, political and economic forces, and cultural and environmental factors. Hence, students in STS courses study science and technology in society from a variety of perspectives in the humanities and social sciences. To provide a basic understanding of technology and science, STS majors are also required to achieve either literacy (B.A.) or a solid grasp of fundamentals (B.S.) in some area of engineering or science.

## GENERAL INFORMATION

Selected STS courses may be used, individually or in groups, for various purposes:

1. To satisfy University General Education Requirements
2. To satisfy the Technology in Society Requirement of the School of Engineering
3. To comprise parts of student-designed concentrations required for majors in fields such as Human Biology and Public Policy
4. To satisfy the requirements of the STS Honors Program complementing any major (see below)
5. To satisfy requirements for majors in STS (see below)
6. To satisfy requirements for a minor in STS (see below)

STS courses are particularly valuable for undergraduates planning further study in graduate professional schools (for example, in business, education, engineering, law, journalism, or medicine) and for students wishing to relate the specialized knowledge of their major fields to broad technology and science-related aspects of modern society and culture.

The STS Program is a unit of the Center for the Interdisciplinary Study of Science and Technology (CISST). For further information about CISST see the "Academic Centers" section of this bulletin.

## UNDERGRADUATE PROGRAMS

Degree programs in STS are interdisciplinary curricula devoted to understanding the nature and significance of technology and science in modern society. Majors analyze phenomena of science and technology in society from ethical, aesthetic, historical, economic, and sociological perspectives. In addition, students pursuing the B.A. degree study a technical field in sufficient depth to obtain a grasp of basic concepts and methods, and complete a structured concentration on a theme, a particular STS issue, problem, or area of personal interest related to science and technology in society. Those seeking the B.S. degree complete at least 50 structured units in technology, science, and mathematics. The particular technical courses chosen reflect the student's special interest in science and technology in society. Specific requirements for the bachelor's degree in STS are as follows:

### BACHELOR OF ARTS

1. *STS Core* (eight courses):
  - a) Interdisciplinary Foundational course: STS 101 or 101Q
  - b) Disciplinary Analyses (five courses with at least one in each category):
    - 1) Philosophical perspectives: STS 110, 112, 113, 114, 116, 117, 118
    - 2) Historical perspectives: STS 102, 120, 121, 122, 123A, 124, 125, 126, 128, 130, 132, 134
    - 3) Social Science perspectives: STS 138, 152, 155, 162, 171, 172
  - c) Advanced courses (one course in each category):
    - 1) Disciplinary analysis: STS 207, 210, 212, 215, 217, 218, 219, 221, 229, 231, 255
    - 2) Senior Colloquium: STS 200
2. *Technical Literacy* (five courses):
  - a) CS 105 or 106A or equivalent; and
  - b) A four-course sequence (minimum of 12 units) in one field of engineering or science (sample sequences available in the STS office); or
  - c) Four of the following Engineering Fundamentals courses: Engineering 10, 14, 15, 20, 30, 40, 50, 60, 62, 70A (see course descriptions in the "School of Engineering" section of this bulletin).
3. *Thematic Concentration* (minimum of 20 units, at least five courses, one each from among those designated on the appropriate concentration course list as foundational and advanced): Thematic concentrations are organized around an STS-related problem or area. The following thematic concentration topics have been pre-certified: the intersections of technology and science with aesthetics, development, history and philosophy, information and society, public policy, social change, and work and organizations.

Course lists for these concentration topics are available in the STS office. A student selecting one of the certified topics may include one or more courses not on the corresponding course list if they are germane to the concentration and meet the student's special interests. Alternatively, the student may choose to design a thematic concentration topic and course package subject to program approval. Each thematic concentration, certified or self-designed, requires the signature of an appropriate faculty adviser. See the program chair for details.

## BACHELOR OF SCIENCE

The student pursuing the B.S. degree shall complete the STS Core and a structured package of at least 50 units of technical courses intended to enable students to understand socially significant technical phenomena in some field of engineering or science. Introductory courses in mathematics or physics (for example, MATH 19 or PHYSICS 19) are normally not counted as parts of this technical depth component.

The B.S. candidate follows one of two models in fulfilling the minimum 50-unit requirement:

1. *Focused Depth*: at least seven courses amounting to at least 25 units in a single field of science or engineering, with the remaining units (except for at most two stand-alone courses) grouped in clusters of at least three courses each in other fields of science or engineering. For example, a Focused Depth package might contain eight mechanical engineering, three physics, three mathematics, and three computer science courses, and one course each in electrical engineering and chemistry. At least five of the seven courses in the focused depth area must be advanced, that is not normally taken in the first year of study in that field.
2. *Clustered Depth*: two or more clusters of at least five courses and 15 units each in different fields of science or engineering, with at most two stand-alone courses, and remaining courses, if any, in sequences of three or more courses. For example, a Clustered Depth package might contain five-course clusters in computer science, electrical engineering, and physics, three courses in civil engineering, and one course each in biology and chemical engineering. At least two courses in each cluster area must be advanced.

It is recommended that B.S. majors complete CS 106A or equivalent.

## MINORS

Students planning careers in many technical and non-technical fields, including business, education, engineering, science, law, medicine, and public affairs, are faced with important STS issues in their professional practice. Therefore, a minor in STS is likely to prove practically valuable as well as intellectually stimulating.

*Requirements*—The STS minor requires successful completion of six courses satisfying the following four requirements:

1. Foundational Course: STS 101 or 101Q
2. One disciplinary analysis course from each of the following three categories:
  - a) Philosophical/Ethical Perspectives: STS 110, 112, 113, 114, 115, 116, 117, 118, 119
  - b) Historical Perspectives: STS 102, 120, 121, 122, 123A, 124, 125, 126, 128, 130, 132, 134
  - c) Social Scientific/Policy: STS 138, 150, 152, 155, 162, 171, 172
3. Two advanced courses, from one or two of the following categories, building on courses taken under requirements 1 and 2:
  - a) Philosophical/Ethical Perspectives: STS 210, 212, 215
  - b) Historical Perspectives: STS 221, 229
  - c) Social Scientific/Policy Perspectives: STS 207, 218, 219, 231, 255, 279, 280A
4. At least one of the courses taken under requirements 1 to 3 should incorporate a weekly, small group discussion.
5. With at most one exception, all courses taken to satisfy STS minor requirement must be taken for a letter grade where available. The exception cannot be STS 101 or 101Q.

*Note*—Students wishing to use a course not listed above to satisfy one of the requirements for a minor in STS may petition to do so. For details, inquire at the STS office, Building 370, Room 109.

## HONORS PROGRAM

STS offers a limited number of students an opportunity to achieve honors through in-depth study of the interaction of science and technology with society. The honors program is open to students majoring in any field (including STS). Students accepted for this program carry out an honors project, the work for which normally begins in Spring Quarter of the junior year and is completed by mid-May of the senior year. Students who want their theses to be considered for the Firestone Prize must submit them to STS by May 20, 2005; all theses must be submitted to STS by June 1, 2005. STS thesis projects usually entail writing an honors essay, although occasionally students have chosen to produce a technical artifact or carry out some other work that itself represents original thinking. When a project results in a work other than an essay, students must also submit an accompanying scholarly exegesis of the work in question.

## ADMISSION

Application for admission to the STS honors program is typically made during the last quarter of the student's junior year. By the eighth week of that quarter, interested students must have completed, or be completing that quarter, at least two of the four courses required to satisfy honors requirements 1 to 4 listed below. Each applicant must also have submitted a formal proposal for her or his project to the STS Honors Committee, including the name of the primary thesis adviser. For proposal parameters, see the brochure *Honors Program Requirements*, available in the STS office. Students whose proposals are approved are encouraged to apply to attend Honors College in early September to get a running start on their theses. STS honors students are also encouraged to sign up for 2-5 units of credit per quarter in STS 190A,B,C for work on the honors project. While not required, doing so leaves the student sufficient time to finish the thesis in three quarters. Writing a senior honors thesis while simultaneously carrying a full academic load each quarter is a very difficult task to complete with distinction. STS majors pursuing honors in STS or another honors program take STS 200 for 2 units instead of 4 and do not write a research paper for this required course. However, failure to complete the thesis requires additional research work in STS 200. (Note: under exceptional circumstances, a student may be admitted to the STS honors program early in the first quarter of his or her senior year.)

## REQUIREMENTS

### *For non-STS Majors*

1. Foundational Course: STS 101 or 101Q
2. One Philosophical/Ethical Perspectives course: STS 110, 112, 113, 114, 115, 116, 117, 118, 210, 212, 215
3. One Historical Perspectives course: STS 102, 120, 121, 123A, 124, 125, 128, 130, 221, 229
4. One Social Science Perspectives course: STS 132, 138, 149, 152, 155, 162, 171, 172, 176, 219, 231, 255, 279
5. Honors Project: an original critical essay (or investigative project with accompanying explanatory essay) on an STS topic of general importance (up to 12 units may be taken while working on the thesis). Past honors projects are on file in the STS office library.

### *For STS majors*

1. Completion of STS core.
2. Requirement 5 above.

To earn honors, the project must receive a grade of at least 'B' on the completed thesis. The student not majoring in STS must also achieve a grade point average (GPA) of at least 3.3 in the courses taken to satisfy requirements 1 to 4 above. In the case of STS majors, the student must compile a GPA of at least 3.3 in the entire STS core. If all these requirements are met, the designation "Honors Program in Science, Technology, and Society" is affixed to the student's permanent record and appears in the commencement program.

## COURSES

WIM indicates that the course satisfies the Writing in the Major requirements.

The STS web site (<http://www.stanford.edu/group/STS/>) has updated course scheduling information, course syllabi, faculty and staff information, and information about how to declare a major or a minor in STS.

## INTRODUCTORY

**STS 101. Science, Technology, and Contemporary Society**—(Graduate students register for 201: same as ENGR 130.) Key social, cultural, and values issues raised by contemporary scientific and technological developments; distinctive features of science and engineering as socio-technical activities; major influences of scientific and technological developments on 20th-century society, including transformations and problems of work, leisure, human values, the fine arts, and international relations; ethical conflicts in scientific and engineering practice; and the social shaping and management of contemporary science and technology. GER:3b

*4-5 units, Aut (McGinn)*

**STS 101Q. Technology in Contemporary Society**—Stanford Introductory Seminar. Preference to sophomores. Introduction to the STS field. The natures of science and technology and their relationship, what is most distinctive about these forces today, and how they have transformed and been affected by contemporary society. Social, cultural, and ethical issues raised by recent scientific and technological developments. Case studies from areas such as information technology and biotechnology, with emphasis on the contemporary U.S. Unexpected influences of science and technology on contemporary society and how social forces shape scientific and technological enterprises and their products. Enrollment limited to 12. GER:3b

*4 units, Aut (McGinn)*

**STS 110. Ethics and Public Policy**—(Same as MS&E 197, PUBLPOL 103B.) Ethical issues in science- and technology-related public policy conflicts. Focus is on complex, value-laden policy disputes. Topics: the nature of ethics and morality; rationales for liberty, justice, and human rights; and the use and abuse of these concepts in policy disputes. Case studies from biomedicine, environmental affairs, technical professions, communications, and international relations. GER:3a, WIM

*5 units, Win (McGinn)*

**STS 112. Science, Technology, and Culture: The Design of Ten Artifacts**—(Same as CLASSART 113/213.) How does design work? Connections among science, technology, society, and culture by looking at: a palaeolithic hand axe; the pyramids at Giza; an ancient Greek perfume jar; a medieval castle; a Wedgwood china teapot; an electric light bulb; a computer mouse; a Sony Walkman; a supersonic aircraft; and the BMW Mini. Interdisciplinary perspectives include archaeology, cultural anthropology, science, history and sociology of technology, cognitive science, and evolutionary psychology.

*4-5 units, Spr (Shanks)*

**STS 113. Science, Ethics, and Society: Debates and Controversies in Europe and in America**—Public concern regarding scientific and political responsibility (precautionary principle, public health policy, nuclear deterrence), medical research (biotechnology, cloning), bioethics (abortion, euthanasia, experiments on human beings), and the modernization of society (affirmative action for women in politics, civil contract as an alternative to marriage, prostitution, pornography). The ethical principles and values underlying how these questions are settled in Europe. An approach to French culture and society based on the specificity of moral and scientific controversies. The French vision of modernity against the background of similar debates in America.

*3-5 units, Spr (Canto-Sperber)*

**STS 114. Technology, Ecology, and the Imagination of the Future**—(Same as ENGLISH 153G.) Seminar. Literary visions of the future from the 60s to the present. How such texts imagine new and existing technologies in interrelation with the evolution of natural ecosystems. The development of wild habitats, alterations of the human body, and visions of the future city. The role of images and stories about globalization. Literary, scientific, and technical texts.

*5 units, Spr (Heise)*

**STS 115. Ethical Issues in Engineering**—(Same as ENGR 131.) Moral rights and responsibilities of engineers in relation to society, employers, colleagues, and clients; cost-benefit-risk analysis, safety, and informed consent; the ethics of whistle blowing; ethical conflicts of engineers as expert witnesses, consultants, and managers; ethical issues in engineering design, manufacturing, and operations; ethical issues arising from engineering work in foreign countries; and ethical implications of the social and environmental contexts of contemporary engineering. Case studies, guest practitioners, and field research. Limited enrollment. GER:3a

*4 units, Spr (McGinn)*

**STS 116. Philosophy and the Scientific Revolution**—The relationship between the scientific revolution of the 17th century that resulted in the birth of modern science and the contemporaneous intellectual developments constituting the birth of modern philosophy. Readings focus on Galileo and Descartes. GER:3a

*5 units, Aut (Friedman)*

**STS 117. Art and Technology**—Introduction to the thematic of technology as it has been treated through modern art. The relationships among technology, industrialization, mass culture, communication, and social engineering and control from the invention of photography to recent visual practices. Emphasis is less on machine aesthetics than technological rationality such as the art of the last 30 years (kinetic art, video, digital photography). Recommended: some familiarity with modern art. (MOD-EU) GER:3a

*4 units (Lee) not given 2004-05*

**STS 118. The Invention of Modern Architecture**—(Enroll in ARTHIST 141/341.)

*4 units, Aut (Turner)*

**STS 119. Cyborgs and Synthetic Humans**—(Enroll in ARTHIST 162/362.)

*4 units (Bukatman) not given 2004-05*

**STS 120. Science and Technology in Ancient Egyptian Society**—(Same as CLASSHIS 131.) From 3000 B.C.E. to the Roman period. What was the source of technological change and innovation in Egypt? Why is the ancient Egyptian legacy important for later developments? What was the balance between changes internal and external to Egypt? Topics: ancient texts concerned with science, technology, mathematics, astronomy, medicine; Egyptian material culture and building techniques; the economic role of technology; Alexandrian science and its legacy.

*4 units, Win (Manning)*

**STS 121. Technology and Culture in 19th-Century America**—(Enroll in HISTORY 115.)

*5 units, Win (Corn)*

**STS 122. American Spaces: An Introduction to Material Culture and the Built Environment**—(Enroll in HISTORY 152.)

*5 units, Spr (Corn)*

**STS 123A. The Scientific Revolution**—(Enroll in HISTORY 213/313.)

*5 units (Findlen) not given 2004-05*

**STS 124. American Economic History**—(Enroll in ECON 116.)

*5 units, Spr (Wright)*

**STS 126. The Prehistory of Computers**—(Enroll in HISTORY 204B/304B.)

*3-5 units (Riskin) not given 2004-05*

**STS 128. Science and Technology in WW II and What Happened Afterward**—The efforts of engineers, mathematicians, and scientists during WWII. The effect on the postwar world in areas such as information, communication, transportation, materials, and medicine. Science and engineering in the war effort, and what became of them after the war, drawn from: encryption and computation; radar, communication, and electronics; control and optimization; materials; drugs and medicine. GER:2b

*3 units (Osgood) not given 2004-05*

**STS 130. Origins and History of the Scientific Fact**—(Enroll in HISTORY 206P/306P.)

*5 units, Aut (Riskin)*

**STS 132. Yesterday's Tomorrows: Technology and the Future in History**—American expectations regarding the development and consequences of science and technology. Topics: the emergence of a culture of prognostication in the late 19th century; turn-of-the-century new communications technologies; 30s World Fairs and Depression futures; the 60s, technology assessment, and anti-technology. GER:3b

*5 units (Corn) not given 2004-05*

**STS 134. History of the Senses**—(Same as HISTORY 203A/303A.) Technological, medical, philosophical, and scientific history of the five senses, drawing upon readings from antiquity to the present. How physiologists and philosophers have explained the functioning of the senses; how doctors have tampered with them both to help and to hinder; and how technologies including medical devices, scientific instruments, and tools of the arts have continually transformed the nature and experience of sensation.

*5 units, Spr (Riskin)*

**STS 138. International Security in a Changing World**—(Enroll in POLISCI 114S.)

*5 units, Win (Sagan, Blacker, Perry)*

**STS 145. History of Computer Game Design: Technology, Culture, and Business**—Historical contexts include entertainment media, computing technology, applications of gaming technology, and business history. Topics: play in human culture, early computer games from chess to Spacewar, the role of artificial intelligence research, the history of computer graphics and sound technology, the evolution of techniques and genres of computer game design, video game machines, games and the microcomputer revolution, networked gaming, gadgets and games as factors in the evolution of software and hardware, marketing, gendering of games and game play, virtual worlds, simulation, video and computer game industries, and technology transfer such as military simulations. Enrollment limited to 90.

*4 units, Win (Lowood)*

**STS 145A. History of Computer Game Design: Technology, Culture, and Business**—Optional discussion section for 145.

*1 unit, Win (Staff)*

**STS 152. Digital Media in Society**—(Enroll in COMM 120/220.)

*4-5 units, Spr (Turner)*

**STS 155. Science, Technology, and Gender**—(Enroll in CASA 132.)

*3-5 units (Jain) not given 2004-05*

**STS 162. Computers and Interfaces**—(Enroll in COMM 169/269.)

*4-5 units, Win (Nass)*

**STS 171. Technology and National Security**—(Enroll in MS&E 193/293.)

*3 units, Aut (Perry, Paté-Cornell)*

**STS 172. Issues in Technology and Work for a Post-Industrial Economy**—(Enroll in MS&E 181.)

*3 units, Spr (Barley)*

**STS 173. Introduction to High Technology Entrepreneurship**—(Enroll in ENGR 145.)

*4 units, Win (Byers, Komisar)*

**STS 176. Technology and Politics**—The impact of politics and government on new technologies, and the effects that new technologies have on political life. Topics include how politics have shaped the development, use, and regulation of the Internet and nanotechnology, and how technologies such as television and the Internet have affected key elements of democratic politics, including freedom, equality, and political participation. Focus on U.S. politics, with some attention to developments elsewhere.

*5 units, Aut (Windham)*

**STS 184. Technology Policy**—(Enroll in PUBLPOL 194.)

*5 units, Win (Windham)*

**STS 190. Honors Seminar**—For juniors intending to pursue honors in STS or a related discipline. Goal is to identify a research problem and identify key components of honors research and thesis writing such as literature reviews, methodologies, theoretical frameworks, and writing standards.

*4 units, Win (Staff)*

**STS 195A,B,C. Honors Project**—For students in STS honors program.

**STS 195A. Submission of Proposal**

*2-5 units, Aut (Staff)*

**STS 195B. Continued Study and Writing**

*2-5 units, Win (Staff)*

**STS 195C. Final Work on Project**

*2-5 units, Spr (Staff)*

**STS 199. Individual Work**

*1-5 units, Aut, Win, Spr (Staff)*

## ADVANCED UNDERGRADUATE AND GRADUATE

**STS 200. Senior Colloquium**—Key analytical and theoretical texts treating the natures and interplay of science, technology, and society. Only STS majors writing senior honors theses may take for 2 units. Prerequisite: STS major with senior standing and four STS core courses, or consent of instructor.

*2-4 units, Win (Riskin), Spr (Findlen)*

**STS 201. Science, Technology, and Contemporary Society**—(Same as 101, ENGR 130; see 101.)

*4-5 units, Aut (McGinn)*

**STS 207. Science, Technology, and Economic Growth**—(Enroll in ECON 224.)

*2-5 units, Win (Gambardella)*

**STS 210. Ethics, Science, and Technology**—Ethical issues raised by advances in science and technology. Topics: biotechnology including agriculture and reproduction, the built environment, energy technologies, and information technology. Prerequisite: 110 or another course in ethics. Limited enrollment. GER:3a

*4 units (McGinn) not given 2004-05*

**STS 212. Ethics, Technology, and International Relations**—(Enroll in INTNLREL 205.)

*5 units, Spr (McGinn)*

**STS 215. Computers, Ethics, and Social Responsibility**—(Enroll in CS 201.)

*3-4 units, Spr (Roberts)*

**STS 217. Good Products, Bad Products**—(Formerly 214.) The characteristics of industrial products that cause them to be successes or failures: the straightforward (performance, economy, reliability), the complicated (human and cultural fit, compatibility with the environment, craftsmanship, positive emotional response of the user), the esoteric (elegance, sophistication, symbolism). Engineers and business people must better understand these factors to produce more successful products. Projects, papers, guest speakers, field trips. Limited enrollment. GER:2b

*3-4 units, Win (Beach)*

**STS 218. The Role of the University in the Knowledge Economy**—The industrial world has come to consist of knowledge economies; economic performance has come to depend upon the ability to advance knowledge in science and technology. University research activities are sources of commercial advantage. Many universities routinely take out patents, some of which are highly profitable. The historical forces and the social and economic policy implications behind the new economic importance of universities. Emphasis is on Stanford's role in Silicon Valley.

3 units, Win (Rosenberg)

**STS 219. Management and Organization of Research and Development**—(Enroll in MS&E 281.)

3 units, Win (Barley)

**STS 221. The Politics and Ethics of Modern Science and Technology**—The WW II decision to build and use the atomic bomb. The controversy over the H-bomb. The Oppenheimer loyalty-security case and the relationship of scientist to the state. Medical experimentation on humans and pitfalls of technology. Relations among science, technology, and university. GER:3a

5 units, Spr (Bernstein)

**STS 229. When Worlds Collide: The Trial of Galileo**—(Enroll in HISTORY 216/316.)

5 units, Spr (Findlen)

**STS 231. Technology and Work**—(Enroll in MS&E 284.)

3 units (Barley) alternate years, given 2005-06

**STS 240. Understanding and Participating in Cyberlaw and Policy Making**—(Enroll in CS 203.)

3 units, Aut (Gelman)

**STS 269. Experimental Research in Advanced User Interfaces**—(For undergraduates and M.A. students; Ph.D. students, register for 368G.) Project-based course involves small groups designing and implementing an experiment concerning voice and agent user interfaces. Each group is involved in a different, publishable research project. Prerequisite: consent of instructor.

1-5 units (Nass) not given 2004-05

**STS 279. Technology, Policy, and Management in Newly-Industrializing Countries**—Technology as the key to development and prosperity in most parts of the world. Building technological capability in newly industrializing countries at the national and firm level. Government intervention, the concept of technology leader and follower environments, the transfer of technology from leader countries, indigenous technological capability, human capital, culture and innovation, the role of small firms and new enterprises in technological capability. How innovation is different in technology followers, organizing for shop floor innovation, building an innovation culture, the role of R&D, design, and technology strategy in followers. Cases from Korea, India, Brazil, Singapore, and other NICs.

2-4 units, Aut (Forbes)

**STS 280A. Research Workshop: Knowledge Networks**—(Enroll in EDUC 374A, SOC 274A.)

1-3 units, Aut (Powell)

**STS 299. Advanced Individual Work**

1-5 units, Aut, Win, Spr (Staff)

## OVERSEAS STUDIES

Courses approved for the Science, Technology, and Society major and taught overseas can be found in the "Overseas Studies" section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

## BERLIN

**STS 117V. The Industrial Revolution and its Impact on Art, Architecture, and Theory**

5 units, Aut (Neckenig)

**STS 119V. Architecture and the City, 1871-1990: Berlin as a Nucleus of Modernity**

4 units, Spr (Neckenig)

**STS 120V. Industry, Technology, and Culture, 1780-1945**

4 units, Win (Neckenig)

## FLORENCE

**STS 125. Modernist Italian Cinema**—(Same as ARTHIST 161Y, ITALGEN 134F.)

5 units, Aut (Campani)

## SLAVIC LANGUAGES AND LITERATURES

*Emeriti: (Professors)* Joseph Frank,\* Joseph A. Van Campen

*Chair:* Monika Greenleaf

*Professors:* Lazar Fleishman, Gregory Freidin, Richard D. Schubach

*Associate Professors:* Monika Greenleaf, Gabriella Safran

*Senior Lecturer:* Rima Greenhill

*Lecturer:* Serafima Gettys

*Visiting Professors:* Oksana Bulgakowa, Alan Timberlake, Viktor Zhivov

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Courses given in Slavic Languages and Literatures have the subject code SLAVGEN, SLAVLANG, and SLAVLIT. For a complete list of subject codes, see Appendix.

The department accepts candidates for the degrees of Bachelor of Arts, Master of Arts, and Doctor of Philosophy. Particular requirements for each degree are described below.

## UNDERGRADUATE PROGRAMS BACHELOR OF ARTS

The Department of Slavic Languages and Literatures (Slavic) offers two concentrations for undergraduate majors: Russian Language and Literature, and Russian Language, Culture, and History.

*Writing in the Major*—All Stanford undergraduates who entered in 1996-97 or thereafter are required by the University to pass at least one writing-intensive course in their field of concentration in order to graduate. Majors in Russian Language and Literature, or Russian Language, Culture, and History, may satisfy the writing requirement by enrolling in and receiving a passing grade in SLAVGEN 146.

## RUSSIAN LANGUAGE AND LITERATURE

The concentration in Russian Language and Literature is designed for those students who desire to gain a firm command of the Russian language and to study the nation's literary tradition. Emphasis is placed on the linguistic and philological study of literature, as well as the history of Russian literature and related media in the broader context of Russian culture. Students may explore historically related literary traditions (for example, English, French, German), as well as other related fields. The Russian Language and Literature concentration also welcomes students with an interest in Russian and Slavic linguistics.

*Prerequisites*—Successful completion of SLAVLANG 51, 52, 53, or the equivalent, as determined by the results of the department placement examination.

**REQUIREMENTS**

Candidates for the B.A. degree with a concentration in Russian Language and Literature must complete an additional 52 units according to the following distribution:

*Russian Language*—A minimum of 12 units selected from the following Slavic Languages and Literatures courses: SLAVLANG 111, 112, 113, 177, 178, 179, 181, 182, 183.

*Russian Literature*—The 20-unit core literature sequence consisting of the following Slavic Languages and Literatures courses: SLAVGEN 145, 146, 147, SLAVLIT 187, 188.

*Electives*—Students must take 20 units of electives embracing at least two of the following categories: (1) Russian language or linguistics; (2) Russian literature; and (3) historically related literatures. These courses are selected in consultation with the undergraduate director. With department permission, work in related academic fields may apply toward the degree requirements. Students who have completed IHUM 28A,B (Poetic Justice: Order and Imagination in Russian Culture) with a grade 'B' or better may count these 10 units towards their elective courses required for the major in Russian Languages and Literature or the major in Russian Language, Culture, and History.

Majors who concentrate in Russian Language and Literature must earn a grade point average (GPA) of 2.0 (C) or better in order to receive credit toward the major.

**RUSSIAN LANGUAGE, CULTURE, AND HISTORY**

The concentration in Russian Language, Culture, and History is for students who would like to obtain a firm command of the Russian language and to pursue a broad, interdisciplinary study of Russian literature, other expressive media (including film), as well as cultural traditions and institutions. Emphasis is placed on the relation of the Russian literary tradition to disciplines that have enriched the historical understanding of Russian literature: primarily history, but also anthropology, communications, political science, and sociology.

*Prerequisites*—Successful completion of the following or the equivalent as determined by the results of the department placement examination:

SLAVLANG 51, 52, 53. Second-Year Russian

**REQUIREMENTS**

Candidates for the B.A. degree with a concentration in Russian Language, Culture, and History must complete an additional 52 units according to the following distribution.

*Russian Language*—A minimum of 12 units from the following:  
SLAVLANG 111, 112, 113. Third-Year Russian  
SLAVLANG 177. Fourth-Year Russian: Wedded Strangers  
SLAVLANG 178. Fourth-Year Russian: Children of Russia  
SLAVLANG 179. Fourth-Year Russian: The Way Russians See Themselves  
SLAVLANG 181, 182, 183. Fifth-Year Russian

*19th-Century Russian Literature and History*—A minimum of 8 units chosen from the following courses or the equivalent; students must choose one course from Slavic and one course from History.

SLAVGEN 145, 146  
HISTORY 120B, 121

*20th-Century Russian Literature and History*—A minimum of 8 units chosen from the following or the equivalent; students must choose one course from Slavic and one course from History.

SLAVGEN 147  
HISTORY 120C

*Electives*—In order to complete the basic degree requirements, students must take 24 additional units of course work embracing at least two of the following categories: (1) Russian language; (2) Russian literature; and (3) Russian history. These courses are selected in consultation with the undergraduate director. With department permission, work in related

academic fields (for example, anthropology, communications, political science, religion, sociology) may apply toward the degree requirements.

Majors with a concentration in Russian Language, Culture, and History must earn a GPA of 2.0 (C) or better in order to receive credit toward the major.

**MINORS**

The Department of Slavic Languages and Literatures offers three undergraduate minor programs in Russian Language, Literature, and Culture.

The minor program is designed for students who, while pursuing a major in another program, seek a comprehensive introduction to Russian culture, whether primarily through (1) Russian language courses; or (2) a combination of minimal proficiency in Russian and courses in the history of Russian culture; or (3) courses on Russian literature in translation and, depending on the student's interest, other forms of the country's cultural expression and social institutions. Students seeking a Slavic minor are particularly encouraged to take advantage of Stanford's Overseas Studies Program in Moscow. Students who have chosen one of the minor programs in Russian may use 5 units of IHUM credit towards their electives.

**RUSSIAN LANGUAGE**

*Prerequisites*—The minor concentration in Russian Language requires the successful completion of SLAVLANG 1A, 2B, 3C, First-Year Russian, and SLAVLANG 51, 52, 53, Second-Year Russian, or a demonstrated equivalent competence as determined by the departmental Russian language placement examination.

*Requirements*—Candidates for the B.A. degree with a minor concentration in Russian Language must complete 24 units of Russian language and literature courses according to the following distribution: 12 to 15 units selected from SLAVLANG 111, 112, 113, 177, 178, 179, 181, 182, 183. The remaining 9 to 12 units should be selected from SLAVGEN 145, 146, 147, SLAVLIT 187, 188, other monograph courses offered by the Department of Slavic Languages and Literatures or, with the approval of the Slavic department's undergraduate adviser, in history, politics, linguistics, or other relevant programs.

**RUSSIAN LANGUAGE, LITERATURE, AND CULTURE**

*Prerequisites*—The minor concentration in Russian Language, Literature, and Culture requires the successful completion of SLAVLANG 1A, 2B, 3C, First-Year Russian, or the equivalent as determined by the departmental Russian language placement examination.

*Requirements*—Candidates for the B.A. degree with the minor concentration in Russian Language, Literature, and Culture must complete 28 units according to the following distribution:

1. A minimum of 16 units of courses on literature and culture selected from the following Slavic Languages and Literatures courses: two quarters in the SLAVGEN 145, 146, 147 sequence, Russian Literature in English Translation, or one quarter in the SLAVGEN 145, 146, 147 sequence and one quarter in the SLAVLIT 187, 188 sequence, Russian Poetry (prerequisite: Second-Year Russian); and at least one monograph course focusing on a single writer.
2. 12 units of elective courses either in the Department of Slavic Languages and Literatures or, with the approval of the Slavic department's undergraduate adviser, in History, Linguistics, Political Science, or other relevant programs.

**RUSSIAN CULTURE**

Candidates for the B.A. degree with the minor concentration in Russian Culture must complete 36 units according to the following distribution: a minimum of 20 units of courses on literature and culture selected from the following Slavic Languages and Literatures courses: three quarters in the SLAVGEN 145, 146, 147 sequence, Russian Literature in English Translation, and two monograph courses focusing on a single writer. In addition, one course in Russian history is selected from HISTORY 120B or 120C. No knowledge of Russian is required.

*Electives*—11 units of elective courses either in the Department of Slavic Languages and Literatures or, with the approval of the Slavic department's undergraduate adviser, in Art, History, Linguistics, Political Science, or other relevant programs.

The deadline for minor declarations in all concentrations is no later than the last day of the third quarter before degree conferral.

## RUSSIAN AND PHILOSOPHY

The concentration in Russian and Philosophy offers students the opportunity to combine studies in Russian literature and philosophy. Students gain a firm command of the Russian language and study the nation's literary tradition, while gaining a strong background in philosophical thought, broadly construed. They take courses alongside students in other departments participating in the program in Philosophical and Literary Thought, with administrative staff in the DLCL.

*Prerequisites*—Successful completion of SLAVLANG 51, 52, 53, or the equivalent as determined by the results of the department placement examination.

### REQUIREMENTS

Candidates for the B.A. degree with a concentration in Russian and Philosophy must complete an additional 67 units according to the following distribution:

*Russian Language*—A minimum of 12 units selected from the following Slavic Languages and Literatures courses: SLAVLANG 111, 112, 113, 177, 178, 179, 181, 182, 183.

*Russian Literature*—A minimum of 16 units of Russian literature, including the following:

1. SLAVGEN 145 and 146
2. SLAVGEN 147 or 148
3. SLAVLIT 187 or 188

*Electives*—At least 12 units of electives in Russian language and literature, selected in consultation with the undergraduate director.

*Philosophy and Literature Gateway Course* (4 units): FRENGEN 181 (same as PHIL 81).

*Philosophy Writing in Major* (5 units): PHIL 80; prerequisite: introductory philosophy course.

*Philosophy Core*—12 units, including the following:

1. *Value Theory*: a course in the PHIL 170 series
2. *Theories of Mind, Language, Action*: a course in the PHIL 180 series
3. *History of Philosophy*: a course from the PHIL 100-139 series

*Related Course*—An upper division course of special relevance to philosophy and literature. A list of approved courses is available from the program director.

*Capstone Seminar*—To be taken in the senior year, and selected from a list of seminars approved by the director of the program in philosophical and literary thought.

Majors who concentrate in Russian and Philosophy must earn a grade point average (GPA) of 2.0 (C) or better in order to receive credit toward the major. Courses in other departments may not, in general, be counted toward the Russian language, Russian literature, and elective requirements, but may be counted toward the other requirements.

## HONORS PROGRAM

Students in either concentration with a grade point average (GPA) of 3.3 (B+) or better in their major courses are eligible to participate in the department's honors program. In addition to the basic program requirements above, honors students must also complete the following:

1. One advanced course, usually taken during the Spring Quarter of the junior year and related to the area of the student's expected research. Majors in either concentration who propose a senior project in literature must take a course in literary or cultural theory. Students concentrating in Russian Language, Culture, and History and pursuing a project in cultural history are required to take a course in literary or cultural theory, or a graduate seminar in the area of their topic. Students concentrating in Russian Language and Literature who pro-

pose a senior project in Russian language select their course in consultation with the undergraduate director.

2. SLAVLIT 199, *Individual Work*: a minimum of 8 units during the senior year. To qualify for honors, the candidate must receive a grade of 'B' or better on the thesis or project completed during this period.

## SLAVIC THEME HOUSE

Slavianskii Dom, at 650 Mayfield Avenue, is an undergraduate residence that offers a wide variety of opportunities to expand one's knowledge, understanding, and appreciation of Russian and Eastern Europe.

## COTERMINAL BACHELOR'S AND MASTER'S PROGRAM

The department allows a limited number of undergraduates to work for coterminal B.A. and M.A. degrees in Slavic Languages and Literatures with a concentration on Russian. In addition to University requirements for the B.A. degree, the student must:

1. Submit an application for admission by January 31 of the senior year. Applicants must meet the same general standards as those seeking admission to the M.A. program. Applicants must submit: an application for admission; a written statement of purpose; a transcript; and three letters of recommendation, at least two of which should be from members of the Department of Slavic Languages and Literatures faculty.
2. Meet all requirements for both the B.A. and M.A. degrees. Applicants must complete 15 full-time quarters (or the equivalent), or three full-time quarters after completing 180 units, for a total of 225 units. During the senior year they may, with the consent of the instructors, register for as many as two graduate courses. In the final year of study, they must complete at least three graduate-level courses.

For University coterminal degree program rules and University application forms, see <http://registrar.stanford.edu/publications/#Coterm>.

## GRADUATE PROGRAMS

### MASTER OF ARTS

University requirements for the M.A. degree are discussed in the "Graduate Degrees" section of this bulletin.

*Admission*—The requirements for admission to the master's degree program in Russian are:

1. A B.A. (or its equivalent) from an accredited college or university.
2. A command of the Russian language sufficient to permit the student to do satisfactory graduate work in an area of specialization.
3. A familiarity with Russian literature sufficient to permit the student to perform adequately in courses at the graduate level.

The applicant's previous academic training in Russian language and literature must normally serve as a tentative indication of competence. Accordingly, the department does not ordinarily consider applications from students who have not had at least three years of college Russian and some undergraduate training in Russian literature of the 19th and 20th centuries.

Before registering for the first quarter's work in the department, entering graduate students are required to take placement examinations in language and literature. Students who fail to perform satisfactorily on such examinations must register for remedial courses in the areas in which they are deficient. Such remedial courses, normally completed within the first three quarters of residence, carry no credit toward either the M.A. or the Ph.D. degree.

*Course Requirements*—Candidates for the M.A. who are not also candidates for the Ph.D. should plan course work that ensures adequate preparation for the M.A. final examination at the end of the third quarter of work. Ph.D. candidates should attempt to include as many of the department's basic course offerings as possible in the first-year program to ensure sufficient time to complete the M.A. thesis during the fifth quarter of registration. In any case, course work should be planned in consultation with the graduate adviser, whose written approval of the overall course load is required.

Candidates for the M.A. must complete a program of 45 units, of which 36 units must be selected from courses given by the department. The other 9 units may, with approval of the candidate's adviser, be selected from courses in related fields. Of the 36 units in the department, a minimum of 9 may be in language and a minimum of 9 in literature. The remaining 18 units may be distributed in accordance with the needs and interests of the student, and with the advice and approval of the department adviser.

No credit toward the M.A. degree is allowed for first- or second-year courses in non-Slavic languages required for the Ph.D. degree.

*The M.A. Thesis*—A requirement for candidates for a Ph.D., the M.A. thesis represents a complete article-length research paper (6-9,000 words) that, in both form and substance, qualifies for submission to English language professional publications in the Slavic field. The M.A. thesis must be submitted to the thesis adviser no later than the fifth quarter and approved no later than the sixth quarter of registration.

*Final Examination*—Students not enrolled in the Ph.D. program may either submit an M.A. thesis or take a final examination. In the latter case, regardless of the area of specialization, the student must demonstrate in a written examination: (1) command of the phonology, morphology, syntax, and lexicology of contemporary Standard Russian sufficient to teach beginning and intermediate courses at the college level; (2) an ability to read contemporary Standard Russian sufficient to assist students studying contemporary Russian poetry or literary prose; and (3) sufficient familiarity with Russian literature of either the 19th or 20th century to successfully handle survey courses dealing with a chosen period of specialization.

The examination should be passed at the end of the final quarter of required course work.

## MASTER OF ARTS IN TEACHING

The degree of Master of Arts in Teaching is offered jointly by the department and the School of Education. It is intended for candidates with a teaching credential or relevant teaching experience who wish to further strengthen their academic preparation. Requirements for the degree are outlined in the "School of Education" section of this bulletin. The program includes 45 units, of which 25 must be in the teaching field and 12 in education. Specific language requirements are established in consultation with the department.

## DOCTOR OF PHILOSOPHY

University requirements for the Ph.D. are discussed in the "Graduate Degrees" section of this bulletin.

Students enrolled in the Ph.D. program in Slavic Languages and Literatures are expected to fulfill the following requirements:

1. *Minor or Related Fields*: during the course of study, students must develop substantial expertise in a field contiguous to the area of specialization. A candidate may elect to present a full minor or, in consultation with the graduate adviser, develop a special program in a related field.
  - a) *Related Field*: a student is required to complete a sequence of basic courses (12 units) in a chosen discipline outside the Department of Slavic Languages and Literatures. The choice of patterns is one of the following:
    - 1) a sequence of three courses in one West European literature, selected in consultation with the adviser, or
    - 2) three basic courses in comparative literature to be selected in consultation with the graduate adviser and the Department of Comparative Literature.
  - b) *Minor*: if the student elects a minor (for example, French, German, Spanish, or Russian history), he or she should take six graduate courses in that department with a minimum of 20 units at the graduate level, according to the minor requirements established by that department. Students considering minors in other departments, such as Asian Languages, English, or Comparative Literature, should consult with the adviser, the Chair of the Department of Slavic Languages and Literatures, and the chair of the minor department. Students who wish to enroll in the Graduate Program in the Humanities should apply there.

2. *Admission to Candidacy*: candidates should read carefully the general regulations governing the degree, as described in the "Graduate Degrees" section of this bulletin. No student is accepted as a candidate until the equivalent of the M.A. degree requirements, including the M.A. thesis described above, are completed. Admission to candidacy is determined early in the sixth quarter of graduate studies. The candidate by that time must have demonstrated commitment to graduate studies by completion of a minimum of 60 quarter units of credit and with a grade point average (GPA) of 3.3 (B+) or better. Candidates must (1) submit to the graduate adviser copies of three seminar papers completed in the Department of Slavic Languages and Literatures, and (2) submit a complete draft of an M.A. thesis. Failure to comply with the above requirements results in termination of enrollment for the Ph.D. degree. The terminated student may, at the discretion of the faculty, be given the opportunity to take the M.A. written examinations. If successful, the student is then awarded the M.A. degree, but is not accepted as a candidate for the Ph.D. degree.
3. *Proficiency Test*: administered for all entering graduate students, this test determines whether the student's knowledge of Russian language and literature falls below the department's standard. Students who fail to excel in this test are asked to complete appropriate courses in the first year of graduate study.
4. *Course Requirements*: before qualifying for the department oral and written examinations, a Ph.D. candidate is expected to accumulate at least 72 quarter units of credit for courses taken while in graduate school. No less than half of this course work (36 units) must be done in the Department of Slavic Languages and Literatures, including at least 24 units of credit for seminar-level courses. (All entering graduate students are expected to enroll in SLAVLIT 200.) The candidate must submit to the department's Academic Progress Committee three seminar-level papers completed at the Department of Slavic Languages and Literatures, as well as the M.A. thesis.
5. *Foreign Languages*: a candidate must demonstrate reading knowledge of French and German by passing written examinations.
6. *Examinations*: a candidate must pass the departmental general qualifying examinations. The written part covers:
  - a) the history and structure of the Russian language and its relationship to the other Slavic languages. (Students are excused from this portion of the examination if they have completed SLAVLIT 211 and 212 with a grade point average (GPA) of 2.7 (B-) or better.)
  - b) the history of Russian literature, including its relationship to the development of other Slavic literatures, or West European literature, or to Russian intellectual history.

The oral portion follows shortly after the successful completion of the written portion. The department oral examination is designed to test the student's knowledge of the major cultural and literary trends in a period of their choice as well as the student's ability to participate in a challenging scholarly discussion. It can be used most profitably as an opportunity to do intensive reading in the period of a candidate's projected dissertation work. Preparation for the oral should begin immediately following the successful completion of the department's written examination. After consulting with members of the faculty, the student proposes a reading list, which, once approved, serves as the basis for the examination. The exam structure requires that the student make an opening presentation on a topic or set of topics of particular interest or relevance to the period in question. After an open discussion of the presentation, each examiner is given the chance to question the student on other topics related to the reading list.

Following the department examinations, a candidate must pass a University oral examination, which is a defense of a dissertation proposal covering content relevant to the area of study, rationale for the proposed investigation, and strategy to be employed in the research.

*Specialization*—Candidates in Slavic Languages and Literatures specialize in literature and related media. Candidates may draw up individual programs of study and research in consultation with the graduate adviser. Requirements vary according to the nature of the specialized program requested.



*Continuation*—Continuation in the Ph.D. program is contingent on: for first-year students, a high quality of performance in course work (decided by department evaluation); for second-year students, an M.A. thesis, which should be completed no later than the end of the second quarter of the second year.

*Course Work, Breadth Requirements, and Overall Scheduling*—

- Candidates for the Ph.D. degree are allowed as much freedom as possible in the selection of course work to suit their individual program of study. However, candidates are held responsible for all of the areas covered by the general examinations, regardless of whether they have registered for the department's offerings in a given field. For this reason, it is strongly recommended that before taking Ph.D. examinations, students complete seminar-level work directly related to the following broad areas:
  - Russian poetry
  - the Russian novel
  - 20th-century Russian literature
  - 19th-century Russian literature (the Age of Pushkin and after)
  - 18th-century Russian literature (from the early 1700s to the Age of Pushkin)
  - Medieval Russian literature
  - a monograph course on a major Russian author
  - theory of literature

Students may not normally register for individual work in a given area until they have covered the basic course offerings in that area. First-year students may register for individual work only under special circumstances and must obtain the written approval of the graduate adviser. Those candidates who are also candidates for the M.A. degree should consult the course requirements for that degree in planning their first year's work. The M.A. thesis or written examination should be completed by the end of the fifth quarter of graduate study at the latest. The remainder of the second year should be devoted to course work preparing the student for the general qualifying examination and to fulfill the requirements of the minor, if any. The department's general qualifying examinations must be taken by the end of the first quarter of the third year of study; they may be taken during the second year if the student and the adviser feel this is appropriate. During the two quarters following the general qualifying examinations, the student should be concerned primarily with preparation for the University oral examination, which should take place no later than the end of the third quarter of the third year. However, students may, if necessary, do limited amounts of course work not directly related to the dissertation proposal. The fourth and fifth years should be devoted to research and writing leading to completion of the Ph.D. dissertation.

- Students possessing the equivalent of the Stanford M.A. are normally expected to adhere to the schedule for the second, third, and fourth years of work outlined under item 1 above.
- Students in the Ph.D. program are required to do four quarters of teaching in partial fulfillment of the requirements of the Ph.D. degree: three quarters of first-year Russian, and one quarter of literature as a teaching assistant to a faculty member (usually for one of the survey courses in translation: SLAVGEN 145, 146, 147). While teaching a section of first-year Russian supervised by a faculty member, students are required to enroll in the department's teaching colloquium (SLAVLANG 206).

*Non-Slavic Language Requirements*—Credit toward either the M.A. or the Ph.D. degrees is not given for first- or second-year courses in non-Slavic languages. It is assumed that, on entering the program, the student has a reading knowledge of both German and French or, at the very least, one of these languages. The reading examination in one of these languages must be passed by the end of the first year of study. The reading examination in the second language must be passed by the end of the second year of study. Both language examinations must be passed before the candidate takes the University oral examination, that is, before the end of the third year.

## JOINT PH.D. IN SLAVIC LANGUAGES AND LITERATURES AND HUMANITIES

The Department of Slavic Languages and Literatures participates in the Graduate Program in Humanities leading to the joint Ph.D. degree in Slavic Languages and Literatures and Humanities. For a description of that program, see the "Interdisciplinary Studies in Humanities" section of this bulletin.

## COURSES

WIM indicates that the course satisfies the Writing in the Major requirements. (AU) indicates that the course is subject to the University activity unit limitation (8 unit maximum).

Students interested in literature and literary studies should also consult course listings in the departments of Asian Languages, Classics, Comparative Literature, English, French and Italian, German Studies, and Spanish and Portuguese, in the Program in Modern Thought and Literature, and in the Division of Literatures, Cultures, and Languages.

## RUSSIAN LANGUAGE COURSES

The following courses in Russian language instruction represent a typical sequence for three years of Russian language study. Majors and prospective majors should consult the requirements for a B.A. in Russian above. For descriptions, other information, and additional courses including special emphasis, intensive, and summer courses, and for other Slavic languages under the SPECLANG subject code, see the "Language Center" section of this bulletin.

### SLAVLANG 1,2,3. First-Year Russian

5 units, 1: Aut, 2: Win, 3: Spr (Greenhill, Staff)

### SLAVLANG 51,52,53. Second-Year Russian

5 units, 51: Aut, 52: Win, 53: Spr (Gettys, Staff)

### SLAVLANG 111,112,113. Third-Year Russian

4 units, 111: Aut (Staff), 112: Win (Schupbach), 113: Spr (Greenhill, Gettys)

## INTRODUCTION TO THE HUMANITIES (IHUM)

The following Introduction to the Humanities courses are taught by Slavic Languages and Literatures department faculty members. IHUM courses are typically available only to freshmen seeking to fulfill GER:1 requirements; see the "Introduction to the Humanities" section of this bulletin for further information. Prospective majors in Slavic Languages and Literatures are advised to consider satisfying their GER:1b,c requirements by registering for the following IHUM courses.

### IHUM 28A,B. Poetic Justice: Order and Imagination in Russia—

The difference between justice and law in 19th- and 20th-century Russian writers. Focus is on the notion of poetic justice: the artistic representation of order whether divine, natural, or human. Goal is to heighten awareness of familiar narratives, mythologies, ideas, and images, and to convey a sense of a long-established national culture with its own dynamic vision. GER:1b,1c (two quarter sequence)

IHUM 28A. 5 units, Win (Safran)

IHUM 28B. 5 units, Spr (Bulgakowa, Freidin)

## GENERAL

This curriculum covers topics of general interest. Courses are open to all students and have no prerequisites. Some courses may be taken for graduate credit. Additional work in the original language may be arranged with individual instructors.

The courses:

- introduce students to the major authors and texts in the Russian literary and cultural tradition,
- offer broad conceptual frameworks for understanding the material covered, and
- demonstrate the dynamic interaction between cultural texts and a variety of contexts (literary, intellectual, and sociopolitical).

While these goals are pursued to some extent in all of the courses, the general curriculum may be roughly classified according to contextual emphasis to assist students in choosing courses according to their interests.

Literary Movements and Genres: SLAVGEN 145, 146, 147, 155, 156  
Literature and Intellectual History: SLAVGEN 151, 190  
Literature and Social History: SLAVGEN 141, 149  
Media, Gender, Ethnicity: SLAVGEN 148, 152, 154, 158, 161, 162, 163, 165, 166, 167, 168, 221

**SLAVGEN 13N. Russia, Russian, Russians**—Stanford Introductory Seminar. Preference to freshman. The political and cultural history of Russia and the Russians: prominent persons, prominent events, and how they shape current attitudes and society. Short works by Russian authors. GER:3a

3-4 units, Spr (*Schupbach*)

**SLAVGEN 60A,B,C. Introduction to Russian and East European Culture**—Open to all; gives priority for housing in Slavianskii Dom. Topics vary by quarter.

1 unit, Aut, Win, Spr (*Staff*)

**SLAVGEN 61. Slavic Folk Choir**—Repertoire from the Russian, Ukrainian, and Bulgarian traditions. Songs learned orally. No previous knowledge of Slavic languages necessary, but students should be able to sing in multipart harmony. Venues include the Russian Center of San Francisco and Fort Ross National Historical Site.

1 unit, Aut (*Staff*)

**SLAVGEN 77Q. Russia's Weird Classic: Nikolai Gogol**—Stanford Introductory Seminar. Preference to sophomores. The work and life of Nikolai Gogol, the eccentric founder of Fantastic Realism. The relationship between romanticism and realism in Russian literature, and between popular Ukrainian culture and high Russian and W. European traditions in Gogol's oeuvre. The impact of Gogol's work on 20th-century modernist literature, music, and art, including Nabokov, literature of the absurd, Shostakovich, Meyerhold, Chagall. GER:3a

3 units, Aut (*Fleishman*)

**SLAVGEN 122/222. Yiddish Literature**—The humor, drama, anger, and artistry of modern of E. European and American Yiddish writers including Sholem Aleichem, I. L. Peretz, Isaac Bashevis Singer, Chaim Grade, and Yankev Glatshteyn. In English. GER:3a,4a

5 units, Spr (*Safran*)

**SLAVGEN 133/233. Poles and Others: Literature and History in Modern Poland**—The physical and cultural territories of the former Polish-Lithuanian Commonwealth have long been objects of contest. The 20th century witnessed two or three rebirths of Poland and one or two deaths; a belated modernization of Polish society; the final inclusion of Polish-speaking peasants and burghers in a Polish national identity; and the exclusion of Jews, Germans, Lithuanians, Belarusians, Ukrainians, and others from the state and participation in a partially shared culture. GER:3a

3-4 units (*Staff*) not given 2004-05

**SLAVGEN 133A/233A. Deviating From Dogma: Film in East Europe from 1956 to 1968**—Filmic development in the Soviet Union, Poland, Hungary, Czechoslovakia, Yugoslavia, and the German Democratic Republic. The films of Andrei Tarkovskii, Andrzej Wajda, Miklos Jansco, Milos Forman, Vera Chytilova, and Konrad Wolf try to break the old canon of representation (Social Realism) in connection with political and cultural changes and under the influence of international filmic development from Italian neorealism to French nouvelle vague. GER:3a

4 units, Win (*Bulgakowa*)

**SLAVGEN 141/241. Staging the Revolution: Russian Theater and Society, 1917-1937**—Between 1917 and 1937, artistic experimentation in the Russian theater coincided with political and social changes in Russian society. Modernist artists interpreted the revolution as an artistic possibility to demolish conventions of representation. Mass festivals,

circus, and street performances replaced the old theater. In the time of the Great Terror and staged trials, theater and opera remained among the leading arts, but state patronage caused a major reorientation of artistic practices. Readings include plays by Mayakovsky, Bulgakov, Babel, Tretiakov, and Erdman. Readings in English. GER:3a

4 units (*Staff*) not given 2004-05

**SLAVGEN 144. Major Topics in the History of the Russian Orthodox Church**—(Enroll in HISTORY 212A/312A.)

4-5 units (*J. Kollmann*) not given 2004-05

**SLAVGEN 145/245. The Age of Experiment, 1820-50**—(Same as COMPLIT 145S/245S.) After the Napoleonic Wars, the Russian Empire made an accelerated leap into European culture. The Golden Age of Russian literature is a period of experiments. Pushkin's *Eugene Onegin*, *Belkin Tales*, and *Captain's Daughter*; Lermontov's *Hero of Our Time*; Gogol's *Petersburg Tales*, *Inspector-General*, and *Dead Souls*; Tolstoy's *Childhood*; Dostoevsky's *Double* and *Notes from the Dead House*, in the context of Russian culture and contemporary European trends. GER:3a,4a

3-4 units, Aut (*Greenleaf*)

**SLAVGEN 146/246. The Age of Transgression: The Great Russian Novel**—Readings of Bely's *Petersberg*, Tolstoy's *Anna Karenina*, Dostoevsky's *Brothers Karamazov* focus on the conflict between the individual (son, woman) and authority (social, moral, political) as a characteristic feature of the 19th-century Russian novel. Leskov's and Chekhov's short fiction as examples of the deformation and adaptation of this tradition at the end of the age of Realism. Literary, social, and political contexts. GER:3a,4a,WIM

4 units, Win (*Safran*)

**SLAVGEN 147/247. The Age of Revolution: A Survey of Russian Literature and Culture, 1905-53**—A survey of Russian culture, with a emphasis on literature, in the context of Russia's Soviet and post-Soviet history. Russian modernism. The role of literature and the arts in the creation of Soviet civilization. Literature in opposition. Russian culture after communism. Texts in English translation. Graduate students may receive graduate credit for a research paper undertaken as part of the course. See <http://www.stanford.edu/~gfreidin/courses/147/>. GER:3a,4a

3-4 units, Spr (*Freidin*)

**SLAVGEN 148/248. The Age of Dissent: A Survey of Russian Literature and Culture, 1953 to the Present**—From the death of Stalin to post-communist Russia. Literature of the thaw and de-Stalinization, official and unofficial literature of dissent, *samizdat*, village and urban prose, literature of the new emigration, late Soviet underground, *sots-art*, *perestroika*, and post-communist literature and culture. Texts in English translation. For graduate credit for research paper, register for SLAVLIT 399. GER:3a,4a

2-4 units, Spr (*Freidin*) alternate years, not given 2005-06

**SLAVGEN 151/251. Dostoevsky and His Times**—Open to juniors, seniors, and graduate students. Major works in English translation with reference to related developments in Russian and European culture and intellectual history. GER:3a

4 units, Win (*Frank*)

**SLAVGEN 152/252. Modernism in the Russian Theater, 1898-1913**—Theater in the most fertile period of Russian cultural history, from the 1898 premiere of Chekhov's *Seagull* to the 1913 experiments of Russian futurists. Dramatic texts include Naturalist, Symbolist, and Expressionist plays by Andreev and Blok. Theories of performance central to modernist culture including Evreinov's concept of theatricality, Ivanov's idea of theater as ritual, Meyerhold's principle of stylization, and Malevich's vision of theatrical space. Analysis in light of European authors such as Nietzsche, Wagner, Wilde, Ibsen, Maeterlinck, Marinetti, and Artaud. Knowledge of Russian optional; Russian-speaking students read some texts in Russian. GER:3a

4 units (*Staff*) not given 2004-05

**SLAVGEN 153/253. Film and Propaganda: Soviet and German Films of the 30s**—The meaning of propaganda and its use in left- and right-wing dictatorial regimes through films including Leni Riefenstahl's *The Triumph of the Will*, Dziga Vertov's *Three Songs of Lenin*, Mikhail Chiaureli's *The Fall of Berlin*, Veit Harlan's *Jew Suss* and Eisenstein's *Alexander Nevsky*. The use of themes and archetypes, the images of leader, masses, hero, enemy, and gender, the deployments of historical parallels, the personalization of ideological messages, and the canons of representation. GER:3a

3-4 units (*Bulgakowa*) not given 2004-05

**SLAVGEN 155/255. Anton Chekhov and the Turn of the Century**—Chekhov's art in its Russian literary, historical, philosophical, and political contexts. Short stories and major plays; supplemental readings for graduate students from Chekhov's letters and works by his friends and contemporaries, such as Leskov, Tolstoy, Korolenko, and Gorky. GER:3a

3-4 units (*Staff*) not given 2004-05

**SLAVGEN 156/256. Nabokov and Modernism**—(Same as COMPLIT 156D/256D.) Nabokov's stories, novels, and a film script in the context of: modernist writers such as Bergson, Proust, and Joyce; media including painting, film, and photography; and philosophical thought. Critical approaches that elude the author's control. Readings include *Bend Sinister*, *Lolita*, *Pale Fire*, *Speak Memory*, and *Ada*. GER:3a

3-5 units, *Spr* (*Greenleaf*)

**SLAVGEN 158/258. Sergei Eisenstein and his Vision of Film Theory**—Films and theater work such as *Valkyre* at the Bolshoi. His partially realized theory drafts towards the absolute theoretical system. In English. GER:3a

4 units, *Win* (*Bulgakowa*)

**SLAVGEN 161/261. Poetess: The Grammar of the Self when the Poet is a Woman**—(Same as COMPLIT 161/261.) Seminar. Lyrical works by women poets from the U.S., Russia, E. Europe, and Germany (Dickinson, Moore, Brooks and the Harlem Renaissance, Bishop, Akhmatova, Tsvetaeva, Sachs, Plath, Cisneros, Angelou, Graham, Howe, and Szymborska.) Theoretical and practical issues: breaking and entering the male preserve of high poetry in different eras; the interaction of written and oral, political, and performative modes of expression; new representations of the feminine body and experience in the visual arts; and the development of a female lineage and modes of poetic legitimation, association, and inspiration. GER:3a,4c

4 units (*Greenleaf*) not given 2004-05

**SLAVGEN 162/261. Gender Images in Film**—Film creates permanent new images of femininity. One of its conscious prerequisites is the notion of social stereotypes. The development of enduring images of the film heroine, 1914-90, through a comparison of the Russian, American, and W. European cinema, and analytical approaches to them from feminist film theory. GER:4c

3 units (*Staff*) not given 2004-05

**SLAVGEN 164/264. Literature and Terrorism: Russian Roots**—What makes a person commit a terrorist act? Can terrorism ever produce justice? The waves of terror in the Russian Empire inspired songs, poems, stories, novels, and films about terrorists and terrorism in Russian and other languages. Works of fiction and non-fiction about Russian terrorism, including novels by Fedor Dostoevsky and Joseph Conrad, and literary, historical, and sociopolitical methods to analyze them. Can or should the meaning of an act of violence be controlled? In English. GER:3a,4a

4 units (*Safran*) not given 2004-05

**SLAVGEN 165/265. Poetry, Painting, and Music of the Russian Avant Garde**—Interrelationships between poetry and other arts in Russia, 1905-30. The pursuit of synthesis of arts and the modernist agenda of life creation and immortality. Parallel developments in literature, painting, and music, and style and poetics. Russian modernist

poetry in the context of changes in the language of visual arts and music). Women poets and artists. Native sources and Western influences; non-Russian elements and transnational tendencies. The impact of scientific discoveries and technological inventions on artistic experimentation.

4 units, *Win* (*Fleishman*)

**SLAVGEN 167/267. Models of Film Analysis**—Films from different film schools, fictional and non fictional, narrative and non-narrative. Film techniques and structures, and methods of analysis. GER:3a

4 units (*Bulgakowa*) not given 2004-05

**SLAVGEN 190/290. Tolstoy's *Anna Karenina* and the Social Thought of Its Time**—(Same as HUMNTIES 197F.) Preference to Humanities honors students. Historical and cultural context, contesting major currents of social thought in Tolstoy's time including Marx on class and history, Mill on sex equality, Nietzsche, Dostoevsky, and Shestov on morality and power, Freud on desire and the unconscious, Durkheim on the nature of religion, and Weber on legitimation and authority. Limited enrollment. See <http://www.stanford.edu/~gfreidin/courses/AK/>. GER:3a

5 units, *Aut* (*Freidin*)

**SLAVGEN 197B. Camera as Witness: International Human Rights Documentaries**—(Same as HUMNTIES 197B, INTNLREL 141B.) Rarely screened documentary films, focusing on global problems, human rights issues, and aesthetic challenges in making documentaries on international topics.

5 units, *Win* (*Bojic*)

**SLAVGEN 197C. Camera as Witness: A Forum for Global Dialogue**—(Same as HUMNTIES 197C, INTNLREL 141C.) Challenges facing film makers documenting the struggle for human rights including communication of complex situations to an international audience, interpreting foreign cultures and politics, and film maker roles as artists, activists, and journalists

5 units, *Spr* (*Bojic*)

**SLAVGEN 229A. Poetry, Poetology, Poetics**

1-2 units, *Aut*, *Win*, *Spr* (*Fleishman*)

**SLAVGEN 283. The Austro-Hungarian Grotesque**—(Enroll in COMPLIT 283, COMPLIT 383.)

5 units, *Aut* (*Labov*)

**SLAVGEN 313. Visuality and Literacy Workshop**—Workshop. The mutual relationships among the visual arts, theater, and literature in the culture of modernity.

1-2 units (*Staff*) not given 2004-05

## ADVANCED UNDERGRADUATE AND GRADUATE

**SLAVLIT 129/229. Poetry as System: Introduction to Theory and Practice of Russian Verse**—Classical and modern systems of Russian versification over three centuries, contrasting notions of meter, rhythm, and rhyme between Russian and English and W. European traditions. Required: reading knowledge of Russian. GER:3a

4 units, *Aut* (*Fleishman*)

**SLAVLIT 182. Pushkin's *Eugene Onegin***—Russian literature's central masterpiece. In Russian.

4 units (*Fleishman*) not given 2004-05

**SLAVLIT 183/283. Readings in the Russian Press**—For students at the fifth-year Russian level. Advanced language training based on Russian newspapers and magazines. Discussion of issues regarding the Russian media and reading articles of a typical Russian press format.

4 units (*Staff*) not given 2004-05

**SLAVLIT 184/284. History of the Russian Literary Language**—Major structural and semantic changes from the 10th to the 19th centuries. Recommended: 211, 212

3-4 units (*Schubach*) not given 2004-05

**SLAVLIT 185S/285S. Russian Poetry after Brodsky**—Major poetic schools and poets of Russia today including Zhdanov, Kenzheev, Tsvetkov, Sedakova, Dragomoshchenko, and Pazshchikov. In Russian.

3-4 units (*Fleishman*) not given 2004-05

**SLAVLIT 187/287. Russian Poetry of the 18th and 19th Centuries**—Required of all majors in Russian language and literature; open to undergraduates who have completed three years of Russian, and to graduate students. The major poetic styles of the 19th century as they intersected with late classicism, the romantic movement, and the realist and post-realist traditions. Representative poems by Lomonosov, Derzhavin, Zhukovskii, Pushkin, Baratynskii, Lermontov, Tiutchev, Nekrasov, Fet, Soloviev. In Russian.

3 units, *Win* (*Fleishman*)

**SLAVLIT 188/288. From Alexander Blok to Joseph Brodsky: Russian Poetry of the 20th Century**—Required of all majors in Russian literature. Developments in Russian poetry of the 20th century including symbolism, acmeism, futurism, and literature of the absurd from Zinaida Hippis and Andrey Bely to Marina Tsvetaeva and Joseph Brodsky. Emphasis is on close readings of individual poems. Discussions in Russian.

3 units (*Fleishman*) not given 2004-05

**SLAVLIT 189/289. Literature from Old Rus' and Medieval Russia**—From earliest times through the 17th century. The development of literary and historical genres, and links among literature and art, architecture, and religious culture. Readings in English; graduate students read in original.

4 units, *Spr* (*Zhivov*)

**SLAVLIT 194A/294A. Russia and The Other: A Cultural Approach**—Seminar for students returning from Moscow; required of Slavic majors working on honors thesis; recommended for Slavic majors and minors. Russian cultural identity and its emergence in literature and art dealing with the other (W. Europe; the Orient including Central Asia, Siberia and the Caucasus, and marginal groups including Jews, Gypsies, and American students of Russian). Works of literature and other cultural texts; introduction to literary analysis, cultural and social theory. Class presentation.

4-5 units (*Safran, Freidin*) not given 2004-05

**SLAVLIT 194B/294B. Russia and The Other: A Cultural Approach**—For students who choose to develop their ideas further by doing additional research and writing a scholarly paper, possibly an honors thesis in Slavic literature or related field. Class presentation and research paper. Prerequisite: 194A.

4-5 units (*Freidin, Safran*) not given 2004-05

**SLAVLIT 199. Individual Work for Undergraduate Students**—Open to Russian majors or students working on special projects. May be repeated for credit. Prerequisite: consent of instructor.

1-5 units, *Aut, Win, Spr* (*Staff*)

**SLAVLIT 200. Proseminar in Literary Theory and Study of Russian Literature**—Required of first-year graduate students in Slavic. Introduction to graduate study in Slavic languages and literatures. Discussion of the profession, discipline, and literary theory complement theoretical readings and practical exercises in versification and narrative analysis.

4 units, *Aut* (*Safran*)

**SLAVLIT 200A. Introduction to Library and Archival Research in Slavic Studies**—Familiarizes students with major Western and Slavic language sources and search methodologies pertaining to Russian and E. European area studies. Tailored to research interests of the students enrolled in the course.

1-5 units, *Aut* (*Fleishman*)

**SLAVLIT 211. Introduction to Old Church Slavic**—Introduction to the grammar of Old Church Slavic, the first written language of the Slavic peoples. Brief survey of grammar, selected texts. Primarily a skills course, with attention to the historical context of Old Church Slavic.

3 units, *Win* (*Timberlake*)

**SLAVLIT 212. Old Russian and Old Church Slavic**—Continuation of 211. Readings in additional canonical Old Church Slavic texts, following the Church Slavic tradition as it develops in early Rus (Kiev, Novgorod). Selections from the *Primary Chronicle*, *Boris and Gleb*, *The Life of Theodosius*. The general issues of writing and the reception of Byzantine culture in early Rus.

3 units, *Spr* (*Timberlake*)

**SLAVLIT 213. The Literary Dialogue of Pushkin and Gogol in the Formative Context of the 1830s**—Pushkin and Gogol's poetic, fictional, and journalistic works of the 1830s as an implicit dialogue about the emerging artistic and national directions of Russian literature, the Petersburg text, journalism, and theater. Paired Pushkin and Gogol texts read against the background of Belinsky, Pogodin, Senkovsky, Shakhovskoi, St. Beuve, Jules Janin, Balzac, and L. Ginzburg. Prerequisite: Russian.

2-4 units, *Aut* (*Greenleaf*)

**SLAVLIT 225. Readings in Russian Realism**—Open to graduate students and advanced undergraduates. Russian realist and naturalist prose emerged in a historical context that fostered specific ideas about the function and form of the literary word. Readings from Turgenev, Goncharov, Leskov, Saltykov-Shchedrin, Dostoevsky, Garshin, Tolstoy, Chekhov, Gorky, Bunin. Discussions in English.

4 units (*Safran*) not given 2004-05

**SLAVLIT 227. Boris Pasternak and the Poetry of the Russian Avant Garde**—Pasternak's works within a cultural context to identify and analyze characteristic features of the Russian avant garde poetics. Readings in Russian.

3-4 units (*Staff*) not given 2004-05

**SLAVLIT 270. Pushkin**—Major poems and prose with detailed examination of his cultural milieu. Emphasis is on changes in the understanding of literary concepts relevant to this period of Russian literature (poetic genres, the opposition between poetry and prose, romanticism).

2-3 units (*Staff*) not given 2004-05

**SLAVLIT 270C. Pushkin and The Moderns**—(Same as COMPLIT 270.) Graduate seminar. Pushkin's major poetic texts and a study of the Pushkin function in specific works of 20th-century Russian literature. Prerequisite: knowledge of Russian.

3-5 units (*Greenleaf*) not given 2004-05

**SLAVLIT 271. Poema: Russia's Long Narrative Poem**—Russian long narrative poems of the 19th and 20th centuries in literary and historical context.

3-4 units (*Fleishman*) not given 2004-05

**SLAVLIT 299. Individual Work for Graduate Students**—For graduate students in Slavic working on theses or engaged in special work. Prerequisite: written consent of instructor.

1-12 units, *Aut, Win, Spr, Sum* (*Staff*)

**SLAVLIT 305. Russian Critical Traditions**—The Russian intelligentsia invested its literature with esthetic and ethical value, and developed critical apparatuses that have inspired Western approaches to text. Readings in theorists from the 19th-20th centuries including positivists and formalists. Possible topics: 19th-century radicals, futurist manifestoes, formalists, Freudian and Marxist models, Bakhtin, and the Tartu semioticians. Readings in English. Prerequisite: familiarity with the Russian canon.

3-4 units, *Aut* (*Safran*)

**SLAVLIT 310. Civilizing Process: Paradigms of Society and Culture in Modern Russian Literature and Film**—Texts representing theoretical models of society and culture in confrontation with Russian fiction and film. Emphasis is on Norbert Elias's civilizing process and related theories. Topics: body and desire (Freud, Bakhtin); manners and civilizing process (Elias, Cuddihy, Lotman); symbolic forms, ritual, and systems (Geertz, Zorin); identities and practices (de Certeau, Bourdieu); subcultures (Hebdidge). Authors include Mayakovsky, Babel, Mandelstam, Bulgakov, Platonov, Zoshchenko, Erofeev, Pelevin, Trifonov, and Petrushevskiaia; film makers: Mamin and Rogozhkin. Recommended: knowledge of Russian.

2-4 units, *Win* (*Freidin*)

**SLAVLIT 369. Introduction to Graduate Studies: Criticism as Profession**—(Enroll in COMPLIT 369, GERLIT 369.)

5 units, Aut (Berman)

**SLAVLIT 399A,B,C. Advanced Research Seminar in Russian Literature**—Offered as follow-up to 200- or 300-series seminars, as needed.

2-4 units, Aut, Win, Spr (Staff)

## OVERSEAS STUDIES

Courses approved for the Slavic Languages and Literatures major and taught overseas can be found in the “Overseas Studies” section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

### BERLIN

**SLAVGEN 153X. Film and Propaganda: Soviet and German Films of the 30s**

3-4 units, Aut (Bulgakowa)



## SOCIOLOGY

*Emeriti: (Professors)* Joseph Berger, Bernard P. Cohen, Elizabeth G. Cohen, Sanford M. Dornbusch, Alex Inkeles, Seymour M. Lipset, James G. March, John W. Meyer, W. Richard Scott, Morris Zelditch Jr.

*Chair:* Mark Granovetter

*Professors:* Karen Cook, Paula England, Mark Granovetter, David Grusky, Michael T. Hannan, Douglas McAdam, Susan Olzak, Cecilia Ridgeway, C. Matthew Snipp, Nancy B. Tuma, Andrew Walder

*Associate Professor:* Gi-Wook Shin

*Assistant Professors:* Henning Hillmann, Noah Mark, Monica McDermott, Michael Rosenfeld, Rebecca L. Sandefur

*Associate Professor (Teaching):* Donald Barr

*Lecturer:* Robin Cooper

*Courtesy Professors:* Anthony Bryk, Larry Diamond, Glenn Carroll, Joanne Martin, Clifford J. Nass, Walter Powell, Francisco Ramirez

*Courtesy Associate Professor:* Michele Landis Dauber

*Courtesy Assistant Professor:* Daniel McFarland

*Consulting Professor:* George Bohrnstedt

*Consulting Associate Professor:* Ruth Cronkite

*Visiting Associate Professor:* Eva-Maria Meyersson Milgrom, Patricia Thornton

*Department Offices:* Building 120, Room 160

*Mail Code:* 94305-2047

*Phone:* (650) 725-3956

*Web Site:* <http://www.stanford.edu/dept/soc/>

Courses given in Sociology have the subject code SOC. For a complete list of subject codes, see Appendix.

Sociology is concerned with the full spectrum of social behavior (of individuals, small groups, large organizations, communities, institutions, and societies) and provides a strong intellectual background for students considering careers in the professions or business. Students may pursue degrees in sociology at the bachelor's, master's (coterminal), or doctoral levels.

## UNDERGRADUATE PROGRAMS

Sociology offers two programs leading to the B.A. degree: the general sociology major and the specialized major. Both are designed around a core curriculum, the intent of which is to ensure adequate coverage of basic sociological knowledge and to provide enough flexibility for tailoring the degree program to fit individual needs and interests. The general major consists of the core curriculum plus a selection of additional courses intended to provide breadth of exposure to the variety of areas encompassed by sociology. The specialized major consists of the core curriculum plus a concentrated set of courses in one area of sociology. Areas of concentration include Social Psychology and Interpersonal Processes; Organizations, Business, and the Economy; Social Stratification and Inequality; and Political and Comparative Sociology. If a specialized major is completed, the student's transcript will reflect his or her specialized field of study. These programs and the requirements for each are described below.

## CORE CURRICULUM AND GENERAL SOCIOLOGY MAJOR

All recipients of the B.A. degree in Sociology must complete a minimum of 60 units of course work in the major. All units applied to the major must be taken for a grade (except for SOC 190-193) and a grade point average (GPA) of 2.0 (C) or better must be achieved. Related course work from other departments may fulfill part of this requirement, but such work must be approved in advance by a department adviser and must not exceed 15 units. All degree candidates must fulfill the following core requirements:

1. Introduction to Sociology (1). It is recommended that students take this course early in their program.
2. Methods for Sociological Research (180), or its equivalent.
3. An introductory course in statistics such as SOC 181B, STATS 60, PSYCH 60, or equivalent.
4. Classics of Modern Social Theory (170), or an equivalent course in social theory.
5. At least three foundation courses, each from a different area of concentration.
6. Senior Seminar: Honors (200H) or Senior Seminar for Majors (200), to be taken during the senior year. These courses fulfill the Writing in the Major (WIM) requirement.

To complete the general Sociology major, students must also complete 20 additional units of work.

## SPECIALIZED SOCIOLOGY MAJOR

The department recognizes that some students may wish to engage in more in-depth study than that provided by the major in general Sociology. The specialized Sociology major permits students to pursue a more focused program in one of the four areas of concentration described below. To complete the requirements for the B.A. degree in Sociology with a field designation in Social Psychology and Interpersonal Processes; Organizations, Business, and the Economy; Political and Comparative Sociology; or Social Stratification and Inequality, the student must (1) complete all core and foundation requirements, and (2) complete 20 units of course work in the selected area of concentration.

### CONCENTRATION AREAS

Each area identifies a specialized area of inquiry, a set of skills within sociology, and basic preparation for a variety of careers. A brief description of each area follows.

*Social Psychology and Interpersonal Processes*—This area of inquiry focuses on the social organization of individual identity, beliefs, and behavior; and upon social structures and processes which emerge in and define interpersonal interactions. Processes studied include social acceptance and competition for prestige and status, the generation of power differences, the development of intimacy bonds, the formation of expectation states which govern performance in task oriented groups, and social pressures to constrain deviance. Foundation courses emphasize the effect of social processes on individual behavior and the analysis of group processes. This area provides excellent training for careers with a significant interpersonal component, including advertising and marketing, business, education, law, management, medicine and health, or social work.

*Organizations, Business, and the Economy*—This area of inquiry focuses on arrangements societies construct for the provision of material goods or services. A formal organization which provides goods or services for profit and sell them through a market is called a business, and the economic system is capitalism. Social needs are also met through not-for-profit organizations, such as garden clubs, hospitals, prisons, and the Red Cross. Some private and social needs are met outside of organizations, such as health care provided by family members and exchange of favors among friends. Courses stress the factors that determine whether needs that people define are met through markets or by non-market allocation, through organizations or by other means. They also investigate the environmental and technical factors that shape organization structure, the determinants of how efficiently organizations operate, and the interpersonal processes that shape individual behavior within organizations. Careers related to this area include management and administration in business or public settings, management consulting and analysis, and legal studies related to corporations, organizations, and business.

*Social Stratification and Inequality*—This area offers a comprehensive overview of various forms of social inequality. It examines the shape and nature of social inequalities; the competition for power; the allocation of privilege; the production and reproduction of social cleavages; and the consequences of class, race, and gender for such outcomes as attitudes, political behavior, and lifestyles. Many courses emphasize changes in the structure of social inequalities over time, and the processes

which produce similarities or differences in stratification across nations. Topics include educational inequality, employment history, gender differences, income distributions, poverty, race, and ethnic relations, social mobility, and status attainment. Careers related to this field include administration, advertising, education, foreign service, journalism, industrial relations, law, management consulting, market research, public policy, and social service.

*Political and Comparative Sociology*—This area concerns the emergence, reproduction, and change of political systems and institutions, especially focusing on why and how different political systems appear in different times and places, and how varied are the systems referred to with simple descriptions such as democracy or capitalism. Transitions among democracy and dictatorship or socialism and capitalism are related to historical patterns and to social structure and organization. The origins and significance for change of social movements, including nationalism and revolutions, are studied in comparative and historical perspective. Careers related to this area include law, government service, and national and international business applications.

### CONCENTRATION AREA COURSES

Many of the department courses can be categorized as primarily oriented to one of the four areas of concentration; a few courses are relevant to more than one area. Within each area of concentration, one or more undergraduate foundation courses are identified which provide a general introduction to the area or some portion of it. Courses, classified by area, are as follows:

1. *Social Psychology and Interpersonal Processes*  
Foundation courses: 120, 121  
Other courses: 125-128, 132, 142, 150, 220-227, 242
2. *Organizations, Business, and the Economy*  
Foundation courses: 114, 160  
Other courses: 110, 115, 130, 161-169, 260-268
3. *Social Stratification and Inequality*  
Foundation course: 140  
Other courses: 132, 134, 139, 142-149, 150, 240-249
4. *Political and Comparative Sociology*  
Foundation courses: 110, 130  
Other courses: 112-118, 131, 136, 133, 138, 210-218, 230, 231, 236

### MINORS

The minor in Sociology is intended to familiarize students with the basic concepts and methods of the discipline. In addition to ensuring considerable breadth of exposure to the fundamental issues and approaches of the field of sociology, students are encouraged to obtain some depth of exposure to one of the specialized areas of study.

The requirements for a minor in sociology are as follows:

Course No. and Subject	Units
SOC 1. Introduction to Sociology	5
SOC 180. Methods for Sociological Research	5
Two foundation courses, one each from two of the four concentration areas (e.g., Social Psychology; Organizations, Business and the Economy; Stratification; Political and Comparative Sociology)	10
Additional course work in the department, preferably in the areas of concentration associated with the foundation course taken (consult listing of courses for each area described elsewhere in the <i>Stanford Bulletin</i> )	15
Total course work required .....	35

All courses qualifying for the minor must be taken for a letter grade, and a grade point average (GPA) of 2.0 (C) or better must be achieved.

### HONORS PROGRAM

Students desiring to undertake an independent scholarly project under the direction of a faculty member are encouraged to apply for admission to the department's honors program. To enter the program, the student must be accepted by a faculty member of the department who agrees to advise on the research and writing of the essay. It is possible in some cases for students to work with faculty advisers in other departments, but such arrangements must be approved by the chair of the Undergraduate Studies Committee. Admission to the program requires a grade point

average (GPA) of 3.5 or higher in courses taken within the major, and an overall GPA of 3.3 (B+) or higher in all undergraduate course work.

Work on the project can begin earlier, but ordinarily is initiated in connection with meeting the course requirements of SOC 200H, Honors Senior Seminar. Students are encouraged to begin designing their honors project in connection with this seminar, in consultation with the seminar leader and a faculty member who is willing to serve as sponsor for the honors project. If admitted to the program, the work can then be completed during Winter and Spring Quarters.

To formally enter the program, a student must complete an application form available from the department office. The form requires the endorsement of the faculty sponsor and is to be accompanied by a brief description of the project to be undertaken and a copy of the student's undergraduate transcript. Prospective candidates must submit the copy of the completed application to the chair of the Undergraduate Studies Committee no later than the end of the third quarter before graduation (typically Autumn Quarter of the senior year).

Honors students may earn up to 12 units credit for work leading to completion of the required honors thesis (excluding units associated with the Senior Seminar). To be eligible for an honors degree, a grade of 'A-' or better must be earned on the honors thesis. If an 'A-' is not earned, the thesis credit counts toward meeting the standard major requirements.

Successful completion of honors in Sociology requires (1) completion of all requirements for the major; and (2) completion of a thesis of honors quality (a grade of 'A-' or higher). The thesis is due on or before the beginning of the End-Quarter period in the student's final quarter before graduating. If the thesis has been sponsored by a faculty member outside the department, it must be submitted to both that sponsor and to the chair of the Undergraduate Studies Committee, who appoints a departmental reader to evaluate the paper. Both the sponsor and the reader must agree that the paper merits honors. In every case, two copies of the final paper must be submitted. One is retained by the department and becomes a part of the department's permanent collection.

## COTERMINAL BACHELOR'S AND MASTER'S PROGRAM

Stanford undergraduate students who wish additional training in sociology (whatever their undergraduate major), and who have a good academic record (a GPA of at least 3.5 in previous undergraduate work is required), may apply to the coterminal master's program as described in the "Undergraduate Degrees" section of this bulletin.

To apply for admission to the coterminal program, students should submit the coterminal application and the following: (1) a statement of purpose providing the rationale for the proposed program of study, (2) a proposed program that specifies at least 45 units of course work relevant to the degree program and at least 36 units in Sociology, (3) a current undergraduate transcript, and (4) two letters of recommendation from Stanford faculty familiar with the student's academic work.

All 45 course units to be counted toward the graduate degree must be at or above the 100 level; at least 18 course units must be above the 200 level. Because the acquisition of research skills is an important component of graduate training in the social sciences, it is recommended that coterminal students take one or more research methodology courses, for example, SOC 280, 281A, and 281B. All units applied to the coterminal master's degree must be taken for a grade and an overall grade point average (GPA) of 3.0 (B) or better is required.

Most coterminal students propose programs that concentrate on one of the four areas of concentration offered by the department: Social Psychology and Interpersonal Relations; Organizations, Business, and the Economy; Political and Comparative Sociology; or Social Stratification and Inequality. This approach helps to ensure program coherence.

For University coterminal degree program rules and University application forms, see <http://registrar.stanford.edu/publications/#Coterm>.

## GRADUATE PROGRAMS

University requirements for the M.A. and Ph.D. degree are described in the "Graduate Degrees" section of the bulletin.

*Admission*—Applicants to the doctoral program should have some undergraduate preparation in sociology; however, the department does consider for admission those without such preparation. Each applicant must submit results from the general Graduate Record Examination (GRE); the sociology subject test is not required. Foreign students must take the TOEFL exam (a minimum score of 600 is required). Applicants must also submit a writing sample, three letters of recommendation, and transcripts. To request an application and to obtain more specific information, go to <http://gradadmissions.stanford.edu>.

## MASTER OF ARTS

The department does not admit students who are candidates solely for the M.A. in Sociology. This degree is, however, granted as a step toward the fulfillment of Ph.D. requirements. To receive the M.A., students must complete a minimum of 45 units of approved course work with a grade point average (GPA) of 3.0 (B) or better. All 45 units are to be taken in courses taught by Sociology faculty and must be taken for a grade whenever possible. Research and directed reading courses are acceptable, but must be approved in advance. All course work must be at the 100 level or above; 18 units must be above the 200 level.

A master's option is also available to Ph.D. candidates from other departments. In this instance, the usual admission requirements are waived and course requirements are determined in consultation with a Sociology adviser. Students must complete a minimum of 45 units with a grade point average (GPA) of 3.0 (B) or better. All 45 units must be taken in courses taught by Sociology faculty and must be taken for a grade whenever possible. Research and directed reading courses are acceptable, but must be approved in advance. All course work must be at the 100 level or above; 18 units must be above the 200 level. Interested students should contact the department for additional information and advance approval of their programs.

## DOCTOR OF PHILOSOPHY

The department admits only those students who appear to have the aptitude and qualities to complete the Ph.D. program in the Department of Sociology successfully. The curriculum and degree requirements are designed to provide students with the necessary knowledge and skills to become proficient as both scholars and teachers. The courses and requirements also provide faculty with essential information on the progress of each student and on areas of difficulty or deficiency requiring attention and improvement. Doctoral students in the department must take all required courses for a grade and are expected to earn a grade of B+ or better in each course. Any grade of B or below is considered to be less than satisfactory.

Students must complete the following department requirements for the Ph.D. degree in Sociology:

1. In order to receive a thorough introduction and orientation to the field of sociology, the department, and the faculty, each student must enroll in the Graduate Proseminar. The proseminar is a one-quarter course given during the Autumn Quarter of the first year of residence. One unit of credit is given for this course; grading is on a satisfactory/no credit basis. The proseminar leader also serves as the academic adviser for all first-year students. After the first year, students are allowed to select their academic adviser from among members of the department's faculty.
2. As partial preparation for becoming an accomplished researcher, each student must complete three quarters of research experience, working under the supervision of one or more faculty members (including regular, emeritus, and affiliated faculty). The experience may involve paid work as a Research Assistant (RA), or unpaid work as a research apprentice, carried out to obtain research experience. With the approval of the chair of Graduate Studies, research experience may be acquired by involvement in research projects outside the department, for example, the American Institute for Research or the Veteran's

Administration Hospital. It is recommended that students complete their research requirements early in their graduate program; the requirement must be completed by the end of the fourth year of residency.

3. As partial preparation for becoming an accomplished teacher, each student must complete three quarters of teaching apprenticeship in departmental courses, or in other courses by approval. Work as either a teaching assistant (TA) under the supervision of a faculty member or as a teaching fellow (TF) fulfills this requirement. All students are required to take a one-quarter TA training course offered by the department during their first year. In addition, students are expected to take advantage of department and University teacher training programs during their first few years of residence. Students for whom English is a second language are expected to acquire sufficient facility in English to be an effective teacher.
4. In order to demonstrate command of a range of sociological literatures, students must take four broad survey courses. Each year the department specifies which courses meet this requirement, and will undertake to ensure that an adequate selection of such courses is offered. As a rule, SOC 310, Political Sociology, SOC 314, Economic Sociology, SOC 318, Social Movements and Collective Action, SOC 320, Social Psychology, SOC 322, Social Interaction, Social Structure, and Social Exchange, SOC 324, Social Networks, SOC 340, Social Stratification, SOC 342B, Gender and Social Structure, SOC 360, Foundations of Organizational Sociology, and SOC 363A, Organizational Theory, represent courses that fulfill this requirement, among other courses to be approved by the Sociology faculty. Students should consult with their adviser to ensure that the combination of courses selected to meet this requirement exhibits sufficient breadth. This requirement is normally completed by the end of the second year of residency and must be met by the end of the third year of residency.
5. In order to obtain a thorough grounding in sociological theory, each student must take two courses. One course should be in classical sociological theory (SOC 370A or 370B or equivalent), and the second course should be on the development of theory and research design (SOC 372 or equivalent).
6. In order to obtain a thorough grounding in research methods, each student must complete four courses in methodology (381A, 382, 383, 384, 388, or 389). Students with little background in statistics are encouraged to take SOC 281B or equivalent.
7. In partial preparation for a career of writing scholarly papers, each student must complete a paper by May 15 of the second year of residency. This second-year paper may be on any sociological topic, and may address theoretical, empirical, or methodological issues. The paper is expected to reflect original work and is considered an important piece of evidence in the decision to advance to candidacy. A two-person committee that includes the primary adviser evaluates the paper. Although the reading committee is usually comprised of two regular faculty members in the department, emeritus and other faculty outside of the department may serve as a committee member with prior approval.
8. In order to demonstrate the ability to conduct independent scholarly work, each student must prepare a dissertation prospectus and pass the University oral examination. The oral exam is intended to evaluate the dissertation prospectus or a partial draft of the dissertation and to assess the student's knowledge of the relevant theory and research in the area in which the project intends to contribute.
9. Each student must complete a doctoral dissertation. Assessment of satisfactory completion is determined by the student's doctoral committee members. All students are invited to present their dissertation findings at an informal department colloquium.

The faculty assumes the responsibility to provide students with timely and constructive feedback on their progress toward a degree. In order to evaluate student progress and to identify potential problem areas, the department's faculty reviews the academic progress of each first-year student at the beginning of Winter and Spring quarters and again at the end of Spring Quarter. The reviews at the beginning of Winter and Spring Quarters are primarily intended to identify developing problems that

could impede progress. In most cases, students are simply given constructive feedback, but if more serious concerns warrant, a student may be placed on probation with specific guidelines for addressing the problems detected. The review at the end of Spring Quarter is more thorough: Each student's performance during the first year is reviewed and discussed. Possible outcomes of the spring review include: (1) continuation of the student in good standing, or (2) placing the student on probation, with specific guidelines for the period of probation and the steps to be taken in order to be returned to good standing. For students on probation at this point (or at any other subsequent points), possible outcomes of a review include: (1) restoration to good standing; (2) continued probation, again with guidelines for necessary remedial steps; or (3) termination from the program. Students leaving the program at the end of the first year are usually allowed to complete the requirements to receive an M.A. degree, if this does not involve additional residence or financial support. All students are given feedback from their advisers at the end of their first year of graduate work, helping them to identify areas of strengths and potential weakness.

At the end of the second year of residency, the faculty again review the progress of all doctoral students in the program. Students who are performing well, as indicated by their course work, teaching and research apprenticeship performance, and second-year paper, are advanced to candidacy. This step implies that the student has demonstrated the relevant qualities required for successful completion of the Ph.D. Future evaluations are based on the satisfactory completion of specific remaining department and University requirements. Students who are still on probation at this stage may be (1) advanced to candidacy; (2) retained on probation with specification of the steps still required to be removed from this status; or (3) terminated from the program.

At any point during the degree program, evidence that a student is performing at a less than satisfactory level may be cause for a formal academic review of that student.

## REQUIREMENTS

### SURVEY COURSES

Four from among courses approved by the department; see '4' above.

### RESEARCH METHODS

- 281A/381A. Sociological Methodology IA: Computer-Assisted Data Analysis
- 281B. Sociological Methodology IB: Statistics (required only of students with little statistics background)
- 382. Sociological Methodology II: The General Linear Model
- 383. Sociological Methodology III: Advanced Models for Discrete Outcomes
- 384. Sociological Methodology IV: Advanced Models for Continuous Outcomes or 388. Advanced Models for Analysis of Tabular Arrays or 389. Mixed Method Research Design

### THEORY

- 370A. Sociological Theory: Social Structure, Inequality, and Conflict or 370B. Sociological Theory: Social Interaction and Group Processes
- 372. Theoretical Analysis and Design

Students must complete additional course work sufficient to prepare them to write their second-year paper.

### PH.D. MINOR

Sociology offers a minor for School of Education doctoral students. Students must complete a minimum of 30 graduate-level units with a grade point average (GPA) of 3.0 (B) or better. All 30 units for the minor are to be in courses taught by Sociology faculty with the following exception: 5 units may be taken in a statistics or methods course taught in another department. All units must be taken for a grade. Research and directed reading courses are acceptable, but must be approved in advance. The specific program must be approved by a Sociology adviser and filed with the Department of Sociology.



## JOINT PROGRAM WITH THE SCHOOL OF LAW

The School of Law and Department of Sociology conduct joint programs leading to either a combined J.D. or J.M. degree with an M.A. degree in Sociology or to a combined J.D. or J.M. degree with a Ph.D. in Sociology.

Normally, the student interested in pursuing an M.A. degree in Sociology completes one full year of the law program, applying for admission to the Department of Sociology during the first year of law school. Once admitted, the student must complete regular Department of Sociology master's degree requirements. Applications for a joint program must be approved by the Research and Interdisciplinary Studies Committee of the School of Law and by the Department of Sociology. Faculty advisers from both the department and the school participate in the planning and supervise the study program of students admitted to joint degree status.

The joint J.D.-Ph.D. degree program is designed for students who wish to prepare themselves for research or teaching careers in areas relating to legal and sociological concerns. Participation requires application to both the School of Law and the Department of Sociology and acceptance by each. Upon admission, students may elect to begin their study program in either the School of Law or the Department of Sociology. Normally, the student spends the first full year in one program and the second full year in the other. Thereafter, the student may take courses concurrently until requirements for both degree programs have been met.

## COURSES

Courses are open to all students without prerequisites, unless specifically indicated. Courses numbered 200-299 are open to advanced undergraduate and graduate students. Courses numbered 300 and above are normally offered to matriculated doctoral students only. Courses with an 'X' suffix are taught at an overseas campus only.

## OPEN TO ALL STUDENTS

### INTRODUCTORY

**SOC 1. Introduction to Sociology**—The central concepts, methods, and theoretical orientations of the discipline. Sociological imagination is illustrated by recent theory and research. Possible topics: the persistence of class cleavages; ethnic, racial, and gender inequalities; religious beliefs and the process of secularization; functions and dysfunctions of educational institutions; criminology and social deviance; social movements and social protest; production and reproduction of culture; rise of organizational society. GER:3b

*5 units, Aut (Sandefur), Spr (Snipp)*

**SOC 22N. The Roots of Social Protest**—Stanford Introductory Seminar. Preference to freshman. The conditions under which social protest occurs; the emergence, success, and viability of contemporary social movements. Examples include the women's civil rights, ecology, anti-war, and anti-globalization movements in the U.S. and elsewhere. Sociological theories to explain the timing, location, and causes of mobilization, and how researchers evaluate these theories. Comparison of tactics, trajectories, and outcomes of similar social movements in different countries. GER:3b

*3 units, Win (Olzak)*

**SOC 32N. Law in Society**—Stanford Introductory Seminar. Preference to freshmen. For students interested in law and social inequality. Major sociological perspectives on where the law comes from, what law and justice systems do, and how they work. Enrollment limited to 16. GER:3b

*3 units, Aut (Sandefur)*

**SOC 44N. Race, Class, and Culture in Urban America**—Stanford Introductory Seminar. Preference to freshmen. How dividing lines of race and class are enacted, reinforced, or altered in large cities in the U.S. Emphasis is on the experience of urban life, white flight, the development of a code of the streets, and the social construction of neighborhoods as good or bad. Enrollment limited to 16. GER:3b

*3 units, Spr (McDermott)*

**SOC 45Q. Understanding Race and Ethnicity in American Society**—Stanford Introductory Seminar. Stanford Introductory Seminar. Preference to sophomores. A brief historical overview of race in America, race and violence, race and socioeconomic wellbeing, and the future of race relations in America. Enrollment limited to 16. GER:3b

*5 units, Win (Snipp)*

## POLITICAL AND COMPARATIVE SOCIOLOGY

**SOC 108. Population and Society**—(Graduate students register for 208.) Population size, composition, geographical distribution, and change in contemporary and historical perspective. Determinants of important processes affecting population including births, deaths, marriages, and geographical moves. Social, economic, and political consequences of population characteristics and population change. Population problems and policies. GER:3b

*5 units (Tuma) not given 2004-05*

**SOC 109. Sociology of Terrorism**—(Graduate students register for 209.) Is one person's terrorist another's freedom fighter? Emphasis is on conceptual and theoretical understandings of the origins and dynamics of modern terrorism. Globalization and resistance, clash of civilizations, blowback from American policies, and anger and resentment in the Middle East. Topics: defining and conceptualizing terrorism; current social scientific perspectives; forms and types of terrorism including individual, organized group, and nation state; and international terrorism.

*5 units, Spr (Staff)*

**SOC 110. Politics and Society**—(Graduate students register for 210.) Themes of political sociology, the origins and expansion of the modern state, linkages between state and society, the impact of the modern world system on national policies, the internal distribution of power and authority, and the structure of political group formation and individual participation in modern states. Emphasis is on modern empirical literature. GER:3b

*5 units (Meyer) not given 2004-05*

**SOC 111. State and Society in Korea**—(Graduate students register for 211.) 20th-century Korea from a comparative historical perspective. Colonialism, nationalism, development, state-society relations, democratization, and globalization with reference to the Korean experience. GER:3b,4a

*5 units, Spr (Shin)*

**SOC 112. Comparative Democratic Development**—(Enroll in POLISCI 147.)

*5 units, Spr (Diamond)*

**SOC 113A. Sociology of State Socialist and Post-Socialist Societies**—(Graduate students register for 213A.) What was the main cause of the collapse of the Soviet bloc: the lack of political and civic freedoms or economic inefficiency? What has happened to the former socialist countries since the fall of the Berlin Wall? Has the transition from socialism translated into capitalism? Basic concepts, ideas, and theories that scholars have employed to understand state socialism, post-socialist transition, and their effects including stratification and inequality, consumption, everyday life, popular culture, and gender and ethnic divides. GER:3b

*5 units, Spr (Staff)*

**SOC 117A. China Under Mao**—(Graduate students register for 217A.) The transformation of Chinese society from the 1949 revolution to the eve of China's reforms in 1978: the creation of a socialist economy, the reorganization of rural society and urban workplaces, the emergence of new inequalities of power and opportunity, and the new forms of social conflict during Mao's Cultural Revolution of 1966-69 and its aftermath. GER:4a

*5 units, Aut (Walder)*

**SOC 117B. Chinese Politics: The Transformation and the Era of Reform**—(Enroll in POLISCI 148/348.)

*5 units, Win (Oi)*

**SOC 118. Social Movements and Collective Action**—(Graduate students register for 218.) Contemporary theory and research on social movements and collective action. The strategies used by researchers for collecting and analyzing information on collective events, protests, conflicts, and social movements organizations. Analysis of different theories and methods that try to account for the rise and fall of social movement activity over time. GER:3b

*3-5 units, Win (Olzak)*

**SOC 130. Education and Society**—(Same as EDUC 220C; graduate students register for 230.) The effects of schools and schooling on individuals, the stratification system, and society. Education as socializing individuals and as legitimizing social institutions. The social and individual factors affecting the expansion of schooling, individual educational attainment, and the organizational structure of schooling. GER:3b

*4-5 units, Aut (Ramirez)*

**SOC 131. World, Societal, and Educational Change: Comparative Perspectives**—(Same EDUC 136/306D; graduate students register for 231.) Theoretical perspectives and empirical studies on the structural and cultural sources of educational expansion and differentiation, and on the cultural and structural consequences of educational institutionalization. Research topics: education and nation building; education, mobility, and equality; education, international organizations, and world culture. GER:3b

*4-5 units, Win (Ramirez)*

**SOC 133. Computers and Interfaces**—(Enroll in COMM 169/269.)

*4-5 units, Win (Nass)*

**SOC 136. Law and Society**—(Graduate students register for 236.)—Major issues and debates in the sociology of law. Topics include: historical perspectives on the origins of law; rationality and legal sanctions; normative decision making and morality; cognitive decision making; crime and deviance; the law in action versus the law on the books; organizational responses to law in the context of labor and employment; the roles of lawyers, judges, and juries; and law and social change emphasizing the American civil rights movement.

*5 units, Aut (Landis Dauber)*

**SOC 138. American Indians in Comparative Historical Perspective**—(Graduate students register for 238.) Comparative historical framework surveys the demographic, political, and economic processes and events that shaped relations between Euro-Americans and American Indians, 1600-1890. How the intersection of these processes affected the outcome of conflicts between these two groups, and how this conflict was decisive in determining the social position of American Indians in the late 19th century and the evolution of the doctrine of tribal sovereignty. GER:4b

*3-5 units, Aut (Snipp)*

## **SOCIAL PSYCHOLOGY AND INTERPERSONAL PROCESSES**

**SOC 105. Status, Friendship, and Social Pressure**—The basic social processes that structure the individual's experience in interpersonal situations, including group pressure on individual choices, social control of deviants, operation of status distinctions (sex and race), and formation of friendships and intimate (love) relationships. Structured exercises and simulation gaming in section meetings provide experience with these processes. Lectures examine the processes in terms of theoretical ideas, empirical research, and clinical strategy. Enrollment limited to 30. GER:3b

*5 units (Staff) not given 2004-05*

**SOC 120. Interpersonal Relations**—(Graduate students register for 220.) Forming ties, developing norms, status, conformity, deviance, social exchange, power, and coalition formation; important traditions of research have developed from the basic theories of these processes. Emphasis is on understanding basic theories and drawing out their implications for change in a broad range of situations, families, work groups, and friendship groups. GER:3b

*5 units, Aut (Ridgeway)*

**SOC 121. Social Psychology and Social Structure**—(Graduate students register for 221.) Understanding the individual's relationship to social groups, from two-person groups to society at large. Emphasis is on how social structure shapes individuals and how individuals in turn affect their social environment. Topics: identity, agency, interpersonal relations, social dilemmas, the life course, and collective behavior. GER:3b

*5 units, Win (Cooper)*

**SOC 122. Sociology of Culture**—(Graduate students register for 222.) Why do different people like different kinds of culture? How do cultural taste and practice affect friendship patterns, academic success, occupational attainment, and marital selection? Emphasis is on the relationship between culture and social structure with attention to social networks, social class, cultural capital, and symbolic exclusion. Topics include musical taste, arts participation, leisure activity, urban legends, names chosen for children, and opinions, beliefs, and values. GER:3b

*5 units, Win (Mark)*

**SOC 123. Sex and Love in Modern Society**—(Graduate students register for 223.) Social influences on private intimate relations involving romantic love and sexuality. Topics include the sexual revolution, contraception, dating, hook-ups, cohabitation, sexual orientation, and changing cultural meanings of marriage, gender, and romantic love. GER:3b

*5 units, Win (England)*

**SOC 125. Sociology of Religion**—(Graduate students register for 225.) The social patterns of religious belief and practice, and the classical and contemporary theoretical approaches to understanding these patterns. Topics: churches, sects and cults, sources of religious pluralism, relationships between religion and aspects of social structures including the economy, class structure, ethnicity, social networks, and the state. GER:3b

*5 units, Spr (Mark)*

**SOC 126. Introduction to Social Networks**—(Graduate students register for 226.) Introduction to social network theory, methods, and research. Basic network concepts such as density, homogeneity, and centrality are defined and applied to a variety of substantive areas. The impact of social network structure on individuals and groups in such areas as communities and neighborhoods, families, work life, and innovations. GER:3b

*5 units, Win (Mark)*

**SOC 127. Bargaining, Power, and Influence in Social Interaction**—(Graduate students register for 227.) Lab/discussion. Introduction to research and theoretical work on bargaining, social influence, and issues of power and justice in various social settings, including teams, work groups, and organizations. The basic theoretical approaches to the study of the exercise of power and influence in social groups and related issues in the study of social interaction, e.g., the promotion of cooperation, the effects of competition and conflict, negotiation, and inter-group relations. Enrollment limited to 40. GER:3b

*3-5 units, Aut (Cooper)*

**SOC 150. The Family**—Examines American families, employing theories of social psychology to study the interactions within the family and between the family and other institutions. Topics: the nature and history of the family, state regulation of families, variations by class and ethnicity, family violence, gender roles, parenting, and divorce. GER:3b

*5 units (Staff) not given 2004-05*

## **SOCIAL STRATIFICATION AND INEQUALITY**

**SOC 132. Sociology of Education**—(Same as EDUC 110/310; graduate students register for 232.) Sociological approaches to school organization and its effects. Introduction to topics and case studies that elaborate on the embeddedness of classrooms and schools in social environments, spanning school processes such as stratification, authority, moral and technical specialization, curricular differentiation, classroom instruction, voluntary associations, social crowds, and peer influence. GER:3b

*4 units, Spr (McFarland)*

**SOC 134. Education and the Status of Women: Comparative Perspective**—(Enroll in EDUC 197.)

4-5 units, Spr (Staff)

**SOC 135. Seminar in Women's Health: Women and Disabilities**—(Enroll in FEMST 260/360.)

5 units, Spr (Krieger)

**SOC 139. American Indians in Contemporary Society**—(Graduate students register for 239.) The social position of American Indians in contemporary American society, 1890 to the present. The demographic resurgence of American Indians, changes in social and economic status, ethnic identification and political mobilization, and institutions such as tribal governments and the Bureau of Indian Affairs. Recommended: 138 or a course in American history. GER:4b

5 units, Win (Snipp)

**SOC 140. Introduction to Social Stratification**—(Graduate students register for 240.) The main classical and modern explanations of the causes of social, economic, and political inequality. Issues include: power; processes that create and maintain inequality; the central axes of inequality in contemporary societies (race, ethnicity, class, and gender); the consequences of inequality for individuals and groups; and how social policy can mitigate and exacerbate inequality. Cases include technologically simple groups, the Indian caste system, and the modern U.S. GER:3b

5 units, Spr (Sandefur)

**SOC 141A. Social Class, Race/Ethnicity, Health**—(Graduate students register for 241A.) Socioeconomic, racial, and ethnic differences in health status. Access to care of racial/ethnic minorities and those from lower social classes. Institutional factors such as government programs as well as individual factors such as unconscious racial bias on the part of care providers or distrust of providers on the part of patients. The intersection of lower social class and ethnic minority status in health status and health care access. GER:3b,4b

4 units, Win (Barr)

**SOC 142. Sociology of Gender**—(Graduate students register for 242.) Gender inequality in contemporary American society with explanations for how it is maintained. The social and relative nature of knowledge and the problems this poses for understanding sex differences and gendered behavior in society. Three analytical levels of explanation for gender inequalities: socialization, interaction processes, and socioeconomic processes. Arguments and evidence for each approach. The social consequences of gender inequality such as the feminization of poverty, and problems of interpersonal relations. GER:4c

3-5 units, Spr (Ridgeway)

**SOC 145. Race and Ethnic Relations**—(Graduate students register for 245.) Race and ethnic relations in the U.S. and elsewhere. The processes that render ethnic and racial boundary markers, such as skin color, language, and culture, salient in interaction situations. Why only some groups become targets of ethnic attacks. The social dynamics of ethnic hostility and ethnic/racial protest movements. GER:4b

5 units (Olzak) not given 2004-05

**SOC 146. Race, Community, and Urban Sociology**—Group relations and community processes in an urban environment from a sociological perspective. How racial attitudes, residential segregation, and employment opportunities influence the wellbeing of different groups in the city.

5 units, Aut (Staff)

**SOC 148. Racial Identity**—(Graduate students register for 248.) The construction and meanings of racial identities in the U.S. Attention is on multiracial identities and the shifting boundaries of racial categories in contemporary America. GER:4b

5 units (McDermott) not given 2004-05

**SOC 149. The Urban Underclass**—(Graduate students register for 249.) Recent research and theory on the urban underclass, including evidence on the concentration of African Americans in urban ghettos,

and the debate surrounding the causes of poverty in urban settings. Analysis of ethnic/racial conflict, residential segregation, and changes in the family structure of the urban poor. GER:3b

5 units (Rosenfeld) not given 2004-05

## ORGANIZATIONS, BUSINESS, AND THE ECONOMY

**SOC 114. Economic Sociology**—(Graduate students register for 214.) The sociological approach to production, distribution, consumption, and markets emphasizing the impact of norms, power, social structure, and institutions on the economy. Comparison of classic and contemporary approaches to the economy among the social science disciplines. Topics: consumption, labor markets, organization of professions such as law and medicine, the economic role of informal networks, industrial organization, including the structure and history of the computer and popular music industries, business alliances, capitalism in non-Western societies, and the transition from state socialism in E. Europe and China. GER:3b

5 units, Aut (Granovetter)

**SOC 115. Topics in Economic Sociology**—(Graduate students register for 215.) Discussion of topics initially explored in 114/214, with emphasis on countries and cultures outside N. America. Possible topics: families and ethnic groups in the economy, corporate governance and control, corporate strategy, relations among firms in industrial districts and business groups, the impact of national institutions and cultures on economic outcomes, transitions from state socialism and the role of the state in economic development. Possible case studies: the U.S., Germany, Italy, Britain, France, Brazil, Korea, India, Japan, and China. Prerequisite: 114/214 or 314. GER:3b

5 units (Staff) not given 2004-05

**SOC 116. Globalization and Organizations**—(Enroll in INTNLREL 131, IPS 231.)

5 units, Win (Drori)

**SOC 154. Science, Technology, and Development**—(Enroll in IPS 230, INTNLREL 130.)

5 units, Aut (Drori)

**SOC 160. Formal Organizations**—(Graduate students register for 260.) Organizational structure: diversity and common elements. Rational, natural, and open systems perspectives on structure. Environmental and technological determinants of structure. Applications to business concerns, public bureaucracies, hospitals, schools. GER:3b

5 units, Win (Hillmann)

**SOC 161. The Social Science of Entrepreneurship**—(Graduate students register for 261.) Who is likely to become an entrepreneur and where is entrepreneurship likely to occur? Classic and contemporary theory and research. Interaction with expert practitioners in creating entrepreneurial opportunities including venture and corporate capitalists. The role of culture, markets, hierarchies, and networks in entrepreneurship. Theories of market creation and change, and factors that affect success of new organizations. Field projects on entrepreneurial environments such as technology licensing offices, entrepreneurial development organizations, venture capital firms, and corporate venturing groups. GER:3b

5 units, Spr (Thornton)

**SOC 163. Division of Labor**—(Graduate students register for 263A.) How work is divided into market work, non-market work, and shadow market work; occupations, professions, and just-jobs; between individuals and members of different groups; and between nations across the globe. Major sociological perspectives on the division of labor and its consequences; empirical evidence supporting and refuting different perspectives. GER:3b

5 units (Sandefur) not given 2004-05

**SOC 164. Firms, Markets, and States**—(Graduate students register for 264.) The relationships among business organizations, state economic policies, and market competition. How state intervention and institutional factors influence and delimit the organization of firms. How such factors create different forms of market competition. GER:3b

5 units (Staff) not given 2004-05

**SOC 165. Power, Gender, and the Professions**—(Graduate students register for 265.) Alternative views of professions and professionals, combining theories of professions and gender. The institutionalization of professional power and professional structure in the 20th century. Changing professional roles in the face of increasing bureaucratization of professional work. The role of gender in professional work, and alternative explanations for gender-based differences. How these forces operate, particularly in the professions of medicine, law, and academics. GER:3b

*5 units, Spr (Barr)*

**SOC 166. Networks and Institutions: Sociological Perspectives on Economic Organizations**—(Graduate students register for 266.) Network approach and institutional analysis as major frameworks in the field. Topics include the concept of embeddedness, social network analysis, status dynamics, and institutional analysis. Empirical case studies on industries and countries: legal environments of business organizations, university-industry interfaces, high-tech regions, and business groups in E. Asia.

*5 units, Spr (Staff)*

**SOC 167A. Asia-Pacific Transformation**—Post-WW II transformation in the Asia-Pacific region, with focus on the ascent of Japan, the development of newly industrialized capitalist countries (S. Korea and Taiwan), the emergence of socialist states (China and N. Korea), and the changing relationship between the U.S. and these countries. GER:3b,4a

*5 units, Win (Shin)*

**SOC 168. The Matrix of Change: Managing Diversity**—(Graduate students register for 268; same as PUBLPOL 168.) Diversity in organizations consists not only of racial, cultural, and gender differences, but also differences in perspectives and interests among employees based on profession, assignments, or compensation. Diversity can be a source of strength when different perspectives lead to insight and information and when pay differences leave room to reward superior performance. It can also be a barrier to communication and cooperation. Policy and managerial issues concerning when and how far to encourage diversity and how to harness its strengths and mitigate the conflicts it can create. GER:3b

*5 units, Win (Meyersson Milgrom)*

**SOC 169. Health Care in America: The Organizations and Institutions that Shape the Health Care System**—(Enroll in HUMBIO 160X.)

*4 units, Aut (Barr)*

**SOC 169A. American Health Policy**—(Enroll in HUMBIO 160A.)

*3 units, Spr (Lee, G. Heller)*

## SOCIOLOGICAL THEORY

**SOC 170. Classics of Modern Social Theory**—(Graduate students register for 270.) The enduring contributions of Marx, Weber, and Durkheim to contemporary sociology. Topics: the problem of social order and the nature of social conflict; capitalism and bureaucracy; the relationship between social structure and politics; the social sources of religion and political ideology; and the evolution of modern societies. Examples from contemporary research illustrate the impact of these traditions. GER:3b

*5 units, Aut (McDermott)*

## RESEARCH METHODS

**SOC 180. Introduction to Sociological Research**—(Graduate students register for 280.) Methods used in contemporary sociological research focusing on strategies for designing research and analyzing data. GER:3b

*5 units, Spr (Hillmann)*

**SOC 181A. Sociological Methods 1A: Computer-Assisted Data Analysis**—(Graduate students register for 281A/381A.) For Sociology majors only. Introduction to the computer as a research tool and to common data sets in the social sciences. Emphasis is on development of the necessary skills for other courses in sociology methodology. Enrollment limited to 15.

*3 units (Staff) not given 2004-05*

**SOC 181B. Sociological Methods IB: Statistics**—(Graduate students register for 281B.) Emphasizes the statistical methods of principal relevance to sociology: contingency tables, correlation, and regression. Recommended: 181A/281A. GER:2c

*5 units (Staff) not given 2004-05*

**SOC 200. Senior Seminar for Majors**—Capstone course in which sociological problems are framed, linked to theories, and answers pursued through appropriate research designs. WIM

*5 units, Spr (Cooper)*

**SOC 200H. Senior Seminar for Honors**—WIM

*5 units, Aut (McDermott)*

**SOC 201H. Senior Honors Colloquium in Health Policy**—(Same as HUMBIO 160B.) Limited to students doing senior honors research in Human Biology or Sociology. Year-long class to assist students doing honors research pertaining to sociology or social policy. Weekly discussions center around defining the research question, identifying data acquisition methods, carrying out data analysis, and writing the honors thesis. Prerequisite: consent of instructor.

*1 unit (Barr, G. Heller, Lee) not given 2004-05*

**SOC 202. Preparation for Honors Thesis**—(Same as URBANST 200.) For juniors in Urban Studies or Sociology thinking about writing a senior honors thesis; Urban Studies seniors writing the honors thesis; and sophomores who plan to be off-campus Winter Quarter of their junior year and are interested in writing an honors thesis. Juniors register for 4 or 5 units to write a research prospectus and grant proposal seeking research funding. Urban Studies seniors writing an honors thesis register for 1 unit to make presentations of their work. Prerequisites: GPA that qualifies for honors; sophomores require consent of instructor; prerequisite for WIM: junior or sophomore registering for 3 or more units. WIM

*1-5 units, Win (Tuma, Kahan)*

## INDIVIDUALIZED LEARNING EXPERIENCES, PRIMARILY FOR UNDERGRADUATE MAJORS

**SOC 190. Undergraduate Individual Study**

*1-5 units, Aut, Win, Spr, Sum (Staff)*

**SOC 191. Undergraduate Directed Research**—Work on a project of student's choice under supervision of a faculty member. Prior arrangement required.

*1-5 units, Aut, Win, Spr, Sum (Staff)*

**SOC 192. Undergraduate Research Apprenticeship**—Work in an apprentice-like relationship with faculty on an on-going research project. Prior arrangement required.

*1-5 units, Aut, Win, Spr, Sum (Staff)*

**SOC 193. Undergraduate Teaching Apprenticeship**

*1-5 units, Aut, Win, Spr, Sum (Staff)*

**SOC 196. Senior Thesis**—Work on an honors thesis project under faculty supervision (see description of honors program). Must be arranged early in the year of graduation or before.

*1-15 units, Aut, Win, Spr, Sum (Staff)*

## FOR ADVANCED/COTERMINAL UNDERGRADUATES AND MASTER'S STUDENTS

### POLITICAL AND COMPARATIVE SOCIOLOGY

**SOC 208. Population and Society**—(For graduate students; see 108.)

*5 units (Tuma) not given 2004-05*

**SOC 210. Politics and Society**—(For graduate students; see 110.)

*5 units (Meyer) not given 2004-05*

**SOC 211. State and Society in Korea**—(For graduate students; see 111.)

*5 units, Spr (Shin)*

**SOC 213A. Sociology of State Socialist and Post-Socialist Societies**—(For graduate students; see 113A.)

5 units, Spr (Staff)

**SOC 217A. China Under Mao**—(For graduate students; see 117A.)

5 units, Aut (Walder)

**SOC 218. Social Movements and Collective Action**—(For graduate students; see 118.)

3-5 units, Win (Olzak)

**SOC 230. Education and Society**—(For graduate students; see 130.)

4-5 units, Aut (Ramirez)

**SOC 231. World, Societal, and Educational Change: Comparative Perspectives**—(For graduate students; see 131.)

4-5 units, Win (Ramirez)

**SOC 234. Research Seminar on Access to Justice**—(Graduate students register for 334.) The functions and dysfunctions of modern legal systems. Topics include: official statements of the U.S. and the EU about the rights of parties to civil disputes; the roles of lawyers as gatekeepers and facilitators; the filtering process by which injuries and experiences become the basis for legal claims; access to and use of courts; the balance of power and advantage between individual persons and organizations in disputes. Prerequisite: advanced undergraduate or graduate standing, or consent of instructor.

5 units, Spr (Sandefur)

**SOC 236. Law and Society**—(For graduate students; see 136.)

3-5 units, Aut (Landis Dauber)

**SOC 238. American Indians in Comparative Historical Perspective**—(For graduate students; see 138.)

3-5 units, Aut (Snipp)

## **SOCIAL PSYCHOLOGY AND INTERPERSONAL PROCESSES**

**SOC 220. Interpersonal Relations**—(For graduate students; see 120.)

5 units, Aut (Ridgeway)

**SOC 221. Social Psychology and Social Structure**—(For graduate students; see 121.)

5 units, Win (Cooper)

**SOC 222. Sociology of Culture**—(For graduate students; see 122.)

5 units, Win (Mark)

**SOC 223. Sex and Love in Modern Society**—(For graduate students; see 123.)

5 units, Spr (England)

**SOC 224. Microsociology**—(Same as EDUC 312.) The educational applications of sociological and social psychological theory and research to interaction processes in schools. Readings include: foundational works by Mead, Schutz, and Simmel; contemporary work in sociology by Goffman, Homans, Merton, Blau, and Harold. Readings span empirical settings such as work settings, classrooms, gangs, primate societies, and children's games. Topics: processes of influence, role differentiation, identity formation, social mechanisms, and intra/inter group dynamics of peer relations. Methods for observation and analysis of small groups.

4 units, Win (McFarland)

**SOC 225. Sociology of Religion**—(For graduate students; see 125.)

5 units, Spr (Mark)

**SOC 226. Introduction to Social Networks**—(For graduate students; see 126.)

5 units, Win (Mark)

**SOC 227. Bargaining, Power, and Influence in Social Interaction**—(For graduate students; see 127.)

3-5 units, Aut (Cooper)

## **SOCIAL STRATIFICATION AND INEQUALITY**

**SOC 232. Sociology of Education**—(For graduate students; see 132.)

4 units, Spr (McFarland)

**SOC 239. American Indians in Contemporary Society**—(For graduate students; see 139.)

5 units, Win (Snipp)

**SOC 240. Introduction to Social Stratification**—(For graduate students; see 140.)

5 units, Spr (Sandefur)

**SOC 241A. Social Class, Race/Ethnicity, Health**—(For graduate students; see 141A.)

4 units, Win (Barr)

**SOC 242. Sociology of Gender**—(For graduate students; see 142.)

3-5 units, Spr (Ridgeway)

**SOC 245. Race and Ethnic Relations**—(For graduate students; see 145.)

5 units (Olzak) not given 2004-05

**SOC 248. Racial Identity**—(For graduate students; see 148.)

5 units (McDermott) not given 2004-05

**SOC 249. The Urban Underclass**—(For graduate students; see 149.)

5 units (Rosenfeld) not given 2004-05

## **ORGANIZATIONS, BUSINESS, AND THE ECONOMY**

**SOC 214. Economic Sociology**—(For graduate students; see 114.)

5 units, Aut (Granovetter)

**SOC 215. Topics in Economic Sociology**—(For graduate students; see 115.)

5 units (Staff) not given 2004-05

**SOC 260. Formal Organizations**—(For graduate students; see 160.)

5 units, Win (Hillmann)

**SOC 261. The Social Science of Entrepreneurship**—(For graduate students; see 261.)

5 units, Spr (Thornton)

**SOC 263A. Division of Labor**—(For graduate students; see 163.)

5 units (Sandefur) not given 2004-05

**SOC 264. Firms, Markets, and States**—(For graduate students; see 164.)

5 units (Staff) not given 2004-05

**SOC 265. Power, Gender, and the Professions**—(For graduate students; see 165.)

5 units, Spr (Barr)

**SOC 268. The Matrix of Change: Managing Diversity**—(For graduate students; see 168.)

5 units, Win (Meyersson Milgrom)

## **SOCIOLOGICAL THEORY**

**SOC 253E. French Social Thought from Durkheim to Bourdieu**—(Enroll in FRENGEN 253E.)

3-5 units (Dupuy) not given 2004-05

**SOC 270. Classics of Modern Social Theory**—(For graduate students; see 170.)

5 units, Aut (McDermott)

## **RESEARCH METHODS**

**SOC 274A. Research Workshop: Knowledge Networks**—(Same as EDUC 374A.) Factors shaping processes of transferring basic knowledge into commercial development. Topics: the sociology and economics of science, intellectual property and patenting, university-industry relations, cross-national differences in knowledge transfer and science/technology policy, and entrepreneurial activity in universities. Students are expected to have or develop related research projects. Undergraduate prerequisite: consent of instructor.

1-3 units, Aut (Powell)

**SOC 280. Introduction to Sociological Research**—(For graduate students; see 180.)

5 units, Spr (Hillmann)

**SOC 281A. Sociological Methods 1A: Computer-Assisted Data Analysis**—(For graduate students; see 181A.)

3 units (Staff) not given 2004-05

**SOC 281B. Sociological Methods 1B: Statistics**—(For graduate students; see 181B.)

5 units (Staff) not given 2004-05

## PRIMARYLY FOR DOCTORAL STUDENTS

300-level courses are limited to matriculated doctoral students; other students require consent of instructor.

### GENERAL

**SOC 300. Workshop: Teaching Development**—For first-year Sociology doctoral students only. The principles for becoming an effective instructor, adviser, and mentor to undergraduates. Topics: ethics, course organization and syllabus development, test construction and grading, conflict resolution, common classroom problems, and University policies related to matters such as sexual harassment. Technologies and other topics related to making effective presentations, and campus resources to improve classroom performance. Roundtable discussions with faculty and advanced graduate students known for teaching excellence. Students may be asked to give a demonstration lecture.

2 units, Spr (Staff)

**SOC 305. Graduate Proseminar**—For first-year Sociology doctoral students only. Introduction and orientation to the field of Sociology.

1 unit, Aut (Staff)

**SOC 308. Social Demography**—For graduate students and advanced undergraduates. Topics: models of fertility behavior, migration models, stable population theory, life table analysis, data sources, and measurement problems. How population behavior affects social processes, and how social processes influence population dynamics. Recommended: knowledge about sociological research methods; a basic understanding of regression analysis and log linear models.

5 units, Spr (Snipp)

### POLITICAL AND COMPARATIVE SOCIOLOGY

**SOC 310. Political Sociology**—A survey of theory and research on the relationship between social structure and politics. Social foundations of political order, the generation and transformation of ideologies and political identities, social origins of revolutionary movements, and social consequences of political revolution. Prerequisite: doctoral student.

5 units, Spr (Walder)

**SOC 311A,B,C. Comparative Systems**—(Same as EDUC 387A,B,C.) Analysis of quantitative and longitudinal data on national educational systems and political structures. May be repeated for credit. Prerequisite: consent of instructor. (SSPEP/ICE)

1-5 units, A: Aut, B: Win, C: Spr (Meyer, Ramirez)

**SOC 312. Workshop: Collective Action and Social Movements**

1-5 units, Aut, Win, Spr (Olzak)

**SOC 316. Historical and Comparative Sociology**—Theory and research on macro-historical changes of sociological significance such as the rise of capitalism, the causes and consequences of revolutions, and the formation of the modern nation state and global world system. Methodological issues in historical and comparative sociology.

5 units (Shin) not given 2004-05

**SOC 316A. Sociology of Development**—Seminar. Major works in the sociology of development from historical and comparative perspectives. E. Asian and Latin American experiences. Theoretical, methodological, and empirical issues.

3-5 units (Shin) not given 2004-05

**SOC 318. Social Movements and Collective Action**—Past and contemporary scholarship. Topics: causes of social movements; dynamics of movement development; the question of movement outcomes; the organizational dimensions and dynamics of collective action; and the causes and consequences of individual activism.

5 units (Olzak) not given 2004-05

**SOC 334. Research Seminar on Access to Justice**—(For graduate students; see 234.)

5 units, Spr (Sandefur)

**SOC 337. Workshop on Korean Studies**—Focus is on Korea related topics from comparative and sociological perspectives. Discussions of assigned readings, present findings from projects, or participate in the faculty's ongoing research projects. Primarily intended for graduate or undergraduate students working on honors theses.

2 units, Aut, Win, Spr (Shin)

**SOC 368. Workshop: Politics and Social Change**—Workshop. Focus is on market reform, privatization, regime change, and political movements in rapidly changing societies. May be repeated for credit. Prerequisite: consent of instructor.

1-5 units, Win, Spr (Walder)

### SOCIAL PSYCHOLOGY AND INTERPERSONAL PROCESSES

**SOC 317C. Workshop on Community and Youth Development**—(Same as EDUC 317X.) The Youth Development Seminar presents an opportunity to collaborate on youth development research issues by providing participants with access to the National Longitudinal Study of Adolescent Health Data (requires consent), tutorials on statistical methods to facilitate analysis of the dataset, and articles that help researchers develop tools of inquiry. Students present their work for feedback.

1-2 units (Staff) not given 2004-05

**SOC 320. Foundations of Social Psychology**—Major theoretical perspectives in interpersonal processes and social psychology. The basic principles, assumptions, and substantive problems associated with each perspective; techniques of investigation and methodological issues. Perspectives: symbolic interaction, social structure and personality, cognitive, and group processes.

2-5 units, Aut (Ridgeway)

**SOC 321. Workshop: Social Psychology**—Current theories and research agendas, reviews of recent publications, presentations of ongoing research by faculty and students. May be repeated for credit. Prerequisite: consent of instructor.

2-5 units (Staff) not given 2004-05

**SOC 324. Seminar on Social Networks**—How the study of social networks contributes to sociological research. Theoretical understanding and empirical application of core concepts to analyze patterns of relations among actors, including: connectivity and clusters, duality of categories and networks, centrality and power, balance and transitivity, structural equivalence, and blockmodels. Friendship and kinship networks, diffusion of ideas and infectious diseases, brokerage in markets and organizations, and patronage and political influence in historical contexts.

3-5 units, Win (Hillmann)

**SOC 326. Workshop: Sociology of Culture**—Current theories and research agendas, critical reviews of recent publications, presentations of ongoing research by faculty and students. May be repeated for credit. Prerequisite: consent of instructor.

2-5 units (Mark) not given 2004-05

**SOC 327. Frontiers of Social Psychology**—Advanced topics and current developments; underlying theoretical questions and empirical research. Possible topics include social identity processes, status beliefs and processes, social exchange, affect and social cohesion, legitimacy, social difference and inequality, norms, and social dilemmas.

3-5 units, Spr (Ridgeway)

**SOC 342B. Gender and Social Structure**—The role of gender in structuring contemporary life. Social forces affecting gender at the psychological, interactional, and structural levels. Gender inequality in labor markets, education, the household, and other institutions. Theories and research literature.

*3-5 units, Aut (England)*

### **SOCIAL STRATIFICATION AND INEQUALITY**

**SOC 336. Sociology of Law**—Classical perspectives and contemporary developments in the sociological investigation of law and legal systems. Foundational works in the sociology of law, contemporary statements, and topics of interest to participants. Possible topics include: legal services markets; the effects of law on behaviors and attitudes; the workings of concrete components of legal institutions; and comparative legal systems. May be repeated for credit.

*3-5 units (Sandefur) not given 2004-05*

**SOC 340. Social Stratification**—Classical and contemporary approaches to the unequal distribution of goods, status, and power. Modern analytic models of the effects of social contact, cultural capital, family background, and luck in producing inequality. The role of education in perpetuating or undermining stratification. The causes and consequences of inequality by race and gender. The structure of social classes, status groupings, and prestige hierarchies in various societies. Labor markets and their role in inequality. The implications of inequality for individual lifestyles. The rise of the new class, the underclass, and other emerging forms of stratification. Prerequisite: Ph.D. student or consent of instructor.

*5 units, Spr (Grusky)*

**SOC 342A. Race and Ethnic Relations**—Presentations of current work by faculty, students, and guest speakers. Recent publications and contemporary issues. May be repeated for credit. Prerequisite: consent of instructor.

*3-5 units, Aut, Win, Spr (McDermott)*

**SOC 345. Seminar in Comparative Race and Ethnic Relations**—Factors that create, maintain, and diminish the salience of race and ethnic boundaries. Theoretical debates surrounding the emergence, persistence, and change in racial and ethnic boundaries, nationalism and sovereignty, and mobilization. Empirical evidence on race and ethnic tensions, conflict, and warfare. The relationship between democracy, immigration, and diversity.

*5 units (Olzak) not given 2004-05*

### **ORGANIZATIONS, BUSINESS, AND THE ECONOMY**

**SOC 314. Economic Sociology**—Survey of the classical and contemporary literature in economic sociology, covering the sociological approach to markets and the economy, and comparing it to that of other disciplines. Topics: consumption, labor, professions, industrial organization, and the varieties of capitalism; historical and comparative perspectives on market and non-market provision of goods and services, and on transitions among economic systems. The relative impact of culture, institutions, norms, social networks, technology, and material conditions. Prerequisite: enrollment in a doctoral program or consent of the instructor.

*5 units, Win (Granovetter)*

**SOC 355. Higher Education and Society**—(Enroll in EDUC 355X.)

*3 units (Gumport) not given 2004-05*

**SOC 360. Foundations of Organizational Sociology**—Core problems in the sociology of organizations, main theoretical perspectives, and research programs directed at evaluating these perspectives.

*5 units (Staff) not given 2004-05*

**SOC 361. Social Psychology of Organizations**—(Same as OB 671.) Seminar. Social psychological theories and research relevant to organizational behavior. Current research topics in micro-organizational behavior, linking these to foundations in cognitive and social psychology and sociology. Topics include models of attribution, social comparison and justice, commitment, stereotyping informal relationships, groups, and leadership. Prerequisites: Ph.D. student; graduate-level social psychology course.

*4 units, Spr (Staff)*

**SOC 362. Organization and Environment**—(Same as OB 672.) Leading sociological approaches to analyzing relations of organizations and environments with emphasis on dynamics. Theoretical formulations, research designs, and results of empirical studies. Prerequisite: Ph.D. student.

*4 units, Win (Staff)*

**SOC 363. Social and Political Process in Organizations**—Seminar. Focus is on cognition, attitudes, and behavior in organizations, drawing on psychological and sociological research at the meso level of analysis. Topics vary each year, including organizational learning and decision making; power and conflict; emotions in organizations; mobility and stratification; gender inequality and discrimination; networks; organizational justice and legitimacy; cultural perspectives on organizations. Prerequisite: Ph.D. student.

*4 units (Staff) not given 2004-05*

**SOC 363A. Seminar on Organizational Theory**—(Same as EDUC 375A.) For Ph.D. students. The social science literature on organizations. Readings introduce major theoretical traditions and debates. The intellectual development of the field reflects shifts in emphasis in studies from workers to managers, from organizational processes to outputs, and from single organizations to populations of organizations.

*5 units, Aut (Powell)*

**SOC 363B. Seminar on Organizations: Institutional Analysis**—(Same as EDUC 375B.) The fruitfulness of research programs from institutional, network, and evolutionary perspectives in explaining large-scale change in organizational populations and institutions.

*3-5 units, Win (Powell)*

**SOC 367. Institutional Analysis of Organizations**—Reading and research on the nature, origins, and effects of the modern institutional system. Emphasis is on the effects of institutional systems on organizational structure.

*3-5 units, Win (Scott)*

**SOC 369. Network Analysis of Formal and Informal Organizations**—(Enroll in EDUC 316.)

*4-5 units, Spr (McFarland)*

**SOC 369A. Perspectives on Organizations and Environments**

*1-5 units, Win (Hannan)*

**SOC 374A,B. Commercialization of Knowledge**—Research workshop. Key lines of research on organizational change. The fruitfulness of research programs in, and institutional, network, and evolutionary perspectives on, explaining large-scale change in organizational populations and institutions.

*2-3 units, A: Aut (Powell), B: not given 2004-05*

**SOC 376. Perspectives on Organization and Environment**—(Enroll in OB 674.) Theories in organizational behavior: organizational ecology and social exchange theory. Students may enroll for either or both; for further information, see class section notes. May be repeated for credit.

*4 units, Spr (Staff)*

**SOC 377. Comparing Institutional Forms: Public, Private, and Nonprofit**—(Same as GSBGEN 346.) Seminar. For students interested in the nonprofit sector, and those in the joint Business and Education program. The missions, functions, and capabilities of nonprofit, public, and private organizations. Focus is on sectors with significant competition among institutional forms, including health care, social services, the arts, and education. Sources include scholarly articles, cases, and historical materials. Advanced undergraduates may enroll with consent of instructor.

*4 units, Win (Powell)*

## SOCIOLOGICAL THEORY

**SOC 370A. Sociological Theory: Social Structure, Inequality, and Conflict**—The traditions of structural analysis derived from the work of Marx, Weber, and related thinkers. Antecedent ideas in foundational works are traced through contemporary theory and research on political conflict, social stratification, formal organization, and the economy.

3-5 units, Aut (Olzak)

**SOC 370B. Social Interaction and Group Process**—The analyses of social solidarity and group processes derived from such thinkers as Durkheim, Simmel, and Mead. Antecedent ideas in foundational works are traced through contemporary theory and research on small group processes, social networks, group identification, and related subjects.

3-5 units, Spr (Zelditch)

**SOC 372. Theoretical Analysis and Design**—Theoretical analysis and the logical elements of design, including the systematic analysis of the logical structure of arguments, the relationship of arguments to more encompassing theoretical or metatheoretical assumptions, the derivation of logical implications from arguments, assessments of theoretically significant problems or gaps in knowledge.

3-5 units, Aut (Zelditch)

## RESEARCH METHODS

**SOC 380. Qualitative Methods**—Same as 180/280, but restricted to doctoral candidates in Sociology or Sociology of Education. Methods used in contemporary sociological research, focusing on strategies for designing research and analyzing data.

5 units (Staff) not given 2004-05

**SOC 381A. Sociological Methods 1A: Computer-Assisted Data Analysis**—(Graduate section; see 181A/281A.)

3 units, Aut (Staff)

**SOC 382. Sociological Methodology II: The General Linear Model**—The general linear model for discrete and continuous variables. Introduction to model selection, the principles of estimation, assessment of fit, and modeling diagnostics. Prerequisites: 281A,B, or equivalents.

3-6 units, Spr (Tuma)

**SOC 383. Sociological Methodology III: Advanced Models for Discrete Outcomes**—Required for Ph.D. in Sociology. The rationale for and interpretation of static and dynamic models for the analysis of discrete variables. Prerequisites: 281A,B and 382, or equivalent.

3-6 units, Win (Tuma)

**SOC 387. Frontiers of Quantitative Sociological Research**—Advanced topics in quantitative sociological research, especially recently developed models and methods. Possible topics: robust regression methods, boot-strapping, local likelihood estimation, quantile regression, two-sided logit models, event count models, event sequence models, heterogeneous diffusion models, and models for change in social networks.

3-5 units (Tuma) not given 2004-05

**SOC 388. Log-Linear Models**—Analysis of categorical data with log-linear, and negative binomial models. Discussion of measures of fit, and hypothesis testing.

5 units (Rosenfeld) not given 2004-05

**SOC 389. Mixed Method Research Design and Analysis**—Research designs that incorporate qualitative and quantitative analyses in a single project. The tension between thinking case-wise and variable-wise; how the focus on relationships between variables that is the hallmark of the quantitative approach can be brought into qualitative work.

3-5 units, Spr (England)

## GRADUATE INDIVIDUAL STUDY

**SOC 390. Graduate Individual Study**

1-15 units (Staff)

**SOC 391. Graduate Directed Research**

1-15 units (Staff)

**SOC 392. Research Apprenticeship**

1-15 units (Staff)

**SOC 393. Teaching Apprenticeship**

1-15 units, Aut, Win, Spr, Sum (Staff)

**SOC 394. Thesis**

1-15 units, Aut, Win, Spr, Sum (Staff)

**SOC 395. Research Internship**—Graduate students integrate internship work into their academic program. Students register in the quarter following internship work and complete a research report outlining their work activity, problems investigated, key results, and follow-up projects they expect to perform. Meets requirements for Curricular Practical Training for students on F-1 visas. Work completed cannot be counted toward the departmental research assistantship requirement.

1-15 units (Staff)

## OVERSEAS STUDIES

These courses are approved for the Sociology major and taught at the campus indicated. Course descriptions can be found in the "Overseas Studies" section of this bulletin or in the Overseas Studies Program office, 126 Sweet Hall.

### FLORENCE

**SOC 114S. Migrations and Migrants: The Sociology of a New Phenomenon**

5 units, Spr (Allam)

### OXFORD

**SOC 117W. Gender and Social Change in Modern Britain**

4 units, Aut (Palmer)

### SANTIAGO

**SOC 111S. Social Heterogeneity in Latin America**—(Same as SPANLIT 164S.)

5 units, Aut (Valdés)





## CENTER FOR SPACE SCIENCE AND ASTROPHYSICS

*Emeriti: (Professors)* Ronald N. Bracewell, Robert Cannon, I-Dee Chang, Daniel B. DeBra, Von R. Eshleman, Robert A. Helliwell, Ronald J. P. Lyon, Laurence A. Manning, Bradford W. Parkinson, J. David Powell, Peter A. Sturrock, Alan T. Waterman; *(Professors—Research)* Donald L. Carpenter, Aldo V. daRosa, Antony Fraser-Smith, Henry T. Howard

*Director:* Robert V. Wagoner

*Associate Directors:* Umran S. Inan, Roger W. Romani, Philip H. Scherrer

*Professors:* Roger Blandford (Physics, SLAC), Elliot Bloom (SLAC), W. Gary Ernst (Geological and Environmental Sciences), Lambertus Hesselink (Electrical Engineering), Umran S. Inan (Electrical Engineering), Steven Kahn (Physics, SLAC), Peter F. Michelson (Physics), Vahe Petrosian (Physics), Norman H. Sleep (Geophysics), G. Leonard Tyler (Electrical Engineering), Robert V. Wagoner (Physics)

*Associate Professors:* Bruce B. Lusignan (Electrical Engineering), Roger W. Romani (Physics), Howard Zebker (Electrical Engineering, Geophysics)

*Assistant Professors:* Sarah Church (Physics), Guenther Walther (Statistics)

*Professors (Research):* C-W. Francis Everitt (Hansen Laboratory), Philip H. Scherrer (Physics)

*Associate Professor (Research):* Chris Chyba (Geological and Environmental Sciences)

*Consulting Professors:* Alan M. Title, Martin Walt (Electrical Engineering)

*SLAC Staff Physicist:* Grzegorz Madejski

*Center Offices:* Varian, Room 304

*Mail Code:* 94305-4060

*Phone:* (650) 723-1439

*Email:* danav@stanford.edu

*Web Site:* <http://www.stanford.edu/group/CSSA/>

Courses given in Center for Space Science and Astrophysics have the subject code SPACESCI. For a complete list of subject codes, see Appendix.

The center is an interdepartmental organization coordinating teaching and research in space science and astrophysics. Its members are drawn from the Department of Geological and Environmental Sciences in the School of Earth Sciences; the departments of Aeronautics and Astronautics, Electrical Engineering, and Mechanical Engineering in the School of Engineering; the departments of Applied Physics, Physics, and Statistics in the School of Humanities and Sciences; the W. W. Hansen Experimental Physics Laboratory; and the Stanford Linear Accelerator Center. Its membership also includes all faculty and appropriate staff at the Kavli Institute for Particle Astrophysics and Cosmology, located at SLAC and the Physics department.

Research now in progress covers a wide array of investigations and is approached in a variety of ways, including experiments flown on rockets, satellites, and space probes; ground-based observations made from the Hobby-Eberly Telescope, the Wilcox Solar Observatory, and from national observatories; and theoretical research including computer modeling. Topics currently being studied include cosmology, gamma-ray astronomy, gravitation theory and experiments, including gravitational waves (LIGO, LISA), guidance and control, high-energy astrophysics, ionospheric and magnetospheric physics, microwave and infrared astronomy, planetary sciences, solar physics, solar-terrestrial phenomena, stellar structure, theoretical astrophysics, x-ray and extreme ultraviolet astronomy, and the study of life in the universe. Some of these projects involve opportunities for collaboration with scientists at the Lockheed-Martin Research Laboratory through the Stanford-Lockheed

Institute for Space Research, the NASA/Ames Research Center, and the SETI Institute.

Stanford is a member of the Universities Space Research Association, a consortium of universities which operates the Lunar Science Institute in Houston, Texas; the University Corporation for Atmospheric Research in Boulder, Colorado; and the San Diego Supercomputing Consortium.

Stanford is the lead institution for the GLAST gamma-ray observatory, Gravity Probe B, and the Solar Oscillations Investigation on the Solar and Heliospheric Observatory spacecraft (SOHO); and participates in the USA X-ray satellite and the Soft X-Ray Telescope program on the Japanese Yohkoh spacecraft.

Stanford is also a member of the Hobby-Eberly Telescope Consortium which has constructed a 10-meter telescope at the McDonald Observatory of the University of Texas. Full science operations are in progress.

The facilities of the center are available to any interested and qualified student, who must be admitted by and registered in a department. The departments of Aeronautics and Astronautics, Applied Physics, Electrical Engineering, Mechanical Engineering, and Physics offer opportunities leading to an M.S. or Ph.D. degree for work in space science or astrophysics. The center also offers opportunities to undergraduates who may, for instance, participate in research projects in their junior or senior years, on a part-time basis during the school year or on a full-time basis during the summer. The Astronomy Course Program operates a small student observatory where students may gain practical experience in astronomical observing. The course list at the end of this entry includes courses of interest to undergraduates, as well as courses primarily of interest to graduate students.

Further information is available from the director.



# SPANISH AND PORTUGUESE

*Emeriti: (Professors)* Fernando Alegría, Bernard Gicovate, Mary Pratt, Isabel Magaña Schevill, Sylvia Wynter

*Chair:* J. Gordon Brotherston

*Professors:* J. Gordon Brotherston, Michael P. Predmore, Jorge Ruffinelli (Santiago, Chile, in Autumn), Guadalupe Valdés, Yvonne Yarbro-Bejarano

*Assistant Professors:* Richard Rosa, Lúcia Sá

*Professor (Teaching):* María-Paz Haro (Santiago, Chile, in Winter)

*Senior Lecturers:* Susan Cashion (by courtesy), Irene Corso, Lyris Wiedemann

*Courtesy Professors:* John Felstiner, Roland Greene, Hans U. Gumbrecht, Ramón Saldívar

*Courtesy Associate Professors:* James A. Fox, Paula Moya

*Visiting Professor:* Paul Julian Smith

*Visiting Assistant Professors:* Jose Cartagena-Calderón, Juan Poblete

*Spanish Language Program Coordinator:* Alice Miano

*Portuguese Language Coordinator:* Lyris Wiedemann

*Majors and Minors Coordinator:* Caridad Kenna

*Directors of Undergraduate Studies:* Richard Rosa, Lúcia Sá

*Graduate Advisers:* J. Gordon Brotherston, Yvonne Yarbro-Bejarano

*Department Offices:* Building 260, Room 214

*Mail Code:* 94305-2014  
*Phone:* (650) 723-4977

*Web Site:* <http://www.stanford.edu/dept/span-port/>

Courses given in Spanish and Portuguese have the subject codes PORTLANG, PORTLIT, SPANLANG, and SPANLIT. For a complete list of subject codes, see Appendix.

The department is committed to four main educational purposes: (1) to provide students with expert training in the Spanish and Portuguese languages at all levels and to enable them to develop their skills in these languages according to their goals and interests; (2) to acquaint students with the literatures and cultures of the Spanish and Portuguese speaking world (Iberia, Latin America, the United States) in terms of both contemporary realities and 1,000 years of written and oral tradition; (3) to prepare undergraduates for advanced study in Iberian, Latin American, and Luso-Brazilian languages, literatures, and cultures and/or in language education; and (4) to provide doctoral students with advanced training as research scholars and teachers, in preparation for careers as university teachers or related roles.

The faculty represent a broad range of interests and approaches. In general, the department's programs are characterized by: (1) a commitment to undergraduate and graduate teaching at the highest intellectual level; (2) a strong interdisciplinary focus that combines the study of literature with that of other forms of cultural expression; (3) a sociohistorical perspective on language, literature, and culture; (4) an effort to maintain a balance among Latin American, Iberian, and U.S. Latino/Chicano fields; and (5) language study tailored to a range of educational intellectual goals and native and non-native experience with the Spanish and Portuguese languages.

The department works closely with the Center for Latin American Studies, Comparative Studies in Race and Ethnicity, El Centro Chicano, the Overseas Studies program in Santiago, Chile, and selected overseas programs in Spain. It makes extensive use of the resources of the language laboratory and the Language Center. The University library maintains world class collections in Latin American and Iberian Studies and one of the largest research archives in the country in Chicano history and literature. The Hoover Library is a valuable resource for particular research topics on Spanish and Latin American intellectual history. Department faculty teach in the School of Education, Comparative Literature, Comparative Studies in Race and Ethnicity, Drama, Feminist Studies, Film Studies, Introduction to the Humanities Program, and Modern Thought and Literature. The department houses a Brazilian Writer-in-Residence program developed in cooperation with the Brazilian Ministry of Culture, and hosts visiting faculty from Spain and Latin America on a regular basis.

## UNDERGRADUATE PROGRAMS BACHELOR OF ARTS

The major in Spanish is designed to enable students to develop a concentration in a particular area of interest, accompanied by basic work in two secondary areas. Students are normally expected to declare the major during the sophomore year, but it is possible to declare during the junior year as well, particularly after overseas study in Santiago, Chile.

The major in Spanish requires 50 units in addition to completion of one of the second-year language sequences, or equivalent:

SPANLANG 11C, 12C, 13C. Second-Year Spanish: Cultural Emphasis SPANLANG 21B, 22B, 23B. Second-Year Spanish for Heritage Language

Course work for the major is grouped under the following subject area; students are required to take four courses in one of these areas, two courses in a second and one in a third:

1. Latin American/Caribbean studies (including Brazil)
2. Iberian Studies (including Portugal)
3. U.S. Latino/Chicano studies
4. Language in the Spanish-speaking world
5. Luso-Brazilian language and culture

Course work for the major must include:

1. One quarter of Portuguese language (counts for area 5 above)
2. SPANLANG 101. Structure of Spanish (counts for area 4 above)
3. SPANLIT 140. Introduction to Methods of Literary and Cultural Analysis (counts for area 1, 2, or 3 above)
4. One writing-intensive course
5. SPANLIT 278. Senior Seminar

All courses in the department numbered 101 or above count toward the major. With the consent of the student's adviser, up to 10 units of relevant course work outside the department and up to 10 units of course work done in English may be counted toward the major, more if the major subject area is Latino/Chicano studies. With the consent of the adviser, up to 25 units of relevant course work taken abroad may be counted toward the major. Courses taken credit/no credit do not count toward the major.

*How to Declare a Major*—Students interested in declaring a Spanish major should see the majors and minors coordinator, Caridad Kenna, or the undergraduate adviser, Richard Rosa.

*Double Majors*—The major in Spanish and Portuguese is designed to combine readily with a second major in another field and with study abroad. Students may not count the same course to fulfill requirements in both majors.

*Courses for Heritage Language Speakers*—The Language Center offers a series of second- and third-year courses specially designed for students who grew up in homes where Spanish is spoken and who wish to develop their existing linguistic strengths. See the "Language Center" section of this bulletin for these courses. The suffix 'B' in course numbers indicates these courses.

### MINORS

The department offers two minor concentrations. With the consent of the student's adviser, up to 10 units of relevant course work outside the department, and up to 15 units of relevant course work taken abroad, may count toward the following minors:

### LANGUAGE AND CULTURE STUDIES

This minor is intended for students who wish to focus on developing advanced linguistic competence in Spanish and/or Portuguese, or who wish to combine acquisition of linguistic competence with the study of the literature, thought, culture, or language systems of the Spanish- or Portuguese-speaking world.

*Requirements*—Thirty units of course work at the level of Spanish 11 or above, and/or in Portuguese at any level. Students must take at least three courses in one of the following subject areas:

1. Latin American and Iberian Studies: recommended are SPANLIT 130, 131, 132, 133 and 134; and 150, 151, 160, 161.
2. U.S. Latino/Chicano Studies: recommended are SPANLANG 21B, 22B, 23B, SPANLIT 132, and courses in the 280 series.

3. Advanced Language: any combination of second-year Spanish and/or first- and second-year Portuguese, plus a selection of 100- and 200-level language courses. Recommended: SPANLIT 203, 204, 205, 206, 207.
4. Luso-Brazilian Language and Culture: recommended are PORTLANG 11A, 12A, 133, 134, 170, and 171.

### CULTURE AND AREA STUDIES

This minor is intended for students who wish to study the literature, culture, or thought of the Spanish- and Portuguese-speaking world without necessarily acquiring proficiency in Spanish or Portuguese language. Students choosing this minor are strongly encouraged to take language courses in Spanish or Portuguese, including reading courses (such as SPANLANG 50 or PORTLANG 50). Such courses count toward, but are not required for, this minor.

*Requirements*—Thirty units of course work in Latin American, Iberian, U.S. Latino/Chicano, or Luso-Brazilian literature, culture, language, and thought studied in the original or in translation at the level of SPANLANG 11 or above.

### HOW TO DECLARE A MINOR

For minors in the School of Humanities and Sciences, students must complete their declaration of the minor no later than the last day of the quarter two quarters before degree conferral. For example, a student graduating in June (Spring Quarter) must declare the minor no later than the last day of Autumn Quarter of senior year. Students declaring a minor should meet with the majors and minors coordinator, Caridad Kenina.

### HONORS PROGRAM

Spanish and Portuguese majors in the junior year, with a grade point average (GPA) of 3.3 (B+) or better in all major courses, may apply to the honors program. Honors students are eligible to participate in the honors college at the beginning of their senior year. Students should submit an application for the honors program and a proposal outline by the end of Winter Quarter of the junior year. Each honors student must write an honors essay of 20 to 25 pages under the direction of a faculty member who serves as adviser. Work on the essay normally begins in the Spring Quarter of the junior year and must be completed by the end of the third week of March of the senior year. Consult the undergraduate adviser for additional information on the honors program.

### OVERSEAS STUDIES

All majors are strongly encouraged to study abroad. To transfer credits from non-Stanford programs abroad, consult the Office of the Registrar. Depending on course selections, up to 25 units of course work taken abroad may be applied toward the major and 15 units toward the minor in Spanish. Students planning study abroad, or returning from study programs, are encouraged to consult with the majors and minors coordinator or an undergraduate adviser to coordinate the course work from abroad with their degree program.

Both the department and Bechtel International Center maintain information banks on study abroad programs. Stanford sponsors the following options.

#### STANFORD IN SANTIAGO, CHILE

The Stanford Program in Santiago, Chile, requires one year of college Spanish to begin study in Autumn, one year plus one quarter to begin in Winter, and completion of two years to begin in Spring. Course work in Santiago is done entirely in Spanish, with the opportunity to attend classes at Chilean universities during Spring Quarter. Detailed information, including curricular offerings, is listed in the "Overseas Studies" section of this bulletin, or on the Overseas Studies Program web site at <http://osp.stanford.edu>. Internships and research opportunities may be arranged for two quarter students.

### BRAZIL AND PORTUGAL

The University maintains a relationship with the Universidade Estadual do Rio de Janeiro in Brazil. Students interested in study in Brazil or Portugal should contact Professor Sá or Lyris Wiedemann.

### SPAIN

The Department of Spanish and Portuguese recommends study in Spain with the Hamilton College Academic Year in Spain program, administered by the Department of Romance Languages of Hamilton College in cooperation with faculty members of Williams and Swarthmore colleges. Two distinguishing features of this program are: (1) Spanish must be spoken at all times, both in and outside of class; all students are required to sign a pledge to this effect before their arrival in Madrid; (2) the arrangement of independent study projects in lieu of regular courses. The program is based in Madrid, where the cultural, educational, social, and geographical benefits are optimal.

An additional excellent program recommended by the department is the Madrid campus of St. Louis University. This program has many of the features of the Hamilton College program. In addition, it has its own buildings and facilities located on the outskirts of the University of Madrid campus. This is the only U.S. overseas studies program in Spain which has received full accreditation by the Spanish authorities.

Students interested in study in Spain should consult Professors Haro or Predmore.

### TEACHING CREDENTIALS

For information concerning the requirements for teaching credentials, see the "School of Education" section of this bulletin and the credentials administrator, School of Education.

### COTERMINAL B.A. AND M.A.

The requirements for the coterminal B.A. are the same as those outlined below for the M.A. No course can count for both the B.A. and M.A. degrees. Contact Graduate Admissions at the Registrar's Office for information.

For University coterminal degree program rules and University application forms, see <http://registrar.stanford.edu/publications/#Coterm>.

### STEP COTERMINAL TEACHING PROGRAM

The Department of Spanish and Portuguese, in cooperation with the Stanford Teacher Education Program (STEP) of the School of Education, offers a special course of study for students interested in becoming teachers. By following this course of study in Spanish Language, Literatures, and Cultures and enrolling in the STEP Coterminal Teaching Program, students can, after 5 years, receive a B.A. in Spanish and Portuguese, an M.A. in Education, and a California Teaching Credential.

The Spanish Language, Literatures, and Cultures curriculum consists of approximately 50 quarter units in addition to demonstrated proficiency in the language, defined as listening, speaking, reading, and writing at a level equivalent to advanced on the ACTFL Oral Proficiency Interview. This course of study fulfills all the major requirements of the Department of Spanish and Portuguese and includes coursework in linguistics and language diversity studies, the history of the Spanish-speaking world, and Spanish literature and cultures.

Students enrolled in the STEP Coterminal Teaching Program are also expected to complete a series of core courses during their undergraduate years. These include one course in developmental psychology; one course in cognitive psychology; one course in the social foundations of education; one course on the role of race, class, and ethnicity in American society; a structured internship experience in a community-based organization serving youth and/or their families; and a teaching practicum offered by the School of Education.

For more information about this option, please consult Professor Valdés and/or the coordinator of the STEP Coterminal Teaching Program in CERAS 309; (650) 725-6321 or (650) 725-0652.

## GRADUATE PROGRAMS

University requirements for the M.A. and Ph.D. degrees are discussed in the “Graduate Degrees” section of this bulletin.

### MASTER OF ARTS IN SPANISH AND PORTUGUESE

This terminal M.A. degree program is for students who do not intend to continue their studies through the Ph.D. degree. Students in this program may not apply concurrently for entrance to the Ph.D. program. Students must complete a minimum of 45 graduate-level units, 36 of which must have a grade point average (GPA) of 3.0 or above.

The requirements of the M.A. are:

1. One linguistics course (LINGUIST 203, 204, 205, 206, 207), one course in language pedagogy, and one course in literary or cultural theory
2. Two 200-or-above courses in Latin American or Latino/Chicano literature and culture
3. Two 200-or-above courses in Peninsular literature or Luso-Brazilian literature
4. Reading knowledge of one foreign language other than Spanish (preferably Portuguese for students concentrating in Spanish)

Independent study courses (SPANLIT 299, 399) and crosslisted courses originating outside the department may not be used to fulfill requirements except by permission of one of the graduate advisers, Yvonne Yarbrow-Bejarano or Gordon Brotherston.

In addition, students may take approved courses in related fields such as classics, comparative literature, education, history of art, linguistics, modern thought, and philosophy.

### DOCTOR OF PHILOSOPHY

The requirements of the Ph.D. are:

1. 90 units of graduate-level course work with a grade point average (GPA) of 3.0 (B) or above. Units completed toward the M.A. degree can be counted for the Ph.D.
2. One course in Spanish linguistics, one course on methods of teaching Spanish, and one course on introduction to literary theory
3. A reading knowledge of Portuguese and one other foreign language
4. The qualifying paper, the comprehensive, and the University oral examinations, as described below
5. Teaching of three to five courses in the department
6. Completion of a dissertation

Independent study courses (299, 399) and crosslisted courses originating outside the department may not be used to fulfill requirements except by permission of the graduate adviser. For basic residency and candidacy requirements, see the “Graduate Degrees” section of this bulletin. For further information, consult the department’s *Graduate Student Handbook*.

In preparation for teaching, Ph.D. candidates must take SPANLIT 201 in the first year.

In consultation with the adviser, students select one major field of study from the following:

1. Spanish Literature of the Golden Age
2. Modern Spanish Literature
3. Spanish American Literature to Independence
4. Spanish American Literature of the 19th and 20th Centuries
5. Chicano Literature and Culture.

In addition, candidates select two secondary areas of study outside the major field from the following:

1. Spanish Medieval Literature
2. Spanish Literature of the Golden Age
3. Modern Spanish Literature
4. Spanish American Literature of the Colonial Period
5. Spanish American Literature from Independence
6. Chicano Literature
7. Literary Theory
8. Linguistics
9. Spanish American Film
10. Brazilian Literature

At least four courses must be taken in the major field of study. At least two courses must be taken in each secondary area. Students whose major field is in Spanish-American or Latino/Chicano Literature must choose one secondary area in Peninsular literature and vice versa. One secondary area of concentration may be taken outside the department in consultation with the adviser.

In addition to the department’s course offerings, students may take relevant courses with the approval of their adviser in other departments and programs, such as the graduate programs in Comparative Literature, Feminist Studies, History, Humanities, or Modern Thought and Literature. It is also possible to complete a minor in another department with approval of the adviser. Normally, not more than 25 units are taken outside the department.

After the first year of study, the student’s progress is evaluated by the faculty to determine whether continuation to the Ph.D. is recommended and whether there are particular areas where improvement is needed. For this evaluation, students submit a research paper of approximately 20 pages by the third week of Winter Quarter of the second year. The requirements for this paper are outlined in the *Graduate Student Handbook*.

If approval of the qualifying paper is granted, the student should file a formal application for candidacy no later than the end of the second year, as prescribed by the University. Course requirements are usually completed by the third year of study. A written comprehensive examination on the major field and secondary areas is then taken. The examination is based on a list of readings, selected in consultation with the adviser, which integrates major and secondary topics in both Peninsular and Latin American or Latino/Chicano Studies. At this time, students hand in a long research paper to be evaluated by the faculty. For further details, consult the *Graduate Student Handbook*.

Following the comprehensive examination, students should find a topic requiring extensive original research and request that a member of the department serve as dissertation adviser. The student must complete the Reading Committee form and request that the chair approve a committee to supervise the dissertation. The committee may advise extra preparation within or outside the department, and time should be allowed for such work. The University oral examination usually takes place one or two quarters after passing the comprehensive examination. The oral examination covers plans for the dissertation based on a prospectus approved by the committee (15 to 20 pages), and may be taken in English, Spanish, or Portuguese.

The dissertation must be submitted to the reading committee in substantially final form at least four weeks before the University deadline in the quarter during which the candidate expects to receive the Ph.D. degree. Ph.D. dissertations must be completed and approved within five years from the date of admission to candidacy. Candidates taking more than five years must apply for reinstatement of candidacy.

### PH.D. MINOR

For a minor in Spanish or Portuguese, the student must complete 25 units, with a grade point average (GPA) of 3.0 or above, selected from courses numbered 200 or higher.

Students who choose a minor in another department should consult with advisers in that department.

### JOINT PH.D. PROGRAMS

The Department of Spanish and Portuguese participates in the Graduate Program in Humanities leading to a joint Ph.D. degree in Spanish and Humanities. For a description of that program, see the “Interdisciplinary Studies in Humanities” section of this bulletin.

## COURSES

WIM indicates that the course satisfies the Writing in the Major requirements.

Students interested in literature and literary studies should also consult course listings in the departments of Asian Languages, Classics, Comparative Literature, English, French and Italian, German Studies, and Slavic Languages and Literatures, in the Program in Modern Thought and Literature, and in the Division of Literatures, Cultures, and Languages.

## OVERVIEW

1. Stanford Introductory Seminars, freshman and sophomore preference
2. Literature, Culture, Linguistics, and Theory (120-399)
  - a) Undergraduate Courses (130-199)
  - b) Courses for Advanced Undergraduates and Graduates (200-299)
    - Language, Linguistics, and Theory (200-212)
    - Peninsular Literature (213-239)
    - Latin American Literature (240-279)
    - Latino/Chicano Literature (280-289)
    - Individual Work (299)
3. Graduate Seminars (300-399)
  - Linguistics, Methodology, and Literary Theory (300-313)
  - Peninsular Literature (314-339)
  - Latin American Literature (340-369)
  - Luso-Brazilian Literature (370-379)
  - Chicano Literature (380-389)
  - Individual Work (399)
  - Dissertation Research (802)

Courses bearing the suffix ‘E’ are taught in English and do not assume competence in another language. All other courses require some knowledge of Spanish or Portuguese, and may be given in those languages or bilingually.

## SPANISH AND PORTUGUESE LANGUAGE COURSES

The following courses in Spanish and Portuguese language instruction represent a typical sequence for three years of Spanish and Portuguese language study. Majors and prospective majors should consult the requirements for a B.A. in Spanish or Portuguese above. For descriptions, other information, and additional courses including special emphasis, intensive, summer, and activity courses at the Yost House, see the “Language Center” section of this bulletin.

### SPANLANG 1,2,3. First-Year Spanish

5 units, Aut, Win, Spr (Staff, García-Denson, Guzmán, Schell, Urruela, Won, Zaragoza)

### SPANLANG 11C,12C,13C. Second-Year Spanish: Cultural Emphasis

4-5 units, Aut, Win, Spr (Kenna, Schell, Urruela, Won)

### SPANLANG 11R,12R,13R. Second-Year Spanish: Emphasis on International Relations

4-5 units, 11R: Aut, 12R: Win, 13R: Spr (Perales, Sierra)

### SPANLANG 15. Intermediate Oral Communication

3 units, Aut, Win, Spr (Staff)

### SPANLANG 100. Advanced Oral Communication

3 units, Aut, Win, Spr (Staff)

### SPANLANG 101. The Structure of Spanish

3-5 units, Aut, Win (Sierra)

### SPANLANG 102. Composition and Writing Workshop

3-5 units, Aut (Kenna)

### PORTLANG 1,2,3. First-Year Portuguese

5 units, 1: Aut, 2: Win, 3: Spr (Delgado)

### PORTLANG 11A,12A. Accelerated Second-Year Portuguese

3-5 units, Aut, Win, Spr (Delgado, Wiedemann)

## INTRODUCTION TO THE HUMANITIES (IHUM)

The following Introduction to the Humanities courses are taught by Spanish and Portuguese department faculty members. IHUM courses are typically available only to freshmen seeking to fulfill GER:1 requirements; see the “Introduction to the Humanities” section of this bulletin for further information. Prospective majors in Spanish or Portuguese are advised to consider satisfying their GER:1b,c requirements by registering for the following IHUM courses.

**IHUM 38A,B. Roots and Routes: Narrative Geographies of the Americas**—Colonialism, transnationalism, migration and immigration, and gender and language in the Americas through novels and shorter pieces from the Latin American, Chicano/a, and Latino/a traditions. GER:1b,1c (two quarter sequence)

**IHUM 38A.** 5 units, Win (Brotherston, Rosa, Yarbrow-Bejarano)

**IHUM 38B.** 5 units, Spr (Brotherston, Rosa, Yarbrow-Bejarano)

## STANFORD INTRODUCTORY SEMINARS

**SPANLIT 101N. Visual Studies and Chicana/o Art**—Stanford Introductory Seminar. Preference to freshmen. Images, context, and spectatorship. Who is seen and not seen in visual contexts? Whose gaze is privileged? Which aspects of the past are circulated as visual representations? Whose fantasies are fed by which visual images? In what circumstances is looking and returning the gaze an act of political resistance? How do people interact with images to make and remake the world in the shape of their own desires and fantasies? GER:3a,4b

3-5 units, Aut (Yarbrow-Bejarano)

**SPANLIT 103N. Literature and Social Exclusion: the Poor in Brazilian Narrative**—Stanford Introductory Seminar (Same as PORTLIT 103N.) How does literature represent the poor in a country where they are the majority? Themes include political denunciation, middle-class guilt, and literary representation. 19th-century writers include Machado de Assis and Aluísio Azevedo; contemporary writers include Patrícia Melo and Paulo Lins. In English. GER:3a

3-5 units, Win (Sá)

**SPANLIT 111N. Contemporary Spain: The Challenge of Change**—Stanford Introductory Seminar. Preference to freshmen. Years marked by experimentation and change in life in Spain. Society and culture from postwar times and the transition years from the Franco regime to the present democratic state. Student research project. Prerequisite: AP score of 4 or 5 in Spanish language or literature, or equivalent. GER:3a

4 units, Spr (Haró)

**SPANLIT 116N. New World Creation Narratives**—Stanford Introductory Seminar. Indigenous narratives from Middle America, Amazonia, Anasazi, and the Andes recount how the world began while detailing their own environments and realities. Readings in translation include *Legends of the Suns*, *Popol vuh*, *Watunna*, *Finding the Center*, and *The Huarochirí Manuscript*. What they say provides insight into the cultural foundations of Latin America. GER:3a

3-4 units, Aut (Brotherston)

**SPANLIT 178N. Del Otro Lado: Latino/a Performance Art in the U.S.**—Stanford Introductory Seminar (Same as DRAMA 17N.) Preference to freshmen. Introduction to works by U.S. Latino/a performance artists from the margins of the mainstream Euro-American theater world. How performance art serves as a dramatized essay for Latino/a artists, producing transgressive explorations of queer and national/ethnic identities. Artists: Luis Alfaro, Nao Bustamante, the Coatlicue Theater Company, Guillermo Gómez-Peña, Celia Herrera Rodríguez, Ana Mendieta, Carmelita Tropicana. Creation/performance of a short original piece; performance viewings. GER:3a,4b

3 units, Win (Moraga)

**PORTLIT 193Q. Spaces and Voices of Brazil through Films**—Stanford Introductory Seminar. (Same as SPANLIT 193Q.) Preference to sophomores. Brazilian culture through films that portray its five cultural-geographical regions. Focus is on movies and complementary texts on Brazilian culture to understand the forces that shaped the multicultural reality of modern Brazil.

3-5 units, Aut (*Wiedemann*)

## LITERATURE, CULTURE, LINGUISTICS, AND THEORY

### UNDERGRADUATE

**SPANLIT 42. Dances of Latin America**—(Enroll in DANCE 42.)

2 units, Win (*Cashion*)

**SPANLIT 43. Afro-Brazilian and Afro-Peruvian Dance**—(Enroll in DANCE 43.)

2 units, Win (*Cashion*)

**SPANLIT 105. Grupo Folklórico Los Decanos**—(Enroll in DANCE 105.)

1 unit, Win, Spr (*Cashion*)

**SPANLIT 105C. The Literature of the Americas**—(Enroll in COMPLIT 105, ENGLISH 172E.)

5 units (*Greene, Saldívar*) not given 2004-05

**SPANLIT 128. Contemporary Brazilian Fiction**—(Same as PORTLIT 128.) Authors such as Silviano Santiago, Paulo Lins, Milton Hatoum, Ana Miranda, and Elvira Vigna. In Portuguese. GER:3a

3-5 units, Spr (*Sá*)

**SPANLIT 136. Introduction to Modern Peninsular Spanish Literature**—Representative works of Spanish literature from the 1830s to the 1930s: Larra, Espronceda, Bécquer, Rosalía de Castro, Galdós, Unamuno, Valle-Inclán, Machado, and García Lorca. Emphasis is on texts related to the problem of Spain within the democratic tradition of Spanish liberalism. In English. GER:3a

3-5 units, Win (*Predmore*)

**SPANLIT 140. Introduction to Methods of Literary and Cultural Analysis**—Focus is on central issues of Spanish, Latin American, and Latino texts. Topics include: the problem of identity and its discursive articulation; truth, narrative, and history; enlightenment, modernity, and cultural autonomy; race, colonialism, and representation. Readings include theoretical or philosophical texts, literary fiction, and essays, by authors such as Cervantes, Martí, Cortázar, Rulfo, Derrida, White, and Rama.

3-5 units, Aut (*Rosa*)

**SPANLIT 141. Contemporary Spanish Women Writers**—The speed of change and vitality of contemporary Spain is illustrated by studying literary women. Works by prominent women narrators of Franco's era such as Matute and Martín Gaité. Novels by the new generations of women writers such as Tusquets, Montero, Mayoral, Ortiz, and Etxebarria, who are transforming their experiences, values, and ideologies into a new literature about the relationships among gender, creativity, and social mores. Feminist consciousness, how it has developed, and how it is changing to face challenges. GER:3a,4c

3-5 units, Aut (*Haro*)

**SPANLIT 145. Gender, Race, and Sexualities in Pre- and Early Modern Hispanic Literature**—The construction of masculinities, femininities, and non-normative sexualities in medieval and early modern Spanish literature and culture. Topics include: becoming male in medieval Spain; masculine alterity in Reconquest Castile; sexual underworlds in 15th-century Spain; gender, race, and national identity in imperial Spain; acts of queerness in early modern Spanish stage; gender trouble in the New World; and the drama of honor, male bonding, and anxious masculinity in 17th-century Spain. GER:3a

3-5 units, Aut (*Cartagena-Calderón*)

**SPANLIT 188D. Convivencia: Jews, Christians, and Muslims in Medieval Iberia**—(Enroll in HISTORY 188D.)

5 units (*Gutwirth*) not given 2004-05

**SPANLIT 192. Spanish Films of the 90s: Society through the Eye of the Camera**—A new generation of film directors. Modern film making, story telling, and reflecting on contemporary Spanish society. Film makers include Amenábar, Bollaín, de la Iglesia, Gutiérrez, León de Aranoa, and Zambrano. GER:3a

3-5 units, Aut (*Haro*)

**PORTLIT 193. Spaces and Voices of Brazil**—Brazilian culture through movies that portray aspects of its five cultural-geographic regions. Focus is on the movies and complementary texts on Brazilian culture, to understand the forces that shaped its modern multicultural reality.

3-5 units, Aut (*Wiedemann*)

**SPANLIT 193. Only Almodóvar**—The films of Pedro Almodóvar, the *enfant terrible* of the 80s whose eccentric, gender-bending melodramas helped to reinvent post-Franco Spain. Is he really the genius that critics rave about? Is his cinematography unique, outrageous, and transgressive? Themes, characters, places, objects, cinematic perspectives, and aesthetics. Prerequisite: ability to understand spoken Spanish.

3 units, Spr (*Haro*)

**SPANLIT 199. Individual Work**—Open only to students in the department, or by consent of instructor. Spanish and Portuguese.

1-12 units, Aut, Win, Spr, Sum (*Staff*)

### ADVANCED UNDERGRADUATES AND GRADUATES LANGUAGE, LINGUISTICS, AND THEORY

**SPANLIT 205. Spanish Dialectology**—Focus is on the major varieties of Spanish as they are spoken in Spain and in the Americas. Introduction to dialect geography and to the study of social and regional variation from a sociolinguistic perspective.

3-5 units, Spr (*Valdés*)

**SPANLIT 206. Language Use in the Chicano Community**—The significance and consequences of language diversity in the culture and society of the U.S. Experiences of non-English background individuals through focus on Spanish-English bilingual communities.

3-5 units, Aut (*Valdés*)

**SPANLIT 212. The Cinema of Pedro Almodóvar**—The complete works of contemporary Spain's most successful director. Almodóvar in the context of audiovisual production in Spain and Europe. Questions of narrative and ideology; critical readings to which the films have given rise. Film form through analysis of clips viewed in class.

3-5 units, Aut (*Smith*)

### PENINSULAR LITERATURE

**SPANLIT 217. Early Modern Women's Writing in the Spanish Empire**—(Graduate students register for 317.) The interrelationship between gender and cultural authority in early modern Spain and the Atlantic world. Topics include: how women writers asserted authority to write when discouraged from doing so; forms in which women writers followed, discarded, or transformed male-authored models; the representation of gender and sexual dissidence; and the development of a proto-feminist consciousness advocating social justice. Focus is on women-authored texts. GER:3a

3-5 units, Aut (*Cartagena-Calderón*)

**SPANLIT 225E. Theater, Society, and Politics in 20th-Century Spain**—Ramón del Valle-Inclán and Federico García Lorca. The avant garde nature of their major plays and their engagement with social and political issues of the times including feudalism, the emerging liberal state, women's protest, class struggle, and civil war. Symbolism, expressionism, and realism.

3-5 units, Spr (*Predmore*)

**LATIN AMERICAN LITERATURE**

**SPANLIT 242. The Boom of the Latin American Novel**—The main works of the main authors of the Latin American boom of the 60s: Julio Cortázar, Gabriel García Márquez, Mario Vargas Llosa. The history, characteristics, and ending of the new Latin American novel. GER:3a  
3-5 units, Spr (Ruffinelli)

**SPANLIT 245. Discourses of Race and Identity in Latin America**—(Same as PORTLIT 245.) How has Latin America defined itself over time and how have its intellectuals dealt with questions related to race, class, and culture? Focus is on essays from 1800s-1970s by influential intellectuals. GER:3a  
3-5 units, Win (Sá)

**SPANLIT 248. Isabel Allende: From *The House of Spirits* to *My Invented Country***—Woman, Chilean American, writer, exile, journalist, mother, wife, best-selling author, celebrity, and benefactor: the facets of Isabel Allende's world as expressed in her work. GER:3a  
3-5 units, Spr (Ruffinelli)

**SPANLIT 278. Senior Seminar: Literature and Democracy in Latin America**—The reception and assimilation of political theories of democracy as narrativized in Latin American texts. How writers and artists articulated a democratic rhetoric, and the limits and obstacles they encountered. How representation intersects political and literary theory; the incorporation of artistic and literary techniques in efforts to rearrange social power. Republicanism, liberalism, and Marxism; the incorporation of the region into the commercial world system; metaphors of the body politic; the representation of racial, geographical, and cultural components. Readings include Bolívar, Martí, Paz, García Márquez, Manchú, Rama, Poccock, Skinner, and Ankersmit.  
3-5 units, Win (Rosa)

**LATINO/CHICANO LITERATURE**

**SPANLIT 282. Creative Non-Fiction Writing Workshop**  
3-5 units, Spr (Moraga) alternate years, not given 2005-06

**SPANLIT 283. Chicana Feminism**—From the 70s to the present. Comparison to frameworks of social inequality including race, class, and sexuality. Readings include Alma García, Ana Nieto-Gómez, Marta Cotera, Elizabeth Martínez, Cherríe Moraga, Gloria Anzaldúa, Chela Sandoval, Ana Castillo, Sonia Saldívar-Hull, Mary Pat Brady, and Rosa-Linda Fregoso. Visual art, film, and performance. In English. GER:4c  
3-5 units, Win (Yarbro-Bejarano)

**INDIVIDUAL WORK**

**PORTLIT 299. Individual Work**—Open to department undergraduates or graduates by consent of professor. May be repeated for credit.  
1-12 units, Aut, Win, Spr, Sum (Staff)

**SPANLIT 299. Individual Work**—Open to department undergraduates or graduates by consent of professor. May be repeated for credit.  
1-12 units, Aut, Win, Spr, Sum (Staff)

**GRADUATE SEMINARS**

Open to undergraduates with consent of instructor.

**PENINSULAR LITERATURE**

**SPANLIT 316. The City in Contemporary Spanish Literature, Cinema, and Visual Arts**—Seminar. Urban theorists including Henri Lefebvre, Michel de Certeau, and Manuel Castells. Recent writings on urbanism in Spain. Novels (Juan Almodóvar, Alex de la Iglesia), and the visual arts (Antonio López, Txomin Badiola, Marisa González). Themes include utopia and dystopia, density and flow, and festivity and violence.  
3-5 units, Aut (Smith)

**SPANLIT 317. Early Modern Women's Writing in the Spanish Empire**—(Same as 217; see 217.)  
3-5 units, Aut (Cartagena-Calderón)

**SPANLIT 318. Significant Others: Representing Alterity in Early Modern Spanish Theater**—The formation of otherness and its manifestations in Spanish Golden Age theater. Focus is on plays representing groups marked as other against which national and imperial identity was constructed. Such groups include non-Christians; colonial and imperial others including Amerindians, Indianos, Africans, and Afro-Spaniards; and sexual others including sodomites, transvestites, hermaphrodites, and prostitutes.  
3-5 units, Win (Cartagena-Calderón)

**SPANLIT 339. Philosophy in Spain, 1850-1935**—Seminar. The main philosophical currents, ideas, and configurations from the First to the Second Spanish Republics. Did processes of productive reception replace nationally independent philosophical practices in the 19th and 20th centuries? Krausismo, Unamuno, and Ortega y Gasset. The reconstruction of the historical processes of assimilation, reception, and transformation; how modern philosophy in Spain impacted Spanish-speaking countries. Prerequisite: reading knowledge of Spanish. Recommended: reading knowledge of German and French.  
3-5 units, Win (Gumbrecht)

**LATIN AMERICAN LITERATURE**

**SPANLIT 347. Spanish Colonial Writing and Native Sources**—The Spanish version of conquest in America as a pillar of Europe's master narrative yet challenged by indigenous history and philosophy. The consequent tensions through works by Sahagún, Durán, and Gamboa in New Spain, and Ávila and Murúa in Peru and their native sources. In Spanish.  
3-5 units, Aut (Brotherston)

**SPANLIT 349. Deconstructing Latin American Critical Literary Thinking**—Influential Latin American critics including Rama, Cornejo, Sarlo, Ludner, and Canclini in relation to U.S. and British Latin Americanists including Franco and Rowe.  
3-5 units, Spr (Ruffinelli)

**SPANLIT 352. Slaves, Women, and Unreliable Narrators on the Capitalist Periphery: The Novels of Machado de Assis**—(Same as PORTLIT 352.) The works of the mulatto who became Brazil's celebrated writer. Novels include *Yaya Garcia*, *Posthumous Memoirs of Brás Cubas*, *Quincas Borba*, *D. Casmurro*, *Esau and Jacob*, and *Counselor Ayre's Memorial*. Critical works including Roberto Schwarz's *A Master on the Periphery of Capitalism*.  
3-5 units, Spr (Sá)

**SPANLIT 366. Commerce and Culture in Latin America and Europe**—(Same as GERLIT 266A.) Processes of exchange between literature and art and the commercial world from the 18th-20th centuries. How features of commercial society such as property, exchange, consumption, and credit are legitimated in culture while changing the terms of cultural exchange. Discursive articulations such as the opposition between Rousseau's republicanism and Hume's commercialism; peripheral texts which introduced issues such as gender, race, sexuality, and geographical location. Projects of individual or communal affirmation; finance, metaphor, and philosophy; property, race, and the Enlightenment; and liberalism, communitarianism, and bourgeois life. In English.  
3-5 units, Spr (Rosa, Strum)

**SPANLIT 369C. Introduction to Graduate Studies: Criticism as Profession**—(Enroll in COMPLIT 369, GERLIT 369.)  
5 units, Aut (Berman)

**CHICANO LITERATURE**

**SPANLIT 381. Working with the Archive: Chicana/o Culture**—Archival research in Chicana/o writing. Theories of the archive and the position of the investigator. Presentation of research findings from the writers' personal papers held in Special Collections. Writers include Arturo Islas, Cherríe Moraga, Bernice Zamora, Harry Gamboa, Jr., Juan Felipe Herrera, Raúl Salinas, Ricardo Sánchez, and Jimmy Santiago Baca. In English.  
3-5 units, Aut (Yarbro-Bejarano)

**SPANLIT 385. The Rite to Remember: Performance and Chicana/Indigena Thought**—(Enroll in DRAMA 355M.)

3-5 units, Aut (Moraga)

**INDIVIDUAL WORK**

**PORTLIT 399. Individual Work**—For Spanish and Portuguese department graduate students only. Prerequisite: consent of instructor.

1-12 units, Aut, Win, Spr, Sum (Staff)

**SPANLIT 399. Individual Work**—For Spanish and Portuguese department graduate students only. Prerequisite: consent of instructor.

1-12 units, Aut, Win, Spr, Sum (Staff)

**OVERSEAS STUDIES**

Courses approved for the Spanish and Portuguese majors and taught overseas can be found in the “Overseas Studies” section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

**SANTIAGO**

**SPANLIT 118X. Comparative Cinema and Latin America**

3-5 units, Aut (Ruffinelli)

**SPANLIT 155X. Contemporary Chilean Women Writers**

3-5 units, Win (Haro)

**SPANLIT 164S. Social Heterogeneity in Latin America**—(Same as SOC 111S.)

5 units, Aut (Valdes)

**SPANLIT 183X. Cinema of the Southern Cone**

3 units, Win (Haro)

**SPANLIT 243X. The Chilean New Narrative**

3-5 units, Aut (Ruffinelli)

**SPANLIT 290Z. Modernization and Culture in Latin America**—(Same as ANTHSCI 104X.)

5 units, Aut (Subercaseaux)

**STATISTICS**

*Emeriti:* Theodore W. Anderson, Albert H. Bowker, M. Vernon Johns, Lincoln E. Moses, Herbert Solomon, Charles Stein

*Chair:* David O. Siegmund

*Professors:* Thomas M. Cover, Amir Dembo, Persi Diaconis, David L. Donoho, Bradley Efron, Jerome H. Friedman, Trevor J. Hastie, Iain M. Johnstone, Tze L. Lai, Ingram Olkin, Art Owen, Joseph P. Romano, David O. Siegmund, Paul Switzer, Wing H. Wong

*Associate Professor:* Guenther Walther

*Assistant Professor:* Jonathan Taylor

*Associate Professor (Teaching):* Susan Holmes

*Courtesy Professors:* Richard A. Olshen, Neil Risch, Robert Tibshirani

*Courtesy Associate Professors:* Simon Jackman, David Rogosa

*Consulting Professor:* Charles Chui

*Mail Code:* 94305-4065

*Phone:* (650) 723-2620

*Web Site:* <http://www-stat.stanford.edu>

Courses given in Statistics have the subject code STATS. For a complete list of subject codes, see Appendix.

The department’s goals are to acquaint students with the role played in science and technology by probabilistic and statistical ideas and methods, to provide instruction in the theory and application of techniques that have been found to be commonly useful, and to train research workers in probability and statistics. There are courses for general students as well as those who plan careers in statistics in business, government, industry, and teaching.

The requirements for a degree in statistics are flexible, depending on the needs and interests of the students. Some students may be interested in the theory of statistics and/or probability, whereas other students may

wish to apply statistical and probabilistic methods to a substantive area. The department has long recognized the relation of statistical theory to applications. It has fostered this by encouraging a liaison with other departments in the form of joint and courtesy faculty appointments: Economics (Anderson), Education (Olkin, Rogosa), Electrical Engineering (Cover), Geological and Environmental Sciences (Switzer), Genetics (Risch), Health Research and Policy (Brown, Efron, Hastie, Johnstone, Moses, Olshen, Tibshirani, Wong), Mathematics (Dembo, Diaconis), Political Science (Jackman), and the Stanford Linear Accelerator (Friedman). The research activities of the department reflect an interest in both applied and theoretical statistics, and probability. There are workshops in biology-medicine and in environmental factors in health.

In addition to courses for Statistics majors, the department offers a number of service courses designed for students in other departments. These tend to emphasize the application of statistical techniques rather than their theoretical development.

The Department of Statistics is well equipped for statistical applications and research in computational statistics. Computer facilities include several networked Unix servers and a PC lab for general research and teaching use. The Mathematical Sciences Library serves the department jointly with the departments of Mathematics and Computer Science.

The department has always drawn visitors from other countries and universities. As a consequence, there is usually a wide range of seminars offered by both the visitors and our own faculty.

**UNDERGRADUATE PROGRAMS**

**MAJOR**

Students wishing to build a concentration in probability and statistics are encouraged to consider declaring a major in Mathematical and Computational Sciences. This interdepartmental program is administered in the Department of Statistics (Bradley Efron, chair) and provides a core training in computing, mathematics, operations research, and statistics, with opportunities for further elective work and specialization. See the “Mathematical and Computational Science” section of this bulletin.

**MINORS**

The undergraduate minor in Statistics is designed to complement major degree programs primarily in the social and natural sciences. Students with an undergraduate Statistics minor should find broadened possibilities for employment. The Statistics minor provides valued preparation for professional degree studies in postgraduate academic programs.

The minor consists of a minimum of six courses with a total of at least 20 units. There are two required courses (8 units) and four qualifying or elective courses (12 or more units). An overall 2.75 grade point average (GPA) is required for courses fulfilling the minor.

1. *Qualifying Courses:* at most, these two courses may be counted toward the six course requirement for the minor: MATH 52; STATS 191.
2. *Required Courses:* STATS 116 and 200.
3. *Elective Courses:* at least one of the elective courses should be a STATS 200-level course. The remaining two elective courses may also be 200-level courses. Alternatively, one or two elective courses may be approved courses in other departments. Special topics courses and seminars for undergraduates are offered from time to time by the department and these may be counted toward the course requirement.

Examples of elective course sequences are:

STATS 202, 203, (204), emphasizing data analysis and applied statistics

STATS 205, 206, (207), emphasizing statistical methodology

STATS 206, ECON 160, (181), emphasizing economic optimization

STATS 206, PSYCH 156, (160), emphasizing psychology modeling and experiments

STATS 207, EE 264, (279), emphasizing signal processing

STATS 217, BIOSCI 283, emphasizing genetic and ecologic modeling

STATS 217, 218, emphasizing probability and its applications

STATS 240, 250, 351, emphasizing mathematical finance



## GRADUATE PROGRAMS

### MASTER OF SCIENCE

The department requires that the student take 45 units of work from offerings in the Department of Statistics or from authorized courses in other departments. Ordinarily, four or five quarters are needed to complete all requirements.

Each student should fulfill the following requirements for the M.S. degree:

1. STATS 116, 203, 200, and 217. Courses previously taken may be waived by the adviser, in which case they must be replaced by other graduate courses offered by the department.
2. One of MATH 103, 113, 115, 171; and one of CS 106X (3 units), 137 (3 units), 138A. Substitution of other courses in Mathematics and Computer Science may be made with consent of the adviser.
3. At least four additional courses from graduate offerings in the department (202-399). Consent of the adviser is required in order to take more than 6 units of STATS 260, 390, or 399.
4. Additional units to complete the requirements may be chosen from the list available from the department. Other graduate courses (200 or above) may be authorized by the adviser if they provide skills relevant to statistics or deal primarily with an application of statistics or probability and do not overlap courses in the student's program. There is sufficient flexibility to accommodate students with interests in applications to business, computing, economics, engineering, health, operations research, and social sciences.

Students with a strong mathematical background who may wish to go on to a Ph.D. in Statistics should consider applying directly to the Ph.D. program.

All statistics courses required for the M.S. degree (116, 200, 217, and three additional Statistics graduate courses) must be taken for letter grades, and an overall 2.75 grade point average (GPA) is required.

### DOCTOR OF PHILOSOPHY

The department looks for motivated students who want to prepare for research careers in statistics or probability, either applied or theoretical. Advanced undergraduate or master's level work in mathematics and statistics provides a good background for the doctoral program. Quantitatively oriented students with degrees in other scientific fields are also considered for admission. The program normally takes four years.

*Program Summary*—STATS 300A,B,C, 305, 306A,B, and 310A,B,C (first-year core program); pass two of three parts of the qualifying examination (beginning of second year); breadth requirement (second or third year); University oral examination (end of third year or beginning of fourth year); dissertation (fourth year).

In addition students are required to take 9 units of advanced topics courses offered by the department (including at least two of the following: 314, 317, 318, 315A, or 315B, but not including literature, research, or consulting), and 3 units of statistical consulting.

*First-Year Core Courses*—STATS 300 systematically surveys the ideas of estimation and of hypothesis testing for parametric and nonparametric models involving small and large samples. 305 is concerned with linear regression and the analysis of variance. 306 surveys a large number of modeling techniques, related to but going beyond the linear models of 305. 310 is measure-theoretic probability theory, beginning with the basic concepts of analysis. Students who do not have enough mathematics background can take 310 after their first year but need to have their first-year program approved by the Ph.D. program adviser.

*Qualifying Examinations*—These are intended to test the student's level of knowledge when the first-year program, common to all students, has been completed. There are separate examinations in the three core subjects of statistical theory and methods, applied statistics and probability theory, and all are given before the beginning of the Autumn Quarter of the student's second year. Students may take two or three of these examinations and are expected to show acceptable performance in two examinations.

*Breadth Requirement*—Students are advised to choose an area of concentration in a specific scientific field of statistical applications; this can be realized by taking at least 15 units of course work approved by the Ph.D. program adviser.

Current areas with suggested course options include:

*Computational Biology and Statistical Genomics*—Students are expected to take 9 units of graduate courses in genetics or neurosciences (imaging), such as GENE 203/BIOSCI 203, as well as 9 units of classes in Statistical Genetics or Bioinformatics, GENE 344A and B, STATS 345, STATS 366, STATS 367.

*Machine Learning*—Courses can be chosen from the following list:

Statistical Learning: STATS 315A and 315B

Data Bases: CS 245, 346, 347

Probabilistic Methods in AI: CS 221, 354

Statistical Learning Theory and Pattern Classification: CS 229

*Applied Probability*—Students are expected to take 15 units of graduate courses in some of the following areas:

Control and Stochastic Calculus: MS&E 322, 351, MATH 237, EE 363

Finance: STATS 250, 351, FINANCE 622, MATH 236

Information Theory: EE 376A, 376B

Monte Carlo: STATS 318, 345, 362, MS&E 323

Queueing Theory: MS&E 335, GSB 661, 663

Statistical Mechanics: STATS 365

Stochastic Processes: STATS 317, MATH 234

*Earth Science Statistics*—Students are expected to take:

STATS 317 (Stochastic Processes)

STATS 318 (Monte Carlo Markov Chains)

STATS 352 (Spatial Statistics)

and three courses from the GES or Geophysics departments, such as GES 290 (Geological Time Series), GES 296 (Geographic Information Systems), GEOPHYS 210 (Earth Imaging).

*Social and Behavioral Sciences*—Students are expected to take three advanced courses from the department with an applied orientation such as:

STATS 261/262 (Discrete Data and Survival Analysis)

STATS 324 (Multivariate Analysis)

STATS 343 (Time Series)

STATS 354 (Bootstrap and Resampling)

and three advanced quantitative courses from departments such as Psychology, Sociology, Political Science, Anthropology, Economics, and the Schools of Education, Business or Medicine.

*University Oral Examination*—The University oral examination is taken on the recommendation of the student's research adviser after the thesis problem has been well defined and some research progress has been made. Usually, this happens early in the student's fourth year. The oral examination consists of a 40-minute presentation on the thesis topic, followed by two question periods. The first relates directly to the student's presentation and the second is intended to explore the student's familiarity with broader statistical topics related to the thesis research.

*Financial Support*—Students accepted to the Ph.D. program are offered financial support. All tuition expenses are paid and there is a fixed monthly stipend determined to be sufficient to pay living expenses. Financial support can be continued for five years, department resources permitting, for students in good standing. The resources for student financial support derive from funds made available for student teaching and research assistantships. Students receive both a teaching and research assignment each quarter which, together, do not exceed 20 hours. Students are strongly encouraged to apply for outside scholarships, fellowships, and other forms of financial support.

### PH.D. MINOR

The Department of Statistics devises individual Ph.D. minor programs, but the department urges all graduate students in other fields who wish to have a subspecialty in statistics to study for an M.S. degree instead. The unit requirement for an M.S. degree is 45 units, whereas the number of units required for a minor averages around 30. This difference

of 15 units can be made up by the student by including in the M.S. program courses from his or her own field which are related to statistics or applications of statistics.

## COURSES INTRODUCTORY

Introductory courses for any student with an interest in the problems of descriptive statistics and statistical inferences are STATS 30, 50, 60, and 141. These courses have no mathematical prerequisites. STATS 30, 43N, 49N, and 141 are certified to meet the General Education Requirement (GER) in mathematics. STATS 43N and 49N are Stanford Introductory Seminars offering introductions to topics in a small group format with a preference to freshmen. STATS 60 and 141 explain the techniques and methods of statistical inference. STATS 60 emphasizes applications in the social sciences and STATS 141 applications in the biological sciences. STATS 60 and 141 can be followed by STATS 191 which explains more advanced methods and their applications.

STATS 110, 116, 200, 217-218 are introductory but have a calculus prerequisite. STATS 110 covers the most important techniques used in the analysis of experimental data in engineering and science. STATS 110 can be followed by STATS 191. STATS 116 provides a general introduction to the theory of probability. It may be followed by STATS 200 which deals with statistical theory, or by 217 and 218 which deal with stochastic processes. The sequence 116, 200 is a basic two quarter sequence in mathematical statistics; the sequence 116, 217, 218 is a basic one-year course in probability theory.

**STATS 43N. Statistics in the News and the Display of Quantitative Information**—Stanford Introductory Seminar. Preference to freshmen. Statistical techniques in the context of newspaper accounts, fallacies, and assumptions underlying conclusions. Emphasis is on principles for displaying data and envisioning information, and how these principles apply to new media such as the Internet. Student presentations. GER:2c  
*3 units, Win (Walther)*

**STATS 45N. Our Fractal World?**—Stanford Introductory Seminar. Preference to freshmen. Over the last 30 years, mathematicians, physicists, and other scientists have claimed evidence of patterns such as fractals and multifractals throughout nature, and even in non-natural phenomena such as finance. Such patterns involving infinitely repeated geometric structures are beautiful to look at and fun to learn about, but the claims of the proponents of these ideas have invited backlash. The evidence for fractal-like behavior in different fields and why these ideas can be so attractive to proponents and yet invite reactions. GER:2c  
*3 units, Spr (Donoho)*

**STATS 50. Mathematics of Sports**—(Same as MCS 100.) The use of mathematics, statistics, and probability in the analysis of sports performance, sports records, and strategy. Topics include mathematical analysis of the physics of sports and the determinations of optimal strategies. New diagnostic statistics and strategies for each sport. Corequisite: STATS 116. GER:2c  
*3 units (Cover) not given 2004-05*

**STATS 60. Introduction to Statistical Methods: Precalculus**—(Graduate students register for 160; same as PSYCH 10.) Techniques for organizing data, computing, and interpreting measures of central tendency, variability, and association. Estimation, confidence intervals, tests of hypotheses, t-tests, correlation, and regression. Possible topics: analysis of variance and chi-square tests, computer statistical packages. GER:2c  
*5 units, Aut (Walther), Win (Thomas), Spr, Sum (Staff)*

**STATS 110. Statistical Methods in Engineering and the Physical Sciences**—Introduction to statistics for engineers and physical scientists. Topics: descriptive statistics, probability, interval estimation, tests of hypotheses, nonparametric methods, linear regression, analysis of variance, elementary experimental design. Prerequisite: one year of calculus. GER:2c  
*4-5 units, Aut, Sum (Staff)*

**STATS 116. Theory of Probability**—Probability spaces as models for phenomena with statistical regularity. Discrete spaces (binomial, hypergeometric, Poisson). Continuous spaces (normal, exponential) and densities. Random variables, expectation, independence, conditional probability. Introduction to the laws of large numbers and central limit theorem. Prerequisite: MATH 52 and some familiarity with infinite series, or equivalent. GER:2c

*3-5 units Aut (Taylor), Spr, Sum (Staff)*

**STATS 121. Probability, Induction, Statistics**—Foundations of randomness and uncertainty with emphasis on philosophical underpinnings. History of probability from Greek and Talmudic sources to Pascal, Fermat, and Bernoulli. The calculus of probability (permutations, the bell-shaped curve). Interpretations of probability (axioms, subjective probability). Psychology of probability (heuristics and biases). The problem of induction. Exchangeability and deFinetti's answer to Hume. Statistical inference. Alternatives and caveats. Prerequisites: calculus at the level of MATH 42. Recommended: probability and statistics. GER:2c  
*3 units, Spr (Diaconis)*

**STATS 141. Biostatistics**—(Same as BIOSCI 141.) Introduction to the statistical analysis of biological data. Topics: discrete and continuous distributions, testing hypotheses and confidence procedures, fixed and random effects analysis of variance, regression, and correlation. Wilcoxon and other nonparametric procedures, inference on contingency tables and other data arising from counts. Tests of goodness of fit. Emphasis is on finding numerical solutions to biostatistical problems, and practical interpretations and their implications. GER:2c  
*4-5 units, Aut (Holmes), Win (Feldman)*

**STATS 160. Introduction to Statistical Methods: Precalculus**—(Same as 60, PSYCH 10; see 60.)  
*5 units, Aut (Walther), Win (Thomas), Spr, Sum (Staff)*

**STATS 166. Computational Biology**—(Graduate students register for 366; same as BIOMEDIN 366.) For biologists, applied mathematicians, statisticians, or computer scientists. Methods necessary to understand the construction and evaluation of sequence alignments and phylogenetic trees built from molecular data, and general genetic data. Phylogenetic trees, median networks, microarray analysis, Bayesian statistics. Binary labeled trees as combinatorial objects, graphs, and networks. Distances between trees. Multivariate methods (PCA, CA, multidimensional scaling). Combining data, nonparametric inference. Algorithms used: branch and bound, dynamic programming, Markov chain approach to combinatorial optimization (simulated annealing, Markov chain Monte Carlo, approximate counting, exact tests). Software: most methods exist, in high level programming environments, e.g., Matlab. Specialized software: Phylip, Seq-gen, Arlequin, Puzzle, Splittree, XGobi. WIM  
*2-3 units, Aut (Holmes)*

**STATS 191. Introduction to Applied Statistics**—Statistical tools for modern data analysis. Topics include regression and prediction, elements of the analysis of variance, bootstrap, and cross-validation. Emphasis is on conceptual rather than theoretical understanding. Applications to social/biological sciences. Student assignments/projects require use of the software package R. Recommended: 60, 110, or 141. GER:2c  
*3-4 units, Spr (Taylor)*

**STATS 199. Independent Study**—For undergraduates.  
*1-15 units, Aut, Win, Spr, Sum (Staff)*

**STATS 200. Introduction to Statistical Inference**—Modern statistical concepts and procedures derived from a mathematical framework. Statistical inference, decision theory: point and interval estimation, tests of hypotheses; Neyman-Pearson theory. Bayesian analysis; maximum likelihood, large sample theory. Prerequisite: 116.  
*3 units, Win (Romano), Sum (Staff)*

**CONTINUATION**

Courses in this category have been designed for particular use in applications. Generally, they have introductory statistics or probability as prerequisites.

**STATS 202. Data Analysis**—Data mining is used to discover patterns and relationships in data. Emphasis is on large complex data sets such as those in very large data bases or through web mining. Topics: decision trees, neural networks, association rules, clustering, case based methods, and data visualization.

3 units, Aut (Staff)

**STATS 203. Introduction to Regression Models and Analysis of Variance**—The most widely used statistical techniques; interpretation of observational data and empirical model building. Topics: simple and multiple linear regression, nonlinear regression, analysis of residuals and model selection, design of one-way and two-way factorial experiments, fixed and random effects models. Prerequisite or corequisite: 200.

3 units, Win (Taylor)

**STATS 205. Introduction to Nonparametric Statistics**—Nonparametric analogs of the one- and two-sample  $t$  tests and analysis of variance; the sign test, median test, Wilcoxon's tests, and the Kruskal-Wallis and Friedman tests, tests of independence. Nonparametric regression and nonparametric density estimation, modern nonparametric techniques, nonparametric confidence interval estimates.

3 units (Staff) not given 2004-05

**STATS 206. Applied Multivariate Analysis**—Introduction to the statistical analysis of several quantitative measurements on each observational unit. Emphasis is on concepts, computer-intensive methods. Examples from economics, education, geology, psychology. Topics: multiple regression, multivariate analysis of variance, principal components, factor analysis, canonical correlations, multidimensional scaling, clustering. Prerequisite: 200; concurrent registration in 200 is permitted.

3 units (Staff) not given 2004-05

**STATS 207. Introduction to Time Series Analysis**—Time series models used in economics and engineering. Trend fitting, autoregressive and moving average models and spectral analysis, Kalman filtering, and state-space models. Seasonality, transformations, and introduction to financial time series. Prerequisite: basic course in Statistics at the level of 200.

3 units (Staff) not given 2004-05

**STATS 208. Introduction to the Bootstrap**—The bootstrap is a computer-based method for assigning measures of accuracy to statistical estimates. By substituting computation in place of mathematical formulas, it permits the statistical analysis of complicated estimators. Topics: nonparametric assessment of standard errors, biases, and confidence intervals; related resampling methods including the jackknife, cross-validation, and permutation tests. Theory and applications. Prerequisite: course in statistics or probability.

3 units (Staff) not given 2004-05

**STATS 210. Statistical Methods in Biology and Medicine**—Topics include linear regression, nonparametric statistics, the 2x2 table, the odds ratio, logistic regression, Kaplan-Meier methods, Cox regression, and manipulating and analyzing data in SAS. Emphasis is on applications.

3 units, Sum (Cobb)

**STATS 211. Statistical Methods in Meta-Analysis**—(Same as EDUC 493B.) Meta-analysis is a quantitative method for combining results of independent studies, and enables researchers to synthesize the results of related studies. Examples from the medical, behavioral, and social sciences. Topics: literature search, publication and selection bias, statistical methods (contingency tables, cumulative methods, sensitivity analyses, non-parametric methods). Project. Prerequisite: basic sequence in Statistics.

1-3 units, Win (Olkin)

**STATS 212. Applied Statistics with SAS**—Data analysis and implementation of statistical tools in SAS. Topics: reading in and describing

data, categorical data, dates and longitudinal data, correlation and regression, nonparametric comparisons, ANOVA, multiple regression, multivariate data analysis, using arrays and macros in SAS. No previous knowledge of SAS is required. Knowledge of statistical techniques at the level of stats 191 or 203 is assumed.

3 units, Sum (Staff)

**STATS 214. Randomness in the Physical World**—(Enroll in APP-PHYS 214.)

3 units, Win (Diaconis, S. Holmes, Kapitulnik, Shenkar)

**STATS 215. Statistical Models in Biology**—Poisson and renewal processes, Markov chains in discrete and continuous time, branching processes, diffusion. Applications to models of nucleotide evolution, recombination, the Wright-Fisher process, coalescence, genetic mapping, sequence analysis. Theoretical material approximately the same as in STATS 217, but emphasis is on examples drawn from applications in biology, especially genetics. Prerequisite: 116 or equivalent.

3 units (Staff) not given 2004-05

**STATS 217. Introduction to Stochastic Processes**—Discrete and continuous time Markov chains, point processes, random walks, branching processes, first passage times, recurrence and transience, stationary distributions.

3 units, Win (Romano), Sum (Staff)

**STATS 218. Introduction to Stochastic Processes**—Renewal theory, Brownian motion, Gaussian processes, second order processes, martingales.

3 units, Spr (Siegmond), Sum (Staff)

**STATS 219. Stochastic Processes**—(Enroll in MATH 136.)

3 units, Aut (Dembo)

**STATS 227. Statistical Computing**—Numerical aspects of least squares, nonlinear, and robust regression. Eigenvector-eigenvalue computations and analyses. Monte Carlo methods: generation of uniformly distributed random numbers, generation of special distributions, variance reduction techniques. The complexity of algorithms used in statistics: sorting, computation of quantiles, nearest neighbor search, fast Fourier transform. Prerequisites: Statistics at the level of 200, matrix algebra, knowledge of a programming language.

3 units, Spr (Holmes)

**STATS 230. Experimental Design**—(Same as STATS 340.) For graduate students in science, engineering, and statistics. Emphasis is on the how and why of doing experiments, and analyzing and presenting the results. Topics: control groups, anova, blocking and balance, factorial experiments, fractional factorials, screening designs, response surfaces, binary outcomes, Taguchi methods, computer experiments. Prerequisite: 116. Recommended: experience with experimentation or data analysis.

3 units (Staff) not given 2004-05

**STATS 235. Decision Making Under Uncertainty in Financial Services**—Introduction to retail banking, credit scoring, and risk analysis. Experimental design in market research. Modern statistical methods to analyze data incorporating domain knowledge. Adaptive control concepts for decisions under uncertainty.

3 units, Sum (Staff)

**STATS 237. Time Series Modeling and Forecasting**—Box-Jenkins and Bayesian approaches to time series modeling. State-space and change-point models. Application to revenue prediction, forecasting product demand, and other real world problems. Development and assessment of models and forecasts in practical applications. Hands-on experience with real data.

3 units, Sum (Staff)

**STATS 239A,B. Workshop in Quantitative Finance**—Topics of current interest.

1 unit, A: Win, B: Spr (Durrleman)

**STATS 240. Statistical Methods in Finance**—Regression analysis and applications to the Capital Asset Pricing Model and multifactor pricing models. Principal components and multivariate analysis. Smoothing

techniques and estimation of yield curves. Statistical methods for financial time series; value at risk. Term structure models and fixed income research. Estimation and modeling of volatilities. Hands-on experience with financial data.

3-4 units, Spr (Lai)

**STATS 250. Mathematical Finance**—(Same as MATH 238.) Stochastic models of financial markets. Forward and futures contracts. European options and equivalent martingale measures. Hedging strategies and management of risk. Term structure models and interest rate derivatives. Optimal stopping and American options.

3 units, Win (Papanicolaou)

**STATS 252. Data Mining and Electronic Business**—The Internet and related technologies have caused the cost of communication and transactions to plummet, and consequently the amount of potentially relevant data to explode. The underlying principles, statistical issues, and algorithmic approaches to data mining and e-business, with real world examples.

3 units, Sum (Staff)

**STATS 253. Spatial Statistics**—(Same as STATS 352.) Statistical descriptions of spatial variability, spatial random functions, grid models, spatial partitions, spatial sampling, linear and nonlinear interpolation and smoothing with error estimation, Bayes methods and pattern simulation from posterior distributions, multivariate spatial statistics, spatial classification, nonstationary spatial statistics, space-time statistics and estimation of time trends from monitoring data, spatial point patterns, models of attraction and repulsion. Applications to earth and environmental sciences, meteorology, astronomy, remote-sensing, ecology, materials. GER:2c

3 units (Switzer) not given 2004-05

**STATS 260A,B,C. Workshop in Biostatistics**—(Same as HRP 260A,B,C.) Applications of statistical techniques to current problems in medical science. Enrollment for more than 2 units of credit involves extra reading or consulting and requires consent of instructor.

**STATS 260A.** 1-3 units, Aut (Lazzeroni, Olshen, Bloch, Efron, Hastie, Lavori, Tibshirani, Wong)

**STATS 260B.** 3 units, Win (Lazzeroni, Olshen, Bloch, Efron, Hastie, Lavori, Tibshirani, Wong)

**STATS 260C.** 1-5 units, Spr (Lazzeroni, Olshen, Bloch, Efron, Hastie, Lavori, Tibshirani, Wong)

**STATS 261. Intermediate Biostatistics: Analysis of Discrete Data**—(Same as BIOMEDIN 233, HRP 261.) The 2x2 table. Chi-square test. Fisher's exact test. Odds ratios. Sampling plans; case control and cohort studies. Series of 2x2 tables. Mantel-Haenszel. Other tests.  $k \times m$  tables. Matched data logistic models. Conditional logistic analysis. application to case-control data. Log-linear models. Generalized estimating equations for longitudinal data. Cell phones and car crashes: the crossover design. Special topics: generalized additive models, classification trees, bootstrap inference.

3 units, Win (Hastie)

**STATS 262. Intermediate Biostatistics: Regression, Prediction, Survival Analysis**—(Same as HRP 262.) Linear and inherently nonlinear models. Prediction versus testing. Sample reuse methods. Analysis and components of variance. Introduction to multivariate analysis: the normal distribution. Principal components and  $k$ -means clustering. Survival analysis: the actuarial and Kaplan-Meier methods. The log-rank test. Weibull models. The Cox model, including estimation of baseline hazard.

3 units, Spr (Cobb)

**STATS 270. A Course in Bayesian Statistics**—(Same as STATS 370.) Bayesian statistics including theory, applications, and computational tools. Topics: history of Bayesian methods, foundational problems (what is probability?), subjective probability and coherence, exchangeability and deFinetti's theorem. Conjugate priors, Laplace approximations, Gibbs sampling, hierarchical and empirical Bayes, nonparametric methods, Dirichlet and Polya tree priors. Bayes robustness, asymptotic properties of Bayes procedures.

3 units (Staff) not given 2004-05

**STATS 298. Industrial Research for Statisticians**—Masters-level research as in 299, but must be conducted for an off-campus employer. Final report required. Prerequisite: enrollment in Statistics M.S. or Ph.D. program (prior to candidacy).

1-9 units, Aut, Win, Spr, Sum (Staff)

**STATS 299. Independent Study**—For Statistics M.S. students only. Reading or research program under the supervision of a faculty member in the Statistics department.

1-3 units, Aut, Win, Spr, Sum (Staff)

## PRIMARYLY FOR DOCTORAL STUDENTS

Sequences 300A,B,C, 305, 306A,B, and 310A,B,C comprise the fundamental sequence which serves as a general introduction to and prerequisite for further work. Subsequent courses delve more deeply into special topics.

**STATS 300. Advanced Topics in Statistics**

3 units, Sum (Staff)

**STATS 300A,B,C. Theory of Statistics**—Elementary decision theory; loss and risk functions, Bayes estimation; UMVU estimator, minimax estimators, shrinkage estimators. Hypothesis testing and confidence intervals: Neyman-Pearson theory; UMP tests and uniformly most accurate confidence intervals; use of unbiasedness and invariance to eliminate nuisance parameters. Large sample theory: basic convergence concepts; robustness; efficiency; contiguity, locally asymptotically normal experiments; convolution theorem; asymptotically UMP and maximin tests. Asymptotic theory of likelihood ratio and score tests. Rank permutation and randomization tests; jackknife, bootstrap, subsampling and other resampling methods. Further topics: sequential analysis, optimal experimental design, empirical processes with applications to statistics, Edgeworth expansions, density estimation, time series.

2-4 units, A: Aut (Romano), B: Win (Walther), C: Spr (Romano)

**STATS 305. Introduction to Statistical Modeling**—The linear model: simple linear regression, polynomial regression, multiple regression, anova models; and with some extensions, orthogonal series regression, wavelets, radial basis functions, and MARS. Topics: normal theory inference (tests, confidence intervals, power), related distributions ( $t$ , chi-square,  $F$ ), numerical methods (QR, SVD), model selection/regularization (Cp, AIC, BIC), diagnostics of model inadequacy, and remedies including bootstrap inference, and cross-validation. Emphasis is on problem sets involving substantial computations with data sets, including developing extensions of existing methods. Prerequisite: consent of instructor, 116, 200, one applied statistics course, CS 106A, MATH 114.

2-4 units, Aut (Hastie)

**STATS 306A,B. Methods for Applied Statistics**—Survey of applied statistical methods, including computational methods. Topics: nonlinear least squares (including robust regression), generalized linear models, time series (autocorrelation, autoregression, periodogram, spectrum), survey sampling (finite populations, stratification, clustering, ratio estimation), nonparametric regression (kernels, splines, projection pursuit, CART, MARS), survival analysis (Kaplan-Meier, Mantel-Haenszel, Cox model), design (factorial experiments, response surfaces), random number generation, numerical linear algebra, numerical optimization, sample reuse (bootstrap, jackknife, cross-validation, other Monte Carlo), matrix based multivariate statistics (canonical correlation, T-squared, factor analysis, principal components), and other topics briefly. Prerequisite: 305 or equivalent.

2-4 units, Win (Efron), Spr (Donoho)

**STATS 310A. Theory of Probability**—Mathematical tools: asymptotics, metric spaces; measure and integration;  $L_p$  spaces; some Hilbert spaces theory. Probability: independence, Borel-Cantelli lemmas, almost sure and  $L_p$  convergence, weak and strong laws of large numbers. Weak convergence and characteristic functions; central limit theorems;

local limit theorems; Poisson convergence. Prerequisites: 116, MATH 171.  
2-4 units, Aut (*Dembo*)

**STATS 310B. Theory of Probability**—Stopping times, 0-1 laws, Kolmogorov consistency theorem. Uniform integrability. Radon-Nikodym theorem, branching processes, conditional expectation, discrete time martingales. Exchangeability. Large deviations. Laws of the iterated logarithm. Birkhoff's and Kingman's ergodic theorems. Recurrence, entropy. Prerequisite: 310A or MATH 230A.

2-4 units, Win (*Siegmund*)

**STATS 310C. Theory of Probability**—Infinitely divisible laws. Continuous time martingales, random walks and Brownian motion. Invariance principle. Markov and strong Markov property. Processes with stationary independent increments. Prerequisite: 310B or MATH 230B.

2-4 units, Spr (*Lai*)

**STATS 314. Advanced Statistical Methods**—This year's topic is multivariate analysis.

2-3 units, Aut (*Diaconis*)

**STATS 315A,B. Modern Applied Statistics: Learning**—Two-part sequence on new techniques for predictive and descriptive learning using ideas that bridge gaps among statistics, computer science, and artificial intelligence. Emphasis is on statistical aspects of their application and integration with more standard statistical methodology. Predictive learning refers to estimating models from data with the goal of predicting future outcomes, in particular, regression and classification models. Descriptive learning is used to discover general patterns and relationships in data without a specific predictive goal. From a statistical perspective, it can be viewed as computer automated exploratory analysis of usually large complex data sets.

2-3 units, A: Win (*Tibshirani*), B: Spr (*Friedman*)

**STATS 316. Introduction to Stochastic Differential Equations**—(Enroll in MATH 236.)

3 units, Win (*Papanicolaou*)

**STATS 317. Stochastic Processes**—Semimartingales, stochastic integration, Ito's formula, Girsanov's theorem. Gaussian and related processes. Stationary/isotropic processes. Integral geometry and geometric probability. Maxima of random fields and applications to spatial statistics and imaging.

2-3 units (Staff) not given 2004-05

**STATS 318. Modern Markov Chains**—Tools for understanding Markov chains as they arise in applications. Random walk on graphs, reversible Markov chains, Metropolis algorithm, Gibbs sampler, hybrid Monte Carlo, auxiliary variables, hit and run, Swedson-Wong algorithms, geometric theory, Poincare-Nash-Cheeger-Log-Sobolev inequalities. Comparison techniques, coupling, stationary times, Harris recurrence, central limit theorems, and large deviations.

2-3 units (Staff) not given 2004-05

**STATS 319. Literature of Statistics**—Literature study of topics in statistics and probability culminating in oral and written reports.

1-3 units, Win (*Lai*), Spr (*Walther*)

**STATS 323. Computational Methods for Geometric Design and Imaging**—Multiresolution approximation analysis as a mathematical tool for the construction of wavelets and sub-banding coding schemes; modifications and extensions of this have contributed to the advancement in curve/surface design and image manipulation. Computational methods for geometric design and image processing. Curve and surface subdivision schemes, and computational schemes based on the anisotropic diffusion model. The diffusion framework applied to the analysis and visualization of higher dimensional data sets by introducing diffusion kernels and metrics.

2-3 units, Win (*Chui*)

**STATS 324. Classical Multivariate and Random Matrix Theory**—Properties of multivariate normal, Wishart, t and beta distributions as they arise in statistical problems. Distribution of eigenvalues and vectors of classical ensembles. Marchenko-Pasteur and Tracy-Widom distributions. Determinantal random fields with applications in statistics, combinatorics and physics.

2-3 units, Aut (*Diaconis*)

**STATS 345. Computational Molecular Biology**—Gene expression microarrays: preliminary data analysis and processing computation of expression indices, supervised and unsupervised learning methods, incorporation of information from gene ontology and biological knowledge base. Sequence analysis: alignment and search algorithms, hidden Markov models, stochastic models for sequence motifs and regulatory modules. Introduction to transcriptional regulatory network.

2-3 units, Spr (*Wong*)

**STATS 352. Spatial Statistics**—(Same as STATS 253; see 253.)

3 units (Switzer) not given 2004-05

**STATS 362. Monte Carlo Sampling**—Fundamentals of Monte Carlo simulation methods. Topics include uniform and nonuniform random number generation, Monte Carlo integration, variance reduction by stratification, antithetic and control variables, importance sampling, Metropolis and Gibbs sampling, sequential importance sampling. Application of these methods to Bayesian computation.

2-3 units, Win (*Wong*)

**STATS 366. Computational Biology**—(Same as STATS 166, BIOMEDIN 366; see 166.)

2-3 units, Aut (*Holmes*)

**STATS 367. Statistical Models in Genetics**—Stochastic models and related statistical problems in linkage analysis of qualitative and quantitative traits in humans and experimental populations; sequence alignment and analysis; and population genetics/evolution, both classical (Wright-Fisher-Kimura) and modern (Kingman coalescent). Computational algorithms as applications of dynamic programming, Markov chain Monte Carlo, and hidden Markov models. Prerequisites: knowledge of probability through elementary stochastic processes and statistics through likelihood theory.

2-3 units (Staff) not given 2004-05

**STATS 370. A Course in Bayesian Statistics**—(Same as STATS 270; see 270.)

3 units (Staff) not given 2004-05

**STATS 374. Large Deviations**—(Same as MATH 234.) Combinatorial estimates and the method of types. Large deviation probabilities for partial sums and for empirical distributions, Cramer's and Sanov's theorems and their Markov extensions. Applications in statistics, information theory, and statistical mechanics. Prerequisite: 230A or STATS 310.

3 units (Staff) not given 2004-05

**STATS 376A,B. Information Theory**—(Enroll in EE 376A,B.)

3 units, A: Win, B: Spr (Cover) alternate years, not given 2005-06

**STATS 390. Consulting Workshop**—Provides the skills required of practicing statistical consultants, including exposure to statistical applications. Students participate as consultants in the department's drop-in consulting service, analyze client data, and prepare formal written reports. Seminar provides supervised experience in short term consulting. Prerequisites: course work in applied statistics or data analysis, and consent of instructor.

1-3 units, Aut (*Taylor*), Win (*Olshen*), Spr (*Rogosa*)

**STATS 398. Industrial Research for Statisticians**—Doctoral research as in 298, but must be conducted for an off-campus employer. Final report required. Prerequisite: Statistics Ph.D. candidate.

1-9 units, Aut, Win, Spr, Sum (Staff)

**STATS 399. Research**—Research work as distinguished from independent study of nonresearch character listed in 199.

1-10 units (Staff)

**STATS 459. Frontiers in Interdisciplinary Biosciences**—(Crosslisted in departments in the schools of H&S, Engineering, and Medicine; student register through their affiliated departments; otherwise register for CHEMENG 459) See CHEMENG 459 or [http://biox.stanford.edu/courses/459\\_announce.html](http://biox.stanford.edu/courses/459_announce.html).

*1 units, Aut, Win, Spr (Robertson)*

## OVERSEAS STUDIES

Courses approved for the Statistics major and taught overseas can be found in the “Overseas Studies” section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

### PARIS

#### STATS 30. Statistical Thinking

*3 units, Aut (Switzer)*

#### STATS 99. Paris by Numbers

*3 units, Aut (Switzer)*

## PROGRAM IN STRUCTURED LIBERAL EDUCATION

*Director and Professor: Mark Mancall (History)*

*Coordinator: Suzanne Greenberg*

The Program in Structured Liberal Education (SLE) is designed specifically for first-year students interested in an interdisciplinary approach to the liberal arts. The program emphasizes intellectual rigor and individualized contact between faculty and students. SLE has three basic purposes: to present a coherent program of instruction; to develop a student’s ability to ask effective questions of texts, teachers, the culture, and themselves; and to develop intellectual skills in logical reasoning, critical reading, expository writing, and group discussions. SLE stresses inquiry, criticism, and a tolerance for ambiguity. Neither the instructors nor the curriculum provides ready-to-serve answers to the questions being dealt with; rather, SLE encourages a sense of intellectual challenge, student initiative, and originality.

Freshmen interested in enrolling in SLE should indicate this preference for their Area One assignment. SLE is designed as a three quarter sequence and students should be willing to make a commitment for the entire year.

Correspondence regarding the program should be addressed to Program in Structured Liberal Education, Florence Moore Hall, Stanford University, Stanford, CA 94305.

## COURSES

**SLE 91,92,93. Structured Liberal Education**—SLE demands approximately 60 percent of the average academic workload during freshman year. Autumn Quarter focus is on the mythological and cultural foundations of ancient Greece and Israel. Winter Quarter focus is on the religious, ideological, and aesthetic transformations that occurred in Europe, Asia, and the New World as a result of the Middle Ages, Renaissance, Scientific Revolution, and Enlightenment. Spring Quarter focus is on the social, political, and artistic forces that shape the modern world. Completion of the SLE program satisfies the GER:1 Requirement, the University Writing and Rhetoric Requirement, and one humanities GER.

**91:** 10 units, *Aut*, **92:** 10 units, *Win*, **93:** 10 units, *Spr (Staff)*

## PROGRAM IN SYMBOLIC SYSTEMS

*Director: Thomas A. Wasow*

*Director of Graduate Study: Ivan A. Sag*

*Program Coordinator: Todd Davies*

*Program Committee: Lera Boroditsky, Todd Davies, Daphne Koller, Krista Lawlor, Byron Reeves, Ivan A. Sag, Paul Skokowski, Thomas A. Wasow*

*Undergraduate Advising Fellows: Tanya Breshears, Emmy Davis, Heesoo Kim, Brendan O’Connor, Itamar Rosenn, Mahesh Srinivasan*

### Program Faculty:

*Applied Physics: Bernardo Huberman (Consulting Professor)*

*Classics: Reviel Netz (Assistant Professor)*

*Communication: Jeremy Bailenson (Assistant Professor), Clifford Nass (Professor), Byron Reeves (Professor), Frederick Turner (Assistant Professor)*

*Computer Science: David Dill (Professor), Brian Jeffrey Fogg (Consulting Assistant Professor), Michael Genesereth (Associate Professor), Margaret Johnson (Senior Lecturer), Scott Klemmer (Assistant Professor), Daphne Koller (Associate Professor), Jean-Claude Latomb (Professor), Marc Levy (Associate Professor), Christopher Manning (Assistant Professor), John McCarthy (Professor Emeritus), Andrew Ng (Assistant Professor), Nils Nilsson (Professor Emeritus), Vaughn Pratt (Professor Emeritus), Eric Roberts (Professor, Teaching), Terry Winograd (Professor)*

*Economics: Antonio Rangel (Assistant Professor)*

*Education: Raymond P. McDermott (Professor), Roy Pea (Professor), Daniel Schwartz (Associate Professor)*

*Electrical Engineering: John R. Koza (Consulting Professor), Krishna Shenoy (Assistant Professor)*

*Linguistics: Arto Anttila (Assistant Professor), David Beaver (Assistant Professor), Joan Bresnan (Professor), Eve Clark (Professor), Vivienne Fong (Lecturer), Daniel Jurafsky (Associate Professor), Ronald Kaplan (Consulting Professor), Lauri Karttunen (Consulting Professor), Martin Kay (Professor), Beth Levin (Professor), Christopher Manning (Assistant Professor), Stanley Peters (Professor), Ivan A. Sag (Professor), Hinrich Scheutze (Consulting Assistant Professor), Peter Sells (Professor), Thomas A. Wasow (Professor), Annie Zaenen (Consulting Professor)*

*Management Science and Engineering: Pamela Hinds (Assistant Professor)*

*Mathematics: Persi Diaconis (Professor), Solomon Feferman (Professor Emeritus)*

*Medicine: Russ Altman (Associate Professor), John R. Koza (Consulting Professor)*

*Music: Jonathan Berger (Associate Professor), Christopher Chafe (Associate Professor), Eleanor Selfridge-Field (Consulting Professor), William L. Verplank (Lecturer)*

*Neurobiology: Ben Barres (Associate Professor), Jennifer Raymond (Assistant Professor)*

*Philosophy: Michael Bratman (Professor), Mark Crimmins (Associate Professor), John Etchemendy (Professor), Solomon Feferman (Professor Emeritus), Dagfinn Føllesdal (Professor), David Israel (Consulting Associate Professor), Krista Lawlor (Assistant Professor), Grigori Mints (Professor), Raymond Perrault (Consulting Associate Professor), John Perry (Professor), Kenneth Taylor (Associate Professor), Johan van Benthem (Professor), Thomas A. Wasow (Professor)*

*Psychology: Lera Boroditsky (Assistant Professor), Herbert H. Clark (Professor), Anne Fernald (Associate Professor), John Gabrieli (Professor), Susan Johnson (Assistant Professor), Brian Knutson (Assistant Professor), Ellen Markman (Professor), Michael Ramscar (Assistant Professor), Daniel Richardson (Lecturer), Barbara Tversky (Professor), Anthony Wagner (Assistant Professor), Brian Wandell (Professor)*

*Statistics:* Persi Diaconis (Professor), Susan P. Holmes (Associate Professor)

*Symbolic Systems:* William Byrne (Consulting Assistant Professor), Michael Cohen (Consulting Professor), Richard Crouch (Consulting Associate Professor), Todd Davies (Lecturer), Tracy King (Consulting Associate Professor), Pat Langley (Consulting Professor), Jeff Shrager (Consulting Associate Professor), Paul Skokowski (Consulting Professor)

*Other Affiliation:* David Barker-Plummer (Engineering Research Associate), Keith Devlin (Senior Research Engineer, CSLI Executive Director), Daniel Flickinger (CSLI Senior Research Engineer), John Kunz (Senior Research Engineer), Stephan Oepen (CSLI Senior Research Engineer)

*Program Offices:* Margaret Jacks Hall, Building 460, Room 40E

*Mail Code:* 94305-2181

*Phone:* (650) 723-4284

*Email:* ssp-af@csli.stanford.edu

*Web Site:* <http://symsys.stanford.edu>

Courses given in the Program in Symbolic Systems have the subject code SYMBSYS. For a complete list of subject codes, see Appendix.

Both human beings and computers can manipulate symbols. This observation lies at the heart of Symbolic Systems, an interdisciplinary program focusing on the relationship between natural and artificial systems that represent, process and act on information. Computer programs, natural languages, the human mind, and the Internet are all examples of symbolic systems. As such, they all embody concepts whose study forms the core of the Symbolic Systems curriculum: concepts such as computation, representation, communication, and intelligence. A body of knowledge and theory has developed around these notions, from disciplines like philosophy, computer science, linguistics, psychology, statistics, neurobiology, and communication. Since the invention of computers, researchers have been working across these and other disciplines to study questions such as: In what ways are computers and computer languages like humans and their languages? How can the interaction between people and computers be made easier and more beneficial? Can we build computers and robots that think and feel?

The Symbolic Systems Program (SSP) offers an opportunity to explore these issues. The core requirements include courses in symbolic logic, the philosophy of mind, formal linguistics, cognitive psychology, programming, the mathematics of computation, statistical theory, artificial intelligence, and interdisciplinary approaches to cognitive science. The core courses are designed to prepare students with the vocabulary, theoretical background, and technical skills needed for more concentrated study and research at the advanced undergraduate and graduate levels. Most of the courses in SSP are drawn from affiliated departments. Courses designed specifically for the program are aimed at integrating and supplementing topics covered by the department-based offerings. The curriculum includes humanistic approaches to questions about language and intelligence, as well as training in science and engineering.

SSP offers both B.S. and M.S. degree programs. Both programs require students to master a common core of required courses, and to choose an area of specialization.

## UNDERGRADUATE PROGRAMS

### BACHELOR OF SCIENCE

The program leading to a B.S. in Symbolic Systems provides students with a core of concepts and techniques, drawing on faculty and courses from various departments. The curriculum prepares students for advanced training in the interdisciplinary study of language and information, or for postgraduate study in any of the main contributing disciplines. It is also excellent preparation for employment immediately after graduation.

Symbolic Systems majors must complete a core of required courses plus a concentration consisting of six additional courses. All major courses are to be taken for letter grades unless an approved course is offered satisfactory/no credit only. All core courses must be passed with

a grade of 'C-' or better. Students who receive a grade lower than this in a core course must alert the program of this fact, so that a decision can be made about whether the student should continue in the major.

### CORE REQUIREMENTS

In order to graduate with a B.S. in Symbolic Systems, a student must complete the following requirements. (Please note that some of these courses have other courses as prerequisites. Students are responsible for completing each course's prerequisites before they take it.)

1. *Cognitive Science:* either SYMBSYS 100, Introduction to Cognitive Science, or one of the following:
  - CS 378. Phenomenological Foundations of Cognition, Language, and Computation
  - LINGUIST 237/CS 224N. Natural Language Processing
  - PHIL 189. Philosophical Applications of Cognitive Science
  - PSYCH 131. Language and Thought
  - PSYCH 137. Birds to Words: Cognition, Communication, and Language
  - PSYCH 225. Theories of Thought
2. *Computer Programming:*
  - a) CS 106A. Programming Methodology, and 106B. Programming Abstractions; or 106X. Programming Methodology and Abstractions (Accelerated); and
  - b) CS 107. Programming Paradigms
3. *Discrete Structures:* CS 103B. Discrete Structures; or 103X. Discrete Structures (Accelerated)
4. *Logic:* PHIL 150. Basic Concepts in Mathematical Logic, and 151. First-Order Logic
5. *Statistics/Probability:* one of the following:
  - EE 178. Introduction to Probability and Statistics
  - MATH 151. Introduction to Probability Theory
  - MSE 120. Probabilistic Analysis
  - STATS 110. Statistical Methods in Engineering and the Physical Sciences
  - STATS 116. Theory of Probability
  - STATS 121. Probability, Induction, Statistics
6. *Philosophical Foundations:* PHIL 80. Mind, Matter, and Meaning
7. *Cognitive Psychology:* PSYCH 40. Introduction to Cognitive Psychology
8. *Formal Linguistics:*
  - LINGUIST 120. Introduction to Syntax; and one of the following:
    - LINGUIST 130A. Introduction to Linguistic Meaning
    - LINGUIST 130B. Introduction to Lexical Semantics
    - LINGUIST 230A. Introduction to Semantics and Pragmatics
9. *Artificial Intelligence:* CS 121. Introduction to Artificial Intelligence; or 221. Artificial Intelligence: Principles and Techniques
10. *Turing Computability:*\* one of the following:†
  - CS 103B. Discrete Structures
  - CS 154. Introduction to Automata and Complexity Theory
  - PHIL 152. Computability and Logic
  - SYMBSYS 100. Introduction to Cognitive Science
11. *Advanced Small Seminar:*† an upper-division, limited-enrollment seminar drawing on material from other courses in the core. Courses listed under Symbolic Systems Program offerings with numbers from SYMBSYS 201 through 209 are acceptable, as are other courses which will be announced at the beginning of each academic year.

\* CS 103X does not fulfill this requirement.

† A course taken to fulfill one of these requirements can also be counted toward another requirement, as part of either the core or a student's concentration, but not both (see below).

### CONCENTRATION AREAS

In addition to the core requirements listed above, the Symbolic Systems major requires each student to complete a concentration consisting of six courses that are thematically related to each other. Students select concentrations from the list below or design others in consultation with their advisers.

Applied Logic  
 Artificial Intelligence  
 Cognitive Science  
 Computer Music  
 Decision Making and Rationality  
 Learning  
 Human-Computer Interaction  
 Natural Language  
 Neurosciences  
 Philosophical Foundations

## MINORS

Students may minor in Symbolic Systems by completing either item 1 or item 2 below.

1. One course in each of the following core areas (please note that several of these courses have prerequisites):
  - a) *Cognition*: SYMBSYS 100\* or PSYCH 40
  - b) *Logic and Computation*: PHIL 150 or 151, or CS 103B, 103X, or 154
  - c) *Computer Programming*: CS 106B, 106X, or 107
  - d) *Philosophical Foundations*: SYMBSYS 100\* or PHIL 80
  - e) *Formal Linguistics*: LINGUIST 120, 130A, or 130B
  - f) *Artificial Intelligence*: CS 121 or 221
2. SYMBSYS 100, plus an interdisciplinary SSP concentration listed on the SSP web site at <http://symsys.stanford.edu>. To qualify, the selection of courses used for the minor must be interdisciplinary; i.e., it must either include courses from at least three departments, or include more than one course from each of two departments.

\*SYMBSYS 100 may not be counted for both areas 'a' and 'd'.

## UNDERGRADUATE RESEARCH

The program strongly encourages all SSP majors to gain experience in directed research by participating in faculty research projects or by pursuing independent study. In addition to the Symbolic Systems Honors Program (see below), the following avenues are offered.

1. *Summer Internships*: students work on SSP-related faculty research projects. Application procedures are announced in the winter quarter for SSP majors.
2. *Research Assistantships*: other opportunities to work on faculty research projects are typically announced to SSP majors as they arise during the academic year.
3. *Independent Study*: under faculty supervision, students work on independent projects. For course credit they may enroll in SYMBSYS 196.

Contact SSP for more information on any of these possibilities, or visit the program's web site at <http://www.stanford.edu/dept/symbol>. In addition, the Undergraduate Research Opportunities office on campus offers numerous grants and scholarships supporting student research projects at all levels; see <http://uro.stanford.edu>.

## HONORS PROGRAM

Seniors in SSP may apply for admission to the Symbolic Systems honors program prior to the beginning of their final year of study. Students who are accepted into the honors program can graduate with honors by completing an honors thesis under the supervision of a faculty member. Course credit for the honors project may be obtained by registering for SYMBSYS 190, Honors Tutorial, for any quarters while a student is working on an honors project. Juniors who are interested in doing an honors project during their senior year are strongly advised to take SYMBSYS 91, Junior Honors Seminar. SYMBSYS 191, Senior Honors Seminar, is recommended for honors students during the senior year. Contact SSP or visit the program's web site for more information on the honors program, including deadlines and policies.

## COTERMINAL BACHELOR'S AND MASTER'S DEGREES

Many SSP majors also complete coterminal M.S. or M.A. degrees in affiliated departments. In addition to the Symbolic Systems M.S. program (see below), the Department of Philosophy offers a special Symbolic Systems track for interdisciplinary graduate level work.

For University coterminal degree program rules and University application forms, see <http://registrar.stanford.edu/publications/#Coterm>.

## GRADUATE PROGRAMS

The University's basic requirements for the M.S. and Ph.D. degrees are discussed in the "Graduate Degrees" section of this bulletin.

### MASTER OF SCIENCE

The M.S. degree in Symbolic Systems is designed to be completed in the equivalent of one academic year by coterminal students or returning students who already have a B.S. degree in Symbolic Systems. Admission to the program is currently limited to Stanford undergraduates or those who have completed the B.S. in Symbolic Systems at Stanford. Admission is competitive, providing a limited number of students with the opportunity to pursue course and project work, in consultation with a faculty adviser who is affiliated with the Symbolic Systems Program. The faculty adviser may impose requirements beyond those described here.

Admission to the program as a coterminal student is subject to the policies and deadlines described in the "Undergraduate Degrees" section of this bulletin (see "Coterminal Bachelor's and Master's Degrees"). Applicants to the M.S. program are reviewed each quarter during the academic year. Information on exact deadlines and required procedures for applying are available from the Symbolic Systems Program's Student Services Coordinator in the Linguistics Department office (460-127E).

### REQUIREMENTS

A candidate for the M.S. degree in Symbolic Systems must complete a program of 45 units. At least 36 of these must be graded units, passed with an average grade of 3.0 (B) or better, and any course taken to fulfill requirements A, B, or C below must be taken for a letter grade unless the course is offered S/NC only. The 45 units may include no more than 21 units of courses from those listed below under Requirements A and B. Furthermore, none of the 45 units to be counted toward the M.S. degree may include units counted toward an undergraduate degree at Stanford or elsewhere. Course requirements are waived only if evidence is provided that similar or more advanced courses have been taken, either at Stanford or another institution. Courses that are waived rather than taken may not be counted toward the M.S. degree.

Each candidate for the M.S. degree must fulfill the following requirements:

#### REQUIREMENT A

Demonstrated competence in the core requirements for the B.S. degree in Symbolic Systems. Candidates who have gone through the Symbolic Systems undergraduate program will satisfy this requirement in the course of the B.S. degree in Symbolic Systems. Undergraduates in other majors at Stanford who are admitted as candidates for a coterminal Symbolic Systems M.S. degree must complete all of the Symbolic Systems undergraduate core requirements, with the exception of the advanced small seminar requirement.

#### REQUIREMENT B

1. Completion of two additional skill requirements:
  - a) *Computer Programming*: CS 108, Object-Oriented Systems Design; and
  - b) *Empirical Methods*: one of the following:
    - COMM 206. Communication Research Methods
    - LINGUIST 237/Computer Science 224N. Natural Language Processing
    - PSYCH 110. Research Methods and Experimental Design



PSYCH 252. Statistical Methods for Behavioral and Social Science (for 3 or more units)

PSYCH 253. Statistical Theory, Models, and Methodology (for 3 units)

STATS 191. Introduction to Applied Statistics

STATS 200. Introduction to Statistical Inference  
a Statistics course numbered higher than 200

2. Completion of three quarters of the Symbolic Systems Program M.S. Seminar (SYMSYS 291).

### REQUIREMENT C

Completion of an approved specialization track. All tracks of the Symbolic Systems M.S. program require students to do a substantial project. The course requirements for each track are designed to prepare a student to undertake such a project. The nature of the project depends on the student's focus, but may include software development, user testing, or a combination of these. In all cases, a written thesis or paper describing the project is required. The project normally takes three quarters, and work on the project may account for up to 15 units of a student's program. Each track of the SSP M.S. program has its own core requirements, as well as unit requirements from a set of elective courses. The tracks and their requirements are given below.

*The Human-Computer Interaction (HCI) Track*—The HCI Core:

CS 161. Design and Analysis of Algorithms;

CS 147. Introduction to HCI Design; and

CS 247A. HCI: Interaction Design Studio

For HCI electives, at least 12 additional units of HCI courses, chosen in consultation with the student's adviser. The following are examples of themes around which an elective program might be built: Animation, Business Systems, Computer-Aided Design, Computer Graphics, Data Interfaces, Decision Systems, Design for Disabilities, Design Principles, Dialogue Systems, Digital Art, Digital Media, Education Technology, Game Design, History of Computers, Information Retrieval, Intelligent Interfaces, Interaction Design, Internet Design, Medical Informatics, Multimedia Design, Object-Oriented Design, Philosophy of Computation, Social Aspects of Computing, Usability Analysis, Virtual Reality, and Workplace Computing.

*The Natural Language Technology (NLT) Track*—For the NLT core, in addition to the courses below, students in the NLT track must complete LINGUIST 237/CS 224N, Natural Language Processing, which can be used as the empirical methods course for Requirement B above.

- 1) An in-depth theory of English grammar course such as LINGUIST 221A, Foundations of English Grammar
- 2) A graduate-level semantics course (if not already taken as part of Requirement A) such as LINGUIST 232A, Lexical Semantics, or 230B, Semantics and Pragmatics
- 3) A two-course sequence in Computational Linguistics:  
LINGUIST 238. Introduction to Computer Speech and Language Processing, and  
LINGUIST 239P. Programming and Algorithms for Natural Language Processing

The NLT Electives (at least 8 units from the following list):

CS 145. Introduction to Databases

CS 147. Introduction to HCI Design

CS 161. Design and Analysis of Algorithms

CS 221. Artificial Intelligence: Principles and Techniques

CS 222. Knowledge Representation

CS 224M. Multi-Agent Systems

CS 228. Probabilistic Models in Artificial Intelligence

CS 229. Machine Learning

CS 276A. Text Retrieval and Mining

CS 329. Topics in Artificial Intelligence

LINGUIST 205. Phonetics

LINGUIST 221B. Studies in Universal Grammar

LINGUIST 222A. Lexicalist Foundations of Syntax

LINGUIST 224A. Introduction to Formal Universal Grammar

LINGUIST 227A. Research Seminar in Syntax: wh- movement

LINGUIST 230B. Semantics and Pragmatics

LINGUIST 233A. Semantics Seminar

LINGUIST 234. Discourse Analysis

LINGUIST 237D. NLP Reading Seminar

LINGUIST 239F. Finite State Methods in Natural Language Processing

LINGUIST 239M. Human Machine Translation

PHIL 298. Logic, Language, and Information

PSYCH 205. Foundations of Cognition

PSYCH 214. Psycholinguistics

PSYCH 272. Special Topics in Psycholinguistics

*The Individually Designed Option*—Students wishing to design their own M.S. curriculum in Symbolic Systems must present a project plan as part of their application. This plan must be endorsed by the student's adviser prior to admission to the Symbolic Systems M.S. program. The application must also specify at least 20 units of coursework that the student will take in support of the project.

Students are admitted under this option only if they present well-developed plans whose interdisciplinary character makes them inappropriate for any departmental master's program, but appropriate for Symbolic Systems.

## COURSES

**SYMSYS 10. Symbolic Systems Forum**—A weekly lecture series, featuring different speakers who report on research of general interest to Symbolic Systems students and faculty. Regular attendance required for credit. May be repeated for credit.

*1 unit, Aut, Win, Spr (Staff)*

**SYMSYS 100. Introduction to Cognitive Science**—(Same as LINGUIST 144, PSYCH 130, PHIL 190.) The history, foundations, and accomplishments of the cognitive sciences, including presentations by leading Stanford researchers in artificial intelligence, linguistics, philosophy, and psychology. Overview of the issues addressed in the Symbolic Systems major. GER:3b

*4 units, Spr (Jurafsky, Richardson)*

**SYMSYS 121K/221K. Spoken Dialogue Systems**—(Same as LINGUIST 239S; graduate students register for 221K.) Theories and practices around building speech recognition-based dialogue systems. Differences between speech and graphical interfaces. Skills in application design and implementation; design of usability experiments to gauge the effectiveness of application design principles. Recommended: some programming background.

*2-4 units, Aut (Byrne, Cohen)*

**SYMSYS 143/243. Cognitive Architectures**—(Graduate students register for 243.) Cognitive architectures provide software infrastructure for creating computational systems that demonstrate human levels of intelligence, and are critical for applications ranging from simulation-based training environments to autonomous spacecraft to computer games. Emphasis is on integrated approaches to knowledge representation, reasoning, problem solving, sensing, execution, and learning. Students design and implement a cognitive system within one of these frameworks, and/or contribute to materials for future classes. Prerequisite: basic course in artificial intelligence or cognitive psychology. Recommended: programming experience. See <http://www-csli.stanford.edu/cil/cogarch.html>. GER:3b

*3 units, Spr (Freed, Shapiro)*

**SYMSYS 145. Cognition in Interaction Design**—Interactive systems from the standpoint of human cognition. Topics include skill acquisition, complex learning, reasoning, language, perception, methods in usability testing, special computational techniques such as intelligent and adaptive interfaces, and design for people with cognitive disabilities. Students conduct analyses of real world problems of their own choosing and redesign/analysis project of an interactive system. GER:3b

*3 units, Spr (Shrager)*

**SYMSYS 150. Computers and Social Decisions**—Issues in the design of systems for interactive and collective decision making. Topics such as theories of games and social choice; qualitative and quantitative procedures for making collective decisions; psychological effects of presentation and framing on expressions of preference; features of

dialogue systems and online communities; the ideal speech situation and related notions; online voting; the digital divide; and privacy, security, and trust. GER:3b

3 units (Davies) not given 2004-05

**SYMBSYS 202. The Rationality Debate**—Evidence and perspectives on whether or not the human mind is generally rational. Normative frameworks for rationality such as probability and utility theory are contrasted with descriptive, experimental studies. Opposing views are represented through readings from disciplines including psychology, statistics, philosophy, and economics. Prerequisites: STATS 116 or 90, or familiarity with the basic theory of probability. Recommended: PSYCH 40. Limited enrollment. GER:3b

3 units (Davies) not given 2004-05

**SYMBSYS 205. Systems: Theory, Science, and Metaphor**—Systems science explores abstract properties of systems such as network connectivity, complexity, and emergence, with applications in natural, social, and artificial domains. How useful are these theories? Are their claims testable or generalizable? Do they change the way people think and talk? Topics announced during the previous quarter on course web site. Limited enrollment. Prerequisites: Symbolic Systems undergraduate core course in each of philosophy, psychology or linguistics, and computer science.

3 units, Spr (Davies)

**SYMBSYS 208. Seminar in Syntax: The Architecture of Grammar**—(Same as LINGUIST 125/225.) Comparison of current debates about grammar architecture with similar ones in the 60s and 70s. Emphasis is on the relationship between syntax and semantics, and the role of transformations in it. The relevance of the generative semantics movement, and arguments against it, to contemporary linguistic theory. Prerequisite: syntax course.

2-4 units, Win (Wasow)

## RESEARCH

**SYMBSYS 91. Junior Honors Seminar**—Recommended for juniors doing an honors project during the following year. Defining a topic, choosing an adviser, considering overall goals. Resources at Stanford and some experiences of seniors discussed with guest speakers.

2 units, Win (Davies)

**SYMBSYS 190. Senior Honors Tutorial**—Under the supervision of their faculty honors adviser, students work on their senior honors project. May be repeated for credit.

1-5 units, Aut, Win, Spr, Sum (Staff)

**SYMBSYS 191. Senior Honors Seminar**—Recommended for seniors doing an honors project. Under the leadership of the Symbolic Systems program coordinator, students meet, discuss, and present their honors project.

2 units, Aut (Davies)

**SYMBSYS 196. Independent Study**—Independent work under the supervision of a faculty member. Can be repeated for credit.

1-15 units, Aut, Win, Spr, Sum (Staff)

**SYMBSYS 291. Master's Program Seminar**—Enrollment limited to students in the Symbolic Systems M.S. degree program. Can be repeated for credit.

1 unit, Aut, Win, Spr (Davies)

## INTERDEPARTMENTAL OFFERINGS

See the respective department listings for course descriptions and General Education Requirements (GER) information.

## BIOLOGICAL SCIENCES

**BIOSCI 20. Introduction to Brain and Behavior**

3 units, Aut (Fernald) alternate years, not given 2005-06

**BIOSCI 150/250. Human Behavioral Biology**

3-6 units (Sapolsky) alternate years, given 2005-06

## COMMUNICATION

**COMM 106/206. Communication Research Methods**

4-5 units, Win (Henriksen)

**COMM 169/269. Computers and Interfaces**

4-5 units, Win (Nass)

**COMM 172/272. Psychological Processing of Media**

4-5 units, Spr (Reeves)

## COMPUTER SCIENCE

**CS 103A. Discrete Mathematics for Computer Science**

3 units, Aut (Plummer), Win (Johnson)

**CS 103B. Discrete Structures**

3 units, Win, Spr (Sahami)

**CS 103X. Discrete Structures (Accelerated)**

3-4 units, Win (Cain)

**CS 106A. Programming Methodology**

3-5 units, Aut, Spr (Parlante), Win (Roberts)

**CS 106B. Programming Abstractions**

3-5 units, Aut, Win (Zelenski), Spr (Staff)

**CS 106X. Programming Methodology and Abstractions (Accelerated)**

3-5 units, Aut (Sahami), Win (Cain)

**CS 107. Programming Paradigms**

3-5 units, Aut, Spr (Cain)

**CS 108. Object-Oriented Systems Design**

3-4 units, Win, Spr (Parlante)

**CS 121. Introduction to Artificial Intelligence**

3 units, Win (Latombe)

**CS 147. Introduction to Human-Computer Interaction Design**

3-4 units, Aut (Winograd)

**CS 154. Introduction to Automata and Complexity Theory**

3-4 units, Aut (Dill), Spr (Motwani)

**CS 161. Design and Analysis of Algorithms**

3-4 units, Aut (Plotkin), Win (Roughgarden)

**CS 193D. C++ and Object-Oriented Programming**

3 units (Staff) not given 2004-05

**CS 193I. Internet Technologies**

3 units, Spr (Staff)

**CS 201. Computers, Ethics, and Social Responsibility**

3-4 units, Spr (Roberts)

**CS 205. Mathematical Methods for Robotics, Vision, and Graphics**

3 units, Aut (Fedkiw)

**CS 221. Artificial Intelligence: Principles and Techniques**

3-4 units, Aut (Ng)

**CS 222. Knowledge Representation**

3 units, Win (Fikes)

**CS 223A. Introduction to Robotics**

3 units, Win (Khatib)

**CS 223B. Introduction to Computer Vision**

3 units, Win (Thrun)

**CS 224M. Multi-Agent Systems**

3 units, Win (Shoham)

**CS 224N. Natural Language Processing**

3-4 units, Spr (Manning)

**CS 227. Reasoning Methods in Artificial Intelligence**

3 units, Spr (Nayak)

**CS 228. Probabilistic Models in Artificial Intelligence***3 units, Aut (Koller)***CS 229. Machine Learning***3 units, Aut (Ng)***CS 247A. Human-Computer Interaction: Interaction Design Studio***3-4 units, Win (Klemmer)***CS 247B. Contextual and Organizational Issues in Human-Computer Interaction***3-4 units, Spr (Hinds)***CS 249. Object-Oriented Programming from a Modeling and Simulation Perspective***3 units, Aut (Cheriton)***CS 276A. Text Retrieval and Mining***3 units, Aut (Manning, Raghavan)***CS 276B. Web Search and Mining***3 units, Win (Manning, Raghavan)***CS 378. Phenomenological Foundations of Cognition, Language, and Computation***3-4 units, Spr (Winograd)***ECONOMICS****ECON 51. Economic Analysis II***5 units, Win (Johnson), Spr (Tadelis)***ECON 137. Information and Incentives***5 units (Staff) not given 2004-05***ECON 160. Game Theory and Economic Applications***5 units, Spr (Tadelis)***ECON 178/278. Neuroeconomics***3 units, Aut (Knutson, Rangel)***EDUCATION****EDUC 218X. Topics in Cognition and Learning: Spatial Cognition***3 units, Aut (Schwartz)***EDUC 298. Online Communities of Learning***3 units, Win (Pea)***ELECTRICAL ENGINEERING****EE 178. Probabilistic Systems Analysis***3 units, Win (El Gamal)***EE 376A. Information Theory***3 units, Win (Cover)***ENGINEERING****ENGR 62. Introduction to Optimization***4 units, Aut (Veinott), Spr (Van Roy)***LINGUISTICS****LINGUIST 105/205. Phonetics***4 units, Win (Scarborough)***LINGUIST 110. Introduction to Phonetics and Phonology***4 units, Spr (Leben)***LINGUIST 120. Introduction to Syntax***4 units, Aut (Wasow)***LINGUIST 124A/224A. Introduction to Formal Universal Grammar***4 units (Bresnan) not given 2004-05***LINGUIST 128/228. Real English: The Syntax of Language Use***4 units (Bresnan, Zaenen) not given 2004-05***LINGUIST 130A. Introduction to Linguistic Meaning***4 units, Win (Peters)***LINGUIST 130B. Introduction to Lexical Semantics***4 units, Spr (Fong)***LINGUIST 138/238. Introduction to Computer Speech and Language Processing***4 units, Aut (Jurafsky)***LINGUIST 139M/239M. Human and Machine Translation***4 units, Aut (Kay)***LINGUIST 139P/239P. Programming and Algorithms for Natural Language Processing***3-4 units, Win (Kay)***LINGUIST 140/240. Language Acquisition I***4 units, Aut (E. Clark)***LINGUIST 206. Phonology***4 units, Spr (Anttila)***LINGUIST 221A. Foundations of English Grammar***1-4 units, Win (Sag)***LINGUIST 221B. Studies in Universal Grammar***1-4 units, Spr (Sag)***LINGUIST 222A. Lexicalist Foundations of Syntax***2-4 units, Aut (Sells)***LINGUIST 230A. Introduction to Semantics and Pragmatics***2-4 units, Win (Beaver)***LINGUIST 230B. Semantics and Pragmatics***2-4 units (Beaver) not given 2004-05***LINGUIST 232A. Lexical Semantics***2-4 units, Aut (Levin)***LINGUIST 237. Natural Language Processing***3-4 units, Spr (Manning)***LINGUIST 239E. Topics in Computational Linguistics: Grammar Engineering***1-4 units, Win (Flickinger, Oepen)***LINGUIST 239F. Finite State Methods in Natural Language Processing***3-4 units, Aut (Karttunen)***LINGUIST 241. Language Acquisition II: Advanced Topics in Language Acquisition***1-4 units, Win (E. Clark)***LINGUIST 247. Seminar in Psycholinguistics: Psycholinguistics of Conversational Speech***2-4 units, Spr (Jurafsky, H. Clark)***MANAGEMENT SCIENCE AND ENGINEERING****MS&E 120. Probabilistic Analysis***5 units, Aut (Chiu)***MS&E 121. Introduction to Stochastic Modeling***4 units, Win (Glynn)***MS&E 152. Introduction to Decision Analysis***3-4 units, Spr (Shachter)***MS&E 201. Dynamic Systems***3-4 units, Win (Tse)***MS&E 430. Contextual and Organizational Issues in Human-Computer Interaction***3-4 units, Spr (Hinds)***MATHEMATICS****MATH 103. Matrix Theory and its Applications***3 units, Aut (T. Li, Thiem), Win (Elling, Thiem), Spr (Durrleman, Gromoll), Sum (Staff)*

**MATH 113. Linear Algebra and Matrix Theory**  
3 units, Aut (Katznelson), Win (Milgram)

**MATH 151. Introduction to Probability Theory**  
3 units, Win (Liu)

**MATH 290A. Model Theory**  
3 units (Staff) not given 2004-05

## **MECHANICAL ENGINEERING**

**ME 115. Human Values in Design**  
3 units, Win (Boyle)

## **MUSIC**

**MUSIC 151. Psychophysics and Cognitive Psychology for Musicians**  
4 units, Win (Berger)

**MUSIC 220A. Fundamentals of Computer-Generated Sound**  
2-4 units, Aut (Chafe)

**MUSIC 220B. Compositional Algorithms, Psychoacoustics, and Spatial Processing**  
2-4 units, Win (Lopez-Lezcano)

**MUSIC 250A. HCI Theory and Practice**  
3-4 units, Aut (Verplank)

**MUSIC 253. Musical Information: An Introduction**  
1-4 units, Win (Selfridge-Field)

**MUSIC 254. Applications of Musical Information: Query, Analysis, and Style Simulation**  
1-4 units, Spr (Selfridge-Field)

## **NEUROBIOLOGY**

**NBIO 204. Computational Neuroimaging**  
1-3 units, Aut (Wandell, Grill-Spector) alternate years, not given 2005-06

**NBIO 206. The Nervous System**  
8 units, Win (Barres, Knudsen, Newsome, Raymond, Clandinin, Moore, Bacocus)

**NBIO 218. Neural Basis of Behavior**  
4 units, Spr (Knudsen, Raymond) alternate years, not given 2005-06

## **PHILOSOPHY**

**PHIL 80. Mind, Matter, and Meaning**  
5 units, Aut (Lawlor), Spr (Crimmins)

**PHIL 102. Modern Philosophy, Descartes to Kant**  
4 units, Win (De Pierris)

**PHIL 133/233. Major Figures in 20th-Century Philosophy**  
4 units (Føllesdal) not given 2004-05

**PHIL 150/250. Basic Concepts in Mathematical Logic**  
4 units, Aut (Segerberg)

**PHIL 151/251. First-Order Logic**  
4 units, Win (Segerberg)

**PHIL 152/252. Computability and Logic**  
4 units, Spr (Segerberg)

**PHIL 154/254. Modal Logic**  
4 units, Spr (van Benthem)

**PHIL 162/262. Philosophy of Mathematics**  
4 units, Spr (Staff)

**PHIL 164/264. Central Topics in the Philosophy of Science: Theory and Evidence**  
4 units, Aut (Ryckman)

**PHIL 167B/267B. Philosophy, Biology, and Behavior**  
4 units (Staff) not given 2004-05

**PHIL 181/281. Philosophy of Language**  
4 units, Aut (Crimmins)

**PHIL 184/284. Theory of Knowledge**  
4 units, Win (Lawlor)

**PHIL 186/286. Philosophy of Mind**  
4 units, Aut (Rey)

**PHIL 187/287. Philosophy of Action**  
4 units, Win (Bratman)

**PHIL 188. Personal Identity**  
4 units (Perry) not given 2004-05

**PHIL 189. Philosophical Applications of Cognitive Science**  
4 units (Staff) not given 2004-05

**PHIL 206S. Seminar in Foundations of Neuroscience**  
4 units, Win (Suppes)

**PHIL 298. Logic, Language, and Information**  
3 units (van Benthem) not given 2004-05

**PHIL 386. Self, Meaning, and Consciousness**  
4 units, Win (Perry)

**PHIL 389. Mind and Brain**  
4 units, Aut (Føllesdal, Suppes)

## **PSYCHOLOGY**

**PSYCH 10. Introduction to Statistical Methods: Precalculus**  
5 units, Aut (Walther), Win (Thomas), Spr (Staff), Sum (Staff)

**PSYCH 30. Introduction to Perception**  
3 units, Win (Grill-Spector)

**PSYCH 40. Introduction to Cognitive Psychology**  
4 units, Win (Davies)

**PSYCH 45. Introduction to Learning and Memory**  
3 units, Spr (Wagner)

**PSYCH 50. Introduction to Cognitive Neuroscience**  
4 units, Win (Gabrieli)

**PSYCH 70. Introduction to Social Psychology**  
4 units, Spr (J. Brown)

**PSYCH 120. Cellular Neuroscience: Cell Signaling and Behavior**  
4 units (Wine) not given 2004-05

**PSYCH 131. Language and Thought**  
4 units, Aut (H. Clark)

**PSYCH 137. Birds to Words: Cognition, Communication, and Language**  
3 units, Win (A. Fernald, Ramscar)

**PSYCH 141. Cognitive Development**  
3 units, Aut (Markman)

**PSYCH 143. Developmental Anomalies**  
3 units (Johnson) not given 2004-05

**PSYCH 156. Applications of Social Psychology**  
1-4 units (Ross) not given 2004-05

**PSYCH 202. Cognitive Neuroscience**  
3 units, Spr (Gabrieli, Wandell, Grill-Spector, Wine)

**PSYCH 204A. Computational Neuroimaging**  
1-3 units, Aut (Wandell, Grill-Spector)  
alternate years, not given 2005-06

**PSYCH 225. Theories of Thought**  
3 units, Win (Wandell, Pabo)

**PSYCH 227. Seminar in Psycholinguistics: Lexical and Syntactic Processing***2-4 units, Spr (Jurafsky, H. Clark)***PSYCH 239. Developmental Anomalies***3 units (Johnson) not given 2004-05***PSYCH 250. High Level Vision***1-3 units, Aut (Grill-Spector)***PSYCH 251. Affective Neuroscience***3 units, Aut (Knutson)***PSYCH 252. Statistical Methods for Behavioral and Social Sciences***1-6 units, Aut (Monin, Thomas)***PSYCH 253. Statistical Theory, Models, and Methodology***3 units (Thomas) alternate years, given 2005-06***PSYCH 264. Topics in Human Learning***1-3 units, Win (Bower)***PSYCH 271. Applications of Social Psychology***1-4 units (Ross) not given 2004-05***PSYCH 272. Special Topics in Psycholinguistics***1-3 units, Win (H. Clark)***PSYCH 278. Neuroeconomics***3 units, Aut (Knutson, Rangel)***SOCIOLOGY****SOC 126/226. Introduction to Social Networks***5 units, Win (Mark)***STATISTICS****STATS 110. Statistical Methods in Engineering and the Physical Sciences***4-5 units, Aut, Sum (Staff)***STATS 116. Theory of Probability***3-5 units Aut (Taylor), Spr, Sum (Staff)***STATS 121. Probability, Induction, Statistics***3 units, Spr (Diaconis)***STATS 191. Introduction to Applied Statistics***3-4 units, Spr (Taylor)***STATS 200. Introduction to Statistical Inference***3 units, Win (Romano), Sum (Staff)***PROGRAM ON URBAN STUDIES***Director: Nancy Brandon Tuma (Sociology, Hoover Institution)**Associate Director: Michael Kahan (Lecturer, History and Urban Studies)**Executive Committee: Albert Camarillo (History), Milbrey McLaughlin (Education), Roger Noll (Economics), Jeff Wachtel (President's Office)**Affiliated Faculty: Scott Bukatman (Art and Art History), Albert Camarillo (History), Samuel Chiu (Management Science and Engineering), Richard Ford (Law), Luis Fraga (Political Science), Steven Gorelick (Geological and Environmental Sciences), Miyako Inoue (Cultural and Social Anthropology), Sarah Jain (Cultural and Social Anthropology), Monica McDermott (Sociology), Raymond McDermott (Education), Daniel McFarland (Education), Milbrey McLaughlin (Education), Roger Noll (Economics), Leonard Ortolano (Civil and Environmental Engineering), Boyd Paulson (Civil and Environmental Engineering), Michael Rosenfeld (Sociology), Lúcia Sá (Spanish and Portuguese), Rebecca Sandefur (Sociology), Karen Seto (Institute for International Studies), Jennifer Trimble (Classics), Paul Turner (Art and Art History), Barbara Voss (Cultural and Social Anthropology).**Lecturers: Laura Arrillaga, Frank Benest, Melanie Edwards, Radford Hall, Michael Kahan, Joseph Kott, Beth Scarloss, Laura Scher, Jackie Schmidt-Posner, Bruce Sievers, Frederic Stout**Visiting Associate Professor: Gerald Gast**Department Offices: Encina Hall West, Room 100**Mail Code: 94305-6050**Phone: (650) 723-3452**Email: urbanstudies@stanford.edu**Web Site: <http://www.stanford.edu/dept/URBS>*

Courses given in the Program on Urban Studies have the subject code URBANST. For a complete list of subject codes, see Appendix.

The Urban Studies program treats urbanism as an interdisciplinary field; it brings together students, faculty, and outside specialists concerned with cities, and the problems and impacts of cities on society and on people's lives. The Urban Studies major encourages students to inquire deeply into both the nature of cities and the techniques used to modify the urban environments. Two basic themes are stressed: the development of a critical understanding of how cities evolve, and the acquisition of analytical and practical tools for improving the quality of urban life.

A major in Urban Studies prepares students for a variety of careers and advanced academic pursuits. Urban Studies graduates have established careers in fields including architecture, community service, education, environmental planning, real estate development, urban design, and urban planning; many have obtained graduate degrees in architecture, business, law, public policy, urban design, and urban planning from major universities across the country, including Columbia, Harvard, MIT, UC Berkeley, UCLA, and Yale. Information on graduate programs pursued by Urban Studies alumni is available from the Urban Studies program office.

**UNDERGRADUATE PROGRAMS**

All students majoring in Urban Studies must complete the Urban Studies core. Those who specialize in urban planning and design, urban education, or community organization must complete their majors by meeting the appropriate requirements for their chosen option, supplemented by restricted electives that bring the total units to a minimum of 70. URBANST 198, URBANST 199, and prerequisites for required courses and for restrictive electives do not count towards the 70-unit minimum. No course may be used to satisfy both a core requirement and a requirement for the student's chosen option. Students who wish to develop their own concentration (for example, in urban health care) must complete the Urban Studies core, design the remaining units to satisfy the 70-unit minimum under the guidance of an academic adviser who is a member of the Academic Council, and obtain the Program Director's approval of their proposed concentration: see Self-Designed option below.



Courses used to satisfy requirements for the major must be taken for a letter grade. Qualified students may write a senior honors thesis and graduate with honors; see details in the “Honors Program” section below. Students interested in declaring Urban Studies as a major are required to meet first with one of the program directors; they then declare the Urban Studies major through the Registrar’s Office using Axxess.

## URBAN STUDIES CORE

Urban Studies majors should take URBANST 110, Introduction to Urban Studies, before Winter Quarter of their junior year. In addition, students interested in writing an honors thesis should take URBANST 200 in Winter Quarter of their junior year, or in their sophomore year if they plan to be away Winter Quarter of their junior year.

Urban Studies majors are required to take each of the following:

ECON 1. Elementary Economics  
URBANST 110. Introduction to Urban Studies  
URBANST 170. Introduction to Urban Design

All Urban Studies majors must also take at least one course from each of the following categories:

### Urban Anthropology and Sociology:

ANTHSCI 164. Ecological Anthropology  
CASA 88. Theories of Race and Ethnicity  
CASA 112. The Archaeology of Cities  
EDUC 110. Sociology of Education  
EDUC 212X. Urban Education  
SOC 108. Population and Society  
SOC 110. Politics and Society  
SOC 118. Social Movements and Collective Action  
SOC 140. Introduction to Social Stratification  
SOC 145. Race and Ethnic Relations  
SOC 146. Race, Community, and Urban Sociology  
SOC 148. Racial Identity  
SOC 149. The Urban Underclass

### Urban History:

HISTORY 64. Introduction to Race and Ethnicity in the American Experience  
HISTORY 152. American Spaces: An Introduction to Material Culture and the Built Environment  
HISTORY 193. East Asia in the Early Buddhist Age  
HISTORY 213B. Heretics, Prostitutes, and Merchants: Venice and its Empire  
HISTORY 251. Poverty and Homelessness in America  
HISTORY 270A. Cities in the North American West, 1840-1940  
HISTORY 271A. The Suburban West  
HISTORY 293A. Tokyo: From Castle Town to Megalopolis

### Urban Politics:

POLISCI 121. Urban Politics  
POLISCI 221R. Urban Policy  
POLISCI 325S. Race and Place in American Politics  
URBANST 166. Mayors, Machines, and Masses: The History of Urban Politics in America  
URBANST 189. Managing Local Governments

### Usage of Computers:

CS 105. Introduction to Computers  
CS 106A. Programming Methodology  
CEE 111. 3D and 4D Modeling Plus Analyses  
CEE 135. Introduction to CAD  
CEE 143. Use of Virtual (Computer-Based) Models in Building Design and Construction  
GES 144. Fundamentals of Geographical Information Science

Students who plan to do graduate study in architecture are strongly advised to take CEE 111 and are also advised to take CEE 143. Students in urban planning and design are required to take GES 144, and it is recommended that they also take one of the other courses listed above. Students in the other options are advised to take CS 105 or 106A.

### Social Science Research Methods:

ANTHSCI 193. Prefield Research Seminar  
CASA 93. Prefield Research Seminar  
COMM 106. Communication Research Methods  
COMM 135. Survey Research Methods: Describing Large Populations with Small Samples and Precise Measures  
HUMBIO 82A. Qualitative Research Methodology  
SOC 180. Methods for Sociological Research

### Statistical Analysis:

ECON 102A. Introduction to Statistical Methods (Postcalculus) for Social Scientists  
GES 160. Statistical Methods for Earth and Environmental Sciences  
POLISCI 151B. Data Analysis for Political Science  
SOC 181B. Sociological Methods IB: Statistics

STATS 60. Introduction to Statistical Methods: Precalculus

### Public Speaking:

CTL 117. The Art of Effective Speaking  
ENGR 103. Public Speaking

## WRITING IN THE MAJOR (WIM):

These courses are typically taken in the senior year, but students who plan to write a senior honors thesis should complete URBANST 200 in their junior year.

ARTHIST 254. Utopia and Reality in Modern Urban Planning  
POLISCI 221S. Civic Capacity and Urban Youth  
URBANST 120. Building Communities  
URBANST 200. Preparation for Honors Thesis

For students not planning to write an honors thesis: Those who choose the Urban Planning and Design option should enroll in ARTHIST 254. Those in the Community Organization option should enroll in either POLISCI 221S or URBANST 120. Those in the Urban Education option should enroll in POLISCI 221S.

In addition to the required courses, it is recommended that all Urban Studies students obtain basic quantitative skills by completing MATH 19, 20, and 21, preferably before junior year.

Most Urban Studies students profit from having an internship in an urban organization in the public or private sector. Urban Studies majors may enroll in one course for credit for such an internship. Students can consult the Haas Center for Public Service to obtain information on courses with internship placements at community organizations.

Urban Studies students are strongly encouraged to spend at least one quarter studying at an overseas studies program to have the opportunity to learn first hand how cities vary across societies. Some Urban Studies core course requirements, as well as restricted electives, can be satisfied at Stanford overseas campuses. Courses offered overseas vary considerably from year to year, and students should check in advance with both the Overseas Studies and the Urban Studies programs to learn which courses meet Urban Studies requirements. It is often possible to arrange a summer placement relevant to an Urban Studies major at Stanford’s overseas locations.

## COMMUNITY ORGANIZATION OPTION

The curriculum for the option in Community Organization explores the concepts of community and organization, and their manifestations in the public and private sectors. Courses concerned with public service and community organizations provide a foundation for more advanced studies of community conflict resolution and the nonprofit sector. Other courses introduce students to business skills and aspects of urban planning and design. This option prepares students to enter graduate programs concerned with urban affairs and community service, and to work with local governmental agencies and for-profit and not-for-profit organizations engaged in community service and development.

Students who may want to pursue a graduate degree in business or city planning are encouraged to take ECON 50, Economic Analysis I.

## REQUIRED TO COMPLETE THE MAJOR

POLISCI 133. Ethics and Politics in Public Service  
SOC 118. Social Movements and Collective Action  
URBANST 163B. Business Concepts and Skills for the Social Sector

Select one of the following courses on organizations:

MS&E 180. Organizations: Theory and Management  
SOC 160. Formal Organizations

Select two of the following courses on delivery of community services:

CEE 148. Design and Construction of Affordable Housing  
URBANST 121. Introduction to Civil Society and the Nonprofit Sector  
URBANST 122. Philanthropy: Effecting Social Change and Innovation in the Public Sector  
URBANST 162. Spirituality and Nonviolent Social Transformation  
URBANST 163L. Social Entrepreneurship Collaboratory

Select one of the following courses in urban planning and design:

MS&E 196. Transportation Systems and Urban Development  
PUBLPOL 182A. Local Policy Making and Problem Solving: Contested Issues in Silicon Valley  
PUBLPOL 182B. Local Policy Making and Problem Solving: Community and Economic Development  
URBANST 124. Sustainable Urban and Regional Transportation Planning

In addition, students who choose the Community Organization option are required to take a course involving an internship with a governmental or nongovernmental organization that provides urban services. Students can meet this requirement with a course from the Urban Studies core such as POLISCI 221R or HISTORY 251.

### RESTRICTED ELECTIVES

Restricted electives are used to bring the total number of units to 70. They may include any course in the Urban Studies core; any 100-level course offered by the Program on Urban Studies, and any course listed below.

CEE 147. Cases in Personality, Leadership, and Negotiation  
CEE 151. Negotiation  
EDUC 130. Introduction to Counseling  
EDUC 177. Education of Immigrant Students  
EDUC 193. Peer Counseling  
HISTORY 257. Race and Ethnicity in the American Metropolis

### URBAN EDUCATION OPTION

The purpose of the Urban Education option is to provide a rigorous undergraduate background for students wishing to prepare for a career in urban education, especially teaching in inner-city schools, development of urban educational policies, or community youth development. This option may be a useful basis for graduate study in educational policy, law, or business. It is especially appropriate for students who have been admitted by the School of Education to pursue a coterminal master's degree in the Stanford Teacher Education Program (STEP); Policy, Organization and Leadership Studies Program (POLIS); or the John Gardner Center for Youth and their Communities. Application and admission to a coterminal degree in these programs occurs during the Autumn Quarter of the junior year and is handled entirely by the School of Education.

Opportunities to obtain teaching and advising experience are available in nearby schools through Upward Bound and other programs administered by the Haas Center for Public Service as well as through courses offered by the School of Education.

Students who choose this option may be eligible for the undergraduate honors program of the School of Education, in which case they should enroll in EDUC 199A,B, or C during their senior year.

### REQUIRED TO COMPLETE THE MAJOR:

EDUC 110. Sociology of Education  
EDUC 177. Education of Immigrant Students  
EDUC 179. Urban Youth and their Institutions: Research and Practice  
EDUC 212X. Urban Education

Select one of the following urban education practicums:

EDUC 101X. Undergraduate Teaching Practicum  
EDUC 103A,B, or C. Exploring Elementary Teaching

Select one of the following developmental psychology courses:

HUMBIO 126. Adolescent Development  
PSYCH 60. Introduction to Developmental Psychology

### RESTRICTED ELECTIVES

Restricted electives are used to bring the total number of units to 70. They may include any course from the Urban Studies core, any 100-level course offered by Urban Studies, and any course listed below.

EDUC 102. Culture, Class, and Educational Opportunity  
EDUC 156A. Understanding Racial and Ethnic Identity  
EDUC 167. Educating for Equity and Democracy  
EDUC 179B. Best Practice and Policy for Youth Development  
EDUC 201. History of Education in the United States  
EDUC 201A. History of African American Education through 1940  
EDUC 201B. Education for Liberation  
EDUC 204. Philosophy of Education  
EDUC 220A. Introduction to the Economics of Education  
EDUC 220B. Politics of Education  
EDUC 220C. Education and Society  
EDUC 221A. Policy Analysis in Education  
URBANST 144. Dilemmas in Urban Education

### URBAN PLANNING AND DESIGN OPTION

Required courses for the Urban Planning and Design option introduce the approaches and techniques used by city and regional planners. A course applying economics to the solution of urban or regional problems is a key element of this option. Students are also required to take courses on urban policy making. Because urban and regional planners rely heavily on computers, the major requires an introduction to geographic information systems. The Urban Planning and Design option provides excellent preparation for graduate programs in urban and regional planning and in public policy.

### PREREQUISITES

ECON 50. Economic Analysis I  
ECON 50M. Mathematical Preparation for Economics  
MATH 41, or MATH 19 and 20. Calculus

### REQUIRED TO COMPLETE THE MAJOR

PUBLPOL 102. Organizations and Public Policy  
URBANST 189. Managing Local Government

Select one of the following urban planning and design courses:

MS&E 196. Transportation Systems and Urban Development  
PUBLPOL 182A. Local Policy Making and Problem Solving: Contested Issues in Silicon Valley  
PUBLPOL 182B. Local Policy Making and Problem Solving: Community and Economic Development  
URBANST 124. Sustainable Urban and Regional Transportation Planning  
URBANST 183. Land Use Control

Select one of the following economics courses:

ECON 118. Development Economics  
ECON 148. Urban Economics  
ECON 150. Economic Policy Analysis  
ECON 154. Economics of Legal Rules and Institutions  
ECON 155. Environmental Economics and Policy

### RESTRICTED ELECTIVES

Restricted electives are used to bring the total number of units to 70. They may include any course in the Urban Studies core, any 100-level course offered by Urban Studies, and any course listed below.

CEE 100. Managing Sustainable Building Projects  
CEE 147. Cases in Personality, Leadership, and Negotiation  
CEE 148. Design and Construction of Affordable Housing  
CEE 171. Environmental Planning Methods  
CEE 172. Air Quality Management  
GES 140. Introduction to Remote Sensing  
GES 142. Remote Sensing of Land Use and Land Cover Change  
ME 101. Visual Thinking  
ME 120. History and Philosophy of Design  
MS&E 180. Organizations: Theory and Management  
PUBLPOL 185. Managing Public Policy  
SOC 160. Formal Organizations

### SELF-DESIGNED OPTION

Students who wish to concentrate in an area of urban studies other than one of the above options must complete the Urban Studies core and design additional units to bring the total to at least 70 units. The self-designed portion of the major should concentrate on a particular area of urban study, such as urban health care or urban environmental management. Additional units must be approved by both the Director of Urban Studies and an academic adviser who is a member of the Academic Council and has expertise in the particular area of interest to the student. Proposals for courses in the self-designed portion of the option should include a list of courses at the 100-level or above and a description of how each course meets the student's educational objectives. A proposal for a self-designed option must be accompanied by a letter to the Director of Urban Studies indicating that the academic adviser has examined and approved the final version of this.

Students pursuing a self-designed option must submit proposals for approval by the Director of Urban Studies by the middle of the second quarter of the student's junior year. Applications received after that deadline are not considered. Students interested in designing their own option are strongly encouraged to meet with the Director of Urban Studies before the end of the first quarter of their junior year.

## MINORS

The minor in Urban Studies is designed to accomplish two things: first, it introduces students to the approaches of several different disciplines to the study of cities; second, it provides students with an opportunity to explore their interests in one of five specialized fields: (1) Architecture, (2) Community Organization, (3) Social Innovation, (4) Urban Education, or (5) Urban Planning and Design. Students must declare a minor in Urban Studies no later than the last day of the quarter that is four quarters before degree conferral.

The minor in Urban Studies requires completion of seven courses for a letter grade, including URBANST 110, Introduction to Urban Studies. Three of the seven courses (two of the seven in the case of Social Innovation) must be completed from the following categories listed in the Urban Studies core: Urban History, Urban Politics, and Urban Anthropology/Sociology. At least one course must be from each category.

All courses in any one of the following groups must be completed:

1. Architecture
  - a) ME 101. Visual Thinking
  - b) one introductory architecture studio course
  - c) one course on the history of architecture (ARTHIST 3 is recommended)
2. Community Organization
  - a) SOC 118. Social Movements and Collective Action
  - b) URBANST 121. Introduction to Civil Society and the Nonprofit Sector
  - c) URBANST 163B. Business Concepts and Skills for the Social Sector
3. Social Innovation. Students in this option take one course in Urban Politics and one course in Urban Anthropology/Sociology, in addition to URBANST 110, and complete the following four courses to complete the minor:
  - a) URBANST 121. Introduction to Civil Society and the Nonprofit Sector, *or*  
URBANST 122. Philanthropy: Effecting Social Change and Innovation in the Public Sector
  - b) URBANST 163B. Business Concepts and Skills for the Social Sector
  - c) PUBLPOL 180. Social Innovation, *or*  
URBANST 163C. Introduction to Social Entrepreneurship
  - d) ENGR 150. Social Entrepreneurship Startup (must be taken for 4 or 5 units for the minor), *or*  
PUBLPOL 181L. Environmental Entrepreneurship Lab (must be taken for 4 or 5 units for the minor), *or*  
URBANST 163L. Social Entrepreneurship Collaboratory (must be taken for 4 or 5 units for the minor)
4. Urban Education
  - a) EDUC 110. Sociology of Education
  - b) EDUC 179. Urban Youth and their Institutions: Research and Practice
  - c) EDUC 212X. Urban Education
5. Urban Planning and Design
  - a) CEE 148. Design and Construction of Affordable Housing
  - b) MS&E 196. Transportation Systems and Urban Development, *or*  
URBANST 170. Introduction to Urban Design
  - c) one course from the Urban Studies Core course listings for Urban Politics, or one course meeting the Economics course requirement listed for the Urban Planning and Design Option.

## HONORS PROGRAM

The honors program offers qualified students an opportunity to conduct independent research and to write a thesis summarizing the results. Before being accepted to the honors program in Urban Studies, a student must satisfy three requirements: an overall GPA of at least 3.3 and a GPA of at least 3.5 for courses satisfying requirements for an Urban Studies major at the time of application for honors; URBANST 200, Preparation for Honors Thesis; and an honors proposal approved by an adviser. If the principal adviser for honors is not a member of Stanford's Academic

Council, the student must also have a second reader who is an Academic Council member and who also approves the honors proposal.

Students interested in pursuing honors must submit an application, including a one-page thesis abstract, and the signature of an adviser and (where applicable) of a second reader, to the Urban Studies program office no later than June 1 of their junior year. The director of the Urban Studies honors program must approve the application.

Honors students must register for 7-15 units total in URBANST 199, Senior Honors Thesis, over the course of their senior year. These units do not count towards the 70-unit requirement for graduating with a B.A. in Urban Studies. Honors work is considered to be above and beyond regular graduation standards.

URBANST 200 is required for all juniors who plan on writing honors theses. Sophomores who plan to be away during Winter Quarter of their junior year are advised to take URBANST 200 in the Winter Quarter of their sophomore year. Students who wish to write an honors thesis and are unable to fulfill this requirement in either their sophomore or junior year must petition the director of the Urban Studies honors program in writing, explaining the circumstances and describing how they will acquire the necessary research skills to carry out their project.

In Winter Quarter of senior year, all students writing honors theses must register for one unit of URBANST 200. In URBANST 200, senior honors students present portions of their theses as models for the juniors taking this class. They also meet separately to present their work-in-progress and to comment on one another's work. All honors students are required to present their theses at the Senior Honors Colloquium in Spring Quarter of senior year.

To graduate with honors, students must receive a grade of at least 'A-' in the honors work and have a GPA of at least 3.5 in courses for the Urban Studies major at the time of graduation.

## COTERMINAL PROGRAMS

Undergraduates in Urban Studies may enter coterminal master's degree programs in a number of departments and schools in the University. In recent years, Urban Studies majors have developed coterminal programs with the departments of Civil and Environmental Engineering, Cultural and Social Anthropology, and Sociology, and with the School of Education. A special coterminal program with the School of Education exists for students in the Urban Education option, but other coterminal programs can also be arranged through the School of Education. Information and applications for coterminal degree programs are available at the Undergraduate Advising Office. Students should discuss the coterminal program with a program director during their junior year.

For University coterminal degree program rules and University application forms, see <http://registrar.stanford.edu/publications/#Coterm>.

## COURSES

Further descriptions and details of current courses offered by the Program on Urban Studies can be obtained from the program office before each quarter.

**URBANST 110. Introduction to Urban Studies**—The study of cities and urban civilization. History of urbanization and disciplinary methodologies comprising the field of urban studies including economics, political science, sociology, urban design, urban history, and urban public policy. GER:3b

*4 units, Aut, Win (Stout), Spr (Kahan)*

**URBANST 120. Building Communities**—Capstone course for Urban Studies majors in the Community Organization track. Builds on student's experience in community work and service-learning education. Classic texts in the literature of community and community organization: Thoreau, Gandhi, Saul Alinsky, and Martin Luther King, Jr. The development and completion of a major writing-oriented class project such as the publication of a book of original essays or an anthology of edited papers. WIM

*4 units (Staff) not given 2004-05*



**URBANST 121. Introduction to Civil Society and the Nonprofit Sector**—(Same as PUBLPOL 189.) Development of the idea of civil society from early Enlightenment Europe to the contemporary U.S. Historical and theoretical foundations. Contemporary features of the nonprofit sector including its legal, economic, political, and ethical dimensions. The structure and operation of modern philanthropy and the challenges of the 21st century.

*2-4 units, Spr (Sievers)*

**URBANST 122. Philanthropy: Effecting Social Change and Innovation in the Public Sector**—Philanthropy's role in modern society and the translation of its vision and capital into social action. How individuals, foundations, corporations, and philanthropic organizations engage in social investing. Topics: the individual and philanthropy; philanthropic history and industry; foundation strategy and infrastructure; philanthropy and the political landscape; corporate philanthropy and social responsibility; global social investing; grant-making; outcome assessment; and social innovation. Readings: business school cases, and theoretical and industry articles. Guest speakers include global philanthropists, foundation presidents, and Silicon Valley business leaders. Final project: students write grant proposals. Enrollment limited to 25.

*4 units, Aut (Arrillaga)*

**URBANST 123. Introduction to Community-Based Research**—Principles and practice of community-based research as a collaborative enterprise between academic researchers and community members. Guest speakers from community organizations, faculty members, and alumni of the Public Service Scholars Program. How previous experience with community organizations provides a starting point for developing community-based senior theses or independent research projects.

*1 unit, Aut (Schmidt-Posner)*

**URBANST 124. Sustainable Urban and Regional Transportation Planning**—Environmental, economic, and equity aspects of urban transportation in 21st-century U.S. Expanded choices in urban and regional mobility that do not diminish resources for future generations. Implications for the global environment and the livability of communities.

*5 units, Aut (Kott)*

**URBANST 144. Dilemmas in Urban Education**—Dichotomies such as large, traditional schools versus small schools, or segregation versus integration. Teacher certification or large-scale testing. Topics: interaction of the city in the school through gang activity or job placement programs; current legal challenges; class size reduction; tracking; and retention and social promotion policies. Students contribute their own experiences. Goal is to explore issues facing education in an urban setting not to solve problems.

*5 units, Win (Scarloss)*

**URBANST 145. Urban Education**—(Enroll in EDUC 212X.)

*3-4 units, Spr (McDermott)*

**URBANST 146. Race, Community, and Urban Sociology**—Group relations and community processes in an urban environment from a sociological perspective. How racial attitudes, residential segregation, and employment opportunities influence the well-being of different urban groups.

*5 units, Aut (Thompson)*

**URBANST 150. Social Entrepreneurship Startup**—(Enroll in ENGR 150.)

*1-6 units, Aut, Win, Spr (Behrman)*

**URBANST 162. Spirituality and Nonviolent Social Transformation**—A life of engagement in social transformation is often built on a foundation of spiritual and religious commitments. Case studies of nonviolent social change agents including Rosa Parks, César Chávez, and Women in Black; the religious and spiritual underpinnings of their commitments. Theory and principles of nonviolence. Films and readings. A service learning component includes placements in organizations engaged in social transformation.

*4 units, Win (McLennan, Karlin-Neumann, Sanders)*

**URBANST 163A. Social Innovation and the Social Entrepreneur**—Invited lecture series. Perspectives and endeavors of thought leaders and entrepreneurs who address social needs in the U.S. and internationally through private for-profit and nonprofit organizations, nongovernmental organizations, or public institutions. Investigation of topics covered in greater detail in URBANST 163A,B. Recommended: concurrent enrollment in URBANST 163L for students developing U.S. and international social entrepreneurship initiatives.

*1 unit, Aut (Staff)*

**URBANST 163B. Business Concepts and Skills for the Social Sector**—Core concepts in organizational mission, strategy, marketing, finance, decision making, and organizational behavior for U.S. and international organizations. Focus is on adaptation of these concepts in the social sector. The limits of using business-based methods to serve social objectives. Conceptual articles and case studies. Enrollment limited to 30. Pre- or corequisite: ECON 1. Corequisite: URBANST 163L.

*4 units, Win (Staff)*

**URBANST 163C. Introduction to Social Entrepreneurship**—The search for innovative responses to social needs, the role of private initiatives, for-profit and not-for-profit, and the challenges associated with these initiatives in the U.S. and internationally. Theoretical issues: defining the social good and assessing the role of market forces, philanthropy, and government. Practical issues: developing an organizational mission, recognizing specific opportunities for social improvement, forming an enterprise that responds to those opportunities, developing organizational and funding strategies, evaluating performance, managing the enterprise, and creating sustained positive impact and social value. Readings: business school cases, and theoretical and practical articles. Enrollment limited to 30. Prerequisites: ECON 1 and URBANST 163B or equivalent. Corequisite: URBANST 163L. GER:3b

*4 units, Aut (Edwards)*

**URBANST 163H. The Social Science of Entrepreneurship**—(Enroll in SOC 161/261.)

*5 units, Spr (Thornton)*

**URBANST 163L. Social Entrepreneurship Collaboratory**—Interdisciplinary student teams create and develop U.S. and international social entrepreneurship initiatives. Proposed initiatives may be new entities, or innovative projects, partnerships, and/or strategies impacting existing organizations and social issues in the U.S. and internationally. Focus is on each team's research and on planning documents to further project development. Project development varies with the quarter and the skill set of each team, but should include: issue and needs identification; market research; design and development of an innovative and feasible solution; and drafting of planning documents. In advanced cases, solicitation of funding and implementation of a pilot project. Enrollment limited to 30. Prerequisite: URBANST 163A, B, or C, or consent of instructor.

*1-5 units, Win, Spr (Edwards)*

**URBANST 163M. Advanced Social Entrepreneurship Collaboratory**—For Urban Studies majors. Continuation of 163L in which students continue to develop projects. Prerequisite: 163L.

*1-5 units, Aut, Win, Spr (Staff)*

**URBANST 165. Social Innovation**—(Enroll in PUBLPOL 180.)

*4 units, Spr (Phills)*

**URBANST 166. Mayors, Machines, and Masses: The History of Urban Politics in America**—(Same as HISTORY 266A.) Who rules cities: powerful individuals, political parties, grass-roots activists, or voters? How has this changed? The evolution of urban politics in the U.S. from the 19th-century advent of the political machine to the present. How social transformations and mass movements have affected urban governance. Possible topics include: bosses and reformers, ethnic and racial coalitions, the role of state and federal governments, neighborhood activism, and urban-suburban relations.

*5 units (Kahan) not given 2004-05*

**URBANST 170. Introduction to Urban Design**—Urban design theory and contemporary practice. Critical issues in urban development and conservation. Neighborhood livability, central city revitalization, historic preservation, and regional growth are examined through comparative case studies from N. America and abroad. Projects focus on neighborhood, downtown, and regional issues in San Francisco and the Bay Area. Two Saturday field workshops in San Francisco.

*5 units, Win (Gast)*

**URBANST 183. Land Use Control**—Methods of land use control related to the pattern and scale of development and the protection of land and water resources. Emphasis is on the relationship between the desired land use goal and geographical landscape, physical externalities, land use law, and regulatory agencies. Topics include the historical roots of modern land use controls; urban reforms of the 19th century; private ownership of land; zoning; local, state, and federal land use regulation; and land trusts preservation. Smart growth, environmental impact consideration, private property rights, and special purpose agencies are related to current issues.

*4 units, Spr (Hall)*

**URBANST 189. Managing Local Governments**—In-the-trenches approach. Issues in leading and managing local governments in an era of accelerating and discontinuous change. Focus is on practical strategies related to financing, public services impacted by increasing demand and revenue constraints, the politics of urban planning, private-public partnerships, public sector marketing, entrepreneurial problem solving, promoting a learning and risk-taking organizational culture, and developing careers in local government. Enrollment limited to 25; preference to Urban Studies majors.

*3-4 units, Win (Benest)*

**URBANST 190. Urban Professions Seminar**—Workshop. Contemporary practice of urban design and planning, community development, urban education, public service law, and related fields. Topics depend partly on student interests. Bay Area professionals lecture and respond to questions concerning their day-to-day work, impressions of their field, and the academic background recommended for their work. At least one session focuses on graduate schools and degrees relevant to these fields.

*1 unit, Win (Kahan)*

**URBANST 194. Internship in Urban Studies**—For Urban Studies majors only. Students organize an internship in an office of a government agency, a community organization, or a private firm directly relevant to the major. Readings supplement the internship. Required paper summarizing the internship experience and related readings.

*2-4 units, Aut, Win, Spr (Staff)*

**URBANST 195. Special Projects in Urban Studies**

*1-5 units, Aut, Win, Spr (Staff)*

**URBANST 197. Directed Reading**

*1-5 units, Aut, Win, Spr (Staff)*

**URBANST 198. Senior Honors Research in Public Service**—Limited to seniors approved by their departments for honors thesis, and admitted to the year-round Public Service Scholars Program sponsored by the

Haas Center for Public Service. What standards in addition to those expected by the academy apply to research conducted as a form of public and community service? How can communities benefit from research? Theory and practice of research as a form of public service. Readings in research theory and methods of participatory action research; presentations on research as service; workshops on each participant's thesis work-in-progress; public presentation of completed research; and thesis evaluation by a community-based reader. Corequisite: 199.

*1-3 units, Aut, Win, Spr (Schmidt-Posner, Staff)*

**URBANST 199. Senior Honors Thesis**

*1-15 units, Aut, Win, Spr (Staff)*

**URBANST 200. Preparation for Honors Thesis**—(Same as SOC 202.) For juniors in Urban Studies or Sociology thinking about writing a senior honors thesis; Urban Studies seniors writing the honors thesis; and sophomores who plan to be off-campus Winter Quarter of their junior year and are interested in writing an honors thesis. Juniors register for 4 or 5 units to write a research prospectus and grant proposal seeking research funding. Urban Studies seniors writing an honors thesis register for 1 unit to make presentations of their work. Prerequisites: GPA that qualifies for honors; sophomores require consent of instructor; prerequisite for WIM: junior or sophomore registering for 3 or more units. WIM

*1-5 units, Win (Tuma, Kahan)*

**URBANST 254. Utopia and Reality in Modern Urban Planning**—(Same as ARTHIST 254.) Primarily for Urban Studies majors. Utopian urbanist thinkers such as Ebenezer Howard, Le Corbusier, and Frank Lloyd Wright who established the conceptual groundwork of contemporary urban planning practice. Research paper. GER:3a,WIM

*5 units, Spr (Stout, Turner)*

## OVERSEAS STUDIES

Courses approved for the Urban Studies major and taught overseas can be found in the "Overseas Studies" section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

### BEIJING

**URBANST 157V. Beijing: The City and its Significance in History and Tradition**—(Same as CHINGEN 157B.)

*3 units, Aut (Dien)*

**URBANST 158V. Beijing: The Emperor's City: Imperial Conceptions of Urban Space**—(Same as HISTORY 291V.)

*5 units, Spr (Kahn)*

### BERLIN

**URBANST 143U. Architecture and the City, 1871-1990: Berlin as a Nucleus of Modernity**—(Same as ARTHIST 110Y, HISTORY 229V, STS 119V.)

*4 units, Spr (Neckenig)*

### FLORENCE

**URBANST 183U. Materials and Machines for Architecture: The Renaissance from Brunelleschi to Michelangelo**

*4 units, Aut (Lamberini)*



## STANFORD IN WASHINGTON

*Director:* Adrienne Jamieson

Stanford in Washington provides highly-qualified undergraduates with an opportunity to work and study in the nation's capital. In addition to providing students with an understanding of public policymaking, the program offers an opportunity to take advantage of the city's unique cultural resources.

Central in the student's educational experience is an internship. Students serve as interns at such institutions and agencies as the Senate, the House of Representatives, the Office of Management and Budget, the White House, the National Institutes of Health, the Smithsonian Institution, CNN, the departments of State, Justice, Education, and Health and Human Services.

In addition to the internship, students must also complete an academic course of study consisting of small tutorials taught by policy experts (5 units), and weekly policy seminars taught by Stanford faculty members (5 units). Frequently, speakers from the Washington policy community join students and faculty for discussions. Students usually write a major paper related to their internship for 3-5 units of credit. Course and seminar topics vary according to student and faculty interest.

Stanford in Washington offers "stretch quarters" in the Autumn and Spring (mid-September to mid-December, and late March to the end of June) and a regular quarter in Winter, which focuses on environmental and health policy. The program is designed for students in their junior year or the first quarter of their senior year. Applications must be completed two quarters in advance. For Autumn Quarter, apply early Winter Quarter of the previous year. For Winter Quarter, apply early Spring Quarter of previous year. For Spring Quarter, apply early Autumn Quarter. Students interested in the program may obtain a brochure at the Haas Center for Public Service, or call for information, (650) 725-2870.

## PROGRAM IN WRITING AND RHETORIC

*Faculty Director:* Andrea A. Lunsford

*Associate Director:* Marvin Diogenes

*Writing in the Major Director:* Claude Reichard

*Stanford Writing Center Director:* Clyde Moneyhun

*Stanford Writing Center Assistant Directors:* Wendy Goldberg, John Tinker

*Community Writing Project Coordinator:* Carolyn Ross

*Lecturers:* Christine Alfano, Stacey Stanfield Anderson, Paul Bator, Phaedra Bell, Shaleen Brawn, Nancy Buffington, David Colón, Kevin DiPirro, Marjorie Ford, Wendy Goldberg, Scott Halbritter, Arturo Heredia, Josephine Kelso, Sohui Lee, Eric Miraglia, Alyssa O'Brien, John Peterson, Laura Roman, Carolyn Ross, John Tinker, Jennifer Trainor, Erik Turkman, Ann Watters, Rebecca Webb, Jonah Willihnganz, Susan Wyle

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*Web Site:* <http://pwr.stanford.edu>

Courses given in the Program in Writing and Rhetoric have the subject code PWR. For a complete list of subject codes, see Appendix.

### GOALS OF THE PROGRAM IN WRITING AND RHETORIC

The Program in Writing and Rhetoric (PWR) designs and teaches courses that meet the Writing and Rhetoric requirement for undergraduates at Stanford as well as intermediate and advanced writing and rhetoric classes. For more information on the requirement, see the

"Courses" section below and the "Writing and Rhetoric Requirement" section of this bulletin.

PWR courses engage students in rhetorical and contextual analysis of texts and substantive research-based argument. Students in PWR courses learn and practice time-tested rhetorical principles to gain increasing control over the intellectual and stylistic elements of their writing; they learn to analyze the ideas and persuasive strategies of others and to apply those insights to their own writing.

Toward these ends, PWR 1 focuses on elements of academic argument: understanding a writer's stance; developing a supportable argumentative thesis; discovering, developing, and deploying cogent proofs; making appropriate organizational and stylistic choices; and understanding the expectations of audiences. The course emphasizes research-based writing, including the effective use of print and non-print sources, primary and secondary sources, and data based on fieldwork. Students enrolled in PWR 1 carry out significant research and use it as the basis for a polished and persuasive research-based argument.

PWR 2 further develops students' skills in writing and oral presentation, emphasizing the ongoing development of content, organization, and style. The course addresses the dynamic interdependence of writing and speaking, as well as the importance of visual and multimedia elements in effective presentation of research. Students enrolled in PWR 2 have opportunities for practice and revision of written assignments and oral presentations as well as opportunities to present the results of scholarly inquiry, with an emphasis on how to work purposefully and well with a variety of presentation media.

As a general rule, students complete a minimum of four major assignments in both PWR 1 and 2. Written assignments vary from 5 to 15 pages in length, and students work intensively on revising each piece of writing. Oral presentations may involve collaborative work as well as multimedia elements. All assignments involve analyzing a range of texts as well as identifying, evaluating, and using multiple sources in support of academic and research-based arguments. In-class discussions on the nature of intellectual property and plagiarism, how to read with an increasingly critical eye, and how to identify, evaluate, integrate, and cite sources provide some of the most important academic learning experiences of students' first years of work at Stanford.

Writing and Rhetoric classes enroll no more than 15 students, and all classes are conducted as seminars in which participation is crucial. In-class work often includes close reading of and responding to the writing of peers; these workshops are augmented by a minimum of three individual or small group conferences with the PWR instructor during the quarter.

### THE STANFORD WRITING CENTER

The Stanford Writing Center, located in Room 020 of Margaret Jacks Hall (Building 460), supports student writing in the full range of academic and extracurricular contexts. The center emphasizes support for students writing for PWR, Introduction to the Humanities, and Stanford Introductory Seminars, while also serving all Stanford undergraduates through one-to-one and group tutorials, workshops, and seminars. Other events sponsored or hosted by the center include regular Writers' Nights featuring fiction and poetry readings, the "How I Write" series of dialogues with Stanford faculty, and spoken word performances. For further details on the center, visit the center's web site at <http://swc.stanford.edu>.

### THE STANFORD STUDY OF WRITING

In 2001, PWR began a major research project, the Stanford Study of Writing. The focus of the project is the development of undergraduate writing and the teaching of writing. In 2004-05, the students in the study continue to submit all of the writing done for their courses, as well as important out-of-class writing. All students participating in the study receive an electronic portfolio including all their writing when they graduate in 2005.

## PWR PEDAGOGY PROGRAM

PWR offers ENGLISH 397A, a pedagogy seminar for all graduate students (TAs) from English, Modern Thought and Literature, and Comparative Literature who teach PWR courses as part of their graduate studies. Taught in the Autumn Quarter, the pedagogy seminar focuses on syllabus design, developing writing assignments, and responding to student writing. The history of rhetoric and writing supplies a theoretical foundation as well as practical lessons for how to teach writing and research most effectively. In the Winter and Spring, graduate students continue their pedagogical development through a series of workshops and seminars focused on specific issues in the teaching of writing. Elements of the pedagogy program include class visits; group evaluation of writing assignments; workshops and lectures; a handbook on teaching; a library of teaching materials; a program web site with links to other writing program sites; and individual work with mentors and peers.

## TRAINING FOR PEER WRITING CONSULTANTS

PWR teaches a course on the tutoring of writing (PWR 195) for undergraduates selected to serve as peer writing consultants in the Stanford Writing Center and across the campus.

## COURSES

The Writing and Rhetoric requirement approved by the Faculty Senate in May 2001 includes courses at three levels. The first-level course, taken in the first year, can be satisfied by courses in PWR or Structured Liberal Education; the curriculum emphasizes analysis and research-based argument. The second-level course, to be completed by the end of the sophomore year, is a writing and oral/multimedia presentation course taught by the Program in Writing and Rhetoric and by other programs and departments; completion of Structured Liberal Education also satisfies the second-level requirement. The third-level course is a Writing in the Major (WIM) course taught in each major. WIM courses provide students with systematic opportunities to develop skills for writing in their chosen fields. A list of certified WIM courses may be found in the table of “Undergraduate Major Unit Requirements” in the “Undergraduate Degrees and Programs” section of this bulletin. WIM course descriptions may be found under individual department and program sections.

The new sequence of required courses provides a coordinated approach responsive to how students mature as writers, researchers, and presenters during their undergraduate years. At each level, students are given opportunities to develop greater sophistication in conducting inquiry and producing scholarly work in progressively more specific disciplinary contexts.

Before the term in which students enroll in the first two levels of the requirement, they review course descriptions on the program web site at <http://pwr.stanford.edu>. After reviewing the offerings, students submit a list of top choices, and the PWR office assigns students to courses based on these preferences.

## THE WRITING AND RHETORIC 2 REQUIREMENT

As noted above, the second-level course requirement may be satisfied through completion of courses offered through PWR or by other programs and departments. Before the quarter in which students are assigned to enroll in the second-level course, they will be able to review all available courses that meet the requirement on the program web site at <http://pwr.stanford.edu>. In addition to PWR 2, some Stanford Introductory Seminars offered in the Winter and Spring quarters satisfy the second-level Writing and Rhetoric requirement (WR 2); these courses were not available at the time this Bulletin went to press. These courses require an additional application form. Please see the Stanford Introductory Seminars web site at <http://introsems.stanford.edu/>, and their Winter and Spring supplements for more information.

## COMMUNITY WRITING PROJECT (CWP)

Students may elect to enroll in a section of PWR 1 or 2 which has the designation “CWP” on the PWR web site. Such students write at least one project during the term (a grant proposal, pamphlet, news article, profile, or web site) for a local community service agency. The Community Writing Project coordinator provides an orientation for each CWP section, including a description of participating agencies. Community Writing Project assignments are then made in consultation with the instructor and the CWP coordinator.

**PWR 1. Writing and Rhetoric 1**—Fulfills first level of the writing requirement. Rhetorical and contextual analysis of readings, research, and argument. Focus is on development of a substantive research-based argument using multiple sources. Individual conferences with instructor. Also for students admitted to Stanford prior to Autumn 2003-04 who scored 4 or 5 on the English AP Exam or 6 or 7 on the International Baccalaureate Higher Level Exam.

*4 units, Aut, Win, Spr (Staff)*

**PWR 2. Writing and Rhetoric 2**—Further work in developing skills in argument and research-based writing, with emphasis on oral communication and multimedia presentations. Individual conferences with instructor, and collaborative projects. Prerequisite: PWR 1.

*4 units, Aut, Win, Spr (Staff)*

**PWR 4. Directed Writing**—For students who have completed the first two levels of the writing requirement and desire further work on developing their writing emphasizing style, genre, and writing for a range of audiences and in varied disciplinary contexts. Workshops and individual conferences.

*3-4 units, Win, Spr (Staff)*

**PWR 5. Independent Writing**—For students who have completed the first two levels of the writing requirement and wish to work on a specialized writing project with the guidance of a PWR instructor.

*1-5 units, Aut, Win, Spr (Staff)*

**PWR 6. Writing Workshop**

*1 unit, Aut (Staff)*

**PWR 191. Advanced Writing**—Open to undergraduates and graduate students. Tutorials, workshops, discussions. Various nonfiction genres. Prerequisite: first two levels of the writing requirement or equivalent transfer credit.

*3 units, Spr (Diogenes)*

**PWR 192. Projects in Research, Writing, and Rhetoric**—Advanced work on research projects, early drafts of theses, expository excursions, manifestos, scripts, first-hand accounts, investigative reports, proposals, comic disputations, and other textual, rhetorical, and imaginative explorations. Shared work, discussions, and examination of methods, rhetorics, and styles in all disciplines. Prerequisite: consent of instructor.

*1-5 units, Aut (Obenzinger)*

**PWR 193. Writing the Honors Thesis**—For students from all majors in the process of writing an honors thesis. Review of key elements of thesis process, including literature reviews, structure, argumentation, style, and documentation. Group and individual workshops.

*1-5 units, Win, Spr (Obenzinger)*

**PWR 195. Peer Writing Tutor Training Course**—For students selected to serve as peer writing tutors in the Stanford Writing Center and/or at other campus sites. Readings on and reflection about writing processes, the dynamics of writing and tutoring situations, tutoring techniques, learning styles, diversity, and ethics. Observation of tutoring sessions, written responses to readings, and other written work.

*3 units, Spr (Moneyhun)*