NOTE: This catalog represents the most accurate information available at the time of publication. The university reserves the right to correct or otherwise change any such information without notice at its sole discretion. With respect to course offerings, the departments have attempted to anticipate which courses will be offered, and by whom and when such courses will be taught. However, course offerings may be affected by changes in faculty, student demand, and funding. Although efforts have been made to indicate these uncertainties, course offerings are subject to change without notice.

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Homepage Address: http://www.rice.edu
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Please address all correspondence to the appropriate office or department followed by the university mailing address given above.

Admission, Catalogs, Applications
Office of Admission
109 Lovett Hall; 713-348-4036

Business Matters
Office of the Cashier
110 Allen Center; 713-348-4946

Career Services, Part-time Employment off Campus
Career Services Center
Rice Memorial Center; 713-348-4055

Credits, Transcripts
Office of the Registrar
116 Allen Center; 713-348-4999

Financial Aid, Scholarships, Part-time Employment on Campus
Student Financial Services
116 Allen Center; 713-348-4958

Graduate Study
Chair of the appropriate department (see pages 76–79)

Undergraduate and Graduate Students, Undergraduate Curricula
Office of the Vice President for Student Affairs
101 Lovett Hall; 713-348-4996

Rice University is committed to equal opportunity in education and employment. It is the policy of Rice University to attract qualified individuals of diverse backgrounds to its faculty, staff, and student body. Accordingly, Rice University does not discriminate against any individual on the basis of race, color, religion, sex, sexual orientation, national or ethnic origin, age, disability, or veteran status in its admissions, its educational programs, or employment of faculty or staff. In employment, the university seeks to recruit, hire, and advance women, members of minority groups, individuals with disabilities, Vietnam-era veterans, and special disabled veterans.
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The *General Announcements* of Rice University is an indispensable resource in the academic life of Rice University. It presents the people, the programs, and the practices that make this university a singular center of higher education. The *General Announcements* serves as a reminder of the high standards to which Rice has always aspired. These standards are as vital and robust as they were when the first students matriculated in 1912.

We welcome your interest in Rice and your attention to the *General Announcements*. I encourage you to familiarize yourself with the information presented here: the distinctive academic backgrounds of our faculty; the rules and responsibilities of student life, both undergraduate and graduate; the diverse scope of our degree programs; and the richness of our curriculum.

Malcolm Gillis  
President  
William Marsh Rice University
Fall 2003

Friday, August 1 ............... **Deadline:** Tuition due for entering freshmen
Monday, August 11 .......... **Deadline:** Tuition due for returning undergraduate students
Friday, August 15 ........... **Deadline:** Tuition due for graduate students
Sunday–Friday, August 17–22 Orientation week for new students
Monday, August 25 .......... **FIRST DAY OF CLASSES**
Monday–Friday, August 25–August 29 Registration continues for undergraduate and graduate students
Monday, September 1 ....... Labor Day (holiday)
Friday, September 5 ......... **Deadline:** Adding courses without a fee
**Deadline:** Withdrawing with 100% refund of tuition and fees or dropping to part-time with 100% refund of tuition
Friday, September 12 ....... **Deadline:** Withdrawing or dropping to part-time with 70% refund of tuition
Friday, September 19 ....... **Deadline:** Late registration or adding courses
**Deadline:** dropping courses without a fee
**Deadline:** Withdrawing or dropping to part-time with 60% refund of tuition
Last day anticipated aid for fall shows as a credit on student accounts
Friday, September 26 ....... **Deadline:** Changing Spring 2003 “Pass/Fail” to a grade
**Deadline:** Instructors submitting final grades to clear “Incompletes” from Spring 2003 semester
**Deadline:** Withdrawing or dropping to part-time with 50% refund of tuition
Friday, October 3 ........... **Deadline:** Withdrawing or dropping to part-time with 40% refund of tuition
Friday, October 10 .......... **Deadline:** Mid-semester grades for first-year undergraduate students due from instructors
**Deadline:** College course plans due to Vice President for Student Affairs
**Deadline:** Withdrawing or dropping to part-time with 30% refund of tuition
Monday–Tuesday, October 13–14 Midterm recess
Wednesday, October 15 .......... All classes normally held on Monday meet; all
Wednesday classes canceled (to equalize holidays by
days of the week during the semester)

Friday, October 17 ............... **Deadline:** Withdrawing or dropping to part-time with
20% refund of tuition

Friday, October 24 ............... **Deadline:** Withdrawing or dropping to part-time with
10% refund of tuition

Friday, October 31 ............... **Deadline:** Last day to drop courses - graduate
students and returning undergraduate students
**Deadline:** Changing course status to “Pass/Fail”
**Deadline:** Filing of:
• Thesis master’s candidacy petitions
• Certification of nonthesis master’s
• Form for automatic master’s
in the Office of Graduate Studies for mid-year
conferral of degree
**Deadline:** Filing Ph.D. candidacy petitions in the
Office of Graduate Studies for mid-year conferral of
degree

Monday, November 3 .......... **Deadline:** Filing application for mid-year conferral of
degree

Friday, November 14 .......... Last day to complete financial aid application for fall
2003

Monday–Friday
November 17–21 ............... Registration begins for currently enrolled undergradu-
ate, graduate, and fifth year students for the Spring
2004 semester

Monday–Wednesday,
November 17–19 ............... **5:00 P.M. Deadline, Wednesday, November 19:** Self-
scheduling of final exams in undergraduate courses

Friday, November 21 .......... **Deadline:** Filing application for May 2004 conferral
of degree

Thursday–Friday,
November 27–28 ............... Thanksgiving recess

Monday, December 1 .......... Last day to complete loan application for fall 2003
loans

Friday, December 5 .......... **LAST DAY OF CLASSES**
**Deadline:** last day to drop courses (first semester
undergraduate students only)
**5:00 P.M. Deadline:** submitting theses in the Office of
Graduate Studies for mid-year conferral of degree
**Deadline:** Disenrollment date for failure to pay
amounts owed the university

Saturday–Tuesday,
December 6–9 ............... Self-scheduled final examinations ONLY
Wednesday–Wednesday
December 10–17 ................ Scheduled and self-scheduled final examinations continue

Wednesday, December 17 .... 5:00 p.m. **Deadline:** Take-home final examinations and course assignments due

Friday, January 2 ................ **Deadline:** All final grades due in the Office of the Registrar

**Spring 2004**

Monday, January 5 .......... **Deadline:** Tuition due for all students

Monday, January 12 .......... **FIRST DAY OF CLASSES**

Monday, January 19 .......... Martin Luther King, Jr. Day (holiday)

Monday–Friday,
January 12–16 .................. **Registration continues for undergraduate and graduate students**

Friday, January 16 .......... **Deadline:** resolving grades of “Other” from Fall 2003 semester

Friday, January 23 .......... **Deadline:** Adding courses without a fee
**Deadline:** Withdrawing with 100% refund of tuition and fees or dropping to part-time with 100% refund of tuition

Friday, January 30 .......... **Deadline:** filing of the following:
• Thesis master’s candidacy petitions
• Certification of nonthesis master’s
• Form for automatic master’s in the Office of Graduate Studies for May 2004 conferral of degree
**Deadline:** filing Ph.D. candidacy petitions in the Office of Graduate Studies for May 2004 conferral of degree
**Deadline:** Withdrawing or dropping to part-time with 70% refund of tuition

Friday, February 6 .......... **Deadline:** Late registration or adding courses
**Deadline:** Dropping courses without a fee
**Deadline:** Withdrawing or dropping to part-time with 60% refund of tuition
Last day anticipated aid for spring shows as credit on student accounts

Friday, February 13 .......... **Deadline:** changing Fall 2003 “Pass/Fail” to a grade
**Deadline:** instructors submitting final grades to clear “Incompletes” from Fall 2003 semester
**Deadline:** Withdrawing or dropping to part-time with 50% refund of tuition

Monday, February 16 .......... Financial aid application materials available to returning students to apply for need-based aid for 2004–05
Friday, February 20 .......... **Deadline:** Withdrawing or dropping to part-time with 40% refund of tuition

Friday, February 27 .......... **Deadline:** Mid-semester grades for first-year undergraduate students due from instructors

**Deadline:** College course plans due to Vice President for Student Affairs

**Deadline:** Withdrawing or dropping to part-time with 30% refund of tuition

Monday–Friday,

March 1–5 ......................... Midterm recess

Friday, March 5 .................. **Deadline:** Withdrawing or dropping to part-time with 20% refund of tuition

Friday, March 12 ............... **Deadline:** Withdrawing or dropping to part-time with 10% refund of tuition

Friday, March 19 .............. **Deadline:** Sophomores filing majors with the Office of the Registrar

Monday, March 29 .......... **Deadline:** Last day to drop courses—graduate students and returning undergraduate students

**Deadline:** Changing course status to “Pass/Fail” option

Monday–Friday,

March 29–April 2 ............... Registration begins for currently enrolled undergraduate, graduate, and fifth-year students for the Fall 2004 semester

Thursday, April 1 ............. Last day to complete loan application for spring 2004 loans

Priority Deadline for returning students to submit financial aid application materials for 2004–05

Friday, April 12–14 .......... 5:00 P.M. **Deadline:** Self-scheduling of final examinations in undergraduate courses

Thursday, April 15 .......... Last day to complete loan application for spring 2004 loans

Friday, April 23 ............... LAST DAY OF CLASSES

**Deadline:** last day to drop courses (for January 2004 undergraduate student admits only)

Noon Deadline: submitting theses in the Office of Graduate Studies for May 2004 conferral of degree

Saturday–Thursday,

April 24–April 29 .......... Final examinations for all degree candidates

Wednesday–Wednesday,

April 28–May 5 ............... Final examinations for nongraduating students

Friday, April 30 ............. Disenrollment date for failure to pay amounts owed to the university

Deadline to submit summer financial aid applications
Saturday, May 1 ................. **9:00 A.M. Deadline:** grades for all degree candidates due in the Office of the Registrar

Saturday, May 8 ............... NINETY-FIRST COMMENCEMENT

Monday–Friday
May 10–14..................... Registration for 2004 summer semester for undergraduate and for summer research for graduate students

Wednesday, May 12 .......... **9:00 A.M Deadline:** All remaining grades for nongraduating students due in the Office of the Registrar

Friday, June 4 ................. **Deadline:** resolving grades of “Other” from Spring 2004 semester

**Summer 2004:**

**Early Session (May 11–28)**

Friday, April 9 .............. Summer term aid applications are available

Wednesday, April 14 ........ **2:30 P.M. Deadline:** Early application discount-summer school

Friday, April 30 ............. **2:30 P.M. Deadline:** Application to Early Session courses

**Deadline** to submit summer financial aid applications

Tuesday, May 4 .............. Notification sent to applicants who submitted applications by April 30

Monday, May 10 ............ **2:00 P.M. Deadline:** Final tuition payment and registration

Tuesday, May 11 ............. FIRST DAY OF CLASSES–EARLY SESSION and summer research for graduate students

Thursday, May 13 .......... **3:00 P.M. Deadline:** Adding courses
**3:00 P.M. Deadline:** Late registration

Monday, May 17 .............. **Deadline:** Visiting and Class III students to submit official transcripts (must be received by this date)

Wednesday, May 19 ......... **Deadline:** Submitting refund requests (must be received by this date. Please refer to section on Withdrawal Penalty and Tuition Refund.)

Friday, May 21 .............. **3:00 P.M. Deadline:** Dropping courses without academic penalty (no refunds)
**3:00 P.M. Deadline:** Designating pass/fail option

Friday, May 28 ............... LAST DAY OF CLASSES–EARLY SESSION

Monday, May 31 ............. Memorial Day (holiday)
Friday, June 4 .......................  **Deadline:** Completion of all Early Session course work, including final examinations. Exam schedule determined by instructor.

Friday, June 11 ......................  **3:00 P.M. Deadline:** Submitting grades to the School of Continuing Studies Summer School Office

**Summer 2004**

**General Session (June 1–July 23)**

Friday, April 9 ..................... Summer term aid applications are available

Wednesday, April 14 ..........  **2:30 P.M. Deadline** for early application discount

Friday, April 30 ................... **Deadline** to submit summer financial aid applications

Friday, May 14 .....................  **2:30 P.M. Deadline:** Application to General Session courses

Thursday, May 20 ................. Notification sent to applicants who submitted applications by May 14

Friday, May 28 .....................  **2:00 P.M. Deadline:** Final tuition payment and registration

Monday, May 31 .................... Memorial Day (holiday)

Tuesday, June 1 ................... FIRST DAY OF CLASSES–general session

Friday, June 11 .....................  **3:00 P.M. Deadline:** Adding courses or late registration

Monday, June 14 ................... **Deadline:** Visiting and Class III students to submit official transcripts (must be received by this date)

Monday, June 21 ................... **Deadline:** Submitting refund requests (please refer to section on Withdrawal Penalty and Tuition Refund)*

Monday, July 5 ..................... University holiday

Wednesday, July 7 ...............  **3:00 P.M. Deadline:** Dropping courses without academic penalty (no refunds) *

**3:00 P.M. Deadline:** Designating Pass/Fail option*

Friday, July 23 ..................... LAST DAY OF CLASSES–GENERAL SESSION

Tuesday, July 27 ................... **Deadline** for completion of all General Session course work, including final examinations

Friday, July 30 .....................  **3:00 P.M. Deadline:** Submitting grades to School of Continuing Studies Summer School Office

Friday, August 6 ................. Final grades mailed from the Office of the Registrar

Friday, August 27 ................. LAST DAY OF CLASSES–summer research for graduate students. (Note: This date is subject to final faculty approval of the 2004–05 academic calendar.)

* For some courses, different deadlines will apply. Students enrolled in these courses will receive separate deadline schedules.
The University and Campus

Rice is a private, independent university dedicated to the “advancement of letters, science, and art.” Occupying a distinctive, tree-shaded, nearly 300-acre campus only a few miles from downtown Houston, Rice attracts a diverse group of highly talented students with a range of academic studies that includes humanities, social sciences, natural sciences, engineering, architecture, music, and business management (graduate study only). The school offers students the advantage of forging close relationships with members of the faculty and the option of tailoring graduate and undergraduate studies to their specific interests. Students each year are drawn to this coed, nonsectarian university by the creative approaches it historically has taken to higher education.

One of the unique features of Rice is its residential colleges. Before matriculating, each of the university’s 2,700 undergraduates becomes a member of one of nine residential colleges, which have their own dining halls, public rooms, and dorms on campus; most of the first-year students and close to 80 percent of all undergraduates reside at their associated colleges. Because each student is randomly assigned to one of the colleges and maintains membership in the same college throughout the undergraduate years, the colleges are enriched by the diversity of their students’ backgrounds, academic interests and experiences, talents, and goals. A faculty master, who is assigned to each college and lives in an adjacent house, helps cultivate a variety of cultural and intellectual interests among the students, as well as supporting an effective system of self-government. Other faculty or members of the community serve as associates to individual colleges. The experience of college residence is indispensable to conveying the rich flavor of academic life at Rice, allowing students to combine their usual studies with an array of social events, intramural sports, student plays, lecture series, innovative college-designed courses, and an active role in student government.

Graduate students come to Rice for the chance to work closely with eminent professors and researchers who are seeking to extend the horizons of current knowledge. Although most of the approximately 1,850 graduate students live off campus, taking advantage of the city’s readily available and affordable housing, space is also available in the university-owned Graduate Apartments. Graduate students have a voice within the university community through the Graduate Student Association, which organizes and funds regular social events.

Rice offers students the pleasures and challenges of academic life within the peaceful enclosure of a campus widely acclaimed for its beauty. Campus buildings, including an extensive computer center and the 2 million-volume Fondren Library, form graceful groupings under spreading live oaks. Recent additions include the architecturally stunning Anne and Charles Duncan Hall, a state-of-the-art building for computational engineering; James A. Baker III Hall, which houses the Institute for Public Policy and the School of Social Sciences; and E. Dell Butcher Hall, home to the Center for Nanoscale Science and Technology. Additionally, Rice boasts the largest open-air stadium in the city.

Rice students also enjoy all the commercial and cultural advantages of a major metropolitan center. The school maintains extensive technological links to the area’s many colleges and universities, the acclaimed Texas Medical Center, and other resources. And both students and faculty enjoy Houston’s panoply of cultural offerings, from opera to blues clubs and from a renowned collection of post-impressionist art to alternative art spaces. Rice and Houston together provide an ideal learning and living environment.
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GENERAL INFORMATION FOR ALL STUDENTS
Student Responsibility

The university expects all Rice students to exercise personal responsibility over their actions. Their behavior should reflect a respect for the law and for their contractual obligations, a consideration for the rights of others, and shared standards of considerate and ethical behavior.

Students are responsible for knowing and following all information, policies, and procedures listed in this General Announcements. Questions should be directed to the appropriate office or administrator.

Rice encourages self-discipline, recognizing that effective student government, including judicial processes, and the integrity of the honor system depend on the willingness of all students to meet community standards of conduct.

The university, however, reserves the right to insist on the withdrawal of any student whose conduct it judges to be clearly detrimental to the best interests of either the student or the university. The appropriate authorities take such action only after careful consideration.

No individual or group may use the name of the university or one of its colleges without prior approval of the university or the college.

The Honor System

The honor system, one of the oldest and proudest traditions at Rice, is administered by the Honor Council, whose student members are elected each year by the student body. Adopted by a student vote in 1916, the honor system has remained essentially the same since that time but for changes in the procedures and membership of the Honor Council.

Students take all written examinations and complete any specifically designated assignments under the honor system. By committing themselves to the honor system, all students accept responsibility for assuring the integrity of the examinations and assignments conducted under it. The Honor Council is responsible for investigating reported violations and for conducting a hearing when the facts warrant. The assistant dean of Student Judicial Programs, who reviews the results of the investigations and hearing, considers the council’s recommendations when issuing penalties.

The Honor Council conducts an ongoing program to acquaint new students and faculty with the honor system. The Honor Code and other related information and resources are located at the homepage of the Honor Council: http://www.ruf.rice.edu/~honor/.

The Code of Student Conduct

With regard to nonacademic disciplinary matters, the assistant dean of Student Judicial Programs and the University Court—a court of student peers—enforce the Code of Student Conduct that governs the administration of student order and discipline. The Code of Student Conduct applies to all undergraduate students, transfer students, graduate students, and professional students registered at Rice University, as well as to visiting students, Class III students, second degree students, and auditors from the time they arrive on campus for orientation until they have completed their studies or degrees and physically left campus. Organizations also are subject to this Code. All enrolled students also are subject to Rice University policies, rules, and regulations. The assistant dean of Student Judicial Programs oversees the judicial system under the auspices of the vice president for Student Affairs, who has general authority over the student disciplinary system. The Code of Student Conduct and other related information and resources are located at the homepage of the University Court: http://www.ruf.rice.edu/~ucourt/table.html.
Faculty Grading Guidelines

The Committee on Examinations and Standing has drawn up the following guidelines on grading. Additional information is available on pages 36–39.

- The evaluation of the student’s performance in a course and a decision on the appropriate grade is the responsibility of the designated instructor or instructors in the course.

- No student should be given an extension of time or opportunities to improve a grade that are not available to all members of the class, except for verified illness or justified absence from campus. Students who have three scheduled final examinations in two consecutive calendar days may, however, take one of the examinations at another time. Except for scheduled exams, no course assignments may be due between the last day of classes and the last day of the final examination period.

- Students in independent study courses are not to be allowed an extension beyond the time when grades are due. Faculty are to submit grades at the end of the semester for such students based on work completed during the semester. The instructor directing the independent study assumes responsibility with the student for ensuring that the work undertaken is appropriate to the span of a semester and for determining the degree credit to be received.

- The basis for grading and the expectations on all written assignments or tests should be clearly explained to the class in advance, preferably in writing at the beginning of the semester. The instructor should explain clearly which assignments or homework are covered by the honor system and which are not. To prevent allegations of plagiarism on written assignments, students should be warned that all direct and indirect quotations from other sources should be properly acknowledged. The instructor should explain the extent to which the student’s paper is expected to be independent of the references and clearly distinguishable from them.

- Instructors should be willing to give any student an explanation of his or her grade as consistent with the grading for the rest of the class. For this reason, the committee urges the faculty to preserve all examinations and written material not returned to students, as well as grade records, for at least the following semester so that students may, if they wish, review with their instructor the basis for the grade received.

- Instructors may not change a semester grade after the grade sheet has been submitted to the registrar, except when there is a clerical error in calculating the grade. This is a long-standing university rule of which the faculty are reminded by the registrar at the end of each semester. It is designed in part to protect the faculty from student pressure for grade changes. All other grade changes, including retroactive change to withdrawal or incomplete, must be approved by the Committee on Examinations and Standing on the basis of a written petition from the student and on information from the instructor.

- There is no university requirement that a final examination be given in a course. It is university policy that final examinations that cover more than the material since the last examination, that are the only exam in the course, or that are comprehensive of the entire course may be given only during the final examination period. Such examinations may not, for example, be labeled “tests” and administered during the last week of classes. Final examinations are normally of 3-hour duration. Faculty who, under exceptional circumstances, wish to give longer examinations may do so only if the exam is scheduled as take-home. Under no circumstances may final exams exceed five hours. The “due date” for all take-home final exams is the end of the examination period.
First-year students receive mid-semester grades around the eighth week of the fall and spring semesters so that they can, if advisable, enroll in tutoring or drop a class for which they may not be prepared. Faculty who teach first-year students in any of their classes will be asked to submit grades of standing for these students during the seventh week of the semester and should schedule the grading of tests, quizzes, or homework assignments accordingly. These grades are not recorded on the student’s transcript nor calculated in the grade point average, but they are important indicators for students and their faculty advisers.

Departments using teaching associates, adjunct professors, or visiting faculty of any kind should make sure these teachers are familiar with Rice grading procedures. A regular faculty member who is well-versed in the grading guidelines should be assigned to assist such instructors.

The chair of the Committee on Examinations and Standing or the vice president for Student Affairs will be glad to advise any faculty member faced with exceptional circumstances that may justify special consideration. Students may petition the committee concerning the application of these guidelines. Suspected or possible violations of the honor system should be submitted to the Honor Council.

Fondren Library

Fondren Library provides a wealth of resources for study and research. Its permanent collection numbers 2.2 million volumes, almost 3 million microforms, 33,000 current periodical and serial titles, and more than 55,000 titles in audio, video, and computer formats. The library is well-equipped to meet the needs of students and faculty.

Students exploring the library’s extensive holdings can take advantage of its networking systems. With Macintosh, PC, and UNIX workstations scattered throughout the first floor of the library, students looking for information have their choice of print or electronic media. Wireless networking is available on the first floor.

If they want to postpone a trek to the library, students may access the library’s online catalog from the web at http://www.rice.edu/fondren. Fondren’s website also links students to a wide variety of indexes and a growing collection of full-text reference sources, as well as primary literature.

The library staff is committed to the use of evolving information technologies, whether in helping to develop collections of applications, resources, and tools tailored to a particular subject or need or in facilitating user access to networked information sources. The library’s electronic resources also include multimedia packages and large data sets, and students will find many specialized research tools available, such as computer programs for text analysis and geographic information systems software.

Fondren Library provides a home for a number of separate collections. It is a federal depository for U.S. government publications, patents, and trademarks. The Woodson Research Center holds the library’s rare books, manuscripts, and university archives. The library also houses the Alice Pratt Brown Fine Arts Library. The Electronic Resources Center supports the creation and use of digital resources for teaching, learning, and research by providing Rice students, faculty, and staff access to electronic texts and scholarly databases, Web development tools, and expert consultation. The Business Information Center is in the Jesse H. Jones Graduate School of Management.

The library has an open-shelf policy that encourages creative browsing. Students may use a host of special facilities, including individual study carrels, group-study rooms, audiovisual equipment, electronic workstations, and microform reading carrels. Photocopiers are available in the library.
Fondren Library operates on the philosophy that a library is more than a collection of books. It is an essential campus resource with a knowledgeable staff and up-to-date technologies—an inviting place that introduces students and faculty to a range of rich possibilities as they pursue their independent inquiries.

**Computing, Networking, and Telephone Resources**

The four departments of the Information Technology (IT) division provide both centralized and distributed services and resources to the entire Rice campus, including:
- Computing support
- Educational labs
- Multimedia classrooms
- Campus networking
- Internet connectivity
- Campus telephone service

**Computing and Networking Resources**

The resources of particular interest to students include:
- Accounts for coursework, e-mail, Internet access, and computer lab access
- Computing help from residential college consultants
- Network connection ports in each residential college room
- Wireless network access in the library and other campus common areas
- Remote network access
- Free training classes on computing topics

**Educational Computing: Owlnet.** Owlnet is an educational computing environment that provides e-mail services, computer labs, specialized software, data storage, and network access for academic use by students and faculty. Using Owlnet, students can fulfill coursework requirements, store their academic data, print, browse the web, create their own webpages, and use electronic mail to communicate with professors, classmates, friends, and family. All undergraduate and graduate students are eligible for an Owlnet account. Students can apply for accounts online (http://apply.rice.edu). Graduate students may have access to other computing resources within their department as well.

**Campus Labs.** Owlnet computing labs are located across the campus, including one in each residential college. Most Owlnet labs are available 24 hours a day with a Rice ID card and proper authorization. Some labs are limited to the building’s hours of operation and some labs are used as classrooms during certain posted hours. Lists of available hardware and software are available on the web (http://www.rice.edu/IT/labs.html). Some of the larger labs are:
- Fondren Library (1st and 2nd floor)
- Mudd Building (1st floor)
- Anderson Hall 218
- Ryon Lab 102

**Student-Owned Computers.** Each residential college dorm room has one active network port for every occupant, providing a direct connection from a student’s computer to the campus network and the Internet. Students can get assistance from the college computing associates (see Help below) for most of their computing needs on campus.
Students connecting to Rice from an outside Internet access service, such as commercial dialup, ADSL, or cable modem service can apply to use Rice’s Virtual Private Networking system (VPN) online (http://apply.rice.edu). VPN allows the secure exchange of data between Rice University and a remote system connected to the Internet outside of Rice. For more information, look online (http://www.rice.edu/Computer/Dialup/VPN/RemoteAccess/vpn).

**Help.** For undergraduates, each college has two resident student college computing associates (CCAs) who can help with questions about using personal computers and Rice computing facilities. CCAs are listed on the website (http://www.rice.edu/Computer/student.html). The CCAs can be reached by calling 713-348-4983, via e-mail to problem@rice.edu, via http://problem.rice.edu, or by stopping by their rooms during their office hours.

For graduate students, computing assistance is provided by divisional computing teams, who also provide assistance to the faculty and staff in each academic division. The contact information for divisional team members can be found online (http://www.rice.edu/Computer/dialup/vpn/).

Publications about computing services and how to use supported systems and software are available in the Mudd building or on the web (http://www.rice.edu/Computer/Documents). Students can learn more about computing by taking a variety of short courses covering many of the programs and operating systems used at Rice (http://www.rice.edu/Computer/Short_Courses/). Short courses are two to three hours long and are free.

**Policies.** Students using Rice computing facilities and services are required to observe Rice and Owlnet policies and procedures, as well as state and federal laws governing computer use. View these policies online (http://www.rice.edu/Computer/Policy/ and http://www.owlnet.rice.edu/policy).

**For More Information.** Students can find more information about computing resources on the Information Technology computing webpages (http://www.rice.edu/Computer/).

**Telephone Service for College Residents**

College residents do not need to sign up for local and campus telephone service. Telephone services will be working when students arrive on campus. The telephone services provided to the residential colleges include:

- Local and campus calls
- Voicemail
- Call waiting
- Caller ID
- Hold
- Call transfer to a campus extension
- Three-party conference calls
- Four-digit dialing for campus calls

**Telephone.** College residents will need to supply the telephone for their room/suite. Each college room/suite has only one telephone jack to connect a telephone. Telephones should be analog. Students wishing to use caller ID should select a telephone with this capability.

**Phone Number.** Each room/suite has an assigned number (713-348-xxxx) that can receive direct-dial calls from outside Rice University. As part of the campus telephone
system, rooms can make or receive calls within Rice using only four-digit extensions (e.g., x5555 for Telecommunications).

**Cost.** A fee of $69 per semester is included in the required fees for each college resident (see Tuition, Fees, and Expenses on pages 51–52). This fee is for local calling service only.

**Long-Distance and International Service.** Long-distance service is not provided by Telecommunications. Rice Telecommunications negotiates with vendors to obtain a rate plan for students. Information on the discount program is available when students move in.

Students can opt to use a Rice discount plan with a national long-distance carrier. Or, students can choose a carrier (e.g., AT&T, MCI, Sprint, etc), and use long distance services through their assigned tollfree numbers or calling cards. Prepaid calling cards can be purchased at local retailers.

**Help.** Students can contact Telecommunications at 713-348-5555 with questions or look on the web (http://www.rice.edu/telephone).

**Telephone Service for Off-Campus Students**

Off-campus students will not be charged the Rice Telecommunications Fee. Students who live off-campus will need to contact local telephone service providers for service in their residences and make any needed long-distance and international arrangements.

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**Student Health and Counseling Services**

**Student Health Fee**

By paying an annual student health service fee, all students gain access to both the Student Health Service and the Rice Counseling Center. Detailed information on the care and services each provide is available from both centers.

**Student Health Service**

As of late fall semester of 2003, the Student Health Service, an outpatient primary clinic, should be relocated to a new Student Health and Wellness Center in the former Brown College commons. Until then, it will remain in the north wing of Hanszen College. Two primary care physicians and two nurses staff the clinic.

Clinic hours are from 8:30 A.M. to 5:00 P.M., Monday through Friday, during fall and spring semesters. For after-hours and weekend medical care, students may choose among a number of local hospitals. Students must pay for all medical care outside the clinic’s purview, including blood tests, x-rays, and outside physician consultations. Should such medical care be necessary, students are urged to review their insurance coverage and pick the best available option.

In serious emergencies, students should call the Student Health Service (713-348-4966 during work hours) or the Rice University Police Department (713-348-6000).

The clinic is open full time from the first day of Orientation Week until the day before commencement. It is closed during the Christmas break and the Thanksgiving and Easter weekends, but it remains open in the mornings during midterm breaks. The clinic is also open for reduced hours during the summer months.
The Student Health Service provides the following:
- Primary care for illness and injury with referrals to specialists when needed
- Maintenance of health records for all students
- Immunizations
- Contraceptive counseling and routine Pap smears
- Allergy shots (students must provide serum after a specialist allergy workup)
- Physical examinations (e.g., for employment, transfer to another school, or scholarship expeditions)

Confidentiality. The Student Health Service physician–patient relationship is a confidential one, and medical records will not be released except as required by law, or when the patient poses a significant risk to herself or himself or another person.

Health Insurance. All Rice students must have health insurance of their choice, and must enter details of their health insurance online at http://studenthealthinsurance.rice.edu by August 15. Failure to do so will result in automatic billing for insurance. Students may purchase insurance through the university, as described online. Dependent coverage is also available. For questions about the Rice student health insurance plan, students should contact the Rice Counseling Center at rucc@rice.edu. Rice's group coverage for 2003-2004 is effective from 12:01 A.M., August 15, 2003, until 12:01 A.M., August 15, 2004.

Rice Counseling Center

Rice Counseling Center, in 301A Lovett Hall, addresses students’ psychological needs with various programs and services. The center is open year-round except for scheduled holidays and occasional all-day staff retreats. Office hours for counseling and consultations are 8:30 A.M. to noon and 1:00 P.M. to 5:00 P.M., Monday through Friday. Students can make appointments by calling 713-348-4867 or by visiting the center.

Typically, most students who use the counseling services bring with them very common concerns: roommate problems, breakup of a relationship, academic and/or interpersonal anxiety, family problems, difficulties adjusting to Rice, or confusion about personal goals, values, and identity. Counselors are equipped to handle a variety of issues, including substance abuse, eating disorders, sexual assault/abuse/date violence, depression, and the coming-out process. Rice Counseling Center offers both individual and group counseling as well as educational workshops and programs.

When students need prolonged or specialized counseling or treatment, counselors refer them to an outside provider. The students, or their health insurance, must pick up those costs. All students who have paid the Health Service Fee are eligible for initial assessment sessions, consultations, crisis intervention, and educational programming. Individual or group counseling may also be available, if appropriate.

The Rice Counseling Center provides the following services:
- Initial assessment
- Short-term individual and couples counseling
- Group therapy and support groups
- Medication consultations with the center’s consulting psychiatrist
- Other consultations (e.g., how to make a referral or how to respond to a friend in distress)
- Educational programming (e.g., various presentations on mental health issues)
- Crisis intervention on a walk-in emergency basis during regular office hours; students may call 713-348-4867 for assistance with emergencies after hours or on weekends
College Assistance Peer Program (CAPP). In this peer educator program, students who have been carefully selected and trained in listening skills and mental-health education serve as supportive listeners and referral sources for other students. They also assist the center with its educational programming.

Students with Disabilities. Because students who have physical limitations may find it difficult to reach the Rice Counseling Center’s third-floor location in Lovett Hall, staff will arrange to see those students in a more accessible location on campus. Students should call the center to make these arrangements.

Confidentiality. Counseling services are confidential: information about a student is not released without that student’s written permission. By state law, confidentiality does not extend to circumstances where (1) there is risk of imminent harm to the student or others; (2) the counselor has reason to believe that a child or an elderly or handicapped person is, or is in danger of, being abused or neglected; (3) a court order is issued to release information; (4) the student is involved in a criminal lawsuit; or (5) the counselor suspects that the student has been the victim of sexual exploitation by a former health provider during the course of treatment with that provider.

Student Resource Centers

Rice Memorial Center/Ley Student Center

The Rice Memorial Center/Ley Student Center provides a base for a range of student-centered activities. It is also an informal place where students, faculty, and staff can congregate. Individuals meet over casual meals at Sammy’s Cafeteria and drinks at the Coffeehouse and Willy’s Pub, which also offers pizzas, sandwiches, and Smoothies as lunch and dinner options. Others browse through the Rice Campus Store. Located within the group of buildings, students find an array of offices, programs, and resource centers, including the Career Services Center, the Community Involvement Center, the Office of Academic Advising, the Rice Program Council, and the assorted student, international student, and graduate student associations. The campus radio station KTRU has offices there, in addition to the Thresher (the campus newspaper) and the Campanile (the yearbook). The Rice Memorial Chapel anchors one end of the two-center complex, which also houses the Association of Rice Alumni. On any given evening, the larger rooms may be busy with meetings or catered dinners, and members of the Rice community regularly tap the facilities for special events, from parties and concerts to weddings.

Career Services Center

The Career Services Center is open to everyone in the university community. Undergraduates unable to decide on a major, career, or graduate program, or those who lack direction in the path they have chosen, may benefit from career counseling; testing is also available for those interested in a more analytical approach. Peer counselors assist both undergraduate and graduate students with résumé or vita writing, interviewing, and job search strategies.

The center sponsors workshops, career panels, and various career fairs each year. Students will find details on individual events publicized throughout the campus and in Career News, a center newsletter. The Career Library also has a substantial collection of resources, including literature on a broad range of occupations, material on locating and securing employment, and information on summer jobs, individual companies, and graduate schools.
Representatives from business, industry, and other institutions visit the center each year, seeking both summer workers and full-time employees. Any interested student may schedule interviews with these representatives. Students looking for full-time, part-time, or summer jobs should also check out the listings in the Career Library.

Undergraduate liberal arts majors seeking to parlay their B.A. degrees into a business career may want to consider the Rice Joint Venture Program, which is sponsored by the Career Services Center. Students accepted into the program undertake internships with Houston-area businesses during one semester.

Office of Multicultural Affairs

Located in the cloisters of the Rice Memorial Center, the Office of Multicultural Affairs responds to the academic and social needs of ethnic minority students at Rice. Primarily providing counseling and support, the office maintains its own library of information on graduate schools, jobs, fellowships, internships, and other opportunities available to minority students once they leave Rice. The office encourages cross-cultural programming on campus and attempts to promote a general awareness of issues related to cultural diversity. The Office of Multicultural Affairs is central to the university’s continuing efforts to recruit and retain more minority students.

Health Education Office

Also lodged in the cloisters of the Rice Memorial Center, the Health Education Office runs programs on such issues as sexual health awareness, substance abuse prevention, nutrition and diet, and acquaintance rape. The office provides students with private consultations and a resource room containing health-related literature, including brochures, journals, and posters. Student volunteers with the Health Education Office participate in groups such as Students Organized Against Rape (SOAR) and serve as health representatives for their colleges.

Disability Support Services

Located in the Ley Student Center, Disability Support Services coordinates campus services for individuals with documented disabilities. For academic accommodations, adaptive equipment, or disability-related housing needs, the Disability Support Services Office is the campus resource for students with disabilities. Information is maintained on scholarships, internships, and other programs specific to students with disabilities. Counseling and advocacy are available as well as consultation on the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. For more information, see the Disability Support Services website at http://www.dss.rice.edu.

Sports

Intercollegiate Athletics

Rice is a member of the Western Athletic Conference and a Division I-A member of the National Collegiate Athletic Association. The university fields teams for men in football, basketball, baseball, tennis, golf, cross-country, and indoor and outdoor track. Women team sports include basketball, volleyball, soccer, swimming, tennis, cross-country, and indoor and outdoor track. Home football games are played in the beautiful 70,000-seat Rice Stadium. The rest of the university’s extensive athletic facilities include Autry Court and Fox Gymnasium for basketball and volleyball, Reckling Park for
baseball, the Jake Hess Tennis Stadium, the Rice Track/Soccer Stadium (Wendel D. Ley Track), and the John L. Cox Fitness Center. Encouraging its student-athletes to pursue high goals, Rice prides itself on its dual goal of excellence in both academics and athletics: the rigors of one may not serve as an excuse for less than high-quality performance in the other.

**Intramural Sports**

The Recreation Center in Student Affairs offers a supervised program of intramural sports for all students, faculty, and staff. Anyone may participate in individual, dual, or team sports; swim meets; and track and field events. Interested students, faculty, and staff may also form teams to compete in the wide variety of tournaments available. While all students may take part in the university intramural tournaments, undergraduates may also represent their respective colleges in the college team sports tournaments that follow intramural play. In the past few years, Rice has seen more than 6,000 entries in 53 tournaments. Students are reminded, though, that they participate at their own risk.

**Sports Clubs**

In addition to the intramural program, the Department of Student Activities administers a sports club program. A sports club is a special-interest group organized by students who want to play, and promote interest in, a particular sport. Club organization depends on student interest. In recent years, clubs have included badminton, cricket, cycling, dance, fencing, field hockey, frisbee, lacrosse, martial arts, rowing, rugby, sailing, shooting, soccer, softball, and volleyball. Students join these groups to increase both individual and team skills through a dual program of instruction and competition. They support the clubs with individual contributions, membership dues, solicitation of university funds, and various fund-raising activities. Again, students participate in the different sports at their own risk.

**Student Automobiles**

All students must register their vehicles with the Traffic Division of the Rice University Police Department. Students must park in assigned areas and observe university regulations. Illegally parked or unregistered vehicles are subject to towing and/or fines by the university. Copies of *University Traffic and Parking Regulations*, a publication giving a detailed account of student privileges and responsibilities, are available from the Traffic Division or online at http://rupd.rice.edu/parking. Students must inform all guests of parking regulations; vehicles belonging to visitors who repeatedly violate these rules also may be towed or booted.
INFORMATION FOR UNDERGRADUATE STUDENTS
Introduction

The undergraduate experience at Rice is one of intense personal interactions. The close sense of community created by individual placement in residential colleges is extended to warm intellectual and personal relationships with members of the Rice faculty. “Behind the hedges,” the beautifully designed, spacious campus is small enough to encourage a sense of belonging even as students engage with the lively cultural currents of one of the country’s largest cities.

The academic philosophy at Rice is to offer students beginning their college studies both a grounding in the broad fields of general knowledge and the chance to concentrate on very specific academic and research interests. By completing the required distribution courses, all students gain an understanding of the literature, arts, and philosophy essential to any civilization, a broad historical introduction to thought about human society, and a basic familiarity with the scientific principles underlying physics, chemistry, and mathematics. Building on this firm foundation, students then concentrate on studies in their major areas of interest.

Rice University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS), the recognized regional accrediting body in the eleven U.S. Southern states.

Rice grants the two undergraduate degrees, the Bachelor of Arts (B.A.) and the Bachelor of Science (B.S.), in a range of majors. The majority of undergraduates earn the B.A. degree, though students may elect to pursue the B.S. degree, offered at Rice in some science fields and in various fields of engineering accredited by the Accreditation Board for Engineering and Technology (ABET). Undergraduates may major in any of the numerous fields provided by the various schools of architecture, humanities, music, social sciences, science, and engineering. To accommodate the full range of individual student interests, specific interdepartmental majors are also available, as are selectively approved area majors. In certain departments, students also have the option of overlapping the upper-level course work of their undergraduate degree with those basic requirements necessary to earn a higher degree in the field, considerably reducing the time required to complete their graduate studies. The Shepherd School of Music offers a joint degree in music (B.Mus./M.Mus) that may be completed with a fifth year of study.

Through Rice’s Education Certification Program, students interested in teaching in secondary schools may complete a program of teacher training, leading to certification in the state of Texas, together with the B.A. degree. Students interested in satisfying the requirements for admission to medical, dental, or law school should consult with the Office of Academic Advising for completing these programs in conjunction with the various majors.

Graduation Requirements

Degree Requirements for All Bachelor’s Degrees

Students are responsible for making certain that their plan of study meets all degree and major requirements. To graduate from Rice University, all students must:

- Be registered at Rice full time for at least four full fall and/or spring semesters
- Complete the requirements of at least one major degree program
- Complete at least 120 semester hours (some degree programs require more than 120 hours)
- Complete at least 60 semester hours at Rice University
• Complete at least 48 hours of all degree work in upper-level courses (at the 300 level or higher)
• Complete more than half of the upper-level courses in degree work at Rice
• Complete more than half of the upper-level courses in the major work at Rice (certain departments may specify a higher proportion)
• Complete all Rice courses satisfying degree requirements with a cumulative grade point average of at least 1.67 or higher
• Complete all Rice courses that satisfy major requirements (as designated by the department) with a cumulative grade point average of at least 2.00 or higher
• Satisfy the English composition requirement (see below)
• Satisfy the Lifetime Physical Activity Program (LPAP) requirement (see below)
• Complete courses to satisfy the Distribution Requirements (see below)
• Complete at least 150 hours for double degree consideration
• Otherwise be a student in good academic and disciplinary standing

To satisfy the English composition requirement, students must pass an English composition examination given during Orientation Week. Those receiving grades of “not satisfactory” on the exam must complete ENGL 103 Introduction to Argumentation and Academic Writing, a one-semester course carrying degree credit.

To satisfy the LPAP requirement, students must complete 2 courses in LPAP. Although 2 courses are required, they do not carry degree credit and do not count toward the total semester hours at graduation. Students with disabilities may make special arrangements to satisfy this requirement.

Distribution Requirements

Each student is required to complete at least 12 semester hours of designated distribution courses in each of Groups I, II, and III. The 12 hours in each group must include courses in at least two departments in that group. (Divisional or interdisciplinary designations, e.g., HUMA or NSCI, count as departments for this purpose.) Interdisciplinary courses approved for distribution credit may count toward the 12 semester hours in any relevant group; however, students may not count any one such course toward the 12 required hours in more than one group, and may count no more than one such course toward the 12 required hours in any one group.

Students must complete the distribution requirements in each group by taking courses that are designated as a distribution course at the time of course registration, as published in that semester’s Schedule of Courses Offered.

The distribution system presupposes that every Rice student should receive a broad education along with training in an academic specialty. This goal is achieved by courses that are broad based, accessible to nonmajors, and representative of the knowledge, intellectual skills, and habits of thought that are most characteristic of a discipline or of inquiry across disciplines.

**Group I.** These courses have one or more of the following goals. They develop students’ critical and aesthetic understanding of texts and the arts; they lead students to the analytical examination of ideas and values; they introduce students to the variety of approaches and methods with which different disciplines approach intellectual problems; and they engage students with works of culture that have intellectual importance by virtue of the ideas they express, their historical influence, their mode of expression, or their critical engagement with established cultural assumptions and traditions.

**Group II.** Three types of courses fulfill this requirement. The first are introductory courses which address the problems, methodologies, and substance of different disciplines in the social sciences. The second are departmental courses that draw upon at least two or more disciplines in the social sciences or that cover topics of central importance
to a social science discipline. The third are interdisciplinary courses team-taught by faculty from two or more disciplines.

**Group III.** These courses provide explicit exposure to the scientific method or to theorem development, develop analytical thinking skills and emphasize quantitative analysis, and expose students to subject matter in the various disciplines of science and engineering.

**Bachelor of Arts**

The specific requirements of individual majors leading to the Bachelor of Arts degree vary widely. No department may specify more than 80 semester hours (required courses, prerequisites, and related laboratories included) for the Bachelor of Arts. To qualify for the Bachelor of Arts:

- All students must complete at least 120 hours of course work.
- Students in the humanities and social sciences must complete between 18 and 80 hours in course work within the major (including required courses, prerequisites, and related laboratories)
- Students in the sciences and engineering must complete between 24 and 80 hours in course work within the major (including required courses, prerequisites, and related laboratories)
- Students in all fields except architecture must complete at least 60 hours in course work outside the major
- Students in architecture must complete at least 36 hours in course work outside the major

**Bachelor of Science in the School of Natural Sciences**

The Bachelor of Science degree is offered in astrophysics, chemistry, chemical physics, geology, and physics. The specific degree requirements vary from field to field and differ from those of the Bachelor of Arts in that there are greater technical requirements. No department may specify more than 80 semester hours (required courses, prerequisites, and related laboratories included) for the Bachelor of Science. To earn a B.S. degree in one of these fields, students must complete at least 60 hours in course work outside the major.

**Bachelor of Science Degrees in Engineering: Bachelor of Science in Chemical Engineering (B.S.Ch.E.), Computer Science (B.S.C.S.), Electrical and Computer Engineering (B.S.E.E.), Materials Science (B.S.M.S.), Mechanical Engineering (B.S.M.E.), and Bioengineering (B.S.B.)**

The Bachelor of Science degree in a given engineering field is distinct from the Bachelor of Arts degree in that it must meet greater technical requirements. In establishing a departmental major for the degree of Bachelor of Science in electrical and computer engineering, materials science, and mechanical engineering, the department may specify no more than 92 semester hours (required courses, prerequisites, and related laboratories included). In establishing the departmental major for the B.S. in chemical engineering, the department may specify no more than 100 semester hours (required courses, prerequisites, and related laboratories included). The bioengineering department specifies 94 semester hours for the B.S. degree (required courses, prerequisites, and related laboratories included). To earn a B.S. degree, students must meet the following minimum semester hour requirements in course work:

- All majors except chemical engineering and computer science—a total of at least 134 hours
• Chemical engineering majors—a total of at least 132 hours, depending on area, up to 137 hours
• Computer science majors—a total of at least 128 hours

Other Bachelor’s Degrees

The professional Bachelor of Architecture (B.Arch.) degree requires a fifth year of study and a one-year preceptorship. The Bachelor of Fine Arts (B.F.A.) degree requires a fifth year of concentrated study and advanced courses in addition to the core course requirements. The Bachelor of Music (B.Mus.) degree requires advanced courses in aural skills in addition to the core music curriculum.

Undergraduate Majors

Students must declare a major before preregistration for the junior year, if not sooner, according to the deadline in the Academic Calendar (see Declaring Departmental Majors on page 32). Within some departmental majors, students have the choice of a particular area of concentration. Students also may opt for more than one major; such majors do not necessarily need to be in related fields. More detailed information on the departmental majors briefly described below may be found in the Undergraduate Degree chart (see pages 27–29) in the section “Departments and Interdisciplinary Programs” and by contacting the department chairs or faculty advisers.

Departmental Majors

School of Architecture. Students admitted to the university as architecture majors must first complete 4 years of the B.A. program (architecture major) before applying to the B.Arch. program in their senior year. If admitted, they are assigned a preceptorship with an architectural firm for a one-year period, after which they return to Rice to complete the B.Arch. degree program.

George R. Brown School of Engineering. Rice offers, through eight departments, majors in bioengineering, chemical engineering, civil engineering, computational and applied mathematics, computer science, electrical and computer engineering, mechanical engineering, materials science and engineering, and statistics. Students may elect a double major by combining environmental science with another science or engineering field. These programs lead to either the B.A. or the B.S. degree and may qualify students for further graduate study.

School of Humanities. Students may declare majors in art history, classics, English, French studies, German and Slavic studies (includes Russian), Hispanic studies, kinesiology, history, linguistics, philosophy, religious studies, and visual arts. Interdisciplinary majors are available in ancient Mediterranean civilizations, Asian studies, medieval studies, and the study of women and gender, while an interdepartmental major in policy studies combines courses from the School of Humanities and the School of Social Sciences.

Shepherd School of Music. Music students may opt for either a B.A. or a Bachelor of Music (B.Mus.) degree in performance, composition, music history, and music theory. Students who pass a special qualifying examination may elect an honors program that leads to the simultaneous awarding of the B.Mus. and Master of Music (M.Mus.) degrees after five years of study.
Wiess School of Natural Sciences. All natural sciences departments, including biochemistry and cell biology, chemistry, ecology and evolutionary biology, earth science, mathematics, and physics and astronomy offer programs leading to the B.A. degree. B.S. degrees are offered in some departments. Majors include astronomy, biochemistry, biology, biophysics, chemical physics, chemistry, geology, geophysics, mathematics, and physics. Students may also elect double majors combining one of the programs in natural sciences with another science, a humanities discipline, or an engineering field.

School of Social Sciences. Rice offers majors in anthropology, economics, mathematical economic analysis, political science, psychology, and sociology. Both the interdepartmental policy studies major and the cognitive studies major include sciences, engineering, and humanities courses, while the managerial studies major incorporates course work in the Schools of Engineering and Management.

Interdepartmental Majors

Interdepartmental majors combine courses taught by faculty from more than one department; they are listed separately in the Undergraduate Degree Chart (pages 27–29).

Other Academic Undergraduate Options

Rice/Baylor College of Medicine Medical Scholars Program

The Medical Scholars Program is for talented and motivated students who are scientifically competent, socially conscious, and capable of applying insight from the liberal arts and other disciplines to the study of modern medical science. Up to 15 graduating high school seniors are admitted to Rice and Baylor College of Medicine concurrently: The traditional four years at Rice are followed by four years at Baylor. Applications for the program are sent to those who indicate their interest on their Rice applications. However, students must have applied under the Early Decision or Interim Decision plans (see pages 48–49). Interviews are scheduled in late March, and decisions are made in April. Early Decision applicants must have Rice as their first-choice school, regardless of the Baylor decision to be made later in the spring. Applicants not admitted to the Medical Scholars Program are still eligible for admission to Rice and may still apply to Baylor upon graduation from Rice.

W. M. Keck Center for Computational Biology Research Training Program

Undergraduates may take advantage of research training opportunities in computational biology offered by this joint project of Rice, Baylor College of Medicine, and the University of Houston. Students in biophysics, cell biology, evolutionary biology, computer science, statistics, mathematics, physics, chemistry, computational and applied mathematics, and engineering may apply for a summer program that provides hands-on research under faculty mentorship in lab settings, seminars and workshops, and access to the advanced computational and analytical resources offered by the center.

Leadership Rice

Leadership Rice develops the leadership capacities of undergraduates from all disciplines. The program links theory to practice and analysis to action with experiential
opportunities and classes. It encourages students to look beyond how to get a good education and good grades and to begin to consider how they can use their great education to make a positive contribution to the world.

The program is especially recommended for second semester sophomores, who are invited to begin with UNIV 309 and then to participate in all aspects of the program, but it is open to all students—including freshmen.

The core component of Leadership Rice is the Summer Mentorship Experience. Students accepted into the program work under the tutelage of experienced mentors for eight weeks during the summer and are given a $3,000 stipend. Mentorships are in the private, nonprofit, and public sectors in U.S. and abroad. Students also are invited to take on leadership roles in the administration of the program. Recent mentorships as well as more information on Leadership Rice are posted on the web at www.rice.edu/leadership.

Currently, Leadership Rice offers several courses for academic credit. UNIV 309, Creating and Managing Change: Principles of Leadership, introduces students to leadership ideas in the context of diverse disciplines. This course, offered only in the fall semester, includes a team project along with discussion on what makes effective teams, as well as work on writing clearly and persuasively. It is required to apply to Leadership Rice’s Summer Mentorship Experience. UNIV 310, Creating and Managing Change: From Theory to Action, follows the mentorship and is open to select students invited to participate in the Leadership Certificate program. A fall seminar on Entrepreneurship is also offered.

Leadership Rice also sponsors the Rice-on-Board program, which places students on nonprofit community boards as participant observers for a year. It also oversees the Envision Program and the Janus Award. Envision funds, offered three times each year, provide seed money to students for first-time projects of benefit to the community, either on campus or beyond. The Janus Award offers one undergraduate the opportunity to research an environmental or science-related issue from multiple perspectives.

Leadership Rice believes that every Rice student is capable of creating positive change. The program aims to help students develop the confidence and commitment as well as the skills to achieve this end. Visit http://www.rice.edu/leadership to learn more about opportunities for developing leadership capacity.

Premedical, Prelaw, and Prebusiness Programs

In addition to the preprofessional and professional programs offered by Rice in architecture, business management, engineering, and music, students may pursue programs that satisfy the admission requirements for graduate schools in business, dentistry, diplomacy and foreign affairs, health science, law, and medicine. Interested students may contact various advisers with offices in the Ley Student Center, including health professions advisers for premedical or predental studies and other professional programs in the health sciences, a prelaw adviser for prelegal studies, and a prebusiness adviser for business, finance, and accounting.

Junior-Year Admission. Students who plan to enter medical school or any other professional or graduate school at the end of their junior year at Rice can arrange to receive a Rice four-year bachelor’s degree by submitting to the Committee on Examinations and Standing a degree plan that fulfills all normal university and departmental requirements for the bachelor’s degree. Students must submit a degree plan before they begin graduate or professional training. The Committee on Examinations and Standing then reviews the degree plan submitted by each student and gives final approval.

Students who want to take advantage of this junior-year admission may apply no more than 30 to 40 semester hours (10 courses) in transfer credit (courses must be acceptable to the student’s major department and the registrar).
**Premedical and Predental Programs.** The entrance requirements for U.S. medical and dental schools include one year each of general chemistry, organic chemistry, physics, mathematics, biology, and English, plus laboratories required by the science courses. Because medical and dental schools seldom favor any one area of study, students may choose their majors according to their interests and capabilities. Their degree plans should provide them with both a broad cultural background and the necessary skills for an alternative career. Science or engineering majors will automatically satisfy most of the entrance requirements for medical or dental school, but students majoring in the humanities will need to make some adjustments in their study plans. Premedical and predental students should discuss their degree plans with the health professions advisers.

**Prelaw Program.** All degree programs offered at Rice satisfy the academic requirements for admission to law school. While many prelaw students major in social sciences, no law school specifies particular courses or curricula as prerequisites to admission, and students majoring in humanities, sciences, engineering, or other areas are regularly admitted to law schools. Most schools require only a baccalaureate degree and the completion of the Law School Admission Test. When selecting a major, students should keep in mind the provision in The Official Guide to U.S. Law Schools (published by the Law School Admission Council/Law School Admission Services in cooperation with the American Bar Association and the Association of American Law Schools) that prelegal education should develop oral and written comprehension and expression, as well as creative thinking and critical understanding of human values. While no particular discipline is paramount, the prelaw adviser usually recommends that students take expository writing courses and beginning accounting and economics courses. Interested students should contact the prelaw adviser. The guide to law schools cited above, reference books, and the catalogs of many leading law schools are available in the prelaw office in the Office of Academic Advising, Ley Student Center.

**Prebusiness Program.** Business schools consider the following when admitting students to their Master of Business Administration (M.B.A.) programs:
- Scholastic aptitude, as evidenced by undergraduate grades and performance on the Graduate Management Admission Test (GMAT)
- Extracurricular activities
- Work experience
- Effective oral and written communication

While no specific undergraduate major is preferred, students should select a major (or majors) where their academic performance is likely to be the strongest. The prebusiness adviser recommends that students take ECON 211/212 *Principles of Economics I and II* and ACCO 305 *Introduction to Accounting* as courses helpful for graduating seniors seeking employment in the private or public sector. Most business schools prefer students with full-time work experience. Calculus has become increasingly important to business schools as well. Because business schools differ in their objectives, curricula, teaching methods, job placement possibilities, and admission standards, students should be familiar with the programs of different schools before applying. The prebusiness adviser can also suggest the kinds of work experience that schools typically prefer.

**Reserve Officers’ Training Corps (ROTC) Programs**

Rice hosts a Naval ROTC program, and students may participate in Army ROTC through a cross-enrollment program with the University of Houston. These programs train select college students who, upon graduation, receive reserve commissions as
officers in the United States Army, Navy, or Marine Corps. Most students enroll in the ROTC programs at Rice at the beginning of the fall term. While courses in naval science and military science are open to any student, they count as free electives and cannot satisfy a student’s distribution requirements or departmental major requirements. The provost determines the credit assigned to each course in consultation with the Committee on the Undergraduate Curriculum. Performance in ROTC courses, however, weighs in the determination of probation, suspension, course load, and grade point average. Students suspended by the university for academic failure or other reasons are immediately discharged from the ROTC programs, as are students producing unsatisfactory course work and those lacking sufficient officer-like qualities, regardless of their academic performance.

For additional information on the ROTC programs and available scholarships, see both military science and naval science in the Departments and Interdisciplinary Programs and Courses of Instruction sections.

## UNDERGRADUATE DEGREE CHART

<table>
<thead>
<tr>
<th>School Department</th>
<th>Undergraduate Degrees Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCHOOL OF ARCHITECTURE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B.A., B.Arch.</td>
<td>B.A., majors in architecture and in architectural studies</td>
</tr>
<tr>
<td><strong>GEORGE R. BROWN SCHOOL OF ENGINEERING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioengineering</td>
<td>B.S.B.</td>
<td>Areas of concentration in cellular and molecular engineering, biomedical instrumentation and imaging, and biomaterials and biomechanics</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>B.A., B.S.Ch.E.</td>
<td>Focus areas in bioengineering, environmental science and engineering, materials science and engineering, and computational engineering</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>B.A.</td>
<td>Civil engineering Environmental engineering: B.A. as double major with any other Rice major; see also chemical engineering for B.S. options</td>
</tr>
<tr>
<td>Computational and Applied Mathematics</td>
<td>B.A.</td>
<td>Numerical analysis, operations research, optimization, differential equations, and scientific computation</td>
</tr>
<tr>
<td>Computer Science</td>
<td>B.A., B.S.C.S.</td>
<td>Areas of concentration in architecture, artificial intelligence, computational science, foundations, human-computer interaction, and software systems</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>B.A., B.S.E.E.</td>
<td>Areas of concentration in bioengineering; computer engineering; systems: control, communications, and signal processing; electronic circuits and devices; and quantum electronics and photonics</td>
</tr>
<tr>
<td>Mechanical Engineering and Materials Science</td>
<td>B.A., B.S.M.E., B.S.M.S.</td>
<td>Mechanical engineering: areas of concentration in biomechanics, computational mechanics, fluid mechanics and thermal science, solid mechanics and materials, and system dynamics and control</td>
</tr>
<tr>
<td>Statistics</td>
<td>B.A.</td>
<td>Theoretical and applied training orientations; engineering, scientific, and business applications of probability and statistics; joint work in related departments</td>
</tr>
</tbody>
</table>

<p>| <strong>SCHOOL OF HUMANITIES</strong> |                               |                                                               |
| Art History            | B.A.                          | History of art                                               |</p>
<table>
<thead>
<tr>
<th>School Department</th>
<th>Undergraduate Degrees Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical Studies</td>
<td>B.A.</td>
<td>Classics, Greek, Latin</td>
</tr>
<tr>
<td>Education</td>
<td>No undergraduate degree offered</td>
<td>Leads to secondary teaching certificate in conjunction with B.A. in major field. See Education Certification.</td>
</tr>
<tr>
<td>English</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>French Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>German and Slavic Studies</td>
<td>B.A.</td>
<td>German and German cultural studies, and Russian/Slavic studies</td>
</tr>
<tr>
<td>Hispanic Studies</td>
<td>B.A.</td>
<td>Spanish language and literature, Latin American studies, and Portuguese</td>
</tr>
<tr>
<td>History</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Kinesiology</td>
<td>B.A.</td>
<td>Areas of concentration in exercise science, sports medicine, and sports management</td>
</tr>
<tr>
<td>Linguistics</td>
<td>B.A.</td>
<td>Areas of concentration in language, cognitive science, second language acquisition, and language, culture, and society</td>
</tr>
<tr>
<td>Philosophy</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Religious Studies</td>
<td>B.A.</td>
<td>Areas of concentration in religious traditions and/or methodology</td>
</tr>
<tr>
<td>Visual Arts</td>
<td>B.A., B.F.A.</td>
<td>Studio art and special fifth-year courses for B.F.A. candidates</td>
</tr>
<tr>
<td>JESSE H. JONES GRADUATE SCHOOL OF MANAGEMENT</td>
<td>No undergraduate degree offered</td>
<td>Four accounting courses open to all undergraduate students</td>
</tr>
<tr>
<td>SHEPHERD SCHOOL OF MUSIC</td>
<td>B.A., B.Mus.</td>
<td>B.A. in music; B.Mus. in composition, music history, music theory, and performance; joint B.Mus./M.Mus. with fifth year of study</td>
</tr>
<tr>
<td>WIESS SCHOOL OF NATURAL SCIENCES</td>
<td></td>
<td>Part of an integrated biosciences curriculum</td>
</tr>
<tr>
<td>Biochemistry and Cell Biology</td>
<td>B.A.</td>
<td>Part of an integrated biosciences curriculum</td>
</tr>
<tr>
<td>Chemistry</td>
<td>B.A., B.S.</td>
<td>Chemical physics major offered jointly with Physics and Astronomy department and resulting in a B.S. degree</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology</td>
<td>B.A.</td>
<td>Part of an integrated biosciences curriculum</td>
</tr>
<tr>
<td>Earth Science</td>
<td>B.A., B.S.</td>
<td>Majors in geology, geophysics, and earth science</td>
</tr>
<tr>
<td>Mathematics</td>
<td>B.A.</td>
<td>300-level courses oriented toward problem solving and applications and 400-level and above oriented toward theory and proofs; preparation for graduate studies or high school teaching or other areas; ample opportunity for double-majoring, especially with CAAM, COMP, ELEC, PHYS, or STAT; abundance of courses in analysis, topology, geometry, algebra, etc.</td>
</tr>
<tr>
<td>Physics and Astronomy</td>
<td>B.A., B.S.</td>
<td>Majors in physics with specific options in applied physics, biophysics, computational physics, astrophysics, and astronomy; interdepartmental major in chemical physics</td>
</tr>
<tr>
<td>SCHOOL OF SOCIAL SCIENCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>B.A.</td>
<td>Areas of concentration in archaeology and social/cultural anthropology</td>
</tr>
<tr>
<td>Economics</td>
<td>B.A.</td>
<td>Majors in economics and in mathematical economic analysis</td>
</tr>
<tr>
<td>Political Science</td>
<td>B.A.</td>
<td></td>
</tr>
</tbody>
</table>
INFORMATION FOR UNDERGRADUATE STUDENTS

Psychology B.A.
Sociology B.A.

INTERDEPARTMENTAL MAJORS

<table>
<thead>
<tr>
<th>Area Majors</th>
<th>B.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Mediterranean Civilizations</td>
<td>Anthropology, classical studies, Greek, Latin, history, history of art, linguistics, philosophy, and religious studies</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>Anthropology, art, history of art, Hindi, history, humanities, linguistics, Chinese, Japanese, Korean, Sanskrit, political science, and religious studies</td>
</tr>
<tr>
<td>Cognitive Sciences</td>
<td>Linguistics, neuroscience, philosophy, and psychology</td>
</tr>
<tr>
<td>Education Certification</td>
<td>Leads to secondary teaching certificate in conjunction with B.A. in major field</td>
</tr>
<tr>
<td>Managerial Studies</td>
<td>Accounting, economics, political science, psychology, and statistics</td>
</tr>
<tr>
<td>Medieval Studies</td>
<td>History of art, classics, English, French, German, history, humanities, linguistics, Spanish, music, philosophy, political science, and religious studies</td>
</tr>
<tr>
<td>Policy Studies</td>
<td>Environmental policy, government policy and management, healthcare management, international affairs, law and justice, business policy and management, and urban and social change</td>
</tr>
<tr>
<td>Study of Women and Gender</td>
<td>Anthropology, classics, English, French studies, German, history, humanities, linguistics, music, philosophy, religious studies, and sociology</td>
</tr>
</tbody>
</table>

Teacher Certification

Students in the teacher education program earn Texas state teacher certification at the secondary level. Subjects include art, English, French, German, health science, history, Latin, life science, mathematics, physical education, physical science, Russian, science, social studies, and Spanish. For more information on teacher certification programs at the undergraduate and graduate levels, see Education Certification in the Departments and the Interdisciplinary Programs and Courses of Instruction sections.

Study Abroad and Exchange Programs

Rice-affiliated and Rice-sponsored programs provide students with opportunities to study throughout the world. Direct exchange programs allow Rice students to change places with university students from another country. Rice is affiliated with nearly 400 program sites worldwide, representing a range of program formats. Some offer direct enrollment in foreign universities, while others specialize in intensive language instruction, field research, or internships.

Each year more than 200 undergraduates from across the disciplines study away from campus and then apply the transfer credit earned toward their degrees. The study abroad advisers, in cooperation with the faculty advisers in each department, assist students in identifying the best programs for their individual interests and academic needs. To assure proper enrollment and transfer of credits and financial aid, students planning to study abroad must make their arrangements through the Department of
International Programs. This includes arranging prior approval for transfer credit through the relevant academic department(s) and the registrar. Detailed information on affiliated programs, including application forms, is available from the Department of International Programs (first floor, Ley Student Center).

**Academic Regulations**

All undergraduate students are subject to the academic regulations of the university. Students are responsible for making certain they meet all departmental and university requirements and academic deadlines. The Committee on Examinations and Standing administers the rules described below. Under unusual or mitigating circumstances, students may submit a written petition requesting special consideration to the committee. Students should address all correspondence to the committee in care of the vice president for student affairs.

**Registration**

Currently enrolled students register in April for the fall semester and in November for the spring semester. They complete registration at the beginning of each semester. Entering students complete their registration during Orientation Week before classes begin in August. Students must obtain approval from their adviser for registration. To be properly registered, new students must complete, sign, and return a matriculation card. New students may not register or attend classes until they return a properly completed health data form and meet immunization and TB screening requirements. Immunizations required for admission are diphtheria/tetanus, measles, rubella, and mumps, with immunizations against hepatitis B and chicken pox recommended. The Mantoux tuberculin skin test is also required. A late fee of $30 is charged for failure to submit a fully completed health data form by the required date. Each year, the Office of the Registrar publishes the specific deadlines for the semesters of that year.

Unless students elect a special payment plan, they must pay all tuition and fees for the fall semester by the end of the second week in August and for the spring semester by the end of the first week in January. Any student in arrears and therefore not registered as of the last day to drop classes will not be allowed to live on campus the next semester, nor will such students be allowed to receive credit for the nonregistered semester. Appeals to this policy must be addressed to the vice president for enrollment.

Students who do not register and who fail to request from the registrar an extension of the deadline in the Academic Calendar (pages viii–xiii) are considered withdrawn from the university by default. To be readmitted, students must be in good standing and must pay a late registration fee of $100.

After the fourth week of classes and until the end of the eighth week of classes, students may request approval for readmission from the vice president for Student Affairs. After the eighth week of classes, students may request approval for readmission from the Committee on Examinations and Standing

**Drop/Add.** During the first two weeks of the semester, students may add courses to their registration without penalty with appropriate adviser’s approval. During the first four weeks, students may drop courses without penalty with appropriate adviser’s approval. After the second week of the semester, the following conditions apply for adds and drops:
Undergraduate students in their first semester at Rice:
• Must obtain instructor’s permission and the adviser’s approval to add a course between the beginning of the third week of classes through the end of the fourth week (a $10 fee will be assessed)
• May not add courses after the fourth week of classes, except with the approval of the Committee on Examinations and Standing (a $50 fee will be assessed)
• May drop courses up to the last day of classes with appropriate advisor's approval (a fee will be assessed as described below)

All other students:
• Must obtain instructor’s permission and the adviser’s approval to add a course between the beginning of the third week of classes through the end of the fourth week (a $10 fee will be assessed)
• May not add courses after the fourth week of classes, except with the approval of the Committee on Examinations and Standing (a $50 fee will be assessed)
• May drop courses after the fourth week up to the eleventh week with the appropriate advisor's approval (a $10 fee will be assessed)
• May not drop courses after the end of the tenth week of classes, except with the approval of the Committee on Examinations and Standing (a $50 fee will be assessed)

For courses with start and end dates not coinciding with the normal Rice semester calendar, the registrar will consult with the instructor and set:
• The add deadline approximately one-third of the way into the course
• The drop deadline approximately two-thirds of the way into the course

Students may not drop courses where the Honor Council has ruled a loss of credit.

Schedule of add fees:*  
| Weeks 3–4 | $10 | From Week 5 | $50 |

Schedule of drop fees for undergraduate students in their first semester at Rice:*  
| Weeks 1–4 | $0 | Weeks 5–15 | $10 |

Schedule of drop fees for all other students:*  
| Weeks 1–4 | $0 | Weeks 5–10 | $10 |

*Note: Weeks are defined as academic instruction; thus, midterm recess is not included in this calculation.

Course Load. Students at Rice normally enroll for 15 to 17 semester hours each semester. For most students, this allows them to complete the requirements for graduation in 8 semesters. Students must secure permission in writing from the vice president for student affairs before registering for courses, if they want to:
• Register for more than 20 credits
• Register for or drop below 12 credits
• Register concurrently at another university

No student may receive credit for more than 20 credits in a semester, including courses taken elsewhere, without this prior written approval.

Students should also be aware that the registrar’s office must report a student’s part-
time status to various groups, such as loan agencies, scholarship foundations, insurance companies, etc. It is in the student’s best interest to determine if he or she will be affected in any way by part-time status.

Students may not register for more than 1 course at the same hour unless they receive permission from the instructors involved.

**Repeated Courses**

Students may not repeat courses for which they have received either advanced placement or transfer credit. Credit will not be counted twice for students who repeat these types of courses.

Some Rice University courses may be repeated for credit. They are specifically noted in the *General Announcements* and on the registrar’s website.

A matriculated student may repeat all other courses; however, both grades will be factored into the term and cumulative grade point average. Credit for these courses will only be counted once. For example, a student took HIST 117 and received a grade of B. The student repeated this course and received a grade of A. Both grades—the A and B—are included in his/her GPAs; however, he/she only receives three credits toward his/her degree. Both courses will appear on the transcript—one course marked “R.”

**Declaring Departmental Majors**

To receive a bachelor’s degree, a student must complete the requirements for at least one major. Students declare their major using a form provided by the registrar. The department chair or designee must sign the form acknowledging the declaration. It is expected that the department will counsel the student about the requirements that must be met and the likelihood the student will be able to meet them. If the department believes a student is not well prepared for success in its major, it may express its reservations on the form. No department or program may, however, refuse to admit an undergraduate as a major, with the exception of the School of Architecture and the Shepherd School of Music or in the case of limitations of resources. In such cases, departments must publish criteria they will use to limit the number of majors together with their major requirements.

Students must declare a major before registration for the junior year. They will not be permitted to register for the fall semester of the junior year without having declared a major. The deadline for notifying the Office of the Registrar of the major declaration is listed in the Academic Calendar for each year.

Students are free to declare a major at any time before this deadline and are always free to change the major declaration by completing the appropriate form with the registrar’s office. However, such a change may entail one or more additional semesters at the university. Area majors are an exception to this rule and must be declared by the fourth semester before graduation (see Area Majors below).

Once a student declares a major, the department or title of the major is noted on the student’s transcript, and a faculty adviser in the major department is assigned. Students and their advisers should regularly review progress towards their degrees. Introductory courses taken before formal designation of a major may be counted in fulfilling the major requirements.

For information on the specific requirements for any departmental major, students should consult the departmental listings and seek the advice of a faculty member in the department. It is the responsibility of the student to meet regularly with their advisers to review progress toward their degrees.
Area Majors

Should the traditional departmental majors or programs not meet their exact needs, students may develop an area major closer to their particular interests and career goals. Area majors differ from double majors in that the latter must conform to the requirements of both departments while the former is a single major: It may combine courses from two or more departments, but it maintains its own specific major requirements. Area majors are limited by the available academic resources and must be distinct from other majors offered at Rice. Students who elect to declare an area major may not use it to form a double major, and they must still meet all the other university graduation requirements.

Students are usually the ones to initiate an area major, working it out in conjunction with advisers from the Office of Academic Advising and with faculty advisers from each of the departments involved. After designing a comprehensive and substantial course of study and deciding on an appropriate title, all parties sign off on the plan. The chairs of the involved departments and the Committee on the Undergraduate Curriculum determines final approval. At that point, the Office of Academic Advising officially certifies the approved plan to the registrar and goes on to oversee the major on behalf of the faculty advisers. Any change in the proposed requirements requires the approval of both the faculty advisers and the Committee on the Undergraduate Curriculum.

Interested students who are unsure which departments to approach should check with the Office of Academic Advising during their sophomore year. Students may not propose an area major if they are within three semesters of graduation unless the Committee on Examinations and Standing rules that exceptional circumstances warrant this action. Under no circumstances may students declare an area major in their final semester before graduation.

Second Four-Year Bachelor’s Degree

Currently enrolled undergraduates, Rice graduates with a bachelor’s degree, and graduates from other universities with a bachelor’s degree have the option of earning a second four-year bachelor’s degree at Rice in a different discipline. This degree must be a different bachelor’s degree from the one already held; for example, the holder of a B.A. degree may pursue course work leading to the B.S. or B.Mus. degree. Rice students should note that they can apply courses they completed at Rice as Class III students to the second degree only with the approval of the major department for that degree. (Class III students are students who already have college degrees and are taking courses for credit outside of a Rice degree program.)

**Students Already Enrolled at Rice.** To earn a second four-year bachelor’s degree, also known as a dual degree, currently enrolled undergraduates who have not yet completed their first bachelor’s degree must:

- Be accepted for the second major by the major department
- Fulfill all requirements for the second degree
- Complete at least 30 additional semester hours at Rice beyond the hours required for their first degree (these hours are applied to the second degree)

Students seeking admission to this program should apply to the registrar. The application should include a written statement identifying both proposed majors and specifying an approved course program for each. It should also contain a statement from the chair or undergraduate adviser of each department involved, indicating that the proposed course program satisfies all major degree requirements.

**Students with a Bachelor’s Degree from Rice.** Rice graduates who wish to earn a different four-year bachelor’s degree must:
• Be accepted for the major by the major department
• Fulfill all requirements for the second degree
• Complete at least 30 additional semester hours at Rice beyond their first bachelor’s degree (these hours are applied to the second degree)
• Attend Rice full time for at least two semesters during the fall and/or spring terms beyond their first bachelor’s degree

The entire undergraduate record for these students continues cumulatively. Those seeking admission to this program should apply to the registrar. The application should include a written statement specifying the proposed major and course program for the second degree, a supporting letter from the chair of the major department, and an explanation of the student’s reasons for seeking a second degree.

**Students with a Bachelor’s Degree from Another School.** Other graduates who wish to earn a four-year bachelor’s degree in a different major from Rice must:
• Be accepted for the major by the major department
• Fulfill all requirements for the second degree
• Complete at least 60 semester hours at Rice (these hours are applied to their Rice degree)
• Attend Rice full time for at least four fall and/or spring semesters

Interested students should apply for admission through the Office of Admission, following procedures and meeting criteria similar to that for transfer applicants (see page 49). A complete application file includes the $35 application fee, official transcripts of all undergraduate and graduate work, two letters of recommendation from the most recent college attended, and standardized test scores (the SAT, SAT I, or ACT).

**Financial Aid and Housing.** Students seeking information about financial aid available to participants in the second degree program should contact the Office of Student Financial Services. Students admitted to the second degree program may request assignment to a college, but they will have lower priority for on-campus housing than students enrolled for a first four-year bachelor’s program. This means that housing will probably not be available.

**Honors Programs**

To enroll in the two-semester **Rice Undergraduate Scholars Program**, students register for HONS 470–471 *Proposal Development and Research*. This program is for juniors and seniors in all disciplines who are considering graduate study and an academic career after graduation. Students enroll in the program plan and execute independent research under the supervision of a sponsoring faculty member (they may apply for funding to cover expenses related to their projects). They meet once a week to discuss each other’s work and to hear a range of presentations on life in academia. Students may apply in the spring of each year. For more information, contact the program’s faculty co-director.

Individual departments may offer undergraduates the option of honors program enrollment. These programs enable students to receive advanced training or to deepen their understanding of a given discipline through an intensive program of independent supervised research. Customary procedure is for students to submit a proposed project to their department’s Undergraduate Committee, which helps them rework it, as needed, into a substantial but feasible proposal. Once accepted, students are assigned a faculty adviser to guide their research. The project concludes in an honors thesis, which the adviser and two readers evaluate, and an oral examination. Departments also use honors programs to formally recognize students who have shown outstanding work through their individual projects. Acceptance into a departmental honors program is at the discretion
of the faculty. For specific requirements and procedures, students should contact the individual departments.

Transfer Credit

Courses taken at another college or university that are appropriate to the Rice curriculum may be approved for transfer credit toward a Rice undergraduate degree. This includes credit for summer school courses not taken at Rice, though no more than 14 semester hours of transfer credit taken in summer schools other than Rice may be applied to any Rice degree. Students must have taken the course at a U.S. academic institution accredited by a regional accrediting agency or with a study abroad program approved by the Department of International Programs and must have earned a grade of C- or the equivalent or better. Students may not transfer courses taken pass/fail or on a similar basis at other institutions. Courses that meet these requirements will be transferred to Rice by the Office of the Registrar as general credit with the designation TRAN. The Office of the Registrar will distinguish between credits that are upper-level and credits that are not upper level. TRAN credit will count toward the general hours needed for graduation under university requirements and for upper-level credit needed if it is designated by the Office of the Registrar as upper-level credit.

The Office of the Registrar, in conjunction with the academic departments, determines whether courses are appropriate for transfer to Rice as Rice equivalent courses. Individual departments may place additional restrictions on particular courses and/or institutions. Similarly, various majors and degree programs may limit the amount of transfer credit that students may apply to them. If courses transferred to Rice as TRAN credit are subsequently granted Rice equivalent course credit by the Office of the Registrar and academic department, the TRAN credit is reduced by the number of credit hours of the Rice equivalent course. The Rice equivalent is then listed on the student’s transcript and satisfies the university and major requirements the Rice course satisfies. Courses may be evaluated for transfer directly as Rice equivalent courses, if appropriate, if the student completes the forms required by the Office of the Registrar. Students also may have to obtain departmental approval.

Because of these restrictions, students are strongly advised to seek prior approval from the registrar for courses for which students plan to receive Rice equivalent credit. The Office of the Registrar may require that students secure approval from the major department to receive Rice equivalent credit. Without prior approval, students cannot be certain that credit taken at another institution will be transferred as a Rice equivalent course and therefore count for major or specific university requirements.

If approved, the equivalent Rice course or the general TRAN credit, as the case may be, is entered on the student’s record after the Office of the Registrar receives an official transcript from the other college or university. For credits obtained while studying abroad, the Office of the Registrar also must receive the necessary approval paperwork from Rice International Programs before transfer credit may be granted. Students may appeal to Rice International Programs to have credit granted from nonapproved study abroad programs. Such appeals generally should be justified by the curricular needs of the student. In addition, credit from non-U.S. degree-granting universities not part of a study abroad program must be approved by Rice International Programs. Credit is generally determined on a pro rata basis. No grade is entered, and transferred courses have no effect on a student’s Rice grade point average.

Students with much transfer credit should be aware of the general graduation requirements (listed on pages 20–23) that they must complete at least 60 semester hours at Rice, complete more than half of their upper-level degree work and more than half of their upper-level major work at Rice (students also should check their specific departmental major requirements).
Excused Absences

Students are expected to be in attendance at all of the classes for which they are registered during the entire course of the academic semester for which they are enrolled. The university understands, however, that students participating in university-sponsored extracurricular activities may, on rare occasions, need to miss a class session. As a matter of course, students should inform their instructors in advance of absences resulting from participation in university-sponsored activities, and faculty will normally give a reasonable opportunity to make up work missed on such occasions. Absences for activities other than university-sponsored events may also be negotiated on an informal basis between the student and the faculty member. Alternatively, absences may be formally excused on a case-by-case basis if a petition explaining the nature of the event, accompanied by suitable documentation, is submitted to the Committee on Examinations and Standing at least two weeks before the event.

Final Examinations

Most courses include final examinations, but the decision to give a final exam as a required part of the course rests with the instructor and the department. All tests and examinations are conducted under the honor system (see page 8).

Examinations are considered final examinations when they:

• Cover more than the material learned since the last test, or
• Are the only exam in the course, or
• Require comprehensive knowledge of the entire course

Such exams may be given only during the final examination period.

Final examinations are normally three hours long. When instructors, for exceptional reasons, wish to give a longer examination, they schedule it as a take-home exam; even then, they may not exceed five hours. The “due date” for all take-home finals is the end of the final examination period.

University-sponsored events at which student attendance is required may be scheduled in or outside of Houston during the period from Monday through Saturday during the last week of classes, so long as no more than one day of classes and one night would be spent out of Houston from the previous Sunday night through Friday afternoon. Events scheduled on Saturday may involve travel on Friday evening and on Sunday. However, no events may be scheduled on Sunday and thereafter until the conclusion of the final examination period. Exceptions may be authorized only by the Committee on Examinations and Standing.

Grades (See also Faculty Grading Guidelines on pages 9–10.)

The Pass/Fail Option. Undergraduates may register for courses on a pass/fail basis. Such students:

• May not take more than 1 course as pass/fail per semester for each full year of residence (students studying in off-campus programs through Rice are considered to be in residence for the purpose of this rule)
• May not take more than 4 courses total as pass/fail (even if they are in a five-year degree program)
• May not take more than a total of 14 semester hours total as pass/fail
• May register for only 1 course as pass/fail in a semester
• May not take as pass/fail those courses specifically required for the major or courses falling within the major department or major area. If students take such courses pass/fail, the registrar will replace the P with the grade earned.
• Must file the proper form for a course to be taken pass/fail no later than the posted deadline, usually the end of the 10th week of the semester
Students may convert a pass/fail course to a graded course by filing the proper form with the registrar. The deadline is by the end of the fifth week of the following semester. Students should be aware that while a grade of P does not affect their grade point average, a grade of F is counted as a failure and is included into their GPA. Students who take a course during the Rice summer session as pass/fail should also be aware that this counts toward their allowable total of 4 courses.

**Grade Symbols.** Instructors are required to report a grade for all students (except auditors) whose names appear on the class list. They grade their students using the following conventional symbols: A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. Students successfully completing a course pass/fail receive a P, and students successfully completing a course satisfactory/fail receive an S; in both cases, failure to complete the course successfully is indicated by an F.

Satisfactory/fail courses are those that do not use traditional grading procedures. Such courses or labs are designated by the instructor. While an S does not affect the grade point average, an F does.

Students may repeat courses previously taken, but the record of the first attempt (and grade) remains on the transcript, and both grades are included in grade point average calculations. If students repeat courses previously passed, credit is awarded only once unless the course description states that students may repeat it for additional credit. In the latter case, each grade appears on the permanent record and is included in the grade point average.

**Grade Designations.** Under certain circumstances, special designations accompany the student’s grade. These designations do not affect the grade point average. The special designations include the following:

**INC (“Incomplete”)**—Instructors report this designation to the registrar when a student fails to complete a course because of verified illness or other circumstances beyond the student’s control that occur during the semester. Students must complete the work, and instructors must submit a revised grade, by the end of the fifth week of the next semester; otherwise, the registrar’s office records the grade originally submitted. Students with an “incomplete” must be certain that tests, papers, and other materials affecting their grade or essential to completing a course requirement are delivered by hand to the appropriate professor or office with ample time for the instructor to grade the documents and submit the final grade to the Office of the Registrar by the end of the fifth week of the following semester. Loss or lateness because of mail service is not an acceptable excuse for failing to meet academic deadlines. A student who receives two or more “incompletes” in a semester may not enroll in the next semester for more than 14 semester hours. Students should also be aware that they may be placed on probation or suspension when the “incomplete” is changed to a grade, either by an instructor or by default.

**## (“Other”)**—Instructors report this designation to the registrar when a student fails to appear for the final examination after completing all the other work for the course. Students must resolve the matter, and instructors must submit a revised grade, by the end of the first week of the second semester or by the end of the fourth week after commencement, whichever is applicable. If the registrar’s office does not receive a revised grade, the original grade submitted is recorded. A designation of “other” is also used if an accusation has been made to the Honor Council. As noted above, students should be aware that they may go on probation or suspension when the “other” is changed to a grade, either by an instructor or by default.
**W (“Official Withdraw from University”)**—Students who officially withdraw from the university during the last five weeks of the semester will receive a final grade of “W” for each course in which they were enrolled that semester. In addition, the professors of those students who withdraw during that time will submit a grade based on the student’s academic achievement at the time of withdrawal to the registrar. This grade will not be included in the student’s official transcript, but will be stored in the student’s file to be used solely in determining the student’s eligibility for readmission. See Voluntary Withdrawal and Readmission (page 40).

Students who officially withdraw from the university before the last five weeks of the semester will not receive the grade of “W” for any courses in which they were enrolled for that semester. These courses will not be included on the official transcript.

**W (“Late Drop with Approval”)** – A student who drops a class with special approval from the Committee on Examinations and Standing after the designated drop deadline will receive a grade of “W” for that course. When requests for late drops are denied by the Committee, the registrar records the submitted grade.

If a student drops a class before the designated drop deadline for the semester, the course will not be included on his/her official transcript. Students in their first semester at Rice may drop a class up until the last day of classes, and the course will not be included on the student’s official transcript.

**NG (“No Grade”)**—This designation indicates that the instructor failed to report a grade. Instructors are responsible for resolving this situation as quickly as possible.

**NC (“No Credit”)**—This designation signals that no credit was granted for the course. It is only used for people auditing the course.

**Grade Points.** To compute grade point averages, letter grades are numbered as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.33</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Grade Point Average Calculation.** For each course, the credit attempted in semester hours and the points for the grade earned are multiplied. Then these products (one for each course) are added together, and the sum is divided by the total credit hours attempted. Grade point averages are reported each semester on the student’s grade report and appear on unofficial transcripts. However, grade point averages are not included on official transcripts nor, like class ranks, are they reported to any external agency.

**President’s Honor Roll.** This honor roll, published each semester, recognizes
outstanding students. To be eligible, students must have earned grades in a total of 12 or more semester hours without receiving a grade of F. (Pass/Fail courses may not be counted.) Approximately 30 percent of the top undergraduates receive recognition each semester. While undergraduates enrolled in a four-year bachelor’s degree program are always eligible for the President’s Honor Roll, students enrolled in five-year bachelor’s or master’s programs are eligible only during their first 8 semesters.

**Academic Discipline and Other Disciplinary Matters**

**Academic Probation.** Students are placed on academic probation at the end of any semester if:

- Their grade point average for that semester is less than 1.67
- Their cumulative grade point average is less than 1.67 (this requirement is waived if the grade point average for that semester is at least 2.00)

The period of probation extends to the end of the next semester in which the student is enrolled. Students on probation (academic or disciplinary) may not be candidates for, or hold, any elected or appointed office, nor are they allowed to enroll in more than 17 semester hours.

**Academic Suspension.** Students are suspended from the university at the end of any semester if they:

- Earn grades that will place them on academic probation a third time
- Have a grade point average for the semester that is less than 1.00 (exceptions are made for students completing their first semester at Rice)

Students readmitted after a period of academic suspension will be suspended again if, in any succeeding semester, they fail to achieve either of the following requirements:

- A cumulative and semester grade point average of at least 1.67
- A semester average of at least 2.00

The first suspension period is normally one semester; the second suspension period is at least two semesters. Students are not readmitted after a third suspension.

For students facing a first or second academic suspension who verify with the registrar and their department that they will complete their degree requirements in one semester if allowed to return, may have their suspension reduced to probation. Students may invoke this ruling only once for a given academic degree plan.

Students who are going to be suspended for academic performance are notified by the registrar after all final grades have been received by the faculty and posted to their record. Suspension is lifted the first day of class of the semester when the student returns to the university. When students serve the nominal term of suspension but do not intend to return to Rice, suspension is lifted after permission from the Committee on Examinations and Standing is granted.

For students facing a first or second academic suspension who verify with the registrar and their department that they will complete their degree requirements in one semester if allowed to return, may have their suspension reduced to probation. Students may invoke this ruling only once for a given academic degree plan.

Students who graduate at the end of a semester under academic circumstances that would normally place them on probation or suspension will not have the terms “academic probation” or “suspension” placed on their transcript for that semester.

**Disciplinary Probation and Suspension.** The assistant dean of student judicial programs may place students on probation or suspension for an honor system violation or for other disciplinary reasons. Students on disciplinary suspension (including for an honor system violation) may not receive their degree even if they have met all academic requirements for graduation. They must leave the university within 48 hours of being informed of the dean’s decision, though in cases of unusual hardship, the college master and assistant dean of student judicial programs may extend the deadline to one week. Any tuition refund will be prorated from the official date of suspension, which is determined by the registrar. While on disciplinary suspension, students may not run for, or hold, any
elective or appointed office in any official Rice organization, nor may they serve as an Orientation Week adviser once they return to the university. Participation in student activities on and off campus and use of Rice facilities, including the student center, the colleges, the playing fields, the gym, and the computer labs, are limited to enrolled students.

**Readmission after Suspension.** Students seeking readmission after academic suspension should address a letter of petition to the Committee on Examinations and Standing, in care of the vice president for Student Affairs, which must be received by July 1 for readmission in the fall semester and December 1 for readmission in the spring semester. The petition should include two supporting letters from persons for whom the student has worked during the suspension period as a student or an employee. If the problems causing the previous difficulty appear to be resolved, the student generally is readmitted. Students returning from a second suspension must submit an academic program approved by the Office of Academic Advising before they are readmitted. These students must also maintain regular contact with that office throughout the semester. In some instances, the committee may postpone approval of readmission or rule that suspension is permanent.

Students seeking readmission after leaving the university because of disciplinary or other nonacademic action should submit a petition in writing for review by the assistant dean of student judicial programs.

**Rice Summer School.** Although it may do so at its discretion, the Committee on Examinations and Standing does not normally place on probation or suspension students who perform poorly in the Rice Summer School. Students should be aware, however, that Rice Summer School grades are included in their grade point averages.

**Withdrawals and Leaves**

**Voluntary Withdrawal and Readmission.** Students may withdraw voluntarily from the university at any time during the semester up until the last day of classes. If they are in good academic standing at the time of their withdrawal, students are considered for readmission after they submit a written application to the vice president for student affairs. If students withdraw within five weeks of the last day of classes, they must submit the written application to the vice president for Student Affairs, who, at his discretion, will submit it to the Committee on Examinations and Standing. If students withdraw for major medical or psychological/psychiatric reasons, however, they must meet the readmission conditions for an involuntary withdrawal (see below).

Students wishing to withdraw should inform their college master in person and give written notification to the vice president for student affairs, who notifies other offices of the university as necessary. If students withdraw within five weeks of the last day of classes, the Committee on Examinations and Standing takes into account their grades (which reflect their performance up to the day of withdrawal) when ruling on their readmission. Students whose grades would have led to suspension had they not withdrawn are treated, for purposes of readmission, as if they had been suspended. Such students must meet the requirements for Readmission after Suspension (see above).

Students who fail to give notice of withdrawal should expect to receive failing grades.

**Involuntary Withdrawal.** The university may insist on a student’s involuntary withdrawal if, in the judgment of the vice president for student affairs, the student:

- Poses a threat to the lives or safety of him/herself or other members of the Rice community.
• Has a medical or a psychological problem that cannot be properly treated in the university setting
• Has a medical condition or demonstrates behavior that seriously interferes with the education of other members of the Rice community

Students should submit written petitions for readmission after involuntary withdrawal to the vice president for student affairs, providing evidence that they have resolved the problems leading to their withdrawal.

Students who withdraw for psychological reasons within the last five weeks of the fall semester will not be able to petition for readmission for the spring semester immediately following the semester from which they withdrew. They can appeal no later than June 1 to be considered for readmission for the upcoming fall semester.

Some cases may require an interview with the director of the Rice Counseling Center, with the director of Student Health Services, or with their designees.

Unauthorized Withdrawal. Students who leave the university without first obtaining permission to withdraw are considered to have resigned. Although students who resign are not normally considered for readmission, they may petition first the Committee on Examinations and Standing, then the vice president of student affairs. Withdrawal without permission is noted on the transcript, but readmitted students may petition to have this notation expunged from their record by following the procedures described in the Code of Student Conduct.

Leave of Absence. Students may request a leave of absence from the university by applying in writing to the vice president for student affairs at any time before the first day of classes in the semester for which they are requesting leave. A leave of absence taken after the first day of classes is considered a voluntary withdrawal.

To gain readmission following an approved leave of absence of not more than four semesters, students need only notify the vice president for student affairs at least one month before the beginning of the semester that they intend to end their leave. After a leave of more than four semesters, they should apply in writing to the Committee on Examinations and Standing as if the leave were a voluntary withdrawal (see page 40).

Approval of a leave of absence is always contingent on the student’s satisfactory completion of course work in the semester preceding the leave. Students performing poorly may have their approved leave converted to suspension.

Military Leave of Absence. Students who require a leave of absence because of being called to active military duty should contact the vice president for student affairs.

Applicable Academic Graduation Requirements

Students enrolled in four- (or five-) year bachelor’s programs may decide whether to follow the graduation requirements in effect when they first registered at Rice or those in effect when they graduate. If they graduate more than seven (or eight) years after their initial registration, they must graduate under the regulations in effect at the time of their last readmission or those in effect when they graduate. Also, departments may review courses completed in a major more than seven (or eight) years before the student’s anticipated graduation. If the department concludes that a course no longer satisfies the requirements of the major, it is not credited toward the major program, although it remains on the student’s record.

Departmental major requirements may vary from year to year during the period between a student’s matriculation and graduation. The department may, at its discretion,
make any of these variations available to a student for completion of the major requirements. If a new degree program or major is created during the student’s time at Rice, the new program will be available to a student as if the program appeared in the General Announcements at the time of matriculation.

**Name Changes**

To comply with a number of government agencies’ reporting requirements, the university must record the name of each student who is a U.S. citizen as the student’s name appears on his or her Social Security card. Students who need to change their names on Rice University records and who are U.S. citizens must notify the Office of the Registrar and present a Social Security card, marriage license, divorce decree, or court order and picture identification when submitting the form. After the change is implemented, the name on the Rice University transcript will read as printed on the supporting document(s).

**Change in Enrollment**

The academic calendar lists deadlines for dropping or adding a class or section. This schedule is binding for all students. Adding or dropping a course, including transferring from one section to another or changing credit status in a course must be accomplished through completion of the appropriate forms and submission to the Office of the Registrar. Changing a course to/from audit must be done within the first four weeks of the semester.

**Transcript Policies**

Transcripts are issued only at the request of the student. Transcript requests should be made at least three working days before the desired date of issue. A $7 fee per transcript must be received before a transcript is issued.

Transcripts that have been presented for admission or evaluation of credit become a part of the student’s permanent record and are not reissued. Transcripts from other institutions, if needed, must be sent to Rice University directly from the original issuing institution.

**Student Records**

Rice University assures the confidentiality of student educational records in accordance with state and federal laws, including the Family Educational Rights and Privacy Act. Student academic records are maintained primarily in the Office of the Registrar and in the academic department of the student’s major, as well as various other offices around campus. All students have the right to review their records to determine their content and accuracy, to consent to disclosures of personally identifiable information as defined by law, and to file complaints with the Department of Education. Parents of dependent students, as defined by the Internal Revenue Code, who give evidence of the dependent status, have the same rights.

**Release of Student Information from Educational Records**

The disclosure or publication of student information is governed by policies of Rice University and the Family Educational Rights and Privacy Act.

A student’s consent is required for the disclosure or publication of any informational which is a) personally identifiable and b) a part of the educational record. However,
certain exceptions to this general rule, both in types of information which can be disclosed and in access to that information, are allowed by the regulations of the Family Educational Rights and Privacy Act. Rice may allow access to personally identifiable information without a student’s prior consent to its faculty or staff who legitimately require this information to perform their instructional, supervisory, advisory, or administrative duties.

In accordance with the law, a student’s prior consent is not required for disclosure of portions of the educational record defined by the institution as directory information. The following directory information may be released by the university:

1. Name, local and permanent address, and telephone number(s)
2. Date and place of birth and sex
3. Classification and major and minor fields of study
4. Participation in officially recognized activities and sports
5. Weight and height of members of athletic teams
6. Dates of attendance, degrees and awards received
7. The most recent previous educational agency or institution attended by the student
8. Photographic image

The information above, designated by the university as directory information, may be released or published by the university without a student’s prior written consent unless exception is made in writing by the student or the parents of a dependent student. Students who prefer to avoid access to or release of directory information must notify the registrar in writing before the end of the second week of fall classes, and the university will withhold access to, or release of, directory information until further written instruction is received.

Students have a right to challenge the accuracy of their educational records and may file written requests to amend these records. The Office of the Registrar should be contacted for further information regarding the procedure to follow for questions or problems.

For complete information regarding the policies outlined above, please contact:

**Rice University Registrar**  
Rice University  
Office of the Registrar – MS 57  
6100 Main Street  
Houston, TX 77005-1892  
Email: reg@rice.edu

**Veterans Information**

At Rice University, the Office of Veterans Affairs is managed through the Office of the Registrar. This office assists all veterans and their dependents who wish to receive VA educational benefits. The office also provides personal counseling, fee deferments, tutorial assistance, and work-study jobs.

Veterans who are planning to attend the university should contact the Office of Veterans Affairs at least two months before the date of entry. Such time is required to expedite the processing of paperwork for educational allowances from the Veterans Administration.

For certification of benefits, the student must be enrolled according to the following schedule:

- Full Time .................. 12 Credits
- 3/4 Time .................. 9 Credits
- 1/2 Time ..................... 6 Credits
- Less than 1/2 Time ..... 5 Credits

For rate of monthly payment of educational allowances for veterans and dependents, please contact Office of Veterans Affairs.
For additional informational regarding other Veterans Educational Programs contact the Office of the Registrar at 713-348-8031 or reg@rice.edu.

Application for Graduation

All students must complete an Application for Graduation Form available in the Office of the Registrar. This form is required for all students who plan to complete their degree requirements at the end of the fall or spring semester.

Academic Advising

Rice University is dedicated to providing the information, advising, resources, and support needed for our students to set goals for academic achievement and to design plans to succeed in reaching those goals. Rice is committed to a long tradition of academic advising by the faculty, primarily through the colleges and the departments and with the support of the Office of Academic Advising. Rice is further committed to providing academic assistance to students who need tutoring in difficult classes.

Academic advising for most new students at Rice occurs primarily in the residential colleges, provided by faculty associates. New students are assigned a divisional adviser based on their general areas of academic interest or proposed majors. There are four major undergraduate divisions—humanities, social sciences, natural sciences, and engineering. Architecture and music majors have advisers within those schools. Until a major is declared, the divisional adviser must approve registration and add/drop forms.

Students must declare a major before preregistration for the junior year, if not sooner, according to the deadline in the Academic Calendar (see Declaring Departmental Majors on page 32). Once a major is declared, the primary source of academic advice is a faculty member who is a designated major adviser in the department or program. All students are strongly encouraged to consult with major advisers at any time before declaring the major.

The Office of Academic Advising, located in the Ley Student Center, is a source of advice for all students. In addition to providing support, resources, and training for divisional and major advising, the Office of Academic Advising provides guidance to students planning careers in the health professions and law, to students planning to attend graduate school, and to any student needing general academic advice.

The Rice Tutoring Program

Through the Office of Academic Advising, every student at Rice is entitled to free tutoring assistance, both individually and in small groups, on a limited basis. Details of the Rice Tutoring Program are available from the Office of Academic Advising.

Summer School for College Students

Rice Summer School for College Students, administered by the School of Continuing Studies, offers courses for credit to Rice students, visiting undergraduates, graduate students, and Class III students (see pages 84–85). Two summer sessions are offered: in May and June–July. See Academic Calendar, pages viii–xiii. Taking 6 to 8 semester hours in one session is considered a full load. Interested students should complete the application form found on the summer school website at http://scs.rice.edu/summercredit. Admission is automatic for any Rice undergraduate or graduate student in good standing.
Visiting students in good standing should send official transcripts, including spring semester grades, (mailed directly from their universities and colleges to the School of Continuing Studies) as well as the completed application. Acceptance in the Rice Summer School carries no implications for regular admission to Rice.

All applicants, including Rice students, should submit their applications to the Rice Summer School Office with the application fee and a tuition deposit. The remaining tuition is due in full at registration before the beginning of classes. Auditors of summer school courses, who are considered visiting students, must pay full tuition and fees. Limited financial aid is available for Rice students only.

It is essential that students apply by the deadlines listed on the summer school website. Courses that do not generate enrollments sufficient to cover their costs may be canceled. Students may apply after the deadline (but before the start of classes) by paying a late fee.

For more information, including tuition and registration information, students should contact the Rice Summer School Office at 713-348-4803, via e-mail at scsummer@rice.edu, or online at http://scs.rice.edu/summercredit/.

Admission of New Students

From its beginning, Rice University has sought to maintain an academic program of the highest excellence for a small body of students. While the university’s resources and programs have expanded over the past years, the total number of students who matriculate remains relatively small, approximately 700 students in each first-year class.

We seek students of keen intellect who will benefit from the Rice experience. Our admission process employs many different means to identify these qualities in applicants. History shows that no single gauge can adequately predict a student’s preparedness for a successful career at Rice. For example, we are cautious in the use of standardized test scores to assess student preparedness and potential. In making a decision to admit or to award financial assistance, we are careful not to ascribe too much value to any single metric, such as rank in class, grade point average, or standardized test score.

We use a broader perspective that includes such qualitative factors as the overall strength and competitive ranking of a student’s prior institution and the rigor of his or her particular course of study. Taken together with a student’s test scores and academic record, these additional factors provide a sound basis to begin assessing the applicant’s potential.

Beyond these objective tests of academic competence, we look for other, more subjective qualities among applicants, such as creativity, artistic talent, and leadership potential. We believe that students who possess these attributes in combination with strong academic qualifications will benefit most from a Rice education. Through their contributions and interactions with others, they will enrich the educational experience of all students. These qualities are not revealed in test scores but are manifest in the breadth of interests and the balance of activities in their lives.

Rice University seeks to create on its campus a rich learning environment in which all students will meet individuals whose life experiences and world views differ significantly from their own. We believe that an educated person is one who is at home in many different environments, at ease among people from many different cultures, and willing to test his or her views against those of others. Moreover, we recognize that in this or any university, learning about the world we live in is not by any means limited to the structured interaction between faculty and students in the classroom but also occurs through informal dialogue between students outside the classroom.

To encourage our students’ fullest possible exposure to the widest possible set of experiences, Rice seeks in its admission policies to bring bright and promising students
to the university from a range of socioeconomic, cultural, and geographic origins. We seek students whose parents did not attend college, as well as students from families with a well-established history of college-level education. Rice places a premium on recruitment of students who have distinguished themselves through initiatives that build bridges between different cultural, racial, and ethnic groups. In so doing, we endeavor to craft a residential community that fosters creative, intercultural interactions between students, a place where prejudices of all sorts are confronted squarely and dispelled.

In assessing how well an applicant can contribute to enlivening the learning environment at Rice, we also try to determine the relative challenges that he or she may have faced. For economically disadvantaged students, this may mean achieving a high level of scholastic distinction while holding down a job in high school. For a first-generation college student, this might mean achieving high standards for academic success within an environment relatively indifferent to intellectual attainment. Or it might mean overcoming a disability to excel in sports, music, or forensics. For students who do not have particular disadvantages, we also look at whether they chose a more challenging road than the normal path through high school. This might mean an especially strenuous course of study, prolonged and in-depth engagement in a school project, or a particularly creative and wide-ranging set of extracurricular activities.

Our admission process precludes any quick formula for admitting a given applicant or for giving preference to one particular set of qualifications without reference to the class as a whole. An inevitable consequence of this approach is that some otherwise deserving and well-qualified students will not be admitted to Rice. By selecting a wide range of matriculants of all types, the admission process seeks to enrich the learning environment at Rice and thus increase the value of a Rice education for all students.

Due to the nature of the Rice education, Rice enrolls undergraduate degree candidates on a full-time basis only. First-year applicants, architecture applicants, and international students may apply for the fall semester only. Other applicants may apply to enter either the fall or spring semester.

Applicants are selected on a competitive basis in six academic divisions: architecture, engineering, humanities, music, natural sciences, and social sciences. Candidates should give careful consideration to the category under which they wish to be considered. However, once enrolled, most students are able to move freely among most divisions after consultation with their advisers. Music students must pursue the music program for at least the first year before changing divisions. The Schools of Music and Architecture maintain limited enrollments; all majors are subject to faculty approval.

Those offered admission are expected to complete the remainder of their high school courses with the same superior performance that led to their admission.

First-Year Applicants

There are four areas of focus generally used in evaluation of first-year candidates for admission: scholastic record as reflected by the courses chosen and the quality of academic performance, recommendations from high school, the application presentation of personal information and essays, and standardized testing (SAT I or ACT and three subjects from the SAT II).

The High School Record. Students must complete at least 16 college preparatory units as follows:

- English: 4
- Social studies: 2
- Mathematics: 3
- A foreign language: 2
- Laboratory science (e.g., biology, chemistry, physics): 2
- Additional credits in any of the categories above: 3

The natural science and engineering divisions require trigonometry (pre-calculus) or other advanced mathematics courses and both chemistry and physics. Students may
substitute a second year of chemistry or biology for physics.

Students admitted with academic deficiencies will be asked to complete the required work by taking high school or college-level courses during the summer before enrollment at Rice.

**Note:** Because of the admission competition to enter Rice, successful applicants generally have taken 20 or more college preparatory courses, many at the college level. Therefore, only those students who have more than 20 college preparatory courses may have the registrar consider for Rice credit their college courses taken in high school.

**Transfer of Coursework Taken During High School.** College-level courses taken during high school years may be considered for credit at Rice University on receipt of the following documentation:

1. An official transcript of all college courses sent directly from the college(s) attended. No college-level courses that appear only on the high school transcript will yield credits at Rice.
2. From each college attended, official verification that all courses were taken on the college campus, were taken together with students at that college, were taught by regular members of the college faculty, and were a part of the normal curriculum of the college. This type of documentation is normally obtained from the registrar’s office of each college.
3. Official notification by letter from the high school principal or guidance counselor that the credit earned was not used to meet high school diploma requirements.

**Recommendations.** Candidates must submit evaluations from their guidance counselor and one teacher. The necessary forms are included in the application.

**The Application.** The application provides the committee with important information on the student’s background and gives the applicant an opportunity to provide statements on his or her interests, experiences, and goals. Both the Rice application and the Common Application are accepted. The application fee is $40. Students for whom this fee creates a hardship may apply for a waiver. Freshman applicants should provide proof of a fee waiver for the SAT I or ACT test or eligibility for the school lunch program. In any case, a letter from the student’s high school counselor is required. Financial stress created by application fees to other institutions is not considered a valid reason to grant a fee waiver.

**Standardized Testing.** The SAT I or ACT and three subject exams from the SAT II are required for admission. All applicants must submit three SAT II tests: one in writing and two others in fields related to the candidate’s proposed area of study. These exams are administered by the College Board and the American College Testing Program. Bulletins and test registration forms are available from high school counseling offices. The applicant is responsible for arranging to take the tests, and official score reports must be submitted before the student can be considered for admission. The College Board code for Rice is 6609. The ACT code is 4152.

**Personal Interview.** Although a personal interview is not a requirement, we recommend an interview for first-year applicants as an excellent opportunity to discuss the applicant’s interests, needs, and questions. On-campus interviews are conducted by the admission staff and a select group of Rice senior students. Also, off-campus interviews are conducted throughout the United States by Rice alumni. Please consult the
Music Audition. Candidates to the Shepherd School of Music must arrange for an audition with a member of the music faculty.

Architecture Portfolio and Interview. Architecture applicants must submit a portfolio. An interview with a faculty member from the School of Architecture is strongly recommended.

Bachelor of Fine Arts Portfolio. Applicants to the Bachelor of Fine Arts program must submit a portfolio to the Department of Visual Arts for faculty review before admission is finalized.

Decision Plans

Early Decision Plan. Early Decision is designed for students who have selected Rice as their first choice. Students may initiate applications to other colleges but may make a binding Early Decision application to one college only.

Early Decision applicants must complete the required standardized testing on or by the October testing dates in the senior year. All other materials should be postmarked by November 1. Admission notices will be mailed by December 15. The committee will admit, defer, or deny Early Decision applicants. Deferred applicants are considered with the Regular Decision pool, and seventh-semester grades and additional standardized test scores will then be considered.

It is important to note that if admitted under Early Decision a candidate must withdraw all other college applications, may not submit any additional applications after accepting the offer, and must accept Rice’s offer of admission by submitting a $100 nonrefundable deposit by January 2. An additional $50 housing deposit is required of those desiring on-campus accommodations.

Those accepted under Early Decision may receive an estimate of need-based financial aid by registering for the College Scholarship Service (CSS) PROFILE by October 1, and sending the PROFILE packet to CSS by November 1. Register for CSS PROFILE by calling 1-800-778-6888 or by visiting their website at www.collegeboard.com. CSS will mail you the PROFILE; complete and return it to CSS. Students may also complete the PROFILE online. The PROFILE number for Rice is 6609. Note that official financial aid offers may be made only after the Office of Student Financial Services has received the following documents:

- CSS PROFILE, priority date February 1
- Free Application for Federal Student Aid (FAFSA), priority date February 1
- Student and parent 2003 income tax and W-2 forms, priority date March 1

Interim Decision Plan. First-year applicants who complete their standardized testing on or before the December testing dates and who postmark all other materials by December 1 may be considered under the Interim Decision Plan. Decisions are mailed by February 10. The committee will admit, defer, or deny Interim Decision applicants. Deferred applicants are considered with the Regular Decision pool, and seventh-semester grades and additional standardized test scores will then be considered.

Interim Decision applicants who are offered admission must pay a $100 registration deposit by May 1 to reserve a place in the incoming class. After May 1, deposits are not refundable. Those who desire a room on campus must pay an additional $50 deposit.

Regular Decision Plan. Students who apply Regular Decision must postmark their materials by January 10 to receive notification by April 1. Candidates who miss the
Accelerated Students

Rice University will accept applications from students who are completing high school in less than four years. It is important to note that these students will compete with other candidates who will be completing four years of high school. Therefore, it is the candidate’s responsibility to demonstrate that he or she has exhausted all college preparatory course work at his or her school. Further, because of the residential focus and commitment to student self-governance at Rice, candidates must also demonstrate the maturity and personal development that would allow them to participate fully and responsibly in campus life. Because of the unique circumstances surrounding the accelerated student, it is strongly recommended that these candidates have an on-campus interview with a member of the admission staff before the application deadline.

Home-Schooled Applicants

The Committee on Admission and Financial Aid recognizes that each home-schooled applicant is in a unique educational program. To ensure that our evaluation process is fully informed, each home-schooled applicant is encouraged to provide clear, detailed documentation of his or her curriculum of study, assessment tools, and learning experiences. Rice requires two academic letters of recommendation from all applicants, and at least one of these letters must come from someone who is not related to the applicant.

Transfer Students

Students with superior records from two-year or four-year colleges or universities may apply as transfer candidates. Applicants for transfer admission must file the following with the Office of Admission:

- The written application
- Official transcripts of all high school and college work completed to date as well as courses in progress
- Two faculty recommendations
- A recommendation from the dean of students
- SAT I or ACT scores
- A $40 application fee

Applications with the appropriate documents must be postmarked by March 15 for fall term admission and October 15 for spring term admission. Notification of the admission decision is mailed by June 1 and December 15, respectively. The criteria used in evaluating transfer applications are similar to those applied to applicants for the first-year class, except that special emphasis is given to performance at the college level. Because of the highly competitive nature of transfer admission, it is recommended that applicants have a minimum 3.20 (4.00 scale) grade point average on all college work. The SAT I or ACT must be taken by April 1 for fall application and November 1 for spring application. The SAT II is not required.

Students for whom the $40 application fee creates a hardship may apply for a waiver. Transfer applicants must send a copy of the Student Aid Report that they receive after
completing the Free Application for Federal Student Aid (FAFSA) along with a request for a fee waiver to the Office of Admission. Financial stress created by application fees to other institutions is not considered a valid reason to grant a fee waiver.

Transfer students must be registered in residence at Rice for at least four full semesters during the fall or spring terms and must complete no fewer than 60 semester hours before earning a Rice degree.

Advanced Placement/International Baccalaureate/Placement Tests

Students who score a 4 or 5 on the applicable Advanced Placement College Board examinations taken before matriculation at Rice are given university credit for corresponding Rice courses.

Students who receive a score of 6 or 7 on a higher-level International Baccalaureate exam will also receive course credit for the appropriate course.

Furthermore, during Orientation Week, entering students may take placement tests administered by various departments at Rice. On the basis of these tests, students may be advised to register for courses beyond the introductory level. In most cases, credit is not given for these tests.

Other Students

Please note that financial assistance is not available for visiting, Class III, second degree, dual enrollment, or auditing students.

Visiting Students. Students who wish to spend a semester or a year at Rice taking courses for credit to be applied toward their undergraduate degree at another school may apply for admission as visiting students through the Office of Admission. The student’s application should be accompanied by the $40 application fee, an official high school transcript, an official transcript of college work to date, an SAT I (SAT) or ACT score, and recommendations from the dean of students and a faculty member who has taught the student within the past academic year. Visiting student applications should be postmarked by March 15 for the fall semester and October 15 for the spring semester.

Visiting students are assigned membership to one of the residential colleges during their stay and are charged the same fees as other undergraduates. In a few classes where enrollment is limited because of space or other considerations, candidates for Rice degrees have priority over visiting students for registration.

Visiting students may apply to transfer to Rice only after having left Rice for at least one semester.

Class III Students. Students with Class III standing at Rice have an undergraduate or graduate degree from an accredited college or university and are taking courses at Rice for credit but not in a specific degree program. Students interested in this program should contact the Office of Graduate Studies.

Second Degree Students. An individual who has a bachelor’s degree from another institution and desires another degree in a different area of focus may apply as a second degree student on a space-available basis. Students may only pursue a second degree that is different from their first degree. The application, a $40 application fee, official transcripts of all undergraduate and graduate work, two faculty letters of recommendation and a recommendation from the dean of students from the most recent college attended, and standardized test scores (the SAT, SAT I, or ACT) are required to complete an application file. The deadline for fall semester admission is March 15 and the deadline for spring is October 15.
Second degree applicants with a prior bachelor’s degree from Rice should apply to the registrar. The application should include a written statement specifying the proposed major and course program for the second degree, a supporting letter from the chair of the major department, and an explanation of the student’s reasons for seeking a second degree.

**Dual Enrollment Students.** Accelerated high school juniors and seniors who have taken all the courses in a given discipline available to them in high school may request admission to Rice for the purpose of taking one or more university-level courses as dual enrollment students. The written application, application fee of $40, high school transcript, a teacher and a counselor recommendation from the applicant’s high school, and an SAT I or ACT score should be sent to the Office of Admission by June 1 for the fall semester or by December 1 for the spring semester. Home-schooled students must demonstrate that they have exhausted all other community resources before applying for dual enrollment at Rice. All dual enrollment students are limited to two courses per semester at Rice.

Tuition for new students is $786 per semester hour plus a $105 registration fee, the total not to exceed $9,425. Tuition for returning dual enrollment students would be the rate (plus inflation) at which they first took dual enrollment courses at Rice. These charges are for the 2003–2004 school year and are subject to change in subsequent years. Financial assistance is not available for this program.

**Auditors.** Any interested person, including currently enrolled students, may audit one or more courses at Rice by securing permission of the instructor and by registering as an auditor with the registrar. The university grants no academic credit for such work. Audit credit does not appear on transcripts. Currently enrolled students may audit courses without charge. Rice alumni are charged a fee of $265 per course per semester. All others are charged $520 per course per semester for the privilege of auditing. Request to audit a class or to change from audit to credit or vice versa must be done by the end of the fourth week of the semester.

**Tuition, Fees, and Expenses**

Charges for tuition, fees, and room and board are billed to students each semester. Students may pay the charges in full by the due date or in installments over the course of the semester. The fall semester due date is August 1 for freshmen and mid-August for all others, and the spring semester due date is the first week of January. The following costs apply to undergraduates in the 2003–2004 school year:

<table>
<thead>
<tr>
<th>Tuition</th>
<th>Annual</th>
<th>Semester</th>
<th>Hour$^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering first-year and transfer students$^1$</td>
<td>$18,850</td>
<td>$9,425</td>
<td>$786</td>
</tr>
<tr>
<td>Students matriculating in 2002–03</td>
<td>$17,950</td>
<td>$8,975</td>
<td>$748</td>
</tr>
<tr>
<td>Students matriculating in 2001–02</td>
<td>$17,250</td>
<td>$8,625</td>
<td>$719</td>
</tr>
<tr>
<td>Students matriculating in 2000–01</td>
<td>$17,150</td>
<td>$8,575</td>
<td>$716</td>
</tr>
<tr>
<td>Students matriculating in 1999–2000</td>
<td>$16,950</td>
<td>$8,475</td>
<td>$707</td>
</tr>
<tr>
<td>Students matriculating in 1998–99</td>
<td>$16,450</td>
<td>$8,225</td>
<td>$686</td>
</tr>
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</table>

$^1$ Tuition indexed for five years
$^2$ By special permission only
Required Fees

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Spring</th>
<th>Annual</th>
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</thead>
<tbody>
<tr>
<td>Student activities</td>
<td>$84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic events</td>
<td>$110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>$50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student health</td>
<td>$165</td>
<td>$165</td>
<td>$330</td>
</tr>
<tr>
<td>Shuttle</td>
<td>$46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information technology</td>
<td>$200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(on-campus)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information technology</td>
<td>$100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(off-campus)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspaper</td>
<td>$9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total fees

- $655
- $165
- $767

3 Fifth-year students in professional degree programs and students working toward a second bachelor’s degree may pay a reduced student activities fee of $13.70, which covers the Student Association, Student Organizations Activity, University Court, and Honor Council portions of the activity fee, and elect not to pay the college fee.

Room and Board

<table>
<thead>
<tr>
<th></th>
<th>Annual</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>$4,800</td>
<td>$2,400</td>
</tr>
<tr>
<td>Board</td>
<td>$3,080</td>
<td>$1,540</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>$138</td>
<td>$ 69</td>
</tr>
</tbody>
</table>

Any undergraduate who withdraws or takes an approved leave of absence and then gains readmission to the university pays the tuition applicable at their matriculation, plus annual Consumer Price Index increases for a period not to exceed six years. Starting with fall 2001 matriculants, the index period is not to exceed five years. After five/six years, students pay the tuition applicable to the entering class.

Refund of Tuition and Fees

Students who withdraw during the first two weeks of the semester are not charged tuition or fees for that semester. Students who withdraw during the third week must pay 30 percent of the semester’s tuition, receiving a 70 percent refund. The amount of the refund drops by 10 percent at the beginning of each successive week that passes before withdrawal until the ninth week, after which no refund is made. Federal regulations require a refund calculation for all students receiving Title IV funds. The length of time during which a refund must be calculated is up to 60 percent of the payment period (semester). If a student withdraws on or before the 60 percent point in time, a portion of the Title IV funds awarded to a student (Pell Grant, Federal SEOG, Federal Perkins Loan, Federal Direct Subsidized, Unsubsidized, and Federal PLUS Loans, and the Texas LEAP Grant) must be returned, according to the provisions of the Higher Education Act as amended. The calculation of the return of these funds may result in the student owing a balance to the university and/or the Department of Education.

For students withdrawing after the second week of classes in a semester, fees or special charges (see pages 53–54) are not refunded. Similarly, students withdrawing or taking leaves of absence in the spring semester do not receive a partial refund of fees paid for the full year. Students withdrawing at any time forfeit the $100 enrollment deposit they paid as incoming students.

Students who receive approval to enroll with a course load of fewer than 12 hours during the first nine weeks of the semester may be entitled to a tuition rebate based on the same refund schedule used for withdrawing students. Any such rebate depends on the actual date by which the registrar’s office processes the relevant drop form.
Students unable to resolve with the cashier’s office any request for special consideration in connection with waivers, refunds, or adjusted payments on tuition, fees, and other charges should forward their appeals to the vice president for student affairs. Exceptions are granted by the vice president of Student Affairs only under extraordinary circumstances. Resolution of waivers and refunds for room and board charges require the approval of the vice president for finance and administration.

Living Expenses

Residence fees cover dining hall costs and residence maintenance. They are established each year as needs dictate. For 2003–2004, the annual room and board charge for residence in a residential college is $7,880. This charge includes the room and all the meals eaten during the year.

**Housing.** About 77 percent of Rice undergraduates live in the on-campus residential colleges. Information about the residential colleges and room application forms accompany the notice of admission sent to each new undergraduate. Room reservations cannot be made before notification of admission. Further information on housing in the residential colleges is available from the Office of Student Affairs, and information on off-campus housing is provided by the Office of Academic Advising.

When they receive their residential college room assignments for the academic year to follow, students must sign a housing agreement. To reserve their space, current students must sign a housing agreement by the date established in their respective colleges but no later than April 15. New students must make a $50 deposit before May 1. These nonrefundable deposits are applied to the following semester’s room and board charges.

**Board.** Meals are served cafeteria-style and are all-you-care-to-eat. The colleges provide three meals per day Monday through Friday, breakfast and lunch on Saturday, and lunch and dinner on Sunday. Meals are not served during the Thanksgiving holiday, at the mid-year break, over the fall and spring mid-term recesses, and during spring holidays. More information is available from the Residential Dining web site (http://food.rice.edu/index.html).

**Payments and Refunds.** Students may pay their residence fee in installments. The exact amounts and due dates appear in the Residential Housing Agreement. Students moving out of the college for any reason receive a refund (or a credit) of the reduced balance of room and board charges but must still pay a termination processing fee. Possible exceptions such as academic suspension, Rice-sponsored study abroad, and family emergencies are treated on a case-by-case basis.

Special Charges

The following charges are separate from the regular fees. For charges because of late registration or course changes made after the deadlines, see Registration (pages 30–32).

<table>
<thead>
<tr>
<th>Charge</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptorship per semester</td>
<td>$190</td>
</tr>
<tr>
<td>Internship per semester</td>
<td>$190</td>
</tr>
<tr>
<td>Enrollment continuance fee (Study Abroad) per semester</td>
<td>$125</td>
</tr>
<tr>
<td>Newspaper fee</td>
<td>$9</td>
</tr>
<tr>
<td>Telecommunications fee (on-campus students) per semester</td>
<td>$69</td>
</tr>
<tr>
<td>Late payment penalty</td>
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</tr>
<tr>
<td>Undergraduate application fee</td>
<td>$40</td>
</tr>
<tr>
<td>Service</td>
<td>Fee</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Part-time registration fee</td>
<td>$105</td>
</tr>
<tr>
<td>Orientation Week room and board</td>
<td>$215</td>
</tr>
<tr>
<td>Orientation Week room and board (coordinators)</td>
<td>$160</td>
</tr>
<tr>
<td>Late registration fee</td>
<td>$100</td>
</tr>
<tr>
<td>Failure to register fee</td>
<td>$50</td>
</tr>
<tr>
<td>Deferred payment plan late fee</td>
<td>$30</td>
</tr>
<tr>
<td>College withdrawal: suspension</td>
<td>$225</td>
</tr>
<tr>
<td>College withdrawal: breaking of lease</td>
<td>$625</td>
</tr>
<tr>
<td>Diploma fee: sheepskin</td>
<td>$90</td>
</tr>
<tr>
<td>Diploma fee: parchment</td>
<td>$30</td>
</tr>
<tr>
<td>Diploma fee: facsimile</td>
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</tr>
<tr>
<td>Diploma mailing fee: domestic</td>
<td>$20</td>
</tr>
<tr>
<td>Diploma mailing fee: air mail</td>
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</tr>
<tr>
<td>Transcript fee</td>
<td>$7</td>
</tr>
<tr>
<td>Replacement ID</td>
<td>$10</td>
</tr>
<tr>
<td>Freshman parking permit (minimum)</td>
<td>$250</td>
</tr>
</tbody>
</table>

**Health Insurance**

All Rice students must have health insurance. Students may purchase insurance for the 2003–2004 school year through the university program developed for Rice students at a yearly premium of $1,335 (Plan A) or $975 (Plan B). Coverage is effective from 12:01 A.M., August 15, 2003, until 12:01 A.M., August 15, 2004. Dependent coverage is also available. A description of the policy, application form, and waiver form can be found on the Web at http://studenthealthinsurance.rice.edu. Student should submit either the application or waiver by August 15 each year.

**Education Certification Program Fees**

Students enrolling in the student teaching apprenticeship or internship plans must pay a $190 registration fee for each semester. An additional $25 fee (paid to the School of Continuing Studies) is due for each summer school session.

**Delinquent Accounts**

No student in arrears of any financial obligation to Rice as of the last day of registration for any semester can register for classes. The university will not issue certificates of attendance, diplomas, or transcripts at any time for a student whose account is in arrears.

Students who have not made satisfactory arrangements with the cashier for payment of current charges or who have moved on campus without a proper room contract may be dismissed from the university.

**Transcripts**

Transcripts are issued on written request to the Office of the Registrar. The registrar does not issue transcripts without the consent of the individual whose record is concerned. The charge of $7 for each copy is payable in advance. Those requesting transcripts by mail should include payment with the request.
Financial Aid

The financial aid programs at Rice provide assistance to meet demonstrated need for university attendance for all admitted students. Through grants, endowments, low-interest loans, campus work opportunities, or a combination of these programs, Rice makes every effort to provide students and families sufficient assistance to meet their educational expenses. The financial aid program receives funding from many sources. Rice uses contributions from alumni and friends to establish and maintain scholarships and loan funds. Federal and state grants and work and loan programs also provide funds. Awards are based primarily on financial need and a computed Expected Family Contribution (EFC), although there are also attractive loan opportunities for students and families who have no need.

The university determines need for first-time students by having them register for the College Scholarship Service (CSS) PROFILE, and sending the PROFILE packet to CSS. Register for CSS PROFILE by calling 1-800-778-6888 or by visiting their website at www.collegeboard.com. CSS will mail you the PROFILE; complete and return it to CSS. Students may also complete the PROFILE online. The PROFILE number for Rice is 6609. First-time students also complete the Free Application for Federal Student Aid (FAFSA) and submit copies of student and parent income tax and W-2 forms.

The university determines need for continuing students by having them complete the FAFSA and the Rice Financial Aid Application; continuing students also submit student and parent 2002 income tax and W-2 forms. Returning students are not required to complete a PROFILE form.

“Need” is the amount required to meet the difference between each student’s total educational expenses and his or her family’s resources. Parents are expected to contribute according to their financial means, taking into account income, assets, home equity, number of dependents, and other relevant factors. Students are expected to contribute as well from their own assets and earnings, including appropriate borrowing against future earnings.

The brochure Financing Your Education explains the assistance programs in detail. Copies are available from the Office of Admission or the Office of Student Financial Services. The university also publishes budgets that realistically summarize basic student expenses.

Need-Based Application Process

Rice University is a need-blind school. Applicants are admitted to the university regardless of their family’s ability to pay for college. Rice will meet 100% of financial need as determined by university calculations.

Rice considers applicants for all appropriate assistance administered by the university, including grants, scholarships, loans, and work. Students receive notification of an offer once their financial aid file is complete. Student Financial Services provides financial assistance only for coursework sponsored through Rice University.

To apply for financial assistance, first time students (including Early Decision students) must submit the following:

- CSS PROFILE, priority date February 1
- Free Application for Federal Student Aid (FAFSA), priority date February 1
- Student and parent 2003 income tax and W-2 forms, priority date March 1
Continuing students must submit the following:

- FAFSA, priority date April 15
- Rice Financial Aid Application, priority date April 15
- Student and parent 2003 income tax and W-2 forms, priority date April 15

**Decision**

Financial aid offers are made annually. Award amounts are specified in the Financial Aid Offer Letter. Because financial circumstances change from year to year, Rice conducts an annual review of need and offers need accordingly. For this reason, continuing students must complete and return the Rice University Application for Financial Aid to the university and file the FAFSA every year that they seek assistance.

The university, from time to time, may adjust its methods of computing financial need or its policies regarding the types of financial assistance that it offers so as to meet the financial needs of the largest possible number of students. Therefore, the amount and type of financial aid may change from year to year, even when the student’s financial situation appears to remain relatively stable.

**Types of Financial Aid and Assistance**

**Student Loan Funds.** To assist students and parents with educational financing, the Office of Student Financial Services participates in the following programs:

- **Stafford Student Loans.** These are low-interest loans made to students attending school on at least a half-time basis. Subsidized Stafford loans require need-based financial aid eligibility, but unsubsidized Stafford loans are available to all students.

- **Parent Loans for Undergraduate Students (PLUS loan).** The PLUS loan is a low-interest loan to parents or legal guardians of dependent undergraduate students. Eligibility is not based on demonstrated financial need.

- **Federal Perkins Loan Program.** The Federal Perkins Loan Program provides federal loans for U.S. citizens and permanent residents. The amounts offered vary according to financial aid eligibility.

A few endowments for student loans have been established at Rice primarily as memorial tributes. These funds exist separately from the normal financial aid program. Rice uses them to make small emergency loans to students experiencing unexpected financial problems or showing additional need beyond regular eligibility.

All applications for these loans must be submitted to the Office of Student Financial Services.

**Student Employment Programs.** Opportunities for employment are available to students, either on or off campus, during the academic year. Students are eligible to work under the Federal Work-Study Program or the Rice University Work Program. Students interested in employment should access the Student Financial Services webpage at http://www.ruf.rice.edu/~fina/employment.htm.

**Deferred Payment Plan.** Rice offers a deferred payment plan to enable families to finance students’ educational costs. This plan divides each semester’s charge over four installments. Applications and details are available to eligible students each semester at the time of billing. Students arrange for deferred payment through the Cashier’s Office.

**Vocational Rehabilitation**

The Texas Rehabilitation Commission (TRC) provides assistance in paying tuition and nonrefundable fees for students who have certain disabling conditions. Once a TRC counselor approves their vocational objectives, students affected by orthopedic deformi-
ties, emotional disorders, diabetes, epilepsy, heart problems, and other disabling conditions are eligible for assistance. The TRC offers a range of services to help handicapped students become employable. Interested students should apply to the Texas Rehabilitation Commission.

Students with visual handicaps should contact the Texas State Commission for the Blind.

Financial Aid Eligibility

Undergraduate students are eligible to apply for need-based Rice sponsored and federal/state aid during the first 8 semesters at Rice; for transfer students the number of semesters is prorated based on the number of hours transferred. If a student is enrolled beyond eight semesters, the student may only apply for federal/state aid for an additional two semesters. (Architecture students may apply for Rice sponsored aid for two semesters following their preceptorship to complete the Architecture degree.) If a student attends part-time during a semester or withdraws during a term, the semester is counted towards the number of semesters Rice sponsored aid is available.

Students who do not earn a bachelor’s degree within 120 hours of attempted credits will need to appeal to the Director of Student Financial Services for continued financial assistance.

Satisfactory Academic Progress

The Higher Education Act of 1965, as amended by Congress, mandates that institutions of higher education require minimum standards of “satisfactory academic progress” for students to be eligible to receive financial aid.

To remain in good standing, an undergraduate student must meet the following qualitative and quantitative standards:

Qualitative—A student must earn a minimum term GPA of 1.67 for each term enrolled at Rice University.

Quantitative—By the end of each academic year, a student must have earned a minimum of 24 credits. If a student were enrolled for only one term, the student must have earned a minimum of 12 credits.

If a student fails to meet either standard, the next term the student is enrolled the student will be granted aid on a probationary status. During a term in which a student is on financial aid probation, the student must complete a minimum of 12 credits and must earn a term GPA of 1.67 to be considered in good standing and to be eligible to receive aid for the next term enrolled. If a student on financial aid probation does not complete these requirements, then the student’s financial aid eligibility is terminated.

Appeal. A student whose aid eligibility has been terminated after one semester of financial aid probation may submit an appeal in writing to Student Financial Services for a second term of financial aid probation. If during that second probation term the student fails to complete 12 credits and earn a term GPA of 1.67, the student’s aid eligibility is terminated, and the student may not appeal for another probationary aid term. In order to regain aid eligibility, the student must complete 12 credits with a 1.67 term GPA using resources other than aid offered through Rice University to pay affiliated charges.

Financial Aid After Suspension. Students who have been suspended by the University for academic reasons need to be aware that if they are readmitted by the Committee on Examinations and Standing they may not be eligible for financial aid based on their prior academic performance. Students who are petitioning for readmission are advised to contact Student Financial Services to determine their aid eligibility.
Return of Title IV Funds

Students who receive federal funds as part of their aid packages and do not complete the academic term may be subject to returning a portion of those funds. Contact Student Financial Services for information about “Return of Title IV Funds” policies and procedures.

Honor Societies

Honor societies at Rice include the following:

**Phi Lambda Upsilon**—national honorary chemical society promoting high scholarship and original investigation in all branches of pure and applied chemistry (Rice chapter: 1926)

**Phi Beta Kappa**—founded in 1776 at the College of William and Mary to recognize intellectual achievement and the love of learning among students in the liberal arts and sciences (Rice chapter: March 1, 1929)

**Pi Delta Phi**—organized to interest French students in competing for high standing in scholarship (Theta chapter at Rice: May 1930)

**Society of Sigma Xi**—for the promotion of research in science (Beta of Texas chapter at Rice: March 23, 1938)

**Tau Beta Pi Association**—organized to interest engineering students in competing for high standing in scholarship (Gamma of Texas chapter at Rice: December 18, 1940)

**Delta Phi Alpha**—to promote an interest in the German language and literature (Gamma Xi chapter at Rice: April 1949)

**Sigma Delta Pi**—to promote an interest in the Spanish language and literature (Rice chapter: May 14, 1953)

**Tau Sigma Delta**—national honor society in architecture and applied arts (Tau chapter at Rice: May 7, 1961)

**Eta Kappa Nu**—founded in 1904 at the University of Illinois for electrical engineering students, to stimulate and reward scholarship as well as assist and encourage its members to grow professionally throughout their lives (Rice chapter: January 1981)

**Omicron Delta Epsilon**—to promote study in economics (Rice chapter: 1981)

**Psi Chi**—founded in 1929 at Yale University to encourage, stimulate, and maintain excellence in scholarship and to advance the science of psychology (Rice chapter: April 23, 1990)

Undergraduate Student Life

Residential Colleges

All undergraduate students at Rice, whether they live on campus or not, are members of one of nine residential colleges. All colleges are coeducational.

Each college has faculty masters who live in a house next to the college. Reporting to the vice president for student affairs, the masters have overall responsibility for all aspects of student life in the college, especially for encouraging broad cultural and intellectual interests and for promoting self-discipline and effective self-government within the college. Upon agreement, the students and masters invite other members of the Rice faculty to become resident and nonresident associates of the college. Faculty
associates act as advisers to the students and participate in the various activities of the college. Colleges also have nonfaculty university associates and community associates drawn from various professions in the Houston area.

Each college exists as a self-governing group of students. The elected officers and representatives are responsible to the masters and to the college membership for:

• Directing the college’s cultural, social, and athletic activities
• Expenditure of college funds
• Maintaining order in the college

While uniformity among the colleges has never been sought and each college has developed its own particular interests and character, all seek to foster fellowship among their members and a mature sense of honor, responsibility, and sound judgment.

**College Assignment.** Each undergraduate, upon acceptance by the university, is designated a member of one of the colleges. Two students entering Rice for the first time may request assignment to the same college, but they may not designate which college. New students may also request membership in the same college as a close relative. Except for these cases, students have no individual choice of college.

**Room and Board.** College buildings include a dining hall and public rooms, which are available to both resident and nonresident members, and living quarters for approximately 215 students from all classes and all academic disciplines.

At present, Rice has room in its on-campus residential colleges for about 75 percent of its undergraduate students. Although most of the students who want to live in the colleges can be accommodated, demand usually exceeds the available number of rooms. The university makes every effort to provide housing in the colleges for all incoming first-year students who wish to live on campus, but space cannot be guaranteed. Continuing students draw for rooms according to the priority system established in each college. No student is required to live on campus; however, those members of the colleges who live off campus are encouraged to eat in their colleges and to participate in college activities.

The College Food Service provides à la carte meals, with the exception of prepaid dinners. Its other services include:

• Assistance with special diets prescribed by a physician
• Sack lunches for students who must miss a meal due to a job conflict
• Sick trays for students when requested by the Student Health Service
• Alternate menu entrées, whenever possible, to accommodate students’ religious practices

For more information on room and board, see pages 52–53.

**College Courses.** One of the colleges’ important activities is their sponsorship of courses and workshops open to all students. By expanding course offerings outside the traditional departments, college courses promote the academic involvement of the colleges while introducing students to interdisciplinary topics of particular interest.

Students propose college courses during the semester before they are offered. Once approved by the masters and faculty associates of the college and by the vice president for Student Affairs and the provost, these college courses are offered for academic credit on the same basis as departmental courses. The registrar provides a list of college courses each semester during preliminary registration.

**Student Government**

All undergraduates are members of the Rice Student Association, which is governed through the Student Senate. The senate includes the president, two vice presidents, the secretary, the treasurer, the nine college presidents, and nine college senators.
Alleged violations of university or college rules are handled in accordance with the Code of Student Conduct. In most cases, original jurisdiction belongs to student courts. Students may appeal verdicts to the college masters or the assistant dean for student judicial programs, as appropriate with a final appeal to the vice president for student affairs. The student-staffed Honor Council conducts hearings and trials for alleged offenses against the honor system (see page 8). Rice retains ultimate authority in all matters of discipline and over all actions that affect its educational function or the safety and well-being of members of the university community.

**Award Presentations.** The Rice Student Association presents two coveted awards annually, one to a student and one to a faculty or staff member. The Rice Service Award, a memorial to Hugh Scott Cameron, first dean of students at Rice, is awarded to currently enrolled or former members of the association who have rendered distinguished service to the student body. The Mentor Recognition Award recognizes extraordinary service to the student body by a current member of the faculty or staff. A committee of faculty and students appointed by the association makes the selections.

**Office of Student Activities**

The Office of Student Activities, located in the Rice Memorial Center cloisters, oversees the activities of various campuswide student organizations. It also handles student requests for facilities and party permits, and it coordinates leadership development programs, including the annual leadership retreat and symposium.

Principal student organizations include the following:
- Rice Student Association, the student governing body
- Rice Program Council, which sponsors various events of current interest to the student body as well as social functions
- KTRU, the student-run radio station, operating 24 hours, seven days a week, on 91.7 FM
- Student publications (e.g., *Rice Thresher*, the student newspaper; *Campanile*, the yearbook; *The Rice Undergraduate: The Annual Academic Review*, a collection of peer-reviewed student papers; and *University Blue*, a literary and visual arts publication)

A large number of student organizations address special student interests, such as the Black Student Association, the Hispanic Association for Cultural Education at Rice, the Chinese Student Association, Rice Young Democrats, and Rice Republicans. There also are numerous clubs for such sports as sailing, rugby, lacrosse, volleyball, and soccer. Other special-interest groups include a premed society, forensic society, juggling club, and vegetarian club.

Many organizations are associated with special academic and professional disciplines, such as foreign language clubs, honor societies, and student affiliates of the American Chemical Society, the American Society of Civil Engineers, and the American Society of Mechanical Engineers.

The Rice Players, an extracurricular theater group of Rice students, faculty, and staff, present at least four productions each year and welcome participation by anyone interested in any aspect of theater production or management.

Rice students also maintain affiliations with a number of religious organizations. These include, but are not limited to, the Baptist Student Union, Canterbury Association, Catholic Student Association, Christian Science Organization, Hillel Society, Lutheran Student Association, Intervarsity Christian Fellowship, and the Wesley Foundation. Many of these clubs are assisted by local clergy who form the Joint Campus Ministry.
The Office of Student Organizations on the second floor of the Ley Student Center houses mailboxes for all student organizations. There is a student organization work space in the basement of the Rice Memorial Center that has office space, storage, and computers for student organization use.

**Community Involvement Center/Rice Student Volunteer Program**

Housed in the cloisters of the Rice Memorial Center, the Community Involvement Center works to develop a culture of service within the university by functioning as an advocate for community service, social responsibility, and an increased awareness of social and community issues. The center acts as a clearinghouse for resources and referrals involving local, national, and international community agencies and service opportunities. By making educational programs and information available, the center fosters a lifelong commitment to service among students, faculty, and staff. It also organizes alternative semester break service trips, volunteer fairs, beach cleanups, and other activities. The 10 student service organizations supported by the Community Involvement Center include Rice Habitat for Humanity, youth mentoring and tutoring programs, tutoring in English as a second language, Best Buddies, and the Rice Student Volunteer Program.

By heightening student awareness of community needs and generally raising social consciousness, the Rice Student Volunteer Program (RSVP) has organized volunteer projects for Rice students, faculty, and staff since 1985. The largest event of each semester is Outreach Day, a Saturday when approximately 500 students volunteer with more than 30 nonprofit agencies throughout the Houston area, learning how to take thoughtful action to build a stronger, more just community. With an office in the cloisters of the Rice Memorial Center, RSVP invites each student’s involvement as an officer, a college representative, a committee member, a project organizer, or an interested participant in any RSVP event.

**Intercollegiate Speech and Debate**

Consistently ranked in the top 10 nationally, the George R. Brown Forensic Society sponsors competition in the categories of Individual Events, Lincoln–Douglas, and Parliamentary Debate. The society provides students with the chance to hone their public speaking skills and to qualify for competition both at the American Forensic Association National Individual Events Tournament and at the National Parliamentary Debate Championships. Recognizing the importance of developing strong communication skills, the society has an open admissions policy, inviting students with little or no previous experience as well as those with extensive high school backgrounds to become members of one of the most successful teams at Rice. For more information on speech and debate, please go to http://www.ruf.rice.edu/~forensic/eventinfo/.
INFORMATION FOR GRADUATE STUDENTS
Introduction

Since Rice opened in 1912, the university has recognized the importance of graduate study and research as a principal means of advancing knowledge. The first Doctor of Philosophy degree was awarded in 1918 in mathematics. Since that time, the graduate area has expanded to encompass the schools of architecture, engineering, humanities, management, music, natural sciences, and social sciences, as well as interdepartmental areas. The graduate program has steadily increased over time; Rice now enrolls approximately 1,900 graduate students and offers advanced degrees in 29 fields of study.

Graduate programs lead to either research or professional degrees. Research programs generally require the completion of a publishable thesis that represents an original and significant contribution to the particular field of study. Research degrees include the Doctor of Philosophy (Ph.D.), Doctor of Architecture (D.Arch.), Master of Arts (M.A.), and Master of Science (M.S.).

Professional programs provide advanced course work in several disciplines but do not generally include independent research. These programs lead to degrees in most of the major schools including many engineering disciplines. (See the Graduate Degree Chart and the Interdepartmental and Cooperative Programs Chart on pages 66–70 for a complete listing of degrees offered.)

All degrees conferred by the university are awarded solely in recognition of educational attainments and not as warranty of future employment or admission to other programs of higher education.

For additional information on graduate programs and requirements, please go to http://rgs.rice.edu.

Admission to Graduate Study

Graduate study is open to a limited number of extremely well-qualified students with a substantial background in their proposed field of study (this usually, though not always, means an undergraduate major in the field). Each department determines whether applicants have enough preparation to enter a given program, emphasizing the quality of their preparation rather than the particular academic program they completed or the credits they earned.

Applicants for admission to graduate study should either contact the chair of the appropriate department for application forms and relevant information about the program or visit the department’s website for on-line application information. The Graduate Studies website, http://rgs.rice.edu, also has links to the graduate departments’ websites. The Department Information Chart (pages 76–79) lists department chairs with department phone/fax numbers and e-mail addresses. Applicants should send all application materials, including transcripts and test scores, to the department chair.

Application Process. An application for graduate study should include the completed application form, the application fee, transcript(s), recommendations, and writing samples, if required. Some departments require scores on the aptitude portion of the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT) and an appropriate advanced test; these should be sent directly to the admitting department. See individual departmental listings for specific requirement information.

To make sure scores are available when admission decisions are normally made, applicants should take the GRE by the December before the fall for which they are
applying. The application deadline for the fall semester is February 1. Some departments, however, may specify an earlier deadline, and departments may occasionally consider late applications.

Admission depends on students’ previous academic records, available test scores, and letters of reference from scholars under whom they have studied. Writing samples, portfolios, or statements of purpose may also be required. In general, applicants should have at least a 3.00 (B) grade point average in undergraduate work. Applicants whose native language is not English must take the TOEFL test and should score at least 600 on the paper-based TOEFL or at least 250 on the computer-based TOEFL. For those students who choose to take the IELTS in lieu of TOEFL, the minimum score is 7. The TOEFL and IELTS may be waived for an international student who has received a degree from a university in which English is the official language of communication.

Graduate Degrees

Research Degrees

Research degrees are offered in six of the seven schools at Rice (the School of Management offers professional degrees only), with some degrees combining studies in more than one school. For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 70–72). Specific requirements for advanced research degrees in each field of study appear in the appropriate departmental pages (pages 87–262). Students seeking additional material should contact the appropriate department chair (see Department Information Chart on pages 76–79).

Ph.D. Programs. The Ph.D. degree is awarded for original studies in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 66–70); in architecture, the equivalent degree is the D.Arch. Candidates receive a Ph.D. degree after successfully completing at least 90 semester hours of advanced study and concluding an original investigation that is formalized in an approved thesis. As final evidence of preparation for this degree, the candidate must pass a public oral examination. (See also Candidacy, Oral Examinations, and the Thesis Regulations on pages 72–74.) The residency requirement for the doctorate is four semesters of full-time study at the university.

Master’s Programs. The M.A. degree is available in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 66–70), including certain scientific fields of study. The M.S. degree is offered in the engineering and science fields also listed in the chart. Candidates may undertake the M.Arch., M.Arch. in Urban Design, and M.Mus. degrees as research degrees by adopting the thesis option. Candidates receive a master’s degree after completing at least 30 semester hours of study (including thesis hours), 24 hours of which must be taken at Rice. Master’s programs require original work reported in a thesis and a public oral examination. Most students take three or four semesters to complete a master’s degree (some programs may require more time). Students receiving a master’s degree must be enrolled in a graduate program at Rice University for at least one semester.

Students may also pursue a nonthesis degree in certain departments. This degree would be based on alternative departmental requirements and would include, but not be limited to, the following:

• 30 semester hours of study
• 24 semester hours must be at Rice University
• Minimum residency is one semester of full-time study
• At least 15 hours of course work must be at or above the 500 level
• All courses must be in the relevant field

In certain departments, students may receive a master’s degree (called an *Automatic Master’s*) when they achieve candidacy for the doctoral degree. Students seeking a master’s degree in this manner must submit a petition for the degree, signed by their department chair, to the Office of Graduate Studies by February 1 of the year in which the degree is to be awarded. (See also Candidacy, Oral Examinations, and the Thesis on pages 72–74.)

**Professional Degrees**

Rice University offers advanced degree programs to prepare students for positions in a number of professional fields. The professional degrees listed in the Introduction (page 64) appear in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 66–70). In some departments, the professional degree also prepares the student for a doctoral-level program. All professional degrees are master’s degrees with one exception: candidates earn the D.M.A. after concluding a program of advanced music study.

Requirements for professional degrees include the successful completion of 30 semester hours or more of upper-level courses (at the 300 level or higher) with at least 24 hours taken at Rice. Specific information and requirements for individual degrees appear in the Graduate Degree Chart (pages 66–69). Program information and application materials are also available from the department chairs (see Department Information Chart on pages 76–79). For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 70–71).

Admission into a professional program is granted separately from admission into a research or thesis program. Students who wish to change from a thesis program to a professional degree program must petition their department in writing. Upon recommendation of the department and approval by the dean’s office, the request is sent to the Office of Graduate Studies for consideration and final approval. If approved, students who received tuition waivers while enrolled in the thesis program will be expected to repay the tuition before their professional degrees are awarded. Professional degree programs terminate when the degree is awarded. Students who wish to continue graduate study after completing a professional program must reapply for admission into a research program.

**GRADUATE DEGREE CHART**

<table>
<thead>
<tr>
<th>School Department</th>
<th>Graduate Degrees Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCHOOL OF ARCHITECTURE</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>M.Arch., M.Arch. in Urban Design, D.Arch.</td>
<td></td>
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<tr>
<td><strong>GEORGE R. BROWN SCHOOL OF ENGINEERING</strong></td>
<td></td>
<td></td>
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<tr>
<td>Bioengineering</td>
<td>M.S., Ph.D.</td>
<td>Biochemical engineering, biological systems modeling, biomaterials, biomedical lasers, cellular and molecular engineering, controlled release technologies, metabolic engineering, phytoremediation, spectroscopy, systems engineering and instrumentation, thrombosis, tissue engineering, and transport processes.</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>M.Ch.E., M.S., Ph.D.</td>
<td>Thermodynamics and phase equilibria, chemical kinetics and catalysis, optimization and process control, rheology and fluid mechanics, polymer science, biomedical engineering, enhanced oil recovery and cleanup of groundwater aquifers, and biochemical reactor engineering.</td>
</tr>
<tr>
<td>School Department</td>
<td>Graduate Degrees Offered</td>
<td>Additional Options or Areas of Concentration (within majors)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Civil and M.C.E., M.E.E., M.E.S. Civil engineering: structural dynamics and control, structures and mechanics, reinforced and prestressed concrete, geotechnical engineering, computer-aided engineering, probability and random vibrations, reliability of systems, and solid mechanics Environmental science: environmental biology, chemistry, toxicology, geology, and planning; surface and groundwater hydrology; water and wastewater treatment; and urban and regional air quality. Environmental engineering: hydrology and water resources engineering; water and wastewater treatment, design, and operation; and numerical modeling</td>
<td></td>
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<tr>
<td>Environmental Engineering M.S., Ph.D.</td>
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<tr>
<td>Computer Science M.C.A.M., M.C.S.E., M.A., Ph.D.</td>
<td>Numerical analysis, operations research, and differential equations; additional program in computational science and engineering (see Interdepartmental and Cooperative Programs)</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering M.E.E., M.M.S., M.S., Ph.D. Mechanical engineering: mechanics, computational mechanics, stochastic mechanics, fluid dynamics, heat transfer, dynamics and control, robotics, biomedical systems, and aerospace sciences. Materials science: nanotechnology, metals physics, statistical mechanics, metallic solid thermodynamics, materials chemistry, aspects of composites, coatings and thin films, and interface science</td>
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<tr>
<td>Statistics M.Stat., M.A., Ph.D.</td>
<td>Applied probability, Bayesian methods, bioinformatics, biomathematics, biostatistics, data analysis, data mining, density estimation, epidemiology, environmental statistics, financial statistics, image processing, model building, nonparametric function estimation, quality control, risk management, spatial temporal statistics, statistical computing, statistical genetics, statistical visualization, stochastic processes, and time series analysis</td>
<td></td>
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<tr>
<td>SCHOOL OF HUMANITIES</td>
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<tr>
<td>English M.A., Ph.D.</td>
<td>British and American literature and literary theory</td>
<td></td>
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<tr>
<td>French Studies M.A., Ph.D.</td>
<td>French literature, language, and culture</td>
<td></td>
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<tr>
<td>Hispanic Studies M.A.</td>
<td>Spanish language and literature</td>
<td></td>
</tr>
<tr>
<td>History M.A., Ph.D.</td>
<td>U.S., European, and other history</td>
<td></td>
</tr>
<tr>
<td>Linguistics M.A., Ph.D.</td>
<td>Anthropological, applied, cognitive, field, functional or discourse, and English, German, or Romance linguistics; second language acquisition; and language typology and universals</td>
<td></td>
</tr>
<tr>
<td>Philosophy M.A., Ph.D.</td>
<td>Specialization in medical ethics</td>
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<tr>
<td>Religious Studies M.A., Ph.D.</td>
<td>Religion and contemporary cultures; scriptural interpretation; ethics and philosophy of religion; mysticism, psychology, and religious practices</td>
<td></td>
</tr>
<tr>
<td>School Department</td>
<td>Graduate Degrees Offered</td>
<td>Additional Options or Areas of Concentration (within majors)</td>
</tr>
<tr>
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</tr>
<tr>
<td>JESSE H. JONES GRADUATE SCHOOL OF MANAGEMENT</td>
<td>M.B.A., M.B.A./Master of Engineering, M.B.A./M.D. (with Baylor College of Medicine), M.B.A. for Executives</td>
<td>M.B.A. is a general management degree; however, students may have informal concentrations in the following areas: accounting, entrepreneurship, finance, general management, international business, information technology, marketing, operations management, organizational behavior and human resource management, healthcare management, and strategic management and planning; joint nonthesis degree option with all engineering disciplines</td>
</tr>
<tr>
<td>SHEPHERD SCHOOL OF MUSIC</td>
<td>B.Mus./M.Mus., M.Mus., D.M.A.</td>
<td>Composition, choral and instrumental conducting, historical musicology, performance, and music theory</td>
</tr>
<tr>
<td>WIESS SCHOOL OF NATURAL SCIENCES</td>
<td>Biochemistry and Cell Biology</td>
<td>Biochemistry, biophysics, developmental biology, cell biology, genetics, molecular biology, neurobiology, structure and function of nucleic acids and proteins, regulatory processes, biochemistry of lipids, enzymology, NMR and crystallography, cellular regulation, oxygen and electron transport, molecular genetics of plants, animals, fungi, bacteria, and bacteriophage</td>
</tr>
<tr>
<td></td>
<td>M.A., Ph.D.</td>
<td>Organic chemistry, inorganic chemistry, physical chemistry, nanotechnology, biological chemistry, theoretical and computational chemistry, materials chemistry, bio-organic chemistry, and bioinorganic chemistry</td>
</tr>
<tr>
<td></td>
<td>M.A., Ph.D.</td>
<td>Biogeochimistry, wetland ecology, plant community and population ecology, insect diversity and community structure, behavioral ecology, sociobiology, and molecular evolution</td>
</tr>
<tr>
<td></td>
<td>M.A., Ph.D.</td>
<td>Marine geology and geophysics; sedimentology, stratigraphy, paleoceanography, paleoclimatology, evolution of continental margins and carbonate platforms; tectonics, neotectonics, tectonophysics, geodynamics, mantle processes, planetology, and space geodesy; remote sensing, potential fields, reflection and lithospheric seismology, global seismology, wave propagation and inverse theory; kinetics of fluid-solid interactions, low T aqueous geochemistry, petrology, and high T geochemistry</td>
</tr>
<tr>
<td></td>
<td>M.A., Ph.D.</td>
<td>Differential and algebraic geometry, ergodic theory, partial differential equations, probability and combinatorics, real analysis, complex variables, and geometric and algebraic topology</td>
</tr>
<tr>
<td></td>
<td>M.A., M.S., Ph.D.</td>
<td>Atomic and molecular physics, biophysics, particle physics, condensed matter physics, surface physics, space physics, astronomy, astrophysics, and theoretical physics</td>
</tr>
<tr>
<td>SCHOOL OF SOCIAL SCIENCES</td>
<td>M.A., Ph.D.</td>
<td>Archaeology and social/cultural anthropology</td>
</tr>
<tr>
<td>Anthropology</td>
<td>M.A., Ph.D.</td>
<td>Econometrics, economic development, economic theory, industrial organization and regulation, international trade and finance, labor, macroeconomics/monetary theory, and public finance</td>
</tr>
</tbody>
</table>
Interdepartmental and Cooperative Programs

Opportunities for graduate study are available in a number of interdisciplinary areas. The advanced degree programs listed in the Interdepartmental and Cooperative Programs Chart (below) are administered by the participating Rice departments. They represent fields of study in rapidly developing areas of science and engineering or those areas subject to multiple investigations and interests. Rice has also established ties with other Houston universities and the Texas Medical Center to enable graduate students to receive training in computational biology research, to earn separate degrees simultaneously, or to focus their doctoral study on the specialized field of medical ethics.

<table>
<thead>
<tr>
<th>School Department</th>
<th>Graduate Degrees Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Science</td>
<td>M.A., Ph.D.</td>
<td>American government, comparative government, and international relations</td>
</tr>
<tr>
<td>Psychology</td>
<td>M.A., Ph.D.</td>
<td>Cognitive-experimental psychology and industrial-organizational/social psychology, with tracks in engineering psychology, human–computer interaction, and neuropsychology</td>
</tr>
</tbody>
</table>

INTERDEPARTMENTAL AND COOPERATIVE PROGRAMS CHART

<table>
<thead>
<tr>
<th>Program</th>
<th>Degrees Offered</th>
<th>Departments/Areas of Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERDEPARTMENTAL PROGRAMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Physics</td>
<td>Master's, Ph.D.</td>
<td>Departments in physics and astronomy, chemistry, electrical and computer engineering, mechanical engineering and materials sciences, bioengineering, computational and applied mathematics, and civil and environmental engineering; sciences that underlie important new and emerging technologies. Contact: Rice Quantum Institute, 713-348-6356 or <a href="mailto:quantum@rice.edu">quantum@rice.edu</a>.</td>
</tr>
<tr>
<td>Computational Science and Engineering</td>
<td>Master's, Ph.D.</td>
<td>Modern computational techniques and use of powerful, new computers in research, development, and design involving the following departments: computational and applied mathematics, biochemistry and cell biology, geology and geophysics, computer science, chemical engineering, electrical and computer engineering, and statistics. Contact: 713-348-4805 or <a href="mailto:caam@caam.rice.edu">caam@caam.rice.edu</a>.</td>
</tr>
<tr>
<td>Education Certification</td>
<td>M.A.T.</td>
<td>Secondary teaching certification in conjunction with B.A. in major field</td>
</tr>
<tr>
<td>Environmental Analysis and Decision Making</td>
<td>M.S.</td>
<td>Departments in computational and applied mathematics, statistics, civil and environmental engineering, chemistry, earth science, ecology and evolutionary biology, mechanical engineering and materials science, chemical engineering, sociology, electrical and computer engineering, management, and natural sciences. Contact Professional Master’s Program: 713-348-3188 or <a href="mailto:profms@rice.edu">profms@rice.edu</a>.</td>
</tr>
<tr>
<td>Materials Science and Engineering</td>
<td>Master’s, Ph.D.</td>
<td>Departments in chemistry, electrical and computer engineering, mechanical engineering and materials sciences, chemical engineering, and physics. Contact: 713-348-4906 or <a href="mailto:mems@rice.edu">mems@rice.edu</a>.</td>
</tr>
</tbody>
</table>
Nanoscale Physics  M.S.  Departments in physics and astronomy, electrical and computer engineering, chemistry, management, and natural sciences. Contact Professional Master’s Program: 713-348-3188 or profms@rice.edu.

Subsurface Geoscience  M.S.  Departments in earth science, chemistry, statistics, management, sociology, and natural sciences. Contact Professional Master’s Program: 713-348-3188 or profms@rice.edu.

Systems Theory  Master’s, Ph.D.  Departments in chemical engineering, mechanical engineering and materials sciences, economics, electrical and computer engineering, and mathematics. Contact: 713-348-4020 or elec@rice.edu.

**COOPERATIVE PROGRAMS**

Joint Programs in Biomedical Ethics  M.A., Ph.D.  Religious studies degree with the University of Texas Health Science Center at Houston. Contact: 713-348-5201 or reli@rice.edu

Joint Program in Computational Biology  Training opportunities for Ph.D. students  Research in a lab setting, seminars and workshops, and access to advanced resources of W.M. Keck Center for Computational Biology (fellowships available); with Baylor College of Medicine and the University of Houston. Contact: 713-348-4752 or bio@rice.edu.

Joint Programs with Medical Colleges  M.D./Ph.D., M.D./M.A., M.D./M.S.  Combined M.D. and advanced research degree for research careers in medicine; with Baylor College of Medicine. Contact: 713-348-5869 or bio@rice.edu.

**Academic Regulations**

**Requirements for Graduate Study**

Graduate students must meet the following minimums, deadlines, and course or grade requirements to graduate in good standing from the university. Some departments may have stricter policies and/or requirements.

**Residency**—Master’s students must complete at least one semester enrolled in a graduate program at Rice University. Ph.D. students must be enrolled at least four semesters in full-time study at Rice University.

**Full-time study**—Semester course load for full-time students is 9 hours, or more as required by specific departments. Graduate programs at Rice generally require full-time study.

**Part-time study**—Admission of part-time students requires departmental permission, and students must register for at least 3 hours in a semester. All time-to-degree requirements apply to part-time students.

**Time to degree**—Ph.D. students are required to complete their program, including thesis defense, within ten years of initial enrollment in the degree program. Master’s students are required to complete their program, including thesis defense, within five years of initial enrollment. In both cases, students have a limit of six additional months from the date of defense to submit their theses to the Office of Graduate Studies. These time boundaries include any period in which the student was not enrolled or enrolled part-time, for whatever reason.
Time to candidacy—Ph.D. students must be approved for candidacy before the beginning of the ninth semester of their residency at Rice. Masters students must be approved for candidacy before the beginning of the fifth semester of their residency at Rice.

Time to defense—Ph.D. students must defend their theses before the end of the 16th semester of their residency at Rice. Masters students must defend their theses before the end of the eighth semester of their residency at Rice.

Time to thesis submission—After candidates successfully pass the oral examination in defense of the thesis, they must submit two signed copies of the thesis to the Office of Graduate Studies no later than six months from the date of the examination.

Credit for previous degrees—For students who enter a doctoral program with a master’s degree, completed at Rice or elsewhere, departments should determine the amount of previous work, if any, that will be counted from the master’s degree at issue toward the doctoral degree. Any such credit of one semester or more toward doctoral requirements will result in an equal reduction of the time allowed for (1) the achievement of candidacy, (2) the defense of the Ph.D. thesis, and (3) the total time to the doctoral degree. The maximum credit allowed for students with master’s degrees from Rice will be six semesters, and the maximum credit allowed for students with master’s degrees from outside Rice will be two semesters.

Minimum hours—Students must register for at least 3 hours in a semester.

Course registration—Students may register for courses of study and drop or add courses only with the approval of their adviser or the department chair.

Deadlines—Students must observe all deadlines listed in the Academic Calendar (pages viii–xiii).

Grades—To graduate, students must achieve at least a B- (2.67) grade point average in courses counted toward the graduate degree. Some programs and departments have more stringent standards. To compute grade point averages, the credits attempted in semester hours for each course and the points for the grade earned (from A+ = 4.33 to F = 0.00) are multiplied, then the products (one for each course) are added together and the sum is divided by the total credits attempted. See also Probationary Status (page 75).

Pass/Fail—All students, except Class III students, may take course(s) Pass/Fail outside their department. They must file a course as Pass/Fail no later than the end of the 10th week of classes; however, they may later convert a Pass/Fail to a graded course by filing the appropriate paperwork with the registrar. Students should be aware that while a grade of P does not affect their Grade Point Average, a grade of F does.

Satisfactory/Unsatisfactory—Some departments may assign a grade of S or U. Students should be aware that while a grade of S or U does not affect their Grade Point Average, no credit will be awarded if a grade of U is received.

Departmental duties—In most research degree programs, students must undertake a limited amount of teaching or perform other services as part of their training. Assigned duties should not entail more than 10 hours per week, averaged over the semester, or extend over more than eight semesters.

Employment—Students receiving a stipend may accept employment only with the approval of their home academic department. Students working for more than 20 hours per week are not normally eligible for full-time status.

Continuous enrollment—Students must maintain continuous program involvement and enrollment unless granted an official leave of absence. See Leaves or Withdrawals (page 74) for more information.
Candidacy, Oral Examinations, and the Thesis

Approval of Candidacy. Candidacy marks a midpoint in the course of graduate education. Achieving candidacy for the Ph.D. implies that a graduate student has: (a) completed required course work, (b) passed required exams to demonstrate his/her comprehensive grasp of the subject area, (c) demonstrated the ability for clear oral and written communication, and (d) shown the ability to carry on scholarly work in his/her subject area. Requirements for achieving candidacy for the thesis Masters degree are determined at the departmental level. Students enrolled in research degree programs submit their petitions for candidacy for a master’s or doctoral degree through the department chair to the vice provost for research and graduate studies. In the petition sent to the vice provost, the department chair identifies the student’s thesis director, recommends a thesis committee, certifies that the applicant has fulfilled the departmental requirements, and provides a course transcript as evidence that work completed within the department is of high quality.

Students must file their applications for approval of Ph.D. and M.A./M.S. candidacy in the Office of Graduate Studies on or before November 1 for mid-year conferral and on or before February 1 for May commencement. Students may take the final oral examination in defense of their thesis only after the vice provost for research and graduate studies approves their candidacy. Ph.D. students must be approved for candidacy before the beginning of the ninth semester of their residency at Rice. Master’s students must be approved for candidacy before the beginning of the fifth semester of their residency at Rice.

Thesis Committee. The thesis committee administers the oral examination for the student’s thesis defense and has final approval/disapproval authority and responsibility for the written thesis.

A thesis committee is composed of at least three members. Two, including the committee chair, must be members of the student’s department faculty; in doctoral thesis committees, one member must be from another department within the university. At least three members of the committee must meet one of the following requirements:

• Tenured or tenure-track members of the Rice faculty
• Research faculty holding the rank of faculty fellow, senior faculty fellow, or distinguished faculty fellow
• Faculty who have been certified as thesis committee members by the vice provost for research and graduate studies

The committee chair need not be the thesis director. The chair, however, must be either a tenured or tenure-track member of the major department or a research faculty member of the major department. Additional members of the committee, who may or may not meet the above criteria, may be selected with the approval of the department chair. These would be in addition to the three required members.

Candidates are responsible for keeping the members of their committee informed about the nature and progress of their research. They also must establish a schedule for thesis completion and review. The members of the committee, in turn, should review the thesis in a timely manner, approving a preliminary form of the thesis before scheduling the oral examination.

Oral Examination in Defense of Thesis. The public oral defense of a thesis is intended to be an examination of a completed body of work and should be scheduled only when the dissertation is essentially completed. The defense should be scheduled by the student after consultation with the thesis adviser, who agrees that the thesis is completed and ready to be defended. All members of the thesis committee must be present for the oral defense. A candidate must be enrolled in the semester in which his or her oral examination is held. For the purpose of the oral defense only, enrollment in a semester is considered
valid through the Friday of the first week of class of the following semester.

At least one copy of the thesis must be available in the departmental office not less than two calendar weeks prior to the date of the oral defense. Oral examinations for the doctoral degree must be announced in Rice News at least one week in advance. Oral examination announcements can be submitted to Rice News by entering the information into the Rice Info online events calendar. (Specific instructions and the password needed for a calendar submission should be requested by sending e-mail to graduate@rice.edu when the student has set the date for the defense. The words “Rice News defense announcement” need to appear in the subject line of the e-mail.) When the event is entered into the events calendar, an automatically generated e-mail will be sent to Rice News with the information for the Rice News calendar.

Students should note that material printed in Rice News must be submitted at least two weeks before publication; the Rice News calendar editor can provide specific submission dates. Ph.D. candidates therefore should begin scheduling their oral defenses at least three weeks in advance. Should an oral examination for the Ph.D. fall during the summer, the posting of a notice in the RiceInfo events calendar, at least one week prior to the defense, suffices as a public announcement.

Oral examinations for the master’s degree require only that public notice of the oral defense be posted on the department bulletin board one week in advance.

The length of the oral examination and the subject matter on which the candidate is questioned are left to the judgment of the committee. After candidates successfully pass the oral examination in defense of the thesis, they must submit two signed copies of the thesis to the Office of Graduate Studies no later than six months from the date of the examination. If the thesis is not ready for final signature by the end of the six-month period, the “pass” will be revoked and an additional oral defense will need to be scheduled. Extensions of this six-month period for completion without reexamination will be granted only in rare circumstances. Applications for an extension must be made by the candidate with the unanimous support of the thesis committee and approved by the Office of Graduate Studies. Students passing the oral examination on or before the end of the first week of classes of any semester do not have to register for that or any subsequent semester even though they may be continuing to make minor revisions to the final copy of their thesis.

Should a candidate fail, the committee chair may schedule a second examination. Students who fail a second time must withdraw from the university.

Students must send a copy of their approval of candidacy form, signed by the thesis committee signifying successful defense of the thesis, to the Office of Graduate Studies within one week after the oral examination. The original approval of candidacy form must be turned in when the thesis is submitted.

Ph.D. students must defend their theses before the end of the 16th semester of their residency at Rice. Master’s students must defend their theses before the end of the eighth semester of their residency at Rice.

**Thesis Regulations and Procedures.** The thesis is the principal record of a student’s work for an advanced degree. It is permanently preserved in the library. Instructions for thesis submission and guidelines for thesis formatting are provided by the Office of Graduate Studies at the time of approval of candidacy. Additional copies of these instructions are available from the graduate studies office and can also be accessed on the Rice website at: http://rgs.rice.edu/grad/policies/thesis.

Students must have the original signatures of their thesis committee on two title pages of their dissertation. Students submitting a dissertation for the Ph.D., D.Arch., or D.M.A. must fill out a Survey of Earned Doctorates form. All students submitting theses, whether for master’s or doctoral degrees, must complete a University Microfilm contract. Students must pay their fees for microfilming and binding their theses to the
cashier before submitting the two copies to the Office of Graduate Studies for approval. The thesis may be submitted to the Office of Graduate Studies at any time; however students must meet the deadline for the thesis submission listed in the Academic Calendar (pages viii–xiii).

Leaves or Withdrawals

**Leave of Absence.** A leave of absence is granted only by the Office of Graduate Studies upon the recommendation of the department chair and only to graduate students in good standing with the university. Students must obtain approval for a leave before the academic semester in question. These requests, approved by the department, must be received in the Office of Research and Graduate Studies prior to the first day of classes.

Leaves are not granted after students register for courses or after the registration period passes. Normally, students may take a leave of absence for no more than two consecutive semesters. Students must pay a reinstatement fee of $85 upon their return from an official leave.

**Withdrawal and Readmission.** Students who wish to withdraw from Rice during the semester, for any reason, are to notify the chair of their academic department in writing (see Refund of Tuition and Fees, pages 52–53). Failure to register for any period without a leave of absence granted by the Office of Graduate Studies constitutes a de facto withdrawal.

The university may insist on a student’s involuntary withdrawal if, in the judgement of the vice provost for research and graduate studies, the student:

- Poses a threat to the lives or safety of him/herself or other members of the Rice community
- Has a medical or psychological problem that cannot be properly treated in the university setting
- Has a medical condition or demonstrates behavior that seriously interferes with the education of other members of the Rice community

Students who later wish to resume study, whether after voluntary or involuntary withdrawal, must reapply to the university. Readmission requires the recommendation of the department chair and the approval of the vice provost for research and graduate studies. Accepted students must pay a readmission fee of $290.

Students who withdraw for medical reasons must meet certain conditions when applying for readmission. They must submit a written petition for readmission to the Office of Graduate Studies at least one month before the start of the semester in which they wish to resume their work at Rice. They must also provide evidence from a health professional that they have resolved the problems leading to their withdrawal. Some cases may require an interview with the director of the Rice Counseling Center, with the director of Student Health Services or their designees.

**Nonenrollment.** Students may not do degree work at Rice or work involving Rice faculty or facilities during any period of nonenrollment, except during the period following successful oral defense prior to submission of the final thesis.

Drop/Add

During the first two weeks of classes, all students may change their registration without a penalty fee by adding or dropping courses with the appropriate adviser’s approval. Students must obtain the instructor’s permission and the adviser’s approval to add a course after the second week of classes. Students may not add courses after the fourth week of classes without the permission of the Office of Graduate Studies.
Students may not drop courses after the end of the 10th week of classes, except by approval of the Office of Graduate Studies (a $50 fee is assessed for courses dropped after the 10th week by non-first-semester students). The student is to prepare a written petition that must be approved by the student’s adviser and department chair and then forwarded to the vice provost for consideration.

Students who add or drop courses after the second week but before the deadlines noted above are charged for each drop/add form submitted according to the fee schedule (see page 31).

Academic Discipline

Probationary Status. Students whose cumulative grade point average or the average for the most recently completed semester falls below 2.33 are placed on probationary status; some departments may have more stringent standards. Although the department in most cases sends the student a letter of warning, probationary status applies whether or not a letter has been issued. A second semester of probationary status leads to automatic dismissal by the Office of Graduate Studies unless the student’s department presents a plea for exception that is approved by the vice provost for research and graduate studies. Departments are free to dismiss a student in the first semester of probationary status if they issue a warning before taking action.

Dismissal. Reasons for student dismissal include unsatisfactory progress as determined by the student’s department or behavior judged by Rice to be disruptive or otherwise contrary to the best interests of either the university or the student.

Appeal

Students may petition the Office of Graduate Studies regarding the application of any academic regulation. Petitions should go through department chairs and divisional deans, who will be asked to comment on their merits. In some cases, the vice provost will seek the advice of the Graduate Council. For appeals regarding nonacademic matters, see the following section on problem resolution.

Other Disciplinary Sanctions

Additionally, the assistant dean of Student Judicial Programs may place students on probation or suspension for violating the Honor Code or Code of Student Conduct or for other disciplinary reasons. Students on disciplinary suspension (including for an Honor System violation) may not receive their degree even if they have met all academic requirements for graduation. They must leave the university within 48 hours of being informed of the dean’s decision, though in cases of unusual hardship, the assistant dean of Student Judicial Programs may extend the deadline to one week. Any tuition refund will be prorated from the official date of suspension, which is determined by the registrar. While on disciplinary suspension, students may not run for, or hold, any elective or appointed office in any official Rice organization. Participation in student activities on and off campus and use of Rice facilities are limited to enrolled students. Students seeking admission after leaving the university because of a sanction imposed by the assistant dean should submit a petition in writing for review by the assistant dean.

Procedures for Resolution of Problems

Problems or conflicts may arise during a student’s graduate education. Students should take responsibility for informing the appropriate faculty of any such problem.
All parties involved should work together amicably with the goal of resolving the problem informally if at all possible. When attempts to resolve a problem informally do not meet with success, the following grievance procedure should be adopted.

1. The student should submit the grievance in writing to the departmental chair, who will then attempt to resolve the problem.

2. If the student remains unsatisfied, the problem should be presented to a departmental committee for resolution. This committee should be a standing committee and not the student’s own review or dissertation committee. Both the student and the chair should submit a written record of their views to this committee.

3. If the student remains unsatisfied, the problem should be referred to a standing subcommittee designed at Graduate Council and composed of three faculty members (representing diverse disciplines within the university), one graduate student and the associate dean for graduate studies. A written report of proceedings at stage two should be presented to the chair of graduate council, for forwarding to the subcommittee, together with all other written materials generated during the investigation. The decision of this subcommittee will be considered final.

### DEPARTMENT INFORMATION CHART

<table>
<thead>
<tr>
<th>Department Chair</th>
<th>Phone, Fax, E-Mail, URL</th>
<th>Faculty Research Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCHOOL OF ARCHITECTURE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lars Lerup (Dean)</td>
<td>713-348-4044</td>
<td>Architecture design, urbanism, theory, and practice</td>
</tr>
<tr>
<td>John J. Casbarian (Associate Dean)</td>
<td><a href="mailto:arch@rice.edu">arch@rice.edu</a></td>
<td></td>
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<tr>
<td></td>
<td>713-348-5152</td>
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<td><a href="http://www.arch.rice.edu/flash/">www.arch.rice.edu/flash/</a></td>
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<tr>
<td><strong>GEORGE R. BROWN SCHOOL OF ENGINEERING</strong></td>
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<tr>
<td>Bioengineering: David Hellums</td>
<td>713-348-5869</td>
<td>Biochemical engineering, biological systems modeling, biomaterials, biomedical lasers, cellular and molecular engineering, controlled release technologies, metabolic engineering, spectroscopy, systems engineering and instrumentation, thrombosis, tissue engineering, and transport processes</td>
</tr>
<tr>
<td></td>
<td>fax: 713-348-5877</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:bioeng@rice.edu">bioeng@rice.edu</a></td>
<td></td>
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<tr>
<td></td>
<td>dacnet.rice.edu/~bioe/</td>
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<tr>
<td>Chemical Engineering: Kyriacos Zygourakis</td>
<td>713-348-4902</td>
<td>Transport and interfacial phenomena, thermodynamics, catalysis and reactor design, optimization and process control, rheology and fluid mechanics, polymer science, biomedical engineering, enhanced oil recovery and cleanup of ground-water aquifers, biochemical reactor engineering</td>
</tr>
<tr>
<td></td>
<td>fax: 713-348-5478</td>
<td></td>
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<tr>
<td></td>
<td><a href="mailto:ceng@rice.edu">ceng@rice.edu</a></td>
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<td><a href="http://www.ruf.rice.edu/~che/">www.ruf.rice.edu/~che/</a></td>
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<tr>
<td>Civil and Environmental Engineering: Herb Ward</td>
<td>713-348-4949</td>
<td>Structural and foundation dynamics (e.g., earth-quake and offshore engineering), structural control, reinforced and prestressed concrete structures, application of probability theory to structural dynamics, experimental studies of structures, geotechnical engineering, and computer-aided engineering</td>
</tr>
<tr>
<td></td>
<td>fax: 713-348-5268</td>
<td></td>
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<tr>
<td></td>
<td><a href="mailto:civi@rice.edu">civi@rice.edu</a></td>
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<td><a href="http://www.ruf.rice.edu/~ceedept/">www.ruf.rice.edu/~ceedept/</a></td>
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<tr>
<td>Computational and Applied Mathematics: Bill Symes</td>
<td>713-348-4805</td>
<td>Operations research, mathematical programming, discrete and continuous optimization, numerical linear algebra, inverse problems, computational seismology, optimal design, partial differential equations, and numerical analysis</td>
</tr>
<tr>
<td></td>
<td>fax: 713-348-5318</td>
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<td><a href="mailto:caam@rice.edu">caam@rice.edu</a></td>
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<tr>
<td>Department</td>
<td>Phone, Fax, E-Mail, URL</td>
<td>Faculty Research Interests</td>
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<tr>
<td>Computer Science:</td>
<td>713-348-4834, fax: 713-348-5930, <a href="mailto:comp@rice.edu">comp@rice.edu</a>, <a href="http://www.cs.rice.edu/">www.cs.rice.edu/</a></td>
<td>Algorithms and complexity, artificial intelligence and robotics, compilers, distributed and parallel computation, graphics and visualization operating systems and programming languages</td>
</tr>
<tr>
<td>Keith Cooper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer</td>
<td>713-348-4020, fax: 713-348-5686, <a href="mailto:elec@rice.edu">elec@rice.edu</a>, <a href="http://www.ece.rice.edu/">www.ece.rice.edu/</a></td>
<td>Bioengineering, communications and signal processing, computer architecture and networking, electro-optics, and device physics</td>
</tr>
<tr>
<td>Engineering and Materials</td>
<td>713-348-4906, <a href="mailto:mems@rice.edu">mems@rice.edu</a>, <a href="http://www.mems.rice.edu/">www.mems.rice.edu/</a></td>
<td>Mechanical engineering: mechanics, computational mechanics, stochastic mechanics, fluid dynamics, heat transfer, dynamics and control, robotics, biomedical systems, and aerospace sciences. Materials science: nanotechnology, metals physics, statistical mechanics, metallic solid thermodynamics, materials chemistry, aspects of composites, coatings and thin films, and interface science</td>
</tr>
<tr>
<td>Science: Tayfun Tezduyar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics:</td>
<td>713-348-6032, fax: 713-348-5476, <a href="mailto:stat@rice.edu">stat@rice.edu</a>, <a href="http://www.stat.rice.edu/">www.stat.rice.edu/</a></td>
<td>Applied probability, Bayesian methods, bioinformatics, biomathematics, biostatistics, data analysis, data mining, density estimation, epidemiology, environmental statistics, financial statistics, image processing, model building, nonparametric function estimation, quality control, risk management, spatial temporal statistics, statistical computing, statistical genetics, statistical visualization, stochastic processes, and time series analysis</td>
</tr>
<tr>
<td>Katherine B. Ensor</td>
<td></td>
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<tr>
<td>SCHOOL OF HUMANITIES</td>
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</tr>
<tr>
<td>Education:</td>
<td>713-348-4826, ww.dacnet.rice.edu/Depts/Education/</td>
<td>Secondary education (See Education Certification below)</td>
</tr>
<tr>
<td>English: Susan Wood</td>
<td>713-348-4840, fax: 713-348-5991, <a href="mailto:engl@rice.edu">engl@rice.edu</a>, english.rice.edu/</td>
<td>Medieval through 20th-century English literature, American literature, and theoretical bases of literary criticism and genre theory</td>
</tr>
<tr>
<td>French Studies:</td>
<td>713-348-4851, <a href="mailto:fren@rice.edu">fren@rice.edu</a>, <a href="http://www.ruf.rice.edu/~fren/">www.ruf.rice.edu/~fren/</a></td>
<td>Medieval through contemporary literature. French literary theory, philosophy, and French cultural history</td>
</tr>
<tr>
<td>Michel Achard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic Studies:</td>
<td>713-348-5451, fax: 713-348-4863, <a href="mailto:span@rice.edu">span@rice.edu</a>, hispanicstudies.rice.edu</td>
<td>Medieval, golden age, and modern peninsular Spanish literature, modern Spanish American literature, Hispanic linguistics, second language acquisition, and semiotics and literary theory</td>
</tr>
<tr>
<td>Maarten Van Delden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History: Peter Carl Caldwell</td>
<td>713-348-4948, fax: 713-348-5207, <a href="mailto:hist@rice.edu">hist@rice.edu</a>, history.rice.edu/</td>
<td>Ancient, medieval history, modern British, French, German, and Balkan history, American Colonial history, Old and New South and Civil War history, legal, constitutional, intellectual, and recent history, military history, history of science, and East Asian and Latin American history</td>
</tr>
<tr>
<td>Linguistics: Masayoshi</td>
<td>713-348-6010, fax: 713-348-4718, <a href="mailto:ling@ruf.rice.edu">ling@ruf.rice.edu</a>, linguistics.rice.edu/</td>
<td>General and cognitive-functional linguistics, syntax and semantics, discourse analysis, typology, language description and change, and computational linguistics</td>
</tr>
<tr>
<td>Shibatani</td>
<td></td>
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</tr>
<tr>
<td>Philosophy: Steven Crowell</td>
<td>713-348-4994, <a href="mailto:philos@rice.edu">philos@rice.edu</a>, philosophy.rice.edu</td>
<td>History of philosophy, metaphysics, ethics, medical ethics, social and political philosophy, and philosophy of law, language, and science</td>
</tr>
<tr>
<td>Parsons</td>
<td></td>
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<tr>
<td>Department Chair</td>
<td>Phone, Fax, E-Mail, URL</td>
<td>Faculty Research Interests</td>
</tr>
<tr>
<td>-----------------------</td>
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</tr>
<tr>
<td><strong>JESSE H. JONES GRADUATE SCHOOL OF MANAGEMENT</strong></td>
<td></td>
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</tr>
<tr>
<td>Gilbert R.</td>
<td>713-348-4838</td>
<td>Earnings management, change communication, financial reporting, accounting standard setting</td>
</tr>
<tr>
<td>Whitaker, Jr. (Dean)</td>
<td>fax: 713-348-5251  <a href="mailto:ricemba@rice.edu">ricemba@rice.edu</a></td>
<td>in different countries, stock market volatility, corporate governance, strategic management, decision making, corporate finance, securities markets, marketing strategy, customer satisfaction, corporate performance measurement, customer choice and attitude models, new product diffusion models, service operations, management, computer–human interaction, international business and trade, business–government relationships, leadership, firm valuation, brand equity, and business ethics</td>
</tr>
<tr>
<td>Robert A. Westbrook</td>
<td>713-348-5396</td>
<td></td>
</tr>
<tr>
<td>(Associate Dean)</td>
<td>fax: 713-348-5251  jonesgsm.rice.edu/</td>
<td></td>
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<tr>
<td>Wilfred C. Uecker</td>
<td>713-348-6060</td>
<td></td>
</tr>
<tr>
<td>(Associate Dean)</td>
<td>fax: 713-348-5131  <a href="mailto:oed@rice.edu">oed@rice.edu</a></td>
<td></td>
</tr>
<tr>
<td><strong>SHEPHERD SCHOOL OF MUSIC</strong></td>
<td></td>
<td>Orchestral studies, performance, conducting, composition, theory, and music history</td>
</tr>
<tr>
<td>Robert Yekovich</td>
<td>713-348-4854</td>
<td></td>
</tr>
<tr>
<td>(Dean)</td>
<td>fax: 713-348-5317  <a href="mailto:musi@rice.edu">musi@rice.edu</a></td>
<td></td>
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<tr>
<td></td>
<td><a href="http://www.ruf.rice.edu/~musi/">www.ruf.rice.edu/~musi/</a></td>
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<tr>
<td><strong>WIESS SCHOOL OF NATURAL SCIENCES</strong></td>
<td></td>
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</tr>
<tr>
<td>Biochemistry and Cell Biology:</td>
<td>713-348-4015</td>
<td>Biochemistry, biophysics, developmental biology, cell biology, genetics, molecular biology, neurobiology, structure and function of nucleic acids and proteins, regulatory processes, biochemistry of lipids, enzymology, NMR and crystallography, cellular regulation, oxygen and electron transport, and molecular genetics of plants, animals, fungi, bacteria, and bacteriophage</td>
</tr>
<tr>
<td>Frederick Rudolph</td>
<td><a href="mailto:bioc@rice.edu">bioc@rice.edu</a></td>
<td></td>
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<td></td>
<td>dacnet.rice.edu/~bioc/</td>
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<tr>
<td>Chemistry:</td>
<td>713-348-5650</td>
<td>Synthesis and biosynthesis of organic natural products, synthesis of small cycloalkanes, molecular recognition and biological catalysis, bionorganic and organometallic chemistry, main group element and transition metal chemistry, high-pressure and high-temperature chemistry, fluorine chemistry, chemical vapor deposition, design of nanophase solids, molecular photo-chemistry and photophysics, infrared kinetic spectroscopy, laser and NMR spectroscopy, study of oriented molecular beams, theoretical and computational chemistry, and study of giant fullerene molecules, carbon nanotubes and their derivatives, polymer synthesis and characterization, molecular electronics, and molecular machines</td>
</tr>
<tr>
<td>Kenton Whitmire</td>
<td>fax: 713-348-5155  <a href="mailto:chem@rice.edu">chem@rice.edu</a></td>
<td></td>
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<tr>
<td></td>
<td><a href="http://www.chem.rice.edu/">www.chem.rice.edu/</a></td>
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</tr>
<tr>
<td>Ecology and Evolutionary Biology:</td>
<td>713-348-4919</td>
<td>Biogeochemistry, wetland ecology, plant community and population ecology, behavioral ecology, sociobiology, molecular evolution, insect diversity, and community structure</td>
</tr>
<tr>
<td>Ronald Sass</td>
<td>fax: 713-348-5232  <a href="mailto:eeb@rice.edu">eeb@rice.edu</a></td>
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<td>eeb.rice.edu/</td>
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</tr>
<tr>
<td>Earth Science:</td>
<td>713-348-4880</td>
<td>Marine geology and geophysics; sedimentology, stratigraphy, paleoceanography, palaeoclimatol-ogy, evolution of continental margins and carbonate platforms; tectonics, neotectonics, tectonophysics, geodynamics, mantle processes, planetology, and space geodesy; remote sensing, potential fields, reflection and lithospheric seismology, global seismology, wave propagation and inverse theory; kinetics of fluid-solid interactions, low T aqueous geo-chemistry, petrology, and high T geochemistry</td>
</tr>
<tr>
<td>Alan Levander</td>
<td>fax: 713-348-5214  <a href="mailto:geol@rice.edu">geol@rice.edu</a></td>
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<tr>
<td></td>
<td>earthscience.rice.edu/</td>
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</tr>
<tr>
<td>Mathematics:</td>
<td>713-348-4829</td>
<td>Differential and algebraic geometry, ergodic theory, partial differential equations, probability and combinatorics, real analysis, complex variables, and geometric and algebraic topology</td>
</tr>
<tr>
<td>Robin Forman</td>
<td>fax: 713-348-5231  <a href="mailto:math@rice.edu">math@rice.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>math.rice.edu/</td>
<td></td>
</tr>
</tbody>
</table>
INFORMATION FOR GRADUATE STUDENTS

Physics and Astronomy: 713-348-4938
F. Barry Dunning
physics@rice.edu
www.physics.rice.edu/

Atomic and molecular physics, biophysics, condensed matter and surface physics, nuclear and particle physics, theoretical physics, observational astronomy of star-forming regions, nebulae and galaxies, solar system studies, theoretical astrophysics and space plasma physics, and earth systems science

Anthropology: 713-348-4847
George Marcus
anth@rice.edu
www.ruf.rice.edu/~anth/

Archaeology, anthropological linguistics, social/cultural anthropology, theory, history, and global change

Economics: 713-348-4875
Peter Hartley
econ@rice.edu
www.ruf.rice.edu/~econ/

Applied microeconomics, economic theory, econometrics, public finance, industrial organization, game theory, monetary economics, labor economics, and micro foundations of macroeconomics

Political Science: 713-348-4842
T. Clifton Morgan
poli@rice.edu
www.ruf.rice.edu/~poli/

Comparative government and political development in Western Europe, American government including public policy, Congress and intergovernmental relations, and international relations and conflict

Psychology: 713-348-4856
Randi Martin
psyc@rice.edu
www.ruf.rice.edu/~psyc/

Cognitive psychology, cognitive neuropsychology, human factors, and industrial/organizational psychology

EDUCATION CERTIFICATION
Meredith Skura
713-348-4826
educ@rice.edu
education.rice.edu/

Secondary Education

Tuition, Fees, and Expenses

The tuition and fees for graduate students in this section are for the 2003–2004 academic year only and are subject to change in subsequent years. Current tuition and fees for all graduate students, full time and part time:

<table>
<thead>
<tr>
<th>Department Chair</th>
<th>Phone, Fax, and E-Mail</th>
<th>Faculty Research Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics and Astronomy: F. Barry Dunning</td>
<td>713-348-4938 fax: 713-348-4150 <a href="mailto:physics@rice.edu">physics@rice.edu</a> <a href="http://www.physics.rice.edu/">www.physics.rice.edu/</a></td>
<td>Atomic and molecular physics, biophysics, condensed matter and surface physics, nuclear and particle physics, theoretical physics, observational astronomy of star-forming regions, nebulae and galaxies, solar system studies, theoretical astrophysics and space plasma physics, and earth systems science</td>
</tr>
<tr>
<td>Anthropology: George Marcus</td>
<td>713-348-4847 fax: 713-348-5455 <a href="mailto:anth@rice.edu">anth@rice.edu</a> <a href="http://www.ruf.rice.edu/~anth/">www.ruf.rice.edu/~anth/</a></td>
<td>Archaeology, anthropological linguistics, social/cultural anthropology, theory, history, and global change</td>
</tr>
<tr>
<td>Economics: Peter Hartley</td>
<td>713-348-4875 <a href="mailto:econ@rice.edu">econ@rice.edu</a> <a href="http://www.ruf.rice.edu/~econ/">www.ruf.rice.edu/~econ/</a></td>
<td>Applied microeconomics, economic theory, econometrics, public finance, industrial organization, game theory, monetary economics, labor economics, and micro foundations of macroeconomics</td>
</tr>
<tr>
<td>Political Science: T. Clifton Morgan</td>
<td>713-348-4842 <a href="mailto:poli@rice.edu">poli@rice.edu</a> <a href="http://www.ruf.rice.edu/~poli/">www.ruf.rice.edu/~poli/</a></td>
<td>Comparative government and political development in Western Europe, American government including public policy, Congress and intergovernmental relations, and international relations and conflict</td>
</tr>
<tr>
<td>Psychology: Randi Martin</td>
<td>713-348-4856 fax: 713-348-5221 <a href="mailto:psyc@rice.edu">psyc@rice.edu</a> <a href="http://www.ruf.rice.edu/~psyc/">www.ruf.rice.edu/~psyc/</a></td>
<td>Cognitive psychology, cognitive neuropsychology, human factors, and industrial/organizational psychology</td>
</tr>
</tbody>
</table>

Tuition—

| all schools except Jones School | $19,700 | $ 9,850 | $1,096 |
| Jones School M.B.A. Start 2003 | $28,000 | $14,000 | $1,556 |
| Jones School M.B.A. Start 2002 | $24,500 | $12,250 | $1,362 |
| Jones School E.M.B.A. Start 2003 (2-year rate) | $72,000 |
| Jones School E.M.B.A. Start 2002 (2-year rate) | $65,000 |

Fees

| Health service | $ 330 | $ 165 |
| Graduate Student Association | $ 20 | $ 10 |
| Shuttle | $ 46 |
| Honor Council | $ 2 |
| Student Organizations Fund | $ 8 |
| Information technology | $ 100 |
| Jones School activities (Jones School only) | $ 70 |
Away Status. Students pursuing their studies outside of the Houston area (students on “away” status) must be registered and pay tuition but are not required to pay the fees listed above, with the exception of the information technology fee.

Reduced Tuition. After six semesters of full-time study in one degree program (excluding the summer semesters), continuing students enter a reduced-tuition category of $1,096 per year ($548 per semester). Students who are admitted with a relevant master’s degree, i.e., a master’s degree that counts toward a doctoral program at Rice, may become eligible for reduced tuition earlier than those entering a doctoral program without a relevant master’s degree. Semesters credited toward reduced tuition will be limited to one degree program. In extraordinary circumstances, the Office of Graduate Studies may consider petitions for exceptions.

Health Insurance. All students, full time or part time—including those on away status—must carry health insurance (see page 84).

Other Fees. Unless students elect a special payment plan, they must pay all tuition and fees for the fall semester by the middle of August, and for the spring semester by the end of the first week of January. Past these deadlines, a late payment penalty of $125 will be assessed.

Other fees applicable under special circumstances:

<table>
<thead>
<tr>
<th>Fee</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Preceptorship (per semester)</td>
<td>$190</td>
</tr>
<tr>
<td>Internship (per semester)</td>
<td>$190</td>
</tr>
<tr>
<td>Enrollment continuance fee (Study Abroad) (per semester)</td>
<td>$125</td>
</tr>
<tr>
<td>Graduate application fee</td>
<td>$ 35</td>
</tr>
<tr>
<td>Jones School application fee: M.B.A.</td>
<td>$100</td>
</tr>
<tr>
<td>Jones School application fee: E.M.B.A.</td>
<td>$100</td>
</tr>
<tr>
<td>Part-time registration fee</td>
<td>$105</td>
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<tr>
<td>Late registration fee</td>
<td>$100</td>
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<tr>
<td>Failure to preregister fee</td>
<td>$  50</td>
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<tr>
<td>Late course change fee</td>
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<tr>
<td>Adds:</td>
<td></td>
</tr>
<tr>
<td>Week 1–2</td>
<td>Free</td>
</tr>
<tr>
<td>Week 3–4</td>
<td>$ 10</td>
</tr>
<tr>
<td>Week 5 and after</td>
<td>$ 50</td>
</tr>
<tr>
<td>Drops:</td>
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<tr>
<td>Weeks 1–4</td>
<td>Free</td>
</tr>
<tr>
<td>Weeks 5–10</td>
<td>$ 10</td>
</tr>
<tr>
<td>Week 11 and after</td>
<td>$ 50</td>
</tr>
<tr>
<td>Deferred Payment Plan late fee</td>
<td>$ 30</td>
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<tr>
<td>Diploma fee: sheepskin</td>
<td>$ 90</td>
</tr>
<tr>
<td>Diploma fee: parchment</td>
<td>$ 30</td>
</tr>
<tr>
<td>Diploma fee: facsimile</td>
<td>$ 10</td>
</tr>
<tr>
<td>Diploma mailing fee: domestic</td>
<td>$ 20</td>
</tr>
<tr>
<td>Diploma mailing fee: air mail</td>
<td>$ 25</td>
</tr>
<tr>
<td>Transcript fee</td>
<td>$  7</td>
</tr>
<tr>
<td>Class III registration fee</td>
<td>$105</td>
</tr>
<tr>
<td>Class III late application fee</td>
<td>$  70</td>
</tr>
<tr>
<td>Class III late registration fee</td>
<td>$100</td>
</tr>
</tbody>
</table>
Intramural fee $ 15
Readmission fee: graduate students only $290
Reinstatement fee: graduate students only $ 85
Replacement ID $ 10

For more information, see Refund of Tuition and Fees (pages 52–53).

For $100 each, graduate students and their spouses may purchase from the Cashier’s Office an athletic events sticker, which admits them to all regularly scheduled Rice Athletic events.

Financial Aid

Fellowships, Scholarships, and Assistantships

A range of fellowships, scholarships, and assistantships are available at Rice. Most graduate students in degree programs requiring a thesis are supported by fellowships or research assistantships.

Rice Graduate Fellowships. Doctoral students with high academic records and strong qualifications receive support through Rice fellowships. In most cases, these fellowships provide a stipend plus tuition for the nine-month academic period. Departments may nominate particularly outstanding entering students for a Rice Presidential Fellowship.

Rice Graduate Tuition Scholarships. Students whose previous records show marked promise but for whom no graduate fellowships are available may receive full or partial graduate tuition scholarships, which do not include a stipend.

Research and Teaching Assistantships. Usually funded from grants and contracts, research assistantships are available in many departments. Qualified students (usually second-year or later) receive these awards to provide assistance on faculty research projects, work that usually contributes to the student’s own thesis. In some departments, a limited number of teaching assistantships may be available to advanced students.

Eligibility. Fellowship, scholarship, and assistantship recipients are selected by the individual departments, subject to the approval of the Office of Graduate Studies. Students should send their applications for such awards directly to the department involved.

To receive Rice fellowships, graduate tuition scholarships, or assistantship aid, students must be engaged in full-time graduate study; part-time students and students who are not enrolled are not eligible for such aid.

Students receiving stipends from fellowships or assistantships may not accept any regular paid employment on or off campus without the explicit permission of the department. Full-time students, whether receiving stipend support or not, may not accept paid employment in excess of 20 hours per week.

Loans and Work-Study Financial Aid

In addition to fellowships, scholarships, and assistantships, the Office of Student
Financial Services offers assistance in the form of loans and federal work-study employment. Interested students must file a Free Application for Federal Student Aid (FAFSA) and a Rice Graduate Financial Aid Application.

To be eligible to apply for loans and federal work-study employment, graduate students must maintain satisfactory academic progress as defined by their departments. Should a graduate student fail to make satisfactory academic progress, the student’s aid eligibility will be terminated. Graduate students who enroll for less than 5 hours in a term will not be eligible for financial aid.

**Stafford Student Loans.** These are low-interest loans made to students attending the university at least half-time. Subsidized Stafford loans require need-based financial aid eligibility, but unsubsidized Stafford loans are available to all students. Stafford loan eligibility is subject to annual and lifetime borrowing limits.

**Federal Work-Study Employment.** Federal work-study employment funding is available to students who meet eligibility criteria set by the federal government. Earnings are limited to the amount shown on the award letter. A limited number of awards are offered to graduate students.

**Private Loan Programs.** Private loans are available to graduate and MBA students. These loans are not based on need but do require credit approval from the lender and cannot exceed the student’s cost of education, as determined by Rice, minus other resources.

**Special Loan Programs.** A Gulf Oil Corporation Foundation Loan Fund and the Benjamin S. Lindsey and Veola Noble Lindsey Memorial Loan Fund are available to help students working toward a degree meet their educational expenses, but funds are limited. Interested students may contact the Office of Student Financial Services.

**The Mary Lyn and Niles Moseley Loan Fund and the Professor John A. S. Adams, Sr., Memorial Graduate Student Loan Fund.** These funds provide financial assistance, in the form of loans, to graduate students at Rice University. Students wishing to apply for such a loan should obtain an application from the Office of Student Financial Services and return the completed application to that office. Guidelines for the program are:

- Individual loans are made for an amount not to exceed $1,500.
- Loans are made for a period of up to one year and, upon request, may be renewable annually.
- The interest rate applicable to these loans is determined by the university.
- Graduate students must be enrolled on a full-time basis to be eligible to apply for a loan and must maintain full enrollment during the full term of the loan.
- Upon completion, applications are submitted to the vice provost for research and graduate studies for approval.
- Loans are available during the full course of the academic year.
- Loans must be repaid before graduation.

**Emergency Loan Fund.** Established through gifts from the Graduate Wives Club of 1972–73, the Graduate Student Association, and various faculty members, this fund makes available emergency loans to help graduate students at Rice with short-term needs. Loans are limited to $250 and must be repaid within three months. In lieu of interest, a charge of $5 per loan is assessed to maintain the fund.

**Other Fellowships, Honors, and Prizes.** Provisions are made for a variety of
fellowships, scholarships, and prizes available to graduates of this and other universities. Memorial fellowships that have been founded and endowed by gift or bequest on the part of friends of Rice University provide stipends enabling the holders to devote their time to study and research in their chosen fields. There are also several industrial fellowships maintained by companies interested in the development of technical fields and the training of competent scientists, engineers, and business executives.

Persons desiring consideration for appointment as fellows should consult with the department in which they wish to do research. However, not all fellowships are available every year.

Return of Title IV Funds. Students who receive federal funds as part of their aid packages and do not complete the academic term may be subject to returning a portion of those funds. Contact student Financial Services for information about policies and procedures regarding the return of Title IV funds.

Graduate Student Life

Graduate Student Association

All full-time students in the graduate program are members of the Graduate Student Association, which is the sole organization representing graduate students as a body. The governing body of this organization is the Graduate Student Association Council, consisting of a representative from each department offering graduate study and a president, vice president, secretary, and treasurer elected by the council. Graduate students also participate in university affairs through their representatives on many standing and ad hoc university committees, such as the Graduate Council, the Research Council, and various department committees.

One of the functions of the Graduate Student Association is to encourage social interaction among graduate students from different departments. To that end, the association organizes a variety of social activities open to all members of the graduate student body.

Housing for Graduate Students

The Rice Graduate Apartments are housed in a garden-style complex located on a 2.7-acre site just north of campus. The project features attractive landscaping and good lighting in all common areas, designed to enhance both the security and the aesthetics of pedestrian, bike, auto paths, parking, and recreational areas. Electronically controlled gates for both pedestrian and vehicular paths are provided. Handicap accessibility also is an important feature. A shuttle bus travels back and forth between the apartments and campus.

There are 112 units, including one-bedroom, two-bedroom, four-bedroom, and efficiency apartments. The complex is designed with a centrally located space for social activities, a laundry room on each floor, a study room equipped with computers, enclosed areas with locks for bike racks, and two courtyards. Every apartment has a living area, a fully equipped kitchen, cable TV connection, and a network drop for a personal computer. Housing is assigned on a space-available basis. Call 713-348-GRAD (4723) for further information.

The Morningside Square Apartments are two-story 1950s-vintage units located in a quiet neighborhood adjacent to Rice Village. They are within a short walking distance to campus, restaurants, and shopping areas. The complex is attractively landscaped and
offers gated and covered parking.

There are 53 units, including one-bedroom, two-bedroom, and three-bedroom apartments. The common hallways, bedrooms, and living rooms feature oak hardwood flooring. Kitchens are equipped with a refrigerator and gas range. All units have ceiling fans, a gas furnace, and window air conditioners. Basic cable TV is provided, and a coin-operated laundry is available on site. Apartments are assigned on a space-available basis. Call 713-524-1275 for further information.

The Information Desk, the Office of Student Activities, and the Graduate Student Association keep records of available rooms and apartments listed with the university by area landlords. The daily newspaper and a weekly Greensheet are other sources of rental housing information. Incoming graduate students should arrive in Houston several days early to allow themselves time to find suitable housing.

Health Insurance Requirements for Graduate Students

Paying the student health service fee gives graduate students access to both the Student Health Service and Rice Counseling Center (see pages 13–15). New graduate students may not register for or attend classes until they have completed and returned the health data form to Rice and have met the immunization and TB screening requirements.

All graduate students must have health insurance purchased through Rice or provided by an outside source. Students may purchase insurance through the university at two levels of coverage. Rice’s group coverage for the 2003–2004 academic year is effective from 12:01 A.M., August 15, 2003, until 12:01 A.M. August 15, 2004. Dependent coverage is also available. A description of the policy and the application form can be found on the Web at http://studenthealthinsurance.rice.edu. A waiver form, if outside insurance is provided, also can be found at this site. Students should submit either the application or waiver by August 15 each year.

Class III Students in Nondegree Programs

Students with a 3.00 (B) or better grade average and an undergraduate or graduate degree from an accredited college or university may apply for admission as Class III students. These students may take courses for credit without being admitted to a specific degree program. Registration requires the permission of the instructor and approval by the vice provost for research and graduate studies. All Class III applications to accounting and management courses require approval of the Jesse H. Jones Graduate School. Class III students must register for at least 3 hours and cannot take courses on a pass/fail or satisfactory/unsatisfactory basis. Class III students must receive at least a B for all classes taken or they will not be allowed to remain in the Class III program.

Students may not use courses taken under this arrangement to fulfill the requirements for a Rice degree unless and until they have been accepted into a degree program by an academic department (as well as, in the case of graduate students, by the vice provost for research and graduate studies) and received department approval; students are responsible for obtaining the proper approvals. Students may request that the department allow up to 3 courses taken as Class III to count toward their graduate degree.

Applications for Class III

Applications and course request forms are available from the Office of Graduate Studies. Official transcripts from all colleges and universities the student has attended
should be mailed directly by the institutions to the Office of Graduate Studies. Students who were previously Class III students must complete a new application (without transcripts) for each such semester. All application materials are due by the workday closest to August 1 for fall semester courses and December 1 for spring semester courses. Late applications are not considered after classes have begun. Individuals applying as Class III students for the summer term should apply to the Summer School for College Students (see pages 44–45).

**Tuition and Fees for Class III**

The tuition for 2003–2004 is $1,096 per semester hour, plus a $105 registration fee each semester. All fees are payable during registration, which students must complete during the second week of class. Students failing to submit their applications by the deadline must pay a late application fee of $70, and students registering after the second week of class must pay a $100 late registration fee and may also have to pay a late payment fee. For some courses, students may be charged for computer time. If a class fills with degree students, instructors may drop Class III students up to the end of the third week of class. In that case, the tuition (less $30 of the registration fee) will be refunded. Please see pages 44–45 for information pertaining to summer school.
Ancient Mediterranean Civilizations

The School of Humanities

Director and Adviser
Michael Maas

Professors
James D. Faubion
Werner H. Kelber
Michael Maas
Roderick J. McIntosh
Susan Keech McIntosh
Donald Ray Morrison
Harvey E. Yunis

Associate Professors
Hilary S. Mackie
Carol E. Quillen
Paula Sanders

Assistant Professors
David Cook
Eva Haverkamp
Matthias Henze
Scott McGill
Caroline Quenemoen

Lecturer
Kristine Gilmartin Wallace

Andrew W. Mellon Postdoctoral Fellow
Michael Decker

Degree Offered: B.A.

This interdisciplinary major in the cultures of ancient Greece and Rome, Judaism, early Christianity, and early Islam, as well as their antecedents, explores these traditions both for their intrinsic interest and for the contributions each has made to contemporary Western society. This combined focus on ancient cultural history in its broadest sense and on perspectives offered by cultural criticism enables students to examine the beginnings of the civilization in which they now participate.

Courses for this major address common questions about the transmission and transformation of cultures in the ancient Mediterranean world. Students examine sources, such as texts, artifacts, and institutions, that illuminate the process. They study how shifting cultural centers and frontiers in this world are delineated, and they explore the general integration and disintegration of specific ancient cultures. This major also offers opportunities for archaeological fieldwork and study abroad.

Rice is a sponsor of the American School of Classical Studies at Athens, the American School of Oriental Research, and the Intercollegiate Center for Classical Studies in Rome. Students majoring in Ancient Mediterranean Civilizations are encouraged to study in these programs as well as in the College Year in Athens program.

Degree Requirements for B.A. in Ancient Mediterranean Civilizations

For general university requirements, see General Graduation Requirements (pages 20–23). Majors in Ancient Mediterranean Civilizations must compete at least 30 semester hours (10 courses). Students must take a core course (AMC 200, CLAS 207, or CLAS 208) near the beginning of their studies, and may select from the following courses to fulfill their requirements for the major.
Students must take one course from three of the five following categories: 1) Graeco-Roman Civilization, 2) Islamic Civilization, 3) Jewish Civilization, 4) Christian Civilization, and 5) Archaeological Methods & Theory. In addition, students must take one course that addresses the creation, transmission, and reception of traditions in the Mediterranean world. Courses that meet this requirement are designated as “Themes Across Time.”

Students must also fulfill a comparative requirement by taking either one course that, in and of itself, treats two different cultural traditions (designated “Comparative”) or two separate courses on similar themes but from different cultures (e.g., Women in Greece & Rome, Women in the Islamic World). Although not required, courses in ancient languages are recommended. A minimum of five courses must be taken at the 300 level or above.

Please note that not all courses listed below will be offered during the academic year. For a current list of all AMC courses that will be offered in fall 2003 and spring 2004, please visit the AMC web site at http://amc.rice.edu.

Core Courses
AMC 200 Origins of Western Civilization
CLAS 207 Greek Civilization: From Homer to Alexander the Great
CLAS 208 Roman Civilization

Graeco-Roman Civilization
AMC 200 Origins of Western Civilization
ANTH 325 Self, Sex, and Society in Ancient Greece
ANTH 363 Early Civilizations
ANTH 377 The Ancient City
CLAS 101 First-Year Seminar: Socrates: The Man & His Philosophy
CLAS 207 Greek Civilization: From Homer to Alexander the Great
CLAS 208 Roman Civilization
CLAS 209 Greek & Roman Drama
CLAS 212 Classical Civilization: Rome
CLAS 220 The Novel in Classical Antiquity
CLAS 222 Perspectives on Greek Tragedy
CLAS 225 Women in Greece & Rome
CLAS 312 Greek Art & Architecture
CLAS 315 Roman Art & Architecture
CLAS 316 Democracy & Political Theory in Ancient Greece
CLAS 318 The Invention of Paganism in the Roman Empire
CLAS 335 Myth & Storytelling: Ancient, Medieval, & Modern Traditions
CLAS 337 Epic & Novel
CLAS 351 Epic & Saga

GREE 101 Introduction to Ancient Greek I
GREE 102 Introduction to Ancient Greek II
GREE 201 Intermediate Greek I: Prose
GREE 202 Intermediate Greek II
GREE 301 Advanced Greek I
HART 205 Architecture & the City I: Antiquity through the 17th Century
HART 310 The First Civilizations
HART 312 Greek Art & Architecture
HART 313 The Discovery of the Mind
HART 315 Roman Art & Architecture
HART 417 Buried Cities: The Art & Architecture of Akrotiri, Pompeii, & Herculaneum
HIST 113 God, Time & History
HIST 151 First Seminar: The Hero & His Companion from Gilgamesh to Sam Spade
HIST 200 Origins of Western Civilizations
HIST 202 Introduction to Medieval Civilization I: The Early Middle Ages
HIST 207 Greek Civilization: From Homer to Alexander the Great
HIST 289 Greek & Latin Readings
HIST 307 Imperial Rome from Caesar to Diocletian
HIST 308 The World of Late Antiquity
HIST 316 The Invention of Paganism in the Roman Empire
HIST 325 Introduction to Medieval Civilization I: The Early Middle Ages (enriched version)
HIST 460 Advanced Seminar in Ancient History
LATI 101 Elementary Latin I
LATI 102 Elementary Latin II
LATI 201 Intermediate Latin I: Prose
LATI 202 Intermediate Latin II
LATI 301 Advanced Latin I: Literature of Exile in the Roman Tradition
LATI 302 Advanced Latin: Roman Epic
LATI 303 Advanced Latin: Cicero & Catullus
LATI 310 Advanced Latin: Virgil
LATI 311 Latin Pastoral Poetry
LATI 312 Advanced Latin: Ovid
LATI 313 Advanced Latin: Literature & Society in the Latin Republic & Catullus

Islamic Civilization
HIST 281 Pre-Modern Middle East History: The Middle East from the Prophet Muhammad to Muhammad Ali
RELI 141 Introduction to Islam
RELI 221 The Life of the Prophet Muhammad
RELI 350 Scriptures in Monotheistic Faiths
RELI 354 Asian Apocalyptic Movements
RELI 441 Popular Religion & Magic

Jewish Civilization
HIST 445 Jews & Christians: Perceptions of the Other
RELI 350 Scriptures in Monotheistic Faiths

Christian Civilization
HIST 445 Jews & Christians: Perceptions of the Other
RELI 122 The Bible & Its Interpreters
RELI 125 Introduction to Biblical Hebrew I
RELI 126 Introduction to Biblical Hebrew II
RELI 127 Intermediate Biblical Hebrew Hebrew III
RELI 128 Intermediate Biblical Hebrew Hebrew IV
RELI 200 The Bible in Western Tradition
RELI 223 Qu’ran & Commentary
RELI 308 Canonical Gospels: Narrative & Social Setting
RELI 350 Scriptures in Monotheistic Faiths
RELI 354 Asian Apocalyptic Movements
RELI 383 The Dead Sea Scrolls
RELI 410 Apocalypse Then & Now

Archaeological Methods & Theory
ANTH 203 Human Antiquity: An Introduction to Physical Anthropology & Prehistory
ANTH 205 Introduction to Archaeology
ANTH 345 The Politics of the Past: Archaeology in Social Context
ANTH 362 Archaeological Field Techniques
ANTH 363 Early Civilizations
ANTH 377 The Ancient City
ANTH 425 Advanced Topics in Archaeology
ANTH 460 Advanced Archaeological Theory
ANTH 474 Advanced Seminar on the Prehistoric Landscape

Themes Across Time
AMC 200 Origins of Western Civilizations
ANTH 363 Early Civilizations
HART 310 The First Civilizations

Comparative
CLAS 225 Women in Greece & Rome
HIST 445 Jews & Christians: Perceptions of the Other

Other Courses
HART 101 Introduction to the History of Western Art: Prehistoric to Gothic
PHIL 201 History of Philosophy I
PHIL 301 Ancient & Medieval Philosophy
PHIL 307 Social & Political Philosophy
PHIL 327 History of Social & Political Philosophy
PHIL 501 Seminar in Ancient & Medieval Philosophy

See AMC in the Courses of Instruction section.
Degrees Offered: B.A., M.A., Ph.D.

The major in anthropology has 2 areas of concentration: cultural anthropology and archaeology. The focus in cultural anthropology is on contemporary theoretical issues. By reading primary sources, students gain an exposure to the styles of argument and reasoning of a broad range of theorists. They can then engage in the ongoing discussion and definition of central problems within the field. Fieldwork and ethnography are important in the doctoral research.

In archaeology, the focus is on research skills in the library, the field, and the laboratory. Most students also develop at least one analytical skill, such as remote sensing, archaeological statistics, osteology, or geomorphology, drawing on the university’s extensive laboratory and computer facilities.

Students may organize a major in one or both fields or combine a major in anthropology with one in another discipline.

Degree Requirements for B.A. in Anthropology

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in anthropology must:

• Complete a total of 30 semester hours of departmental courses (10 courses), at least 18 of which should be at the 300 level or above
• Have a plan of study approved by the undergraduate adviser

With department approval, students may substitute for departmental courses at most 6 hours of courses from outside the major that are related to their plan of study. The department recommends that students intending to pursue graduate study acquire a reading knowledge of 1 or 2 European languages.

Honors Program. Majors considering a career in anthropology should apply to the honors program, as should those who wish to include advanced training and an intensive, individual research project in their undergraduate education. Anthropology faculty determine acceptance into the program. More information is available from the department office; see also Honors Programs (page 34).
Degree Requirements for M.A. and Ph.D. in Anthropology

Because each field of specialization offers different opportunities for training and different research orientations, the department seeks applicants with a defined interest in either cultural anthropology or archaeology; an undergraduate background in anthropology is desirable but not required. Entering students devise a detailed first-year plan of study and provisional plans for succeeding years in consultation with an adviser. The plan should emphasize broad training in the selected field before the eventual definition of a project for dissertation research. For general university requirements, see Graduate Degrees (pages 65–70).

M.A. Program. Graduate students may earn the M.A. after obtaining approval of their candidacy for the Ph.D. For the M.A. as a terminal degree, students must complete:
• 30 semester hours of approved course work
• 1 of the 3 special papers required for the Ph.D.
• A thesis

Ph.D. Program. For the Ph.D. degree, students must accomplish the following:
• Complete 3 substantial papers, each emphasizing an analytical, research, and writing skill appropriate to their field of specialization (should be completed during the first two years of study)
• Demonstrate reading competency in 1 foreign language
• Prepare a satisfactory proposal for dissertation research, based in substantial part on field research
• Complete and defend the dissertation

Special Options. The department will arrange seminars and tutorials on any topic relevant to a student’s training; these seminars may be conducted in supervisory consultation with scholars in other disciplines as well as with adjunct faculty. Students interested in the specialized field of medical anthropology may take advantage of the extensive resources of the Texas Medical Center through ties established with the University of Texas School of Public Health and Graduate School of Biomedical Sciences; students may earn degree credit for formal courses taken at both schools.

Financial Support. All first-year students receive the same level of support: a combination of graduate fellowships and tuition scholarships. These awards are renewed for a further two years of study.

See ANTH in the Courses of Instruction section.
Architecture

The School of Architecture

Dean
Lars Lerup

Associate Dean
John J. Casbarian

Professors
William T. Cannady
Albert H. Pope
Gordon G. Wittenberg, Jr.

Associate Professors
John Biln
Farès el-Dahdah
Carlos Jimenez
Sanford Kwinter
Spencer W. Parsons

Assistant Professors
David Brown
Dawn Finley
Christopher Hight
Keith Krumwiede
Nana Last

Lecturers
Louis DeLaura

Alan Fleishacker
James Furr
Nonya Grenader
Tom Lord
Mark Oberholzer
Frank S. White

Adjoint Lecturer
Stephen Fox

Visiting Critics
David Guthrie
Doug Oliver
William Williams

Visiting Professor
Danny M. Samuels
Mark Wamble

Wortham Fellow in Architecture
Sean Lally

Degrees Offered: B.A., B.Arch., M.Arch., M.Arch. in Urban Design, D.Arch.

The principal goal of the School of Architecture is to contribute to a more humane environment. The school focuses on teaching and research, the development of a broad liberal education for undergraduates in the allied sciences and arts of architecture, and professional graduate and postgraduate education in architecture and urban design. Intimate student-faculty interaction, academic freedom, and unrestricted institutional cooperation within and outside the university are distinctive qualities of the architecture degree programs at Rice.

“In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degree: the Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Masters degree programs may consist of a pre-professional undergraduate degree and a professional degree, which, when earned sequentially, comprise an accredited professional education. However, the professional degree is not, by itself, recognized as an accredited degree.” —National Architectural Accrediting Board
The undergraduate programs maintain a balance between academic studies and professional practice. Lectures and other public programs, visiting faculty, scholarly presentations, and the Preceptorship Program, which provides a one-year internship in outstanding architectural offices throughout the U.S., Europe, and Japan, all complement the school’s core of distinguished teachers and practitioners.

The graduate programs have three areas of emphasis: architectural design, with particular attention paid to history, theory, and practice; urban design, where the concern is the emerging form of the American city; and research in computer visualization, which uses the resources of the state-of-the-art Rice Advanced Visualization Lab.

Degree Requirements for B.A. in Architecture or Architectural Studies

For general university requirements, see Graduation Requirements (pages 20–23). The conditions specified here for each major also satisfy the university distribution requirements.

**B.A. in Architecture.** The curriculum for architecture majors is divided into a foundation sequence taken in the freshman and sophomore years and a preprofessional sequence taken in the junior and senior years. The foundation sequence consists of four semesters of design studios and other related courses in architecture. The first-semester studio develops basic design skills through directed explorations and problem-solving exercises in form, texture, color, material, and structures. In the subsequent 3 studios, through a carefully sequenced series of exercises, students are introduced to a broad range of architectural design issues, processes, and methods. Students are required to take 4 courses in the history and theory of art and architecture during the freshman and sophomore years in addition to two semesters of architectural technology. They must also complete university distribution requirements. It is recommended that students take an introductory drawing course during their first two years of study to develop visual skills.

Students who satisfactorily complete the foundation sequence may, upon approval of their major, enter the junior and senior year preprofessional sequence. The fall studios for the third and fourth years are organized around the workshop model and emphasize complex building/computer applications and urban design issues, respectively. The spring studios are vertically integrated, allowing students to select offerings emphasizing specialized design topics such as technology, landscape, historical precedent, and urban design. During the third and fourth years, students are required to take 2 additional technology courses and to fulfill all remaining school or university distribution requirements. Students wishing to pursue the professional degree in architecture may apply for admission to the Bachelor of Architecture (B.Arch.) degree program during the second semester of the fourth year.

**B.A. in Architectural Studies.** Students who have been admitted as architecture majors and who have successfully completed the two-year foundation program may choose the architectural studies curriculum. The first four semesters of the curriculum are identical to the foundation sequence of the architecture major except for the omission of 1 technology course. Subsequent requirements are the completion of 1 additional studio and 4 elective courses in architecture. The program provides basic preparation for later professional study while allowing students to pursue other academic interests in depth.
Typical Curriculum for B.A. in Architecture

First Semester
ARCH 101 Principles of Architecture I
HART 101 Introduction to History of Art
PHYS 101 Mechanics (with lab)
LPAP 101 Lifetime Physical Activities
Approved architecture-restricted distribution course in humanities

Second Semester
ARCH 102 Principles of Architecture I
ARCH 132 Freshman Seminar
HART 102 Introduction to History of Art
LPAP 102 Lifetime Physical Activities
MATH 101 Single Variable Calculus
Approved architecture-restricted distribution course in humanities

Third Semester
ARCH 201 Principles of Architecture II
ARCH 207 Introduction to the Design of Structures
ARCH 345 Architecture and the City I
Studio Art Elective*
Elective*

Fourth Semester
ARCH 202 Principles of Architecture II
ARCH 214 Design of Structures II
ARCH 346 Architecture and the City II
Approved architecture-restricted distribution course in social sciences
Elective*

Fifth Semester
ARCH 301 Principles of Architecture III
ARCH 315 Building Climatology
Architectural Theory Elective
Elective*

Sixth Semester
ARCH 302 Principles of Architecture III
ARCH 316 Design of Structures III
Elective*
Elective*

Seventh Semester
ARCH 401 Principles of Architecture IV
Elective*
Elective*
Elective*

8th Semester
ARCH 402 Principles of Architecture IV
Elective*
Elective*
Elective*

*All courses must be selected to satisfy both architecture major requirements and university distribution requirements.

Degree Requirements for a Bachelor of Architecture (B.Arch.)

The Bachelor of Architecture program is only open to students who have completed the undergraduate preprofessional architecture program at Rice. Upon admission, students are assigned a preceptorship, which takes place immediately after receipt of the Bachelor of Arts in Architecture degree. The preceptorship program balances academic learning with professional experience. Qualified students who have been admitted to the B.Arch. degree program are assigned to work for a year in the United States or abroad with leading architectural offices designated by the school as preceptors. The B.Arch. degree requires the successful completion of the B.A. in architecture, completion of the two-semester preceptorship, and completion of 2 graduate studios and 5 approved lecture or seminar courses.
The Master of Architecture (M.Arch.) program prepares graduates for a full range of professional activities in the field of architecture. It is offered to individuals who possess a bachelor’s degree. Students follow a course of study in all four areas of the curriculum: design; history, theory, and criticism; structures, practice, and environments; and computing, logic, and representation. These areas of study are sustained by groups of courses from which students may choose offerings according to the requirements of their particular program. Strong emphasis is given to developing design skills, logic, and imagination through an intensive series of design studio courses. Students are also required to prepare an independent thesis before graduating. A potential exists for dual degrees.

The Master of Architecture program is accredited by the National Architectural Accrediting Board (NAAB). It leads to the degree of Master of Architecture, which qualifies graduates to take the state professional licensing examination after completing the required internship in an architectural office.

Programs of Study. Three program options are available at the Master of Architecture level. Options 1, 2, and 3 differ according to the bachelor’s degree received before entering the graduate program.

Option 1: Seven-Semester Program. Option 1 is offered to individuals who hold a four-year undergraduate degree with a major in a field other than architecture. Preference for admission is given to those who have completed a balanced education in
the arts, sciences, and humanities. A minimum of two semesters of college-level courses in the history of art and/or architecture are recommended; so is a minimum of one semester of college-level courses in mathematics and physics. Previous preparation in the visual arts is also desirable and so are courses in philosophy, literature, and economics.

To graduate, students must complete a four-semester core curriculum (76 credit hours), which is followed by a three-semester advanced curriculum (57 credit hours). Course work in both core and advanced curricula consists of 7 studios and 20 distribution courses (133 credit hours).

### Core Curriculum

#### First Semester
- ARCH 501 *Core Design Studio I*
- ARCH 507 *Introduction to Design of Structures II*
- ARCH 633 *Introduction to Computer Applications in Architecture*
- ARCH 685 *Architecture and Society I*

#### Second Semester
- ARCH 502 *Core Design Studio II*
- ARCH 514 *Design of Structures II*
- ARCH 636 *Computer Aided Design in Architecture*
- ARCH 686 *Architecture and Society II*

#### Third Semester
- ARCH 503 *Core Design Studio III*
- ARCH 515 *Design of Structures III*
- ARCH 683 *20th-Century History of Ideas in Architecture*
- Dist. Elective (Comp., Log., and Repr.)

#### Fourth Semester
- ARCH 504 *Architectural Problems*
- ARCH 516 *Building Climatology*
- ARCH 623 *Professionalism and Manag. in Architecture*
- Dist. Elective (Hist., Theory, and Crit.)

### Advanced Curriculum

#### Fifth Semester
- ARCH 601 *Architectural Problems*
- Dist. Elective (Hist., Theory, and Crit.)
- Dist. Elective (Comp., Log., and Repr.)
- Elective

#### Sixth Semester
- ARCH 602 *Architectural Problems*
- ARCH 702 *Pre-Thesis Preparation*
- Dist. Elective (Struct., Pract., and Env.)
- Elective

#### Seventh Semester
- ARCH 703 *Thesis Studio* or equivalent
- Elective
- Elective

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**Option 2: Five-Semester Program.** Option 2 is offered to individuals who hold a four-year undergraduate degree with a major in architecture. Preference for admission is given to those who have successfully completed between four and six semesters of undergraduate design studio as well as undergraduate courses that are analogous to those given in the first year of Option 1. A minimum of two semesters of college-level courses in the history of art and/or architecture are recommended; so is a minimum of one semester of college-level courses in mathematics and physics.

Students in this program enter into the second year of the core curriculum (two semesters, 38 credit hours), followed by the advanced curriculum (three semesters, 57 credit hours). Course work in both core and advanced curricula consists of 5 studios (including thesis) and 14 distribution courses (95 credit hours).
Option 3: Three-Semester Program. Option 3 is offered to individuals who hold a professional degree in architecture (B.Arch.), or its equivalent from a foreign university. Preference for admission is given to those who have significant practical experience in architecture and who have demonstrated high achievement in design.

To graduate, students must complete a three-semester advanced curriculum of elective courses. Course work consists of 3 studios (including thesis) and 8 distribution courses (57 credit hours).

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>ARCH 503 Core Design Studio III</td>
<td>ARCH 504 Architectural Problems</td>
</tr>
<tr>
<td>ARCH 515 Design of Structures III</td>
<td>ARCH 516 Building Climatology</td>
</tr>
<tr>
<td>ARCH 683 20th-Century History of Ideas in Architecture</td>
<td>ARCH 623 Professionalism and Manag. in Architecture</td>
</tr>
<tr>
<td>Dist. Elective (Comp., Log., and Repr.)</td>
<td>Dist. Elective (Hist., Theory, and Crit.)</td>
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Advanced Curriculum

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Fourth Semester</th>
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<tr>
<td>ARCH 601 Architectural Problems</td>
<td>ARCH 602 Architectural Problems</td>
</tr>
<tr>
<td>Dist. Elective (Hist., Theory, and Crit.)</td>
<td>ARCH 702 Pre-Thesis Preparation</td>
</tr>
<tr>
<td>Dist. Elective (Comp., Log., and Repr.)</td>
<td>Dist. Elective (Struct., Pract., and Env.)</td>
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<td>Elective</td>
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<tr>
<th>Fifth Semester</th>
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<tr>
<td>ARCH 703 Thesis Studio*</td>
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<tr>
<td>Elective</td>
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<td>Elective</td>
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<td>*or an approved alternative</td>
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Thesis Requirement. All M.Arch. candidates are required to develop a thesis in partial fulfillment of graduate degree requirements. Students are asked to demonstrate their ability to independently undertake research and analysis as well as develop a hypothesis and a thorough demonstration of the thesis. This must take the form of either a research thesis (written thesis) or a thesis with a design demonstration (design thesis). Both thesis formats must address architectural consequences that may be derived from within or outside conventional boundaries of the architectural discipline.

Thesis preparation begins in the next-to-last semester with a 3-hour independent study course leading to the submission of a thesis proposal and the selection of a thesis director plus two faculty members as readers. While the thesis is independent work carried out by the student under the direction of a chosen adviser, it is organized as a studio in the fall term of the academic year. The thesis studio provides a support setting...
for both formal and informal review processes throughout the thesis semester. In early January, thesis projects are reviewed by a panel of guest critics and publicly presented in the Farish Gallery.

**Master of Architecture in Urban Design**

The Master of Architecture in Urban Design (MAUD) program prepares graduates for a full range of professional activities in the field of urban design. It is offered to individuals who already hold a professional degree qualifying them for registration as architects or landscape architects. The MAUD program makes extensive use of Houston as a setting for case studies and design problems. During the first year, strong emphasis is given to developing design skills, logic, and imagination through an intensive series of urban design studio courses. Three additional courses in urban history, planning, and design are required each semester. Students are also required to prepare an independent thesis during their third semester.

**Doctor of Architecture**

Admission to the Doctor of Architecture program requires either a bachelor’s or master’s degree in architecture and a detailed statement of research concerns and anticipated array of investigation. A student entering with a master’s degree normally takes three semesters of course work before the qualifying examination. A student with a bachelor’s degree normally requires two to five semesters of course work before the qualifying examination. Preparation for doctoral candidacy may include a foreign language or computer skills. Specific course requirements are established individually when a student is admitted to the program.

After successful completion of all required course work, students may apply to take the qualifying examination after submitting a prospectus outlining their research programs for the doctoral dissertation. The dissertation must represent an original contribution to knowledge in the field of architecture. Completion and successful defense of the dissertation will take a minimum of one year. University requirements for thesis (dissertation) preparation and defense must be carefully followed. The time limit for successful defense of the dissertation is established by university policy. Students should not expect to complete the Doctor of Architecture program in less than four years of full-time study.

**See ARCH in the Courses of Instruction section.**
Art History

The School of Humanities

Chair
Hamid Naficy

Professors
Joseph Manca
Hamid Naficy

Associate Professor
Linda E. Neagley

Assistant Professors
Marcia Brennan
Vittoria DiPalma
Shirine T. Hamadeh
Hajime Nakatani
Caroline Quenemoen

Distinguished Lecturer
Thomas McEvilley

Adjunct Lecturer
Charles Dove

Andrew W. Mellon Post

Doctoral Fellow
(Center for the Study of Cultures and The Department of Art History)

Nancy Deffebach

Degrees Offered: B.A.

Department of Art History majors are students who declare a major in art history (focusing on either art history or film and media studies). Students are asked to keep the degree requirements listed below in mind. Students are asked to discuss with the department faculty advisor their selection of courses and any other matters of concern in their academic life, such as study and travel abroad, scholarships and internships, career goals, graduate school applications, etc.

Degree Requirements for B.A. in Art History

For general university requirements, see Graduation Requirements (pages 20–23).

Single Major Track in Art History (12 courses required)
- HART 101 Introduction to the History of Western Art I: Prehistoric-Gothic
- HART 102 Introduction to the History of Western Art II: Renaissance-Present
- 1 course in non-Western art history
- 1 seminar course
- Distribution courses
  - At least 1 course focusing on a period before 1750
  - At least 1 course focusing on a period after 1750
- 1 course outside the department may be taken for credit toward the major when approved in advance by the art history adviser.
- 1 internship may be taken for credit toward the major.
- All students are strongly encouraged to take HART 390 Theoretical Perspectives on Visual Arts and to study a foreign language.
- 2 courses in visual arts (ARTS, open selections-qualified by course prerequisites and consultation with art history faculty adviser)
Double Major Track (10 courses required)

- HART 101 Introduction to the History of Western Art I: Prehistoric-Gothic
- HART 102 Introduction to the History of Western Art II: Renaissance-Present
- 1 seminar course
- 2 courses in the visual arts (ARTS, open selections-qualified by course prerequisites and consultation with art history faculty adviser).
- Electives
  - A variety of courses to include diversity in cultures and chronology as well as foreign languages.
  - 1 intern class may be taken for credit toward the major.

Honors Program

An honors program is available in art history. Requirements are somewhat different for this program, including HART 407/408 Senior Thesis. Interested students should consult with the art history faculty adviser.

Transfer Credit

See Transfer Credit in the Information for Undergraduate Students (page 34).

Exhibitions and Arts Programs at Rice

Exhibitions and related activities organized by Rice University Art Gallery (Kimberly Davenport, director) enrich the teaching program of the Department of Art History as well as the larger university and Houston community. The Department of Visual Arts mounts several art and photography exhibitions each year and sponsors Rice Cinema, a public alternative film program. Rice Cinema is intimately connected with the curriculum both in film and media studies (HART) and in film and photography production (ARTS), and includes frequent guest lecturers, panel discussions, and media events.

The department enjoys an ongoing close relationship with local museums and galleries. The department offers opportunities for students to work and study with local museums, galleries, and alternative art spaces by way of internships, research opportunities, and collaborative events. In addition, special lectures, symposia, and talks are sponsored through Scholars’ Forum and the Department of Art History Brown Bag Lunch Series. These events are designed to bring local, national, and international scholars, critics, and artists to campus to speak on a broad range of topics and current interests.

The Department of Art History houses the Visual Resources Center, which currently holds a broad and extensive collection of approximately 300,000 slides and digital images related to the arts for teaching and research, serving both the department and university at large.

See HART and ARTS in the Courses of Instruction section.
Asian Studies

The School of Humanities and the School of Social Sciences

Director
Jeffrey J. Kripal

Professors
Anne C. Klein
Benjamin Lee
Masayoshi Shibatani
Richard J. Smith
Stephen A. Tyler

Professor Emeritus
Fred R. von der Mehden

Associate Professors
Suchan Chae
Jeffrey J. Kripal
William Parsons
Nanxiu Qian

Assistant Professors
David Cook
Hajime Nakatani
Elora Shehabuddin
Sarah Thal
Kerry Ward

Senior Lecturers
Lilly C. H. Chen
Hiroko Sato
Guatami Shah

Lecturers
Hyung-Jin Lee
E. Douglas Mitchell
Nam Van Nguyen
Steven Lewis
Chao-Mei Shen
Rina V. Williams
Meng Yeh

Postdoctoral Fellow
David Gray

Degree Offered: B.A.

Asian Studies is an interdisciplinary major that explores the complex interaction between political, social, religious, and other important spheres of human life in Asia. Emphasis is placed not only on the diversity and achievements of Asian civilizations but also on the ways an understanding of Asia may shed new light on Western cultural traditions. The major is built around courses in the humanities and social science divisions and a team-taught interdisciplinary core course, Introduction to Asian Civilizations. Some residential college courses may qualify for Asian studies credit.

Requirements: The undergraduate Asian Studies major will consist of 30 hours or more of course work. All majors must take the core course, ASIA 211, and 9 additional courses drawn from at least three of the departments offering courses in Asian studies. (See specific guidelines below.)

Degree Requirements for B.A. in Asian Studies

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in Asian studies must complete 30 semester hours or more of major course work, including:

- ASIA 211 Introduction to Asian Civilizations
- 9 additional courses drawn from at least three of the departments or programs that offer courses with predominantly Asian content. In the case of cross-listed courses, any one of the departments or programs appearing in the cross-listing can be used to satisfy this particular requirement. See courses listed below.
• 6 courses at the 300 level or above
• 2 years of a single Asian language (this may include an Asian language other than those offered by Rice), though students may count no more than four semesters of Asian languages toward the major. Students who have placed into the third year (300-level) or higher of an Asian language at Rice will have satisfied our proficiency requirement for the Asian Studies major. Such students may continue with the same Asian language or another and receive up to four semesters of credit toward the major for this additional language coursework.

Any changes in the requirements for the major must be approved by the director of Asian Studies.

One or more independent reading courses (ASIA 401 for the fall and ASIA 402 for the spring) taught by Asian Studies faculty in these departments may be counted toward the major. Students may also use certain residential college courses to fulfill their major requirements, subject to the approval of the director of Asian Studies.

The following courses, not all of which are taught every year, may be used to satisfy the major requirements. Note that a number of these courses are cross-listed.

**Anthropology**
- ANTH 220 Contemporary China (also offered as HIST 220)
- ANTH 310 Contemporary China (enriched version of ANTH 220; also offered as HIST 310)
- ANTH 353 Cultures of India

**Art and Art History**
- HART 170 The Arts of China
- HART 470 Visual Culture in Revolutionary & Post-revolutionary China (ca. 1949-present) (also offered as ASIA 470)
- HART 472 Japanese Animation (also offered as ASIA 472 and HIST 472)
- HART 371 The Brush & the Stroke in Traditional Chinese Painting (also offered as ASIA 371)

**Asian Studies**
- ASIA 139 Introduction to Indian Religions (also offered as RELI 139)
- ASIA 140 Introduction to Chinese Religions (also offered as RELI 140)
- ASIA 179 The Arts of China
- ASIA 211 Introduction to Asian Civilizations (Also listed as HIST 206)
- ASIA 221 The Life of the Prophet Muhammad (also offered as RELI 221)
- ASIA 231 The Enlightenment of the Body (also offered as RELI 231)
- ASIA 240 Gender and Politicized Religion (also offered as WGST 240)
- ASIA 250 Meditation, Mysticism, and Magic (also offered as RELI 250)
- ASIA 280 The Asian American Experience
- ASIA 299 Women in Chinese Literature (also offered as CHIN 299 and WGST 299)
- ASIA 323 The Knowing Body: Buddhism, Gender, and the Social World (also offered as WGST 323 and SOCI 323)
- ASIA 330 Introduction to Traditional Chinese Poetry (also offered as CHIN 330)
- ASIA 332 Chinese Films and Modern Chinese Literature (also offered as CHIN 332)
- ASIA 333 Taiwan Literature and Film (also offered as CHIN 333)
- ASIA 334 Introduction to Traditional Chinese Novels (also offered as CHIN 334)
- ASIA 335 Introduction to Classical Chinese Literature (also offered as CHIN 335)
- ASIA 340 Gender and Politicized Religion (also offered as WGST 340)
- ASIA 344 Korean Literature (also offered as HUMA 344 and KORE 344)
- ASIA 345 Origin and Development of Korean and Related Languages in East Asia (also offered as HUMA 345 and KORE 345)
- ASIA 346 Korean Culture and History (also offered as KORE 346)
ASIA 354 Asian Apocalyptic Movements (also offered as RELI 354)
ASIA 355 Religion and Social Change in South Asia (also offered as RELI 355)
ASIA 360 China and the Chinese Diaspora
ASIA 361 The Oriental Renaissance (also offered as RELI 361)
ASIA 363 Marriage of Heaven and Hell (also offered as RELI 363)
ASIA 365 Mysticism and Meditation in China (also offered as RELI 365)
ASIA 366 Topics in American Literature: The Asian American Novel (also offered as ENGL 366, only when the topic is The Asian American Novel)
ASIA 369 Film, Literature, and the Japanese Past (also offered as HIST 369)
ASIA 372 Survey of Asian American Literature (also offered as ENGL 372)
ASIA 380 The Asian American Experience
ASIA 399 Women in Chinese Literature (also offered as WGST 399)
ASIA 401/402 Independent Reading
ASIA 432 Islam in South Asia (also offered as HIST 432 and WGST 432)
ASIA 441 Popular Religion in the Middle East (also offered as RELI 441/525)
ASIA 470 Visual Culture in Revolutionary & Post-revolutionary China (ca. 1949-present) (also offered as HART 470)
ASIA 472 Japanese Animation (also offered as HART 472, HIST 472)
ASIA 473 Topics in Asian American Literature (also offered as ENGL 473)
ASIA 489 Migrations and Diasporas

**Chinese**

CHIN 101/102 Introductory Chinese I and II
CHIN 201/202 Elementary Chinese I and II
CHIN 211/212 Accelerated Elementary Chinese I and II

**CHIN 203/204 Accelerated Chinese I and II**
CHIN 301/302 Intermediate Chinese I and II
CHIN 311/312 Accelerated Intermediate Chinese I and II
CHIN 313 Advanced Intermediate Chinese: Media Chinese
CHIN 321 Structure of Chinese Syntax & Semantics (also offered as LING 321)
CHIN 330 Introduction to Traditional Chinese Poetry (also offered as ASIA 330)
CHIN 332 Chinese Films and Modern Chinese Literature (also offered as ASIA 332)
CHIN 334 Introduction to Traditional Chinese Narrative (also offered as ASIA 334)
CHIN 335 Introduction to Classical Chinese Literature (also offered as ASIA 334)
CHIN 346 History of the Chinese Language (also offered as LING 346)
CHIN 399 Chinese Teaching Practicum
CHIN 411/412 Advanced Chinese Language and Culture I and II

**Hindi**

HIND 101/102 Elementary Hindi I and II
HIND 201/202 Intermediate Hindi I and II
HIND 335 South Asian Literature
HIND 398/399 Hindi Teaching Practicum
**History**

HIST 206 *Introduction to Asian Civilizations*
HIST 219 *Patterns of the Chinese Past*
HIST 220 *Contemporary China* (also offered as ANTH 220)
HIST 221 *Japan in the World Until 1800*
HIST 222 *Japan in the World Since 1800*
HIST 250 *Traditional Chinese Culture*
HIST 310 *Contemporary China* (enriched version of HIST 220; also offered as ANTH 310)
HIST 341 *Pre-modern China*
HIST 342 *Modern China*
HIST 352 *The Comparative Modernization of China and Japan*
HIST 369 *Film, Literature and the Japanese Past* (also offered as ASIA 369)
HIST 405 *Issues in Comparative History*
HIST 421 *Japan in the World Until 1800* (enriched version of HIST 221)
HIST 422 *Japan in the World Since 1800* (enriched version of HIST 222)
HIST 432 *Islam in South Asia* (also offered as ASIA 432 and WGST 432)
HIST 448 *Creating Modern Japan: The Meiji Restoration*
HIST 449 *Nation, Empire, and War: Japan in the 1930s*
HIST 450 *Traditional Chinese Culture* (enriched version of HIST 250)
HIST 472 *Japanese Animation* (also offered as ASIA 472 and HART 472)
HIST 485 *Comparing Histories: Modernization, War, and Society in Germany and Japan*

**Korean**

KORE 101/102 *Introduction to Korean Language and Culture I and II*
KORE 201/202 *Intermediate Korean Language and Culture I and II*
KORE 301/302 *Advanced Korean I and II*
KORE 344 *Korean Literature and Culture* (also offered as ASIA 344 and HUMA 344)
KORE 345 *Origin and Development of Korean and Related Languages in East Asia* (also offered as LING 345 and ASIA 345)
KORE 346 *Korean Culture and History* (also offered as ASIA 346)

**Vietnamese**

JONE 131 *Elementary Vietnamese Language and Culture*
JONE 279 *Intermediate Vietnamese Language and Culture*

**Linguistics**

LING 321 *Structure of Chinese Syntax & Semantics* (also offered as CHIN 321)
LING 345 *Linguistic Structure of Korean* (also offered as KORE 345)
LING 346 *History of the Chinese Language* (also offered as CHIN 346)
LING 351/352 *Introduction to Sanskrit I and II* (also offered as SANS 301 and 302)
LING 451/452 *Advanced Sanskrit I and II* (also offered as SANS 401 and 402)

**Political Science**

POLI 351 *Politics of Southeast Asia*
POLI 460 *Seminar in Comparative Government*

**Religious Studies**

RELI 132 *Classical and Colloquial Tibetan* (also offered as TIBT 132)
RELI 139 *Introduction to Indian Religions* (also offered as ASIA 139)
RELI 140 *Introduction to Chinese Religions* (also offered as ASIA 140)
REL 221 *The Life of the Prophet Muhammad* (also offered as ASIA 221)
REL 231 *The Enlightenment of the Body* (also offered as ASIA 231)
REL 250 *Meditation, Mysticism, and Magic* (also offered as ASIA 250)
REL 322 *Introduction to Buddhism*
REL 325 *Buddhism and the Female*
REL 354 *Asian Apocalyptic Movements* (also offered as ASIA 354)
REL 355 *Religion and Social Change in South Asia* (also offered as ASIA 355)
REL 361 *The Oriental Renaissance* (also offered as ASIA 361)
REL 363 *The Marriage of Heaven and Hell* (also offered as ASIA 363)
REL 365 *Mysticism and Meditation in China* (also offered as ASIA 365)
REL 441/525 *Popular Religion in the Middle East* (also offered as ASIA 441)
REL 470 *Buddhist Wisdom Texts*
REL 471 *Buddhist Meditation Theory: Women and Men*

**Sanskrit**
SANS 301/302 *Elementary Sanskrit I and II* (also offered as LING 351 and 352)
SANS 401/402 *Advanced Sanskrit I and II* (also offered as LING 451 and 452)

**Sociology**
SO 323 *The Knowing Body: Buddhism, Gender, and the Social World* (also offered as ASIA 323 and WGST 323)

**Tibetan**
TIBT 132 *Tibetan Language and Culture I* (also offered as RELI 132)
TIBT 133 *Tibetan Language and Culture II* (also offered as RELI 133)
TIBT 331 *Advanced Tibetan Language and Culture*

**University and Residential College Courses**
JONE 135 *Vietnamese Language & Culture*
JONE 279 *Intermediate Vietnamese Language and Culture*
JONE 311 *Indian Society and Politics*
UNIV 118 *The Classic of Changes (I Ching) in Asian and World Culture*

**Women and Gender Study**
WGST 240 *Gender and Politicized Religion* (also offered as ASIA 240)
WGST 299 *Women in Chinese Literature* (also offered as ASIA 299 and CHIN 299)
WGST 323 *The Knowing Body: Buddhism, Gender, and the Social World* (also offered as ASIA 323 and SOCI 323)
WGST 340 *Gender and Politicized Religion* (also offered as ASIA 240)
WGST 399 *Women in Chinese Literature* (also offered as ASIA 399 and CHIN 399)
WGST 432 *Islam in South Asia* (also offered as ASIA 432 and HIST 432)

See ASIA in the Courses of Instruction section.
Bioengineering

George R. Brown School of Engineering

Chair
David Hellums

Professors
Kyriacos Athanasiou
John W. Clark
Antonios G. Mikos
Ka-Yiu San
Kyriacos Zygourakis

Associate Professors
Bahman Anvari
Fathi Ghorbel
Lydia Kavraki
Jennifer L. West

Assistant Professors
Michael A. Barry
Rebekah Drezek
Michael Liebschner
Jianpeng Ma
Nikolaos Mantzaris
Robert Raphael

Lecturer/Director of Laboratory Instruction
Ann Saterbak

Adjunct Associate Professors
Craig J. Hartley
José A. López
Joel L. Moake
David Sears
Jacqueline Shanks
C. Wayne Smith
Kenneth Wu

Adjunct Associate Professors
David W. Chang
Michael H. Kroll
Michael Miller
Charles W. Patrick
Peter Saggau
Mark M. Udden
Mark E. K. Wong
Alan W. Yasko
Michael Yaszemski
George Zouridakis

Adjunct Assistant Professors
Daniel E. Epner
Karen K. Hirschi
Rex A. Marco
Rolando E. Rumbaut

Degrees offered: B.S.B., M.S., Ph.D.

Graduate and undergraduate programs in bioengineering offer concentrations in areas that include cellular and molecular engineering; bioinstrumentation, imaging, and optics; or biomaterials and biomechanics. Research areas include biochemical engineering, biological systems modeling, biomaterials, biomedical lasers, cellular and molecular engineering, controlled release technologies, metabolic engineering, spectroscopy, systems engineering and instrumentation, thrombosis, tissue engineering, and transport processes.

Undergraduate Program. The bioengineering undergraduate program will prepare students for careers in rapidly developing areas of biomedical engineering and bioprocessing. Our unified and comprehensive program leading to the B.S. degree in bioengineering will:

• Provide students with a fundamental understanding of the life and medical sciences
• Teach students to apply engineering principles in the life and medical sciences
• Develop their critical problem solving skills in bioengineering
• Develop their ability to communicate effectively and participate in interdisciplinary teams
• Expose students to a broad education that prepares them for diverse careers

Undergraduates in bioengineering will then have the training to pursue further education in graduate school or medical school and will have strong preparation for a career in the biotechnology industry.

The B.S.B. degree is organized around a core of required courses and a selection of elective courses from three specialization areas. The specialization electives provide a flexibility that can be used to create a focus in cellular and molecular engineering; bioinstrumentation, imaging, and optics; or biomaterials and biomechanics. Because of the number of options, students should consult early with departmental advisers to plan a program that meets their needs.

Degree Requirements for B.S. in Bioengineering

For general university requirements, see Graduation Requirements (pages 20–23). The curriculum for a B.S. degree in bioengineering requires 94 credit hours, which count toward the total of 134 hours required to graduate.

Preparation. As freshmen, students considering a major in bioengineering should take MATH 101 and 102, CHEM 121 and 122, PHYS 101 or PHYS 125, PHYS 102 or PHYS 126, and CAAM 210 or CAAM 211. Sophomore students should take MATH 211 and 212, CHEM 211, 212, 215, BIOS 201, and MECH 211. BIOE 252 should be taken in the first semester of the sophomore year. BIOE 320 and BIOE 322 should be taken the second semester of the sophomore year.

Specialization Areas. Students in the B.S.B. program will choose courses from one of the three specialization tracks:
• Cellular and molecular engineering
• Bioinstrumentation, imaging, and optics
• Biomaterials and biomechanics

Students majoring in bioengineering must complete the following courses.

Core Courses

Bioengineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 252</td>
<td>Bioengineering Fundamentals</td>
</tr>
<tr>
<td>BIOE 320</td>
<td>Systems Physiology Lab Module</td>
</tr>
<tr>
<td>BIOE 322</td>
<td>Systems Physiology</td>
</tr>
<tr>
<td>BIOE 332</td>
<td>Thermodynamics</td>
</tr>
<tr>
<td>BIOE 342</td>
<td>Tissue Culture Laboratory</td>
</tr>
<tr>
<td>BIOE 372</td>
<td>Introductory Biomechanics/Biomaterials</td>
</tr>
<tr>
<td>BIOE 383</td>
<td>Biomedical Instrumentation</td>
</tr>
<tr>
<td>BIOE 391</td>
<td>Numerical Methods and Statistics</td>
</tr>
<tr>
<td>BIOE 420</td>
<td>Biosystems Transport and Reaction Processes</td>
</tr>
<tr>
<td>BIOE 442*</td>
<td>Biomechanical Testing Laboratory Module</td>
</tr>
<tr>
<td>BIOE 443*</td>
<td>Bioprocessing Laboratory Module</td>
</tr>
<tr>
<td>BIOE 444*</td>
<td>Tissue Engineering Laboratory Module</td>
</tr>
<tr>
<td>BIOE 445*</td>
<td>Advanced Bioinstrumentation Laboratory Module</td>
</tr>
</tbody>
</table>

Biosciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 201</td>
<td>Introductory Biology</td>
</tr>
<tr>
<td>BIOS 301</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIOS 311 or 312</td>
<td>Biosciences Laboratory Module</td>
</tr>
<tr>
<td>BIOS 341</td>
<td>Cell Biology</td>
</tr>
</tbody>
</table>

Computational and Applied Mathematics

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAM 210 or CAAM 211</td>
<td>Introduction to Engineering Computation</td>
</tr>
</tbody>
</table>
*Students must take the senior laboratory module in their specialization area: BIOE 443 for Cellular and Molecular Engineering, BIOE 442 for Biomaterials and Biomechanics, and BIOE 445 for Bioinstrumentation, Imaging and Optics. Students must take one other senior laboratory module for a total of two of the four listed modules (BIOE 442, 443, 444, and 445).

Please note that some of these courses may not be listed in the Courses of Instruction section of this publication. As these courses become available, they will be listed in the schedule of courses.

**Specialization Areas**

Four specialization-area elective courses, at least 2 of which must be at the senior level, will be required in one of the three areas:
- Cellular and molecular engineering
- Bioinstrumentation, imaging, and optics
- Biomaterials and biomechanics

The elective courses in these concentration areas will be announced in future course listings.

**Graduate Program.** The bioengineering graduate program at Rice educates its students so that they can directly interact with physicians and cell and molecular biologists, while still excelling in the quantitative capabilities so important for engineering applications.

**Degree Requirements for M.S. and Ph.D. in Bioengineering**

For general university requirements, see Graduate Degrees (pages 65–70).

**M.S. Program.** Candidates for the M.S. degree must:
- Complete at least 18 semester hours of foundation, supporting, and advanced courses with high standing
- Fulfill a teaching requirement
- Submit an original research thesis
- Defend the thesis in a public oral examination
Ph.D. Program. Candidates for the Ph.D. degree must:
• Complete at least 36 approved semester hours of foundation, supporting, and advanced courses, with high standing. With departmental approval, the course requirements may be reduced to not less than 22 hours for students already holding an M.S. degree.
• Fulfill a teaching requirement. After their first semester in residence, students may be asked to spend the equivalent of 6 to 10 hours per week for a total of three semesters on teaching assignments.
• Submit a thesis proposal. Ph.D. students must submit and successfully defend their thesis proposals by the end of their fourth semester in residence.
• Complete a three- to six-month industrial internship. This requirement may be waived for those with adequate previous industrial experience.
• Submit a thesis that provides evidence of their ability to carry out original research in a specialized area of bioengineering.
• Defend the thesis in a public oral examination.

Graduate students take required courses and electives in the following areas:
• Cellular and molecular engineering
• Bioinstrumentation, imaging, and optics
• Biomaterials and biomechanics

See BIOE in the Courses of Instruction section.
Biosciences

Biochemistry and Cell Biology

The Wiess School of Natural Sciences

Chair
George N. Bennett

Professors
Kathleen Beckingham
George N. Bennett
Zenaido Camacho
Raymon M. Glantz
Richard H. Gomer
Jordan Konisky
Kathleen Shive Matthews
John Steven Olson
Ronald J. Parry
Frederick B. Rudolph
Charles R. Stewart

Professors Emeriti
James Wayne Campbell
Graham Palmer
James B. Walker

Associate Professors
Bonnie Bartel
Janet Braam
Michael C. Gustin
Seiichi P.T. Matsuda
Edward P. Nikonowicz
Michael Stern

Assistant Professors
Mary Ellen Lane
Kevin R. MacKenzie
James A. McNew
Yousif Shamoo
Yizhi Jane Tao

Lecturers/Laboratory Coordinators
Beth Beason-Armendarez
David R. Caprette
M. Susan Cates

Adjunct Professors
James Armstrong
Richard Dixon
Daniel Feeback
Robert O. Fox
Susan Gibson
Kendal Hirschi
Neal Pellis
George N. Phillips, Jr.
Florante A. Quiocho
Clarence Sams
Peggy Whitson

Ecology and Evolutionary Biology

The Wiess School of Natural Sciences

Chair
Ronald L. Sass

Professors
Paul A. Harcombe
David C. Queller
Joan E. Strassmann
Calvin H. Ward

Professors Emeriti
Frank M. Fisher, Jr.
Charles Philpott

Assistant Professors
Stephen Subtelny
J. Nathaniel Holland
Lisa Meffert
Evan Siemann

Adjunct Assistant Professors
Nancy Grieg
Rosine Hall
The undergraduate curriculum in the biosciences is administered jointly by two departments: the Department of Biochemistry and Cell Biology and the Department of Ecology and Evolutionary Biology. This curriculum offers majors in biochemistry and in biology. Courses in the biosciences include animal behavior, animal biology, biochemistry, biophysics, cell biology, developmental biology, ecology, endocrinology, evolutionary biology, genetics, immunology, microbiology, molecular biology, neurobiology, plant biology, and structural biology.

The graduate programs in biochemistry and cell biology focus on topics in biochemistry, biophysics, cell biology, development, genetics, molecular biology, neurobiology, and enzymology. In the ecology and evolutionary biology program, the focus is on behavior, biogeochemistry, molecular evolution, plant community ecology, population biology, sociobiology, and wetland ecosystems.

Degree Requirements for B.A. in Biosciences

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in biosciences must complete at least 48 semester hours of courses at the 300 level or higher. The total semester hours at graduation should be at least 129 hours (128 hours if students choose the PHYS 101/102 option, and 132 hours if they choose the MATH 111/112 option). All biosciences majors must complete the following:

**Mathematics**

MATH 101/102 Single Variable Calculus I and II  
MATH 211 Ordinary Differential Equations and Linear Algebra

**Chemistry**

CHEM 121/122 General Chemistry with Laboratory  
CHEM 211/212 Organic Chemistry  
CHEM 215 Organic Chemistry Lab

**Physics**

PHYS 125/126 General Physics I and II

**Biosciences**

BIOS 201/202 Introductory Biology  
BIOS 301 Biochemistry  
BIOS 211 Introductory Lab in Biological Sciences (2 credit hours)  
BIOS 213 Introductory Lab in Ecology and Evolutionary Biology  
BIOS 311 Lab in Protein Purification  

Any 2 of the following advanced laboratory courses:

BIOS 312 Lab Module in Molecular Biology I  
BIOS 313 Lab Module in Molecular Biology II  
BIOS 314 Lab in Cell and Developmental Biology  
BIOS 315 Lab in Physiology  
BIOS 316 Lab in Ecology  
BIOS 317 Lab in Behavior  
BIOS 318 Lab in Microbiology  
BIOS 319 Tropical Field Biology  
BIOS 320/BIOE 342 Lab in Tissue Culture  
BIOS 530 NMR Spectroscopy and Molecular Modeling  
BIOS 532 Spectroscopy  
BIOS 533 Computational Biology  
BIOS 535 Practical X-Ray Crystallography
Options. One of the advanced laboratory course requirements may be satisfied by taking any of the following: (1) STAT 305 (if used to satisfy a lab requirement, this may not also be used to satisfy a lecture course requirement); or (2) BIOS 310, if taken for at least 2 credits; or (3) HONS 470/471, if the research supervisor is from one of the biosciences departments or if the research is biological in nature and preapproved by the student’s adviser; or (4) BIOS 401/402, one semester may be used to meet an advanced laboratory course requirement, and the other semester may be used to meet the requirement for a group A or B course. Students may substitute MATH 111 *Fundamental Theorem of Calculus* and MATH 112 *Calculus and its Applications* for MATH 101. They may substitute CHEM 151/152 *Principles of Chemistry* for CHEM 121/122. Although PHYS 125 and 126 are the preferred physics courses for biosciences majors, students who want to keep open the option of a different major may satisfy the physics requirement by taking PHYS 101 or 111 *Mechanics* and PHYS 102 or 112 *Electricity and Magnetism* (with their respective labs).

Course Sequence. Students should take the 100-level mathematics and chemistry courses in the freshman year, the 100-level physics courses and the 200-level biosciences courses in either the freshman or the sophomore year, and the 200-level chemistry courses in the sophomore year. Those with a limited background in chemistry should complete CHEM 121/122 before taking BIOS 201/202. Taking BIOS 201/202 in the freshman year gives students earlier access to upper-level courses, and is recommended for students with sufficient chemistry preparation.

Undergraduate Research. Undergraduate majors are encouraged, but not required, to pursue independent supervised research in BIOS 401/402 *Undergraduate Honors Research*; those who do must register concurrently in BIOS 411/412 *Undergraduate Research Seminar* and complete a thesis. Students may also undertake research projects in BIOS 310 *Undergraduate Independent Study* and HONS 470/471. See Honors Programs (page 34).

Biochemistry Major. Students majoring in biochemistry must take the following in addition to those required of all biosciences majors.
- BIOS 352 *Physical Chemistry for Biosciences* or CHEM 311/312 *Physical Chemistry*
- BIOS 302 *Biochemistry*
- BIOS 341 *Cell Biology*
- BIOS 344 *Molecular Biology and Genetics*
- 1 additional bioscience course from Group A
- 1 additional course for 3 or more hours at the 200 level or higher in mathematics, physics, computer science, statistics, or computational and applied mathematics; or BIOS 322, BIOS 325, or BIOS 334
- 1 additional course for 3 or more hours at the 300 level or higher in chemistry or Group A biosciences

Students may substitute 1 semester of honors research, BIOS 401 or 402, for 1 of the elective courses from Group A if their faculty supervisor is from the Department of Biochemistry and Cell Biology. NEUR 511 and 512 may be substituted for one Group A course. Biochemistry majors are assigned an adviser from the biochemistry and cell biology department.
Biology Major. Students majoring in biology must take the following in addition to the courses that are required of all biosciences majors:

- 2 biosciences courses from Group A
- 1 biosciences course from Group B
- 4 additional biosciences courses from Groups A and/or B

Students may substitute STAT 305 *Introduction to Statistics for Biosciences* for one of the last 4 courses provided that STAT 305 has not been used to satisfy a lab requirement.

Students may also substitute 1 semester of honors research, BIOS 401 or 402, for one of the courses from Group A, if their faculty supervisor is from the Department of Biochemistry and Cell Biology, or from Group B, if their supervisor is from the Department of Ecology and Evolutionary Biology. NEUR 511 and 512 may be substituted for one Group A course. The recommended courses for those taking a limited number of Group A courses are BIOS 302 *Biochemistry*, BIOS 341 *Cell Biology*, BIOS 344 *Molecular Biology and Genetics*, and BIOS 352 *Physical Chemistry for Biosciences*.

Students who choose to specialize in ecology and evolutionary biology should choose their 4 additional biosciences courses from Group B. Students who choose cell and molecular biology for their specialization should choose their 4 additional biosciences courses from Group A. Specialization is not required, and students may switch from one to the other if they wish. Biology majors are assigned an adviser from one of the two biosciences departments according to their specialization; those electing a general biology program may request advisers from either department. Students interested in environmental careers should consult with the ecology and evolutionary biology department for a list of recommended courses. See also Environmental Studies listings and Environmental Science Double Major.

**Admission Requirements for Accelerated B.A./Ph.D. Program in Biochemistry and Cell Biology**

Qualified undergraduates at Rice may apply for admission to the biochemistry and cell biology graduate program in their senior year. This allows them to complete certain course requirements for graduate studies at the same time as their upper-level undergraduate degree requirements; laboratory research performed as part of their undergraduate thesis project can serve as the initial phases of their Ph.D. thesis work. Students thus should be able to obtain their Ph.D. degree more quickly—approximately three years after earning their B.A. degree.

Criteria for admission include academic performance (grade point average of 3.30 or higher), high scores on the Graduate Record Examination (GRE), motivation, previous research experience, and personal qualities. The department Graduate Admissions Committee makes the selection.

Interested students must complete two and one-half years (or their equivalent) of undergraduate studies at Rice before applying for enrollment in the accelerated B.A./Ph.D. program. To continue in the program, they must:

- Take the GRE before receiving the B.A. degree and earn scores greater than 80 percent in the analytical and quantitative tests
- Maintain a B average in all courses in their senior year

The usual graduate requirements will apply for continuation in the program.
Degree Requirements for M.A. and Ph.D. in Biochemistry and Cell Biology

**Admission.** Applicants for graduate study in the Department of Biochemistry and Cell Biology must have:

- B.A. degree in biochemistry, biology, chemistry, chemical engineering, physics, or some equivalent
- Strong ability and motivation, as indicated by academic record, Graduate Record Examination (GRE) scores, and recommendations

Although the department offers an M.A. degree in biochemistry and cell biology, only on rare occasions are students who do not intend to pursue the Ph.D. degree admitted to the graduate program. The department provides a program guide titled “Graduate Program for Biochemistry and Cell Biology,” which is updated annually. For general university requirements, see Graduate Degrees (pages 65–70).

**Both Ph.D. and M.A. Programs.** Most of the formal course studies will be completed in the first year of residence to allow the students to commence thesis research at the end of their second semester at Rice. During the first year, all graduate students will be advised by the Graduate Advisory Committee (current composition: Braam, Gustin, MacKenzie, and Stern). This committee will determine the formal course program to be taken during the first year in residence. Students are required to have training in biochemistry, cell biology, genetics, and physical chemistry or biophysics. If students lack formal training in these subjects, they are required to take the equivalent background courses during their first year. The corresponding courses at Rice include the following:

| BIOS 301  | Biochemistry          |
| BIOS 302  | Biochemistry          |
| BIOS 311, 312, 313 | Laboratories for the Biosciences |
| BIOS 341  | Cell Biology          |
| BIOS 344  | Molecular Biology and Genetics |
| BIOS 352  | Physical Chemistry for the Biosciences |

**All Ph.D. students are required to take the following graduate-level courses:**

- BIOS 575 Introduction to Research
- BIOS 581, 582 Graduate Research Seminars
- BIOS 583 Molecular Interactions
- BIOS 587 Research Design, Proposal Writing, and Professional Development
- BIOS 594 The Ethics of Bioscience and Bioengineering
- BIOS 800 Graduate Research (rotations in first year)

**Students must also take 2 units from the following set of advanced courses:**

- BIOS 525 Plant Molecular Biology (1 unit)
- BIOS 530, 532, 533, 535 Graduate Laboratory Modules in Molecular Biophysics (1/2 unit each)
- BIOS 545 Advanced Molecular Biology and Genetics (1 unit)
- BIOS 588 Advanced Cell and Developmental Biology (1 unit)

Students should complete BIOS 583 and BIOS 587 in their first and second years, respectively, and they will be responsible for the content of those course programs in their admission to candidacy examination (see below). Students also gain teaching experience by serving as discussion leaders and graders in undergraduate sections during their second year. Safety and ethics presentations are provided for first-year students.
Evaluation of Progress in Graduate Study. The Graduate Advisory Committee evaluates each student’s undergraduate record and identifies any deficiencies to be corrected (usually in the first year). Thesis advisers may require additional course work of a more specialized nature. Students must complete all additional courses before taking the admission to candidacy examination.

At the end of each semester, the department chair, in consultation with the committee and faculty, reviews student performance in the formal course work; after students complete two semesters at Rice, the faculty conducts a review. Students must maintain at least a B average and demonstrate outstanding motivation and potential for research.

Evaluation after the first year includes:
- Ongoing review of research progress by the thesis research adviser
- A research progress review examination given each year by the student’s Research Progress Review Committee
- Presentation of research progress at least once a year after the second year until submission of a complete doctoral thesis
- Completion of an oral admission to candidacy examination before the beginning of the student’s sixth semester
- Defense of the Ph.D. thesis research and text in a final public seminar presentation and oral examination attended by the student’s Thesis Committee

M.A. Program. All the above requirements and evaluation procedures apply to M.A. candidates with the following exceptions. The research progress review examination held during the M.A. student’s second full year, which is identical in format to that for Ph.D. students, replaces the admission to candidacy examination; no other preliminary examination is held before the final oral defense of the master’s thesis. M.A. candidates must complete a thesis and make a public oral defense of their research work to their Thesis Committee and other interested parties.

Degree Requirements for M.S., M.A., and Ph.D. in Ecology and Evolutionary Biology

Admission. Applicants for graduate study in the Department of Ecology and Evolutionary Biology must have:
- B.A. degree or equivalent
- Scores from the Graduate Record Examination (GRE), including the advanced examination in biology
- Strong background in biology
- Completed course work in physics, mathematics (including calculus), and chemistry (including organic chemistry)

These requirements do not preclude admission of qualified applicants who have majored in areas other than biology. Deficiencies should be made up during the first year of residence; some may be waived at the discretion of the student’s faculty adviser and the department chair.

Entering students will meet with a faculty adviser to form a course of study for the first year. All first-year students will demonstrate basic proficiency in ecology and evolutionary biology EITHER by completing one ecology course (from the following choices: BIOS 322, BIOS 324, BIOS 325, BIOS 329, or BIOS 336) and one evolutionary biology course (from the following choices: BIOS 321 or BIOS 334) OR by performing satisfactorily on a written examination that tests basic knowledge in both ecology and evolutionary biology.
All graduate students are required to complete the following graduate-level courses: BIOS 561 *Topics in Evolution*, BIOS 562 *Topics in Behavioral Biology*, BIOS 563 *Topics in Ecology*, BIOS 568 *Topics in Biological Diversity*, BIOS 585/586 *Graduate Seminar in Ecology and Evolutionary Biology*. Students may substitute BIOS 432 *Advanced Evolutionary Biology* for BIOS 561 or BIOS 562. Students are required to complete two semesters of BIOS 591 *Graduate Teaching*. Students typically complete a Ph.D. in no less than 3 and no more than 5 years.

**M.S. Program.** In addition to the general university requirements and those listed above, the Master of Science in Ecology and Evolutionary Biology requires 10 hours of research credit.

**M.A. Program.** In addition to the general university requirements and those listed above, the Master of Arts in Ecology and Evolutionary Biology requires the completion and public defense of a thesis embodying the results of an original investigation.

**Ph.D. Program.** In addition to the general university requirements and those listed above, applicants for the Ph.D. degree in Ecology and Evolutionary Biology must:
- Maintain a grade average of B or better in courses taken in the department and satisfactory grades in courses taken outside the department
- Pass the admission to candidacy examination given by the Graduate Advisory Committee (this examination may be oral and/or written)
- Complete an original investigation and a doctoral thesis worthy of publication in a scientific journal
- Present a departmental seminar on the research
- Publicly defend the doctoral thesis

See BIOS in the Courses of Instruction section.
Center for the Study of Languages
The School of Humanities

**Director**
Andrew Lian

**Associate Director**
Claire Bartlett

<table>
<thead>
<tr>
<th>Senior Lecturers</th>
<th>Lecturers</th>
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<tr>
<td>Aman Attieh <em>(Arabic)</em></td>
<td>Dariusz Skorzewski <em>(Polish)</em></td>
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<tr>
<td>Lilly C. Chen <em>(Chinese)</em></td>
<td>Richard Spuler <em>(German)</em></td>
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<tr>
<td>Evelyne Datta <em>(French)</em></td>
<td>Victoria Surliuga <em>(Italian)</em></td>
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<td>Raquel Gaytan <em>(Spanish)</em></td>
<td>Meng Yeh <em>(Chinese)</em></td>
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<td>Jonathan Ludwig <em>(Russian)</em></td>
<td>Elsa Zambosco-Thomas <em>(Spanish)</em></td>
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<td>Marcela Salas <em>(Spanish)</em></td>
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<td>Hiroko Sato <em>(Japanese)</em></td>
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<td>Gautami Shah <em>(Hindi)</em></td>
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<tr>
<td>Jane Verm <em>(Spanish)</em></td>
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Foreign language classes are popular among Rice University students who wish to enhance their knowledge of world languages and cultures. The Center for the Study of Languages (CSL) was founded in 1997 to promote and enhance the study of languages at Rice University. The role of the center is to establish innovative approaches to language acquisition, expand opportunities for language learning across the curriculum, and increase Rice students’ participation in study and work abroad. The Language Resource Center (LRC), technology division of the CSL, provides resources such as specialized computer software and enhanced videos to supplement the traditional approach to teaching and learning languages. In addition to creating an innovative learning environment, the CSL is responsible for teaching 13 languages through the third year of instruction. The CSL also offers courses on cross-cultural awareness.

The CSL does not offer degree programs itself, but students are able to pursue language degrees from language departments. Some of those degrees include: B.A. in Asian Studies (Asian Studies), B.A. in Classical studies (Classical studies), B.A, M.A., and PhD. in French Studies (French Studies), B.A. in German Studies, B.A. in Slavic Studies (German and Slavic Studies), and B.A, M.A. in Spanish (Hispanic Studies). See the respective department for degree requirements.

**Degrees Offered:** None
Placement Testing

Students who have some background in the language they intend to study are required to take a placement test to ensure that they are placed in the appropriate course. Placement tests can be taken online before matriculation or during orientation week. Additional information regarding language placement tests can be found on the Language Resource Center webpage at www.ruf.rice.edu/~lrc.

Transfer Credits

The CSL will determine equivalency for foreign language classes taken at other colleges or universities and approve them for transfer credit. University transfer credit guidelines (see page 35) as well as requirements of the degree-granting department still apply. Students who study abroad should have their transfer credits approved before they commit to a study-abroad program.

Scholarships

Two scholarships are offered yearly through the CSL. The Donne Di Domani donates money to be awarded to outstanding Rice University students. This scholarship, to be used for tuition and books, is awarded to students committed to study of the Italian language and is based on need and merit. The Ministry of Education, Republic of China in Taiwan also offers a scholarship to study Mandarin Chinese in Taiwan for one year. Students interested in applying for either of these scholarships should contact the CSL at the beginning of the spring semester.

See ARAB, CHIN, FREN, GERM, HIND, HEBR, ITAL, JAPA, KORE, PLSH, PORT, RUSS, SPAN, and UNIV in the Courses of Instruction section.
### Chemical Engineering

#### The George R. Brown School of Engineering

**Chair**

Kyriacos Zygourakis

**Professors**

Constantine Armeniades  
Walter G. Chapman  
George J. Hirasaki  
Larry V. McIntire  
Antonios G. Mikos  
Clarence A. Miller  
Marc A. Robert  
Ka-Yiu San  
Mark Wiesner

**Associate Professor**

Vicki Colvin  
Paul E. Laibinis  
Jennifer L. West

**Professors Emeriti**

William W. Akers  
Sam H. Davis  
Derek C. Dyson  
Joe W. Hightower  
Riki Kobayashi

**Assistant Professors**

Nikolaos Mantzaris  
Matteo Pasquali  
Michael S. Wong

**Adjunct Professor**

G. D. Fisher

**Adjunct Associate Professors**

Thomas W. Badgwell  
Waylon V. House  
Glenn A. Taylor

**Adjunct Assistant Professors**

Jacqueline L. Goveas

**Lecturers**

Kenneth R. Cox  
Herbert C. McKee

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**Degrees Offered:** B.A., B.S.Ch.E., M.Ch.E., M.S., Ph.D.

This major gives undergraduates a sound scientific and technical grounding for further development in a variety of professional environments. Courses in mathematics, chemistry, physics, and computational engineering provide the background for the chemical engineering core, which introduces students to chemical process fundamentals, fluid mechanics, heat and mass transfer, thermodynamics, kinetics, reactor design, process control, and process design. Course electives may be used to create a focus area in one of the following four disciplines: bioengineering, environmental engineering, materials science/engineering, and computational engineering. Upon completing either the flexible B.A. requirements or the more scientific and professional B.S.Ch.E. requirements, students may apply for a fifth year of study leading to the nonthesis Master of Chemical Engineering (M.Ch.E.) degree. A joint M.B.A./M.Ch.E. degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

Students admitted for graduate studies leading to the M.S. or Ph.D. degrees must complete a rigorous program combining advanced course work and original research that must be formalized in an approved thesis. Graduate research is possible in a number of areas, including thermodynamics, interfacial phenomena, complex fluids, polymer science and rheology, process control and optimization, reaction engineering and catalysis, reservoir engineering, biotechnology, and biomedical engineering.
Degree Requirements for B.S. in Chemical Engineering

For general university requirements, see Graduation Requirements (pages 20–23). The B.S. degree is accredited by the Accreditation Board for Engineering and Technology (ABET). Through careful selection of other engineering and science courses, a student can develop a focus (or concentration) area in any of the following 4 engineering disciplines: environmental science/engineering, bioengineering, materials science/engineering, and computational engineering. These elective programs can be completed within the framework of a B.S. in chemical engineering. Students majoring in chemical engineering must complete 96 hours in specified courses for a minimum of 132 hours at graduation. They must complete the following courses.

**Chemistry**

CHEM 121/122 General Chemistry with Laboratory
or CHEM 151/152 Honors Chemistry with Laboratory
CHEM 211/212 Organic Chemistry
CHEM 217 Organic Chemistry Lab
CHEM 311/312 Physical Chemistry
Any 2 of CHEM 212, CHEM 311, or CHEM 312

**Chemical Engineering**

CENG 301 Chemical Engineering Fundamentals
CENG 303 MATLAB, FORTRAN and MAPLE for Chemical Engineers
CENG 305 Computational Methods for Chemical Engineers
CENG 343 Chemical Engineering Lab I
CENG 390 Kinetics and Reactor Design
CENG 401/402 Transport Phenomena I and II
CENG 403 Equipment Design
CENG 404 Process Design
CENG 411/412 Thermodynamics I and II
CENG 443 Chemical Engineering Lab II
CENG 470 Process Dynamics and Control

**Mathematics**

MATH 101/102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra

MATH 212 Multivariable Calculus
or equivalent honors courses
CAAM 336 Differential Equations in Science and Engineering
or MATH 381 Introduction to Partial Differential Equations

**Physics**

PHYS 101 or 111 Mechanics
PHYS 102 or 112 Electricity and Magnetism

**Mechanical Engineering**

MECH 211 Engineering Mechanics

**Other Courses**

1 approved basic science course
3 courses from the following:
ELEC 243 Electrical Circuits
MSCI 301 Materials Science
CEVE 300 Mechanics of Solids
CEVE 434 Chemical Transport and Fate in the Environment
BIOE 420 Biosystems Transport and Reaction Processes
BIOE 460 Biotechnological Processes
CEVE 411 Air Resource Management
or see requirements for focus areas in environmental science/engineering, bioengineering, materials science/engineering, and computational engineering

The undergraduate curriculum is designed so that outstanding students interested in careers in research and teaching may enter graduate school after earning either bachelor’s degree.
Degree Requirements for B.A. in Chemical Engineering

Students pursuing the B.A. degree in chemical engineering must meet all of the requirements for the B.S.Ch.E. degree except for the following courses: CENG 404 and CENG 470, the additional “basic science” course, and the 3 “other engineering” courses. Free electives may be substituted for these 6 courses to reach at least 132 semester hours for graduation.

Prerequisites for Chemical Engineering Courses. Before undergraduates may register for courses in chemical engineering at the 300 level and above, they must satisfy the following prerequisites.

For CENG 301
Math 101/102
CHEM 121/122 or CHEM 151/152
Corequisite: CENG 303

For CENG 390
CENG 301, 303, and 305
MATH 211/212

For CENG 401
CENG 411
MATH 211/212
PHYS 101/102
Co/Prerequisite: CENG 305

For CENG 402
CENG 401
Co/Prerequisites: CAAM 336 or MATH 381

For CENG 403
CENG 390, 402, and 412
Co/Prerequisites: CENG 470 and MECH 211

For CENG 404
CENG 403

For CENG 411
CENG 301 and 303

For CENG 412
CENG 411

For CENG 470
CENG 390, 402, and 412

With the written consent of the instructor, students may register for a course without completing the required prerequisite(s). Waivers, however, are not transferrable.

Degree Requirements for M.Ch.E., M.S., and Ph.D. in Chemical Engineering

For general university requirements, see Graduate Degrees (pages 65–70).

M.Ch.E. Program. For the M.Ch.E. degree, students must complete at least 30 hours of courses beyond those counted for their undergraduate degree. At least 6 of the courses taken must be upper-level courses in chemical engineering and 1 must be an approved mathematics course. The chemical engineering courses selected should include process design (two semesters) and process control, unless courses in these subjects were taken during the student’s undergraduate studies.

M.S. Program. Candidates for the M.S. degree must:
• Complete at least 18 approved semester hours with high standing
• Submit an original research thesis
• Defend the thesis in a public oral examination
Ph.D. Program. Candidates for the Ph.D. degree must:
• Demonstrate competence in the areas of applied mathematics, thermodynamics, transport processes, and chemical kinetics and reactor design by passing qualifying examinations, usually during the first year of study
• Complete at least 36 approved semester hours with high standing (with department approval, the course requirements may be reduced to 24 hours for students already holding an M.S. degree)
• Submit a thesis that provides evidence of their ability to carry out original research in a specialized area of chemical engineering
• Defend the thesis in a public oral examination

See CENG in the Courses of Instruction section.
Chemistry

The Wiess School of Natural Sciences

Chair
Kenton H. Whitmire

Professors
Andrew R. Barron
W. Edward Billups
Philip R. Brooks
Robert F. Curl, Jr.
Paul S. Engel
Graham P. Glass
Naomi Halas
John S. Hutchinson
James L. Kinsey
John L. Margrave
Ronald J. Parry
Ronald L. Sass
Gustavo E. Scuseria
Richard E. Smalley
James M. Tour
R. Bruce Weisman
Kenton H. Whitmire
Lon J. Wilson

Adjunct Professors
Marco Ciufolini
Tohru Fukuyama
Peter Harland
Michael Metzker
Graham Scott
M. Robert Willcott

Instructor
Melanie Thoms

Lecturers
Lawrence B. Alemany
Mary E. R. McHale

Distinguished Faculty Fellow
Robert H. Hauge

Senior Faculty Fellow
Bruce R. Johnson

Faculty Fellow
Valery Khabashesku

Visiting Professor
Raphael Levine

Recognizing the wide range of studies encompassed by chemistry, the department encourages undergraduates to explore offerings in other departments such as mathematics, computational and applied mathematics, biochemistry, and physics as well as upper-level courses in chemistry. An interdepartmental major is offered in chemical physics. Taking advantage of the department’s extensive facilities, each B.S. degree candidate carries out a program of individual research under the supervision of a faculty member.

Graduate studies emphasize individual research, together with a fundamental understanding of chemistry beyond the students’ specific interests. Faculty research interests include the synthesis and biosynthesis of organic natural products; the synthesis of small cycloalkanes, molecular recognition, and biological catalysis; bioinorganic and organometallic chemistry; main group element and transition metal chemistry; the chemistry of group 13 (III) elements; high-pressure and high-temperature chemistry; fluorine chemistry; chemical vapor deposition; the design of nanophase solids; molecular photochemistry and photophysics; infrared kinetic spectroscopy, laser and NMR
spectroscopy; the study of oriented molecular beams; theoretical and computational chemistry; and the study of fullerene molecules, carbon nanotubes, and their derivatives; polymer synthesis and characterization; molecular electronics; and molecular machines.

Degree Requirements for B.A. in Chemistry

For general university requirements, see Graduation Requirements (pages 20–23). Students choosing to receive a B.A. in chemistry must have a total of at least 120 semester hours at graduation, including the following courses required of all majors.

Core Courses

Chemistry

CHEM 121/122 General Chemistry with laboratory or CHEM 151/152 Honors Chemistry with laboratory
CHEM 211/212 Organic Chemistry
CHEM 215 Organic Chemistry Lab
CHEM 311/312 Physical Chemistry
CHEM 351 Introductory Module in Experimental Chemistry I
CHEM 352 Introductory Module in Experimental Chemistry II
CHEM 353 Introductory Module in Analytical Methods
CHEM 360 Inorganic Chemistry

Mathematics

MATH 101/102 Single Variable Calculus I and II or MATH 121/122
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus or MATH 221/222 Honors Calculus III and IV

Physics

PHYS 101 or 111 Mechanics
PHYS 102 or 112 Electricity and Magnetism

Other

NSCI 230 Computation in the Natural Sciences (or equivalent)

Advanced Courses

Additional Lecture Courses

At least 1 course from the following:
CHEM 401 Advanced Organic Chemistry
CHEM 430 Quantum Chemistry
CHEM 495 Transition Metal Chemistry

Additional Laboratory Courses

At least 3 advanced laboratory module credit hours from the following list:
CHEM 373 Advanced Module in Fullerene Chemistry
CHEM 374 Advanced Module in Synthetic Chemistry
CHEM 375 Advanced Module in Nanochemistry
CHEM 376 Advanced Module in Materials Chemistry
CHEM 377 Advanced Module in Catalysis
CHEM 381 Advanced Module in Physical Chemistry, A
CHEM 382 Advanced Module in Physical Chemistry, B
CHEM 383 Advanced Module in Instrumental Analysis, A
CHEM 385 Advanced Module in Polymer Chemistry
CHEM 391 Advanced Module in Catalysis
CHEM 435 Methods of Computational Quantum Chemistry

To ensure that students receive suitable breadth in their laboratory experience, advanced module selections must be approved by the student’s major committee. Other advanced laboratory courses from chemically related disciplines (biochemistry, materials science, environmental engineering, etc.) may be substituted for these advanced modules, with approval of the committee. Chemistry majors may also substitute 2 advanced organic laboratory module credit hours for CHEM 215, with approval of the committee. Three hours of CHEM 491 (taken for one entire semester) may be substituted for 1 advanced laboratory module if no other CHEM 491 credit is taken in the same semester.
Students in the chemistry B.A. major must satisfy the university distribution requirements and complete no fewer than 64 semester hours in addition to the departmental requirements for the chemistry major, giving a minimum total of 120 hours for graduation.

**Degree Requirements for B.S. in Chemistry**

The core chemistry, math, physics, and NSCI 230 requirements for the B.S. degree are the same as those for the B.A. degree. PHYS 201 *Waves and Optics* and PHYS 202 *Modern Physics* are recommended but not required.

In addition to the core requirements, the B.S. degree requires the following course and laboratory work:

- 2 courses total from the **Additional Lecture Courses** list
- 3 advanced modules from the **Additional Laboratory Courses** list. As with the B.A. degree, 2 advanced laboratory modules may be substituted for CHEM 215 with departmental approval.
- At least 3 semester hours in undergraduate research (CHEM 491) in no less than 2-hour segments. With departmental approval, students may satisfy this requirement with HONS 470/471, which requires participation in CHEM 491 meetings. Students may also satisfy 3 of the 6 required hours in upper-level courses with additional research.
- 6 hours credit in upper-level courses (300 level or higher) in chemistry, mathematics, computational and applied mathematics, physics, biochemistry, or other subjects with adviser approval.

Students in the chemistry B.S. major must satisfy the distribution requirements (see pages 20–23) and complete no fewer than 60 semester hours in addition to the departmental requirements for the chemistry major, giving a minimum total of 128 hours for graduation.

**American Chemical Society Certification.** The Rice Department of Chemistry is on the approved list of the Committee on Professional Training of the American Chemical Society and so can certify that graduates have met the appropriate standards. The B.A. degree is not certifiable. For certification, students must complete:

- All degree requirements for the B.S. degree listed above
- CHEM 495 *Transition Metal Chemistry* as one of the additional lecture courses
- A department-approved course in biochemistry
- 9 hours total in upper-level courses from chemistry, physics, mathematics, computational and applied mathematics, biochemistry, or other courses in science or engineering with the approval of the department. The required course in biochemistry listed above counts toward this total.

A foreign language, preferably German, is recommended.

**Chemical Physics Major.** The chemical physics major leading to a B.S. degree is offered in conjunction with the Department of Physics and Astronomy. Students take upper-level courses in both chemistry and physics, focusing on the applications of physics to chemical systems. Students majoring in chemical physics must complete the following courses:
### Core Courses

**Chemistry**
- CHEM 121/122 *General Chemistry with Laboratory* or CHEM 151/152 *Honors Chemistry with Laboratory*
- CHEM 211 *Organic Chemistry*
- CHEM 311/312 *Physical Chemistry*

**Physics**
- PHYS 101 or 111 *Mechanics*
- PHYS 102 or 112 *Electricity and Magnetism*
- PHYS 201 *Waves and Optics*
- PHYS 202 *Modern Physics*
- PHYS 231 *Elementary Physics Lab II*
- PHYS 301 *Intermediate Mechanics*
- PHYS 302 *Intermediate Electrodynamics*

**Mathematics**
- MATH 101/102 *Single Variable Calculus I and II*
  or MATH 121/122

- MATH 211 *Ordinary Differential Equations and Linear Algebra*
- MATH 212 *Multivariable Calculus*
  or MATH 221/222 *Honors Calculus III and IV*

### Additional Courses
- 1 course from CHEM 212 or CHEM 360
- 2 courses from PHYS 311, PHYS 312, CHEM 430, or CHEM 415
- 6 hours from CHEM 215, CHEM 351, CHEM 352, CHEM 373–391, CHEM 435, PHYS 331, or PHYS 332. Up to 2 hours of independent research (CHEM 491 or PHYS 491/492 may be counted toward this requirement.)
- 2 courses from NSCI 230, CAAM 211, CAAM 212, or mathematics or computational and applied mathematics at the 300 level or above

### Admission Requirements for Accelerated B.S./Ph.D. Program in Chemistry
The high level of training provided in the Rice B.S. program enables certain specially qualified undergraduates to enter an accelerated program that allows them to complete a Ph.D. degree within two or three years after receiving their B.S. degree. Students electing this option must begin their research during the summer following their junior year and continue the research by taking CHEM 491 during their senior year.

### Degree Requirements for M.A. and Ph.D. in Chemistry
For general university requirements, see Graduate Degrees (pages 65–70). Students who have completed course work equivalent to that required for a B.A. or B.S. in chemistry may apply for admission to the Ph.D. program. For more information, see Admission to Graduate Study (pages 64–65).

**M.A. Program.** Students are NOT normally admitted to study for an M.A. degree. However, this degree is sometimes awarded to students who do not wish to complete the entire Ph.D. program. Candidates for the M.A. degree must:
- Complete 6 one-semester courses
- Produce a thesis that presents the results of a program of research approved by the department
- Pass a final oral examination

Students who are admitted to Ph.D. candidacy may apply for an automatic master’s degree.
Ph.D. Program. The Ph.D. is primarily a research degree. Graduate education is aimed at developing each student’s ability to conduct independent, creative research and to develop habits of inquiry that will ensure continuing intellectual development throughout their careers. The completion of the Ph.D. program is expected to take no more than five years of full-time study. Ph.D. students must:

• Complete 6 one-semester graduate-level courses. No courses are specified. Courses are chosen with the approval of the student’s advisory committee and/or faculty adviser. Courses should be at the 400 level or higher. Certain 300 level courses in other departments may be acceptable with departmental approval.

• Pass an examination involving a written and oral presentation of an original research proposal. The written proposal must conform to the format and guidelines established by the department. The guidelines are available in the department office. The proposal must be given to the committee at least one week before the date of the examination. The examination, including any follow-up work deemed necessary by the committee, must be completed within two months of the end of the student’s fourth semester.

• In addition to the course work listed above, the student must participate in CHEM 600, 601, or 602 each semester that the student is in residence.

• The student is required to participate in CHEM 700 Teaching Practicum for four semesters.

• Submit and defend a publishable thesis that represents an original and significant contribution to the field of chemistry.

See CHEM in the Courses of Instruction section.
Civil and Environmental Engineering

The George R. Brown School of Engineering

Chair
Herb Ward

Professors
Philip B. Bedient
Ahmad J. Durrani
Arthur A. Few, Jr.
Mason B. Tomson
Pol D. Spanos
Anestis S. Veletsos
Calvin H. Ward
Mark R. Wiesner

Professors Emeriti
Ronald P. Nordgren
John E. Merwin

Associate Professors
Satish Nagarajaiah
Matthew P. Fraser
Michael Terk
James B. Blackburn
Jean-Yves Bottero
Pat H. Moore
Carroll Oubre
Baxter Vieux

Adjunct Professors

Adjunct Assistant Professor
Charles J. Newell

Lecturers
Joseph Cibor
John Grounds
Moyeen Haque
Stergios Liapis
John E. Merwin
John M. Sedlak
Ed Segner, III
 Tauqir Sheikh
Christof Spieler

Bachelor of Science (B.S.) in Civil Engineering

Degrees Offered: B.A., M.C.E., M.E.E., M.E.S., M.S., Ph.D.

Civil and environmental engineering (C&EE) is a broad and diverse field of study that offers students an education with several degree options. The most flexible degree options are at the bachelor’s level, where students can major in civil engineering or complete a double major with any other Rice University major. The double major has two tracks, one in environmental engineering sciences (EES), and the other in environmental sciences (ES). Three nonthesis graduate degrees (M.C.E., M.E.E., and M.E.S) are available to students who desire additional education and specialization in civil engineering, environmental engineering, or environmental sciences. Joint M.B.A./Master of Engineering degrees are also available in conjunction with the Jesse H. Jones Graduate School of Management.

Students admitted for graduate study leading to M.S. or Ph.D. degrees must complete a rigorous course of study that combines advanced course work with scholarly research culminating in the public defense of a written thesis. Graduate research is carried out in a range of areas reflecting the interests of the department’s faculty. Examples include structural engineering and mechanics, earthquake engineering, geotechnical engineering, computer-aided design, hydrology, water resources and water quality engineering, air pollution and its control, and hazardous waste treatment.

Degree Requirements for B.A. in Civil Engineering

For general university requirements, see Graduation Requirements (pages 20–23). For the B.A. degree, students majoring in civil engineering must have a total of at least 120 semester hours at graduation. The B.A. is not accredited as a professional degree.
Specific requirements include:

MATH 101 and 102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
PHYS 101 Mechanics (with Lab)
PHYS 102 Electricity and Magnetism (with Lab)
CEVE 211 Engineering Mechanics
CEVE 300 Mechanics of Solids I
CEVE 302 Strength of Materials Lab
CEVE 363 Applied Fluid Mechanics

Any two of the following:
CHEM 121 General Chemistry with Lab I or CHEM 122 General Chemistry with Lab 2
ESCI 101 The Earth or ESCI 102 Evolution of the Earth

BIOS 122 Fundamental Concepts in Biology
PHYS 201 Waves and Optics
PHYS 202 Modern Physics

Any two of the following:
MECH 200 Classical Thermodynamics
ELEC 242 Fundamentals of Electrical Engineering II
CAAM 211 Introduction to Engineering Computation
MSCI 301 Materials Science
ESCI 451 Analysis of Environmental Data

Any five additional CEVE courses, selected in consultation with an advisor

Degree Requirements for B.A. in Environmental Science and Engineering

The Department of Civil and Environmental Engineering offers the B.A. as a double major with any other major at Rice University. The double major has two tracks: one in environmental engineering sciences (EES), and one in environmental sciences (ES). Faculty from the Wiess School of Natural Sciences work with C&EE faculty in offering courses, advising, and administering the ES track of this double major. The double major is designed to accommodate:

• Students wishing to obtain a solid preparation for later graduate study in environmental engineering, environmental science, or other careers as environmental professionals (e.g., environmental economics or environmental law), and
• Students pursuing nonenvironmental careers (e.g., historians, lawyers, mechanical engineers, chemists) who will nonetheless benefit from a knowledge of the environmental dimensions of problems and issues they will confront.

The 68-semester-hour (minimum) double major in environmental science and engineering may be taken in conjunction with any stand-alone major offered in any school of the university. The EES track is highly recommended for students wishing to pursue graduate study in environmental engineering. Students choosing the ES track are encouraged to select one of the following participating faculty members from the Wiess School of Natural Sciences as their adviser:

John Anderson (Earth Science)
Andre Droxler (Earth Science)
Arthur Few (Physics and Astronomy and Environmental Science)
F. M. Fisher (Ecology and Evolutionary Biology)
P. A. Harcombe (Ecology and Evolutionary Biology)
William Leeman (Earth Science)
D. Queller (Ecology and Evolutionary Biology)
R. L. Sass (Ecology and Evolutionary Biology)
Dale Sawyer (Earth Science)
J. E. Strassmann (Ecology and Evolutionary Biology)
A. Thornhill (Ecology and Evolutionary Biology)
The key components of the double major include:

- Foundation course work in mathematics, physics, chemistry, and biology, required in both tracks.
- A set of 5 undergraduate core courses, required of all double majors, that acquaint undergraduates with a range of environmental problems encountered by scientists, engineers, managers, and policy makers. Core courses in the EES track cover the breadth of water, soil, and air media within the context of engineering technologies and approaches to problem solving, and stress quantitative analytical tools used to address environmental problems. Core courses in the ES track stress the components of the global environment and their interactions.
- 24 semester hours of environmental electives, in both tracks, from four categories: (1) social sciences and business, (2) humanities and architecture, (3) natural sciences, and (4) engineering. Students may petition to have electives, in addition to those currently listed, apply toward the double major.

**Specific Course Requirements for a Double Major (B.A.) in Environmental Science and Engineering**

### General Prerequisites

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 121 or 151</td>
<td>General Chemistry with Laboratory</td>
</tr>
<tr>
<td>CHEM 122 or 152</td>
<td>General Chemistry with Laboratory</td>
</tr>
<tr>
<td>MATH 101</td>
<td>Single Variable Calculus I</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Single Variable Calculus II</td>
</tr>
<tr>
<td>PHYS 101 or 125 or 111</td>
<td>Mechanics</td>
</tr>
<tr>
<td>PHYS 102 or 126 or 112</td>
<td>Electricity and Magnetism</td>
</tr>
<tr>
<td>BIOS 201</td>
<td>Introductory Biology</td>
</tr>
<tr>
<td>BIOS 202</td>
<td>Introductory Biology</td>
</tr>
</tbody>
</table>

(Environmental sciences track only)

### Core Courses: Environmental Sciences Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 325</td>
<td>Ecology</td>
</tr>
<tr>
<td>GEOL 326</td>
<td>Environmental Geology</td>
</tr>
<tr>
<td>PHYS 443</td>
<td>Atmospheric Science</td>
</tr>
<tr>
<td>or CEVE 411</td>
<td>Air Resource Management</td>
</tr>
</tbody>
</table>

**2 of the following 3 courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEVE 401</td>
<td>Introduction to Environmental Chemistry</td>
</tr>
<tr>
<td>CEVE 412</td>
<td>Hydrology and Watershed Analysis</td>
</tr>
<tr>
<td>GEOL 451</td>
<td>Analysis of Environmental Data</td>
</tr>
</tbody>
</table>

Core Courses: Environmental Engineering Sciences Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEVE 401</td>
<td>Introduction to Environmental Chemistry</td>
</tr>
<tr>
<td>CEVE 403</td>
<td>Principles of Environmental Engineering</td>
</tr>
<tr>
<td>CEVE 411</td>
<td>Air Resource Management</td>
</tr>
<tr>
<td>CEVE 412</td>
<td>Hydrology and Watershed Analysis</td>
</tr>
<tr>
<td>CEVE 434</td>
<td>Chemical Transport and Fate in the Environment</td>
</tr>
</tbody>
</table>
Sample Curriculum in the Environmental Engineering Sciences Track

**Freshman Year**

**Fall**
MATH 101 *Single Variable Calculus I*
PHYS 101 *Mechanics*
CHEM 121 *General Chemistry with Laboratory*
Electives
HPER 101

**Spring**
MATH 102 *Single Variable Calculus II*
PHYS 102 *Electricity and Magnetism*
CHEM 122 *General Chemistry with Laboratory*
Electives
HPER 102

**Sophomore Year**

**Fall**
MATH 211 *Ordinary Differential Equations*
BIOS 201 *Introductory Biology*
Environmental Elective*
Environmental Elective

**Spring**
Environmental Elective
Environmental Elective

*CEVE 201 *Introduction to Environmental Systems* recommended as environmental elective

24 semester hours of environmental electives are required, with at least 6 semester hours of course work from each of four categories. Consult the faculty adviser or Department of Environmental Science and Engineering for a list of approved electives.

Sample Curriculum in Environmental Sciences Track

**Freshman Year**

**Fall**
MATH 101 *Single Variable Calculus I*
PHYS 101 *Mechanics*
CHEM 121 *General Chemistry with Laboratory*
Electives
HPER 101

**Spring**
MATH 102 *Single Variable Calculus II*
PHYS 102 *Electricity and Magnetism*
CHEM 122 *General Chemistry with Laboratory*
Electives
HPER 102

**Sophomore Year**

**Fall**
NSCI 230 *Computation in the Natural Sciences*
BIOS 201 *Introductory Biology*
Environmental Elective
Environmental Elective

**Spring**
BIOS 202 *Introductory Biology*
Environmental Elective
Environmental Elective
24 semester hours of environmental electives are required, with at least 6 semester hours of course work from each of four categories. Consult the faculty adviser or Department of Civil and Environmental Engineering for a list of approved electives.

### Degree Requirements for M.C.E., M.E.E., M.E.S., M.S., and Ph.D.

**Admission.** Applicants pursuing graduate education in structural engineering, structural mechanics, and geotechnical engineering should have a B.S.C.E. with a significant emphasis on structural engineering, but students with other undergraduate degrees may apply if they have adequate preparation in mathematics, mechanics, and structural analysis and design. Courses such as engineering technology or construction technology, however, do not represent adequate preparation. Applicants for the M.E.E. and the M.E.S. must have a B.S. or B.A. in related areas of science and engineering. Successful applicants typically have at least a 3.00 (B) grade point average in undergraduate work and high Graduate Record Examination (GRE) scores. For general university requirements, see Graduate Degrees (pages 65–70) and Admission to Graduate Study (pages 64–65).

**M.C.E. Program.** The Master of Civil Engineering (M.C.E.) is a professional nonthesis degree requiring 30 hours of study. Students with a B.S. in Civil Engineering are eligible to apply. Areas of study include structural dynamics, offshore technology, reinforced concrete and prestressed concrete, reliability of systems, random vibrations, soil dynamics, soil-structure interaction, and structural control. For general university requirements, see Graduate Degrees (pages 65–70). To earn an M.C.E. degree, students must: complete 30 semester hours of approved courses

**M.B.A./M.C.E. Program.** For general university requirements, see Graduate Degrees (pages 65–70). See also Management and Accounting (pages 197–207). To earn a M.B.A./M.C.E. degree, students must:
- Complete 24 semester hours of civil engineering courses
- Complete 52 semester hours of business administration courses

**M.E.E. Program.** The Master of Environmental Engineering (M.E.E.) is a professional nonthesis degree requiring 30 hours of study. Students who have a B.S. degree in any field of engineering may apply. Areas of study include hydrology and water resources engineering, water treatment, water chemistry, air pollution and its control, and hazardous waste treatment. Although the program is open to all qualified applicants, candidates usually are completing undergraduate programs in environmental engineering and wish to extend their education into a fifth year of specialized study.
M.E.S. Program. The Master of Environmental Science (M.E.S.) is a professional nonthesis degree requiring 30 hours of study. To enter the M.E.S. program, applicants must have a B.A. or B.S. degree in any of the natural or physical sciences. Areas of study include hydrology and water resources engineering, water treatment, water chemistry, air pollution and its control, and hazardous waste treatment. Although the program is open to all qualified applicants, candidates typically are completing undergraduate programs in environmental science and wish to extend their education into a fifth year of specialized study.

M.S. Program. The Master of Science degree is offered in both civil engineering and environmental engineering. For general university requirements, see Graduate Degrees (pages 65–70). To earn a M.S. degree, students must:

- Complete at least 24 semester hours of approved courses. For students studying Environmental Engineering this must include one course each in environmental chemistry, water treatment, hydrology, and air quality (comparable course work completed previously may be substituted for the core courses)
- Select a thesis committee according to department requirements and conduct original research in consultation with the committee.
- Present and defend in oral examination an approved research thesis.

Students take the oral exam only after the committee determines the thesis to be in a written format acceptable for public defense. Normally, students take two academic years and the intervening summer to complete the degree.

Students intending to extend their studies into the Ph.D. degree program should note that the department does not grant an automatic M.S. degree to candidates who have not written a satisfactory master’s thesis.

Ph.D. Program in Civil Engineering. For general university requirements, see Graduate Degrees (pages 65–70). To earn a Ph.D. degree in civil engineering, students must:

- Complete at least 48 semester hours of approved courses with high standing.
- Pass a comprehensive preliminary examination testing the candidate’s knowledge of the field and ability to think in a creative manner.
- Pass an oral qualifying examination on the proposed thesis research and related topics.
- Complete a thesis that constitutes an original contribution to knowledge.
- Pass a final public oral examination on the thesis and related topics.

Ph.D. Program in Environmental Engineering. To earn a Ph.D. degree in environmental engineering sciences, candidates must successfully accomplish the following (spending at least four semesters in full-time study at Rice):

- Complete 90 semester hours of approved course work with high standing.
- Pass a preliminary written examination on the field of environmental engineering sciences.
- Pass a qualifying examination on course work, proposed research, and related topics.
- Complete a dissertation indicating an ability to do original and scholarly research.
- Pass a formal public oral examination on the thesis and related topics.
Ph.D. candidates in environmental engineering sciences take the preliminary exam, administered by department faculty, after two semesters of course work. Candidates who pass this exam then form a doctoral committee according to department requirements. The qualifying examination administered by the doctoral committee after candidates develop a research proposal evaluates their preparation for the proposed research and identifies any areas requiring additional course work or study.

See CEVE in the Courses of Instruction section.
The classical studies major offers instruction in the Greek and Latin languages, in Greek and Roman literature (studied in the original and in translation), in the classical civilizations surveyed as a whole, and in particular themes, genres, and periods of classical culture and its influence through subsequent ages.

We recognize that students come to the study of ancient Greece and Rome with a whole spectrum of different kinds of interest. Some will want to concentrate on learning the ancient languages and reading the classical texts in the original Greek or Latin. Others will desire a broader introduction to the cultures of Greece and Rome and their legacy. Still others will be looking for some combination of these two approaches. With this in mind, the classical studies major provides maximum flexibility without sacrifice of focus. We cater to students who wish to prepare for graduate school in classical studies and also to students who are interested in Greek and Roman culture for other reasons and who wish to take a less specialized approach. Students will be able to explore ancient Greece and Rome from a variety of different angles and with whatever emphasis best suits their individual needs and goals.

To satisfy the requirements for the classical studies major, students must complete 30 semester hours of courses listed under “Greek,” “Latin,” and “Classics.” Courses listed under “Greek” and “Latin” concentrate on the acquisition of language skills and on the reading and interpretation of texts in the original languages. Courses listed under “Classics” explore, in translation, the literature, history, philosophy, art, and other aspects of Greek and Roman civilization and also the effect that Greece and Rome have had on literature and other traditions in the West. These courses in translation regularly include freshman seminars.

Classical Studies majors will also, if they wish, have the opportunity to engage in research. In the final semester of study, a student majoring in Classical Studies may enroll in CLAS 493, in which the student writes a senior thesis on a topic of the student’s choice in close consultation with a particular faculty member.

Further information on the classical studies major is available from faculty members. Faculty also help students arrange travel to Greece or Italy, whether to work on a dig or to study at the Intercollegiate Center for Classical Studies in Rome.
Degree Requirements for B.A. in Classical Studies

For general university requirements, see Graduation Requirements (pages 20–22). The requirements listed here are effective for students declaring a classical studies major in 2002–03 or later. Others should consult the General Announcements for 2001–02, or talk to the undergraduate coordinator.

Students majoring in classical studies must complete at least 30 semester hours (10 courses) listed under “Greek,” “Latin,” or “Classics.” The precise combination of Greek, Latin, and Classics courses is to be determined by the student in consultation with the undergraduate coordinator, to ensure an individual course of study that is tailored to the student’s own interests and goals.

Some courses offered by the departments of History and Philosophy also satisfy requirements for the classical studies major. For advice on which courses do this, consult any member of the classical studies faculty.

See CLAS, GREE, and LATI in the Courses of Instruction section.
The School of Social Sciences

**Director**
Eric Margolis

**Professors**
- John W. Clark, Jr.
- Philip W. Davis
- Richard E. Grandy
- Stephen L. Klineberg
- Mark Kulstad
- Randi C. Martin
- James Pomerantz
- David J. Schneider
- Devika Subramanian
- Stephen A. Tyler
- Michael Watkins
- James F. Young

**Professor Emeritus**
- Sydney M. Lamb

**Associate Professors**
- Michel Achard
- Suzanne E. Kemmer
- David M. Lane
- Eric Margolis
- Tony Ro

**Assistant Professors**
- Michael Barlow
- Darcy Burgund
- Michael Byrne
- Denise Chen
- Robert Englebretson
- Nancy Niedzielski
- Geoffrey Potts
- Sherrilyn Roush

**Degree Offered:** B.A.

The cognitive sciences provide a multidisciplinary study of the mind. Researchers in this field seek to understand such mental phenomena as perception, thought, memory, the acquisition and use of language, learning, concept formation, and consciousness.

Research projects in the cognitive sciences may involve observing the development of mental skills in children, programming computers to engage in complex problem solving, or analyzing the nature of meaning. Methods include observation and analysis, model building, experimentation, and the computer simulation of mental structures and processes. Some investigators focus on relations between brain structures and behavior, some work with computer simulation, and others work at more abstract philosophical levels.

**Degree Requirements for B.A. in Cognitive Science**

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in cognitive sciences must complete 7 core courses and 5 additional courses (see below). Among the 5 additional courses, at least 3 and no more than 4 must be in a single area of concentration—linguistics, philosophy, psychology, or neuroscience.

**Introductory Courses**

Because the major is interdisciplinary, no single course introduces the full range of the subject. However, students who are interested in majoring in cognitive sciences should take one or more of the following courses during their first and second years: LING 200, PHIL 103, PSYC 101, or PSYC 203.
Honors Program

Students with a 3.5 GPA in cognitive sciences and 3.3 overall GPA may apply for the cognitive sciences honors program. Students in the honors program are expected to conduct an independent research project of either one or two semesters under the guidance of a member of the cognitive sciences faculty. Students who wish to enter this program should consult with prospective advisors during their junior year and submit a proposal by the end of the semester preceding the initiation of the project. Typically, this means submitting a proposal by the end of the junior year and beginning the project during the fall of the senior year. Proposals will be reviewed by both the supervisor and the program director. Students who undertake a two-semester project will be allowed to continue into the second semester only if their advisor judges that sufficient progress has been made during the first semester. At the end of a project, honors students are expected to submit a detailed final report to both their advisor and the program director and make an oral presentation. For more details, contact the program director.

Core Courses

The core courses are divided into seven groups. Majors must take one course from each group.

**Computer Science**
- COMP 200  *Elements of Computer Science*
- COMP 210  *Introduction to Principles of Scientific Computation*

**Psychology**
- PSYC 203  *Introduction to Cognitive Psychology*

**Linguistics**
- LING 200  *Introduction to the Scientific Study of Language*
- LING 300  *Linguistic Analysis*

**Advanced Linguistics**
- LING 306  *Language and the Mind*
- LING 315  *Semantics*

**Philosophy**
- PHIL 103  *Philosophical Aspects of Cognitive Science*
- PHIL 312  *Mathematical Logic*
- PHIL 305  *Philosophy of Mind*

**Advanced Psychology**
- PSYC 351  *Psychology of Perception*
- PSYC 362  *Biopsychology*

**Miscellaneous**
- COMP 440  *Artificial Intelligence*
- LING 317  *Language and Computers*
- LING 315  *Linguistic Analysis*
- PSYC 430  *Computational Modeling of Cognitive Processes* (formerly cross-listed as CSCI 410)
- PSYC 352  *Formal Foundations of Cognitive Sciences*

**Additional Courses**

*Note: you may not use a single course to satisfy both a core course requirement and an additional course requirement.*
Linguistics
LING 200 Introduction to the Scientific Study of Language
LING 300 Linguistic Analysis
LING 301 Phonetics
LING 306 Language and the Mind
LING 311 Phonology
LING 315 Semantics
LING 317 Language and Computers
LING 402 Syntax and Computers
LING 403 Modern Linguistic Theory
LING 411 Neurolinguistics
LING 412 Language and Intelligence
LING 467 Computational Projects
LING 490 Discourse Analysis

Neuroscience
Many of the neuroscience courses are taught by Baylor College of Medicine faculty. For more information, see http://www.ruf.rice.edu/~neurosci/.

BIOS 421 Neurobiology
ELEC 481 Fundamentals of Systems Physiology and Biophysics
LING 411 Neurolinguistics
PYSC 362 Biopsychology
PSYC 432 Brain and Behavior (formally cross-listed as CSCI 420)
NEUR 500 Functional Neuroanatomy and Systems Neuroscience
NEUR 501 Cognitive Neuroscience I
NEUR 502 Cognitive Neuroscience II
NEUR 503 Molecular Neuroscience I and II
NEUR 504 Cellular Neurophysiology I and II
NEUR 505 Optical Imaging in Neuroscience
NEUR 506 Learning and Memory
NEUR 511 Integrative Neuroscience Core Course (first semester)
NEUR 512 Integrative Neuroscience Core Course (second semester)
NEUR 515 Neural Development

Philosophy
PHIL 103 Philosophical Aspects of Cognitive Science
PHIL 303 Theory of Knowledge
PHIL 305 Mathematical Logic
PHIL 312 Philosophy of Mind
PHIL 353 Philosophy of Language
PHIL 357 Incompleteness, Undecidability, and Computability

Psychology
PSYC 308 Memory
PSYC 309 Psychology of Language
PSYC 340 Research Methods
PSYC 351 Psychology of Perception
PSYC 352 Formal Foundations of Cognitive Science
PSYC 360 Thinking
PSYC 362 Biopsychology
PSYC 370 Introduction to Human Factors
PSYC 409 Methods in Human-Computer Interaction
PSYC 411 History of Psychology
PSYC 430 Computational Modeling of Cognitive Processes
PSYC 432 Brain and Behavior (formally cross-listed as CSCI 420)
PSYC 441 Human-Computer Interaction
PSYC 465 Olfactory Perception

Other Departments
ANTH 406 Cognitive Studies in Anthropology and Linguistics
ELEC 201 An Introduction to Engineering Design
ELEC 498 Introduction to Robotics
STAT 300 Model Building

See CSCI in the Courses of Instruction Section.
Computational and Applied Mathematics

The George R. Brown School of Engineering

Chair
William W. Symes

Professors
John Edward Akin (joint: MEMS)
Michael M. Carroll (joint: MEMS)
Steven J. Cox
Danny C. Sorensen
William W. Symes
Richard A. Tapia
Yin Zhang

Professors Emeriti
Robert E. Bixby
Sam H. Davis (joint: CENG)
John E. Dennis
Angelo Miele (joint: MEMS)
Paul E. Pfeiffer
Henry Rachford
Chao-Cheng Wang (joint: MEMS)

Associate Professors
Liliana Borcea
Matthias Heinkenschloss

Assistant Professors
Mark Embree
Petr Kloucek

Adjunct Professors
J. Bee Bednar
Richard Carter
Evin Joyce Cramer
Elmer Eisner
Roland Glowinski
Emilio J. Nuñez
Donald W. Peaceman
Michael B. Ray
Jacques R. Tabanou
Phuong A. Vu

Adjunct Associate Professors
Amr El-Bakry
Michael W. Trosset

Adjunct Assistant Professors
Charles Audet
Aladin M. Boriek
Cassandra M. McZeal

Research Professors
Robert E. Bixby
John E. Dennis

Faculty Fellows
Alan Carle
Michael Fagan

Degrees Offered:  B.A., M.C.A.M., M.C.S.E., M.A., Ph.D.

Courses within this major can provide foundations applicable to the many fields of engineering, physical sciences, life sciences, behavioral and social sciences, and computer science. Undergraduate majors have considerable freedom to plan a course of study consistent with their particular interests.

The professional degree (M.C.A.M.), for persons interested in practicing within this field, emphasizes general applied mathematics, operations research and optimization, and numerical analysis, while the M.A. and Ph.D. programs concentrate on research. Faculty research interests fall in the four general areas of numerical analysis and computation, physical mathematics, operations research and optimization, and mathematical modeling in physical, biological, or behavioral sciences.

A further advanced degree program in computational science and engineering (C.S.E.) addresses the current need for sophisticated computation in both engineering and the sciences. Such computation requires an understanding of parallel and vector capabilities and a range of subjects including visualization, networking, and programming environments. An awareness of a variety of new algorithms and analytic techniques is also essential to maximizing the power of the new computational tools.
A joint M.B.A./Master of Engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

**Degree Requirements for B.A. in Computational and Applied Mathematics**

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in computational and applied mathematics are required to complete the 51 semester hours spelled out in the following program of study.

**Introductory Courses:** Typically completed during the first two years

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 101</td>
<td>Single Variable Calculus I*</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Single Variable Calculus II</td>
</tr>
<tr>
<td>MATH 212</td>
<td>Multivariable Calculus</td>
</tr>
<tr>
<td>COMP 110</td>
<td>Computation in Science and Engineering*</td>
</tr>
</tbody>
</table>

*Students with prior experience with calculus and/or computational science may petition the department for a waiver.

Entering students should enroll in the most advanced course commensurate with their background; advice is available from the CAAM department during Orientation Week.

**Intermediate Courses:** Typically completed by the end of the third year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAM 336</td>
<td>Differential Equations in Science and Engineering</td>
</tr>
<tr>
<td>(or STAT 310 Probability and Statistics or STAT 331 Applied Probability)</td>
<td></td>
</tr>
<tr>
<td>CAAM 335</td>
<td>Matrix Analysis</td>
</tr>
<tr>
<td>CAAM 336</td>
<td>Differential Equations in Science and Engineering</td>
</tr>
</tbody>
</table>
| (or STAT 310 Probability and Statistics or STAT 331 Applied Probability) | **Advanced Courses:** Typically completed during the fourth year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAM 453</td>
<td>Numerical Analysis I</td>
</tr>
<tr>
<td>CAAM 454</td>
<td>Numerical Analysis II</td>
</tr>
</tbody>
</table>

Electives: 5 Courses at 300 level or above; 2 of which must be at the 400 level or above. (Chosen in consultation with the CAAM undergraduate advisor.)

**Highly Recommended Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAM 415</td>
<td>Theoretical Neuroscience</td>
</tr>
<tr>
<td>CAAM 420</td>
<td>Computational Science I</td>
</tr>
<tr>
<td>CAAM 436</td>
<td>Partial Differential Equations of Mathematical Physics</td>
</tr>
<tr>
<td>CAAM 460</td>
<td>Optimization Theory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 423</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>MATH 425</td>
<td>Real Analysis</td>
</tr>
<tr>
<td>MATH 427</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>STAT 431</td>
<td>Mathematical Statistics I</td>
</tr>
<tr>
<td>STAT 432</td>
<td>Mathematical Statistics II</td>
</tr>
</tbody>
</table>

**Degree Requirements for M.C.A.M., M.A., and Ph.D. in Computational and Applied Mathematics**

**Admission.** Admission to graduate study in computational and applied mathematics is open to qualified students holding bachelor’s or master’s degrees (or their equivalent) in engineering, mathematics, or the physical, biological, mathematical, or behavioral sciences. Department faculty evaluate the previous academic record and credentials of each applicant individually. For general information, see Graduate Degrees (pages 65–70) and Admission to Graduate Study (pages 64–65).
Applicants should be aware that it normally takes two years to obtain a master’s degree and an additional two to four years for the doctoral degree.

**M.C.A.M. Program.** This professional degree program emphasizes the applied aspects of mathematics. The M.C.A.M. degree requires satisfactory completion of at least 30 semester hours of course work approved by the department.

**M.A. Program.** For an M.A. in computational and applied mathematics, students must:
- Complete at least 30 semester hours at the graduate level, including 5 courses in computational and applied mathematics, in addition to thesis work
- Produce an original thesis acceptable to the department
- Perform satisfactorily on a final public oral examination on the thesis

For students working toward the Ph.D., successful performance on the master’s thesis may fulfill the Ph.D. thesis proposal requirements upon approval by the thesis committee.

**Ph.D. Program.** For a Ph.D. in computational and applied mathematics, students must:
- Complete a course of study approved by the department, including at least 2 courses outside the major area
- Perform satisfactorily on preliminary and qualifying examinations and reviews
- Produce an original thesis acceptable to the department
- Perform satisfactorily on a final public oral examination on the thesis

**Financial Assistance.** Graduate fellowships, research assistantships, and graduate scholarships are available and are awarded on the basis of merit to qualified students. Current practice in the department is for most doctoral students in good standing to receive some financial aid.

**Degree Requirements for M.C.S.E. and Ph.D. in Computational Science and Engineering**

**C.S.E. Program Area.** Recognizing the increasing reliance of modern science and engineering on computation as an aid to research, development, and design, the Department of Computational and Applied Mathematics, in conjunction with the Departments of Biochemistry and Cell Biology, Earth Science, Computer Science, Chemical Engineering, Electrical and Computer Engineering, Environmental Science and Engineering, and Statistics, has established an advanced degree program in computational science and engineering (C.S.E.). The program focuses on modern computational techniques and provides a resource for training and expertise in this area.

The program is administered by a faculty committee chosen by the deans of engineering and natural sciences, with ultimate oversight by the provost. The Computational Science Committee (CSC) helps students design an appropriate course of study and sets the examination requirements.

Students may enter the C.S.E. program either directly or indirectly through one of the participating departments (see list above). In all cases, however, students must fulfill the admissions requirements of one department, which is their associated department. Students then meet the normal requirements for graduate study within that department in every way (including teaching and other duties) except that the curriculum and examination requirements are set by the CSC.
M.C.S.E. Program. This program’s intent is to produce professional experts in scientific computing able to work as part of an interdisciplinary research team. Training is concentrated in state-of-the-art numerical methods, high-performance computer architectures, use of software development tools for parallel and vector computers, and the application of these techniques to at least one scientific or engineering area. For general university requirements, see Graduate Degrees (pages 65–70).

For the M.C.S.E. degree, students must complete at least 30 semester hours of course work approved by the CSC; no more than 2 of the courses may be taken at the 300 level, taken outside the C.S.E. program area, or satisfied by transfer credit. Each student’s program of study must meet the requirements listed below. Modification of requirements can be requested by petition.

Required Courses
COMP 412 Compiler Construction
(or ELEC 425 Computer Systems Architecture)
CAAM 420 Computational Science I
(taken as soon as possible)
CAAM 520 Computational Science II
(taken as soon as possible)

1 course from the following:
CAAM 452 Computational Methods for Differential Equations
CAAM 453 Numerical Analysis I
CAAM 454 Numerical Analysis II
CAAM 464 Numerical Optimization
CAAM 551 Numerical Linear Algebra

Computational Science Electives
4 courses selected from an approved list of COMP or CAAM courses (at least 2 courses at the 500 level)

Open Electives
2 approved courses other than CAAM or COMP courses at the 300 level or above
(a computational project taken within a participating department also satisfies this requirement)

Application Areas
An appropriate sequence of courses from a participating application area at the 300 level or above

Ph.D. Program. Study at the doctoral level seeks to advance the field through original research. For general university requirements, see Graduate Degrees (pages 65–70). For the Ph.D. in computational science and engineering, students must:

- Complete a course of study approved by the CSC, including at least 2 courses outside the major area
- Perform satisfactorily on preliminary and qualifying examinations and reviews
- Complete 2 courses or a reading examination on an approved foreign language
- Produce an original thesis acceptable to the CSC
- Perform satisfactorily on a final public oral examination on the thesis

See CAAM in the Courses of Instruction section.
Computer Science

The George R. Brown School of Engineering

Chair
Keith Cooper

Professors
Robert S. Cartwright, Jr.
Peter Druschel
Ronald N. Goldman
G. Anthony Gorry
Kenneth W. Kennedy, Jr.
Moshe Y. Vardi
Joe D. Warren
Devika Subramanian

Adjunct Professors
Jack Dongarra
Geoffrey Fox
Charles Henry
S. Lennart Johnsson

Associate Professors
Alan L. Cox
Dave Johnson
Lydia Kavraki

Adjunct Associate Professors
P. Read Montague
Scott K. Warren

Assistant Professors
Eugene Ng
Scott Rixner

Adjunct Assistant Professor
Walid Taha
Dan Wallach

Senior Faculty Fellow
Vikram Adve

Research Scientists
Bradley Broom
Zoran Budimlic
Robert Fowler
Richard Hanson
Guohua Jin
Charles Koelbel
Linda Torczon

Lecturers
Ian Barland
John Greiner
Dung “Zung” Nguyen
Stephen Wong

Postdoctoral Research Associate
Doron Bustan
Mark Moll

Joint Appointments

(with Electrical and Computer Engineering)
Professor
J. Robert Jump

Associate Professors
Joseph Cavallaro
Edward Knightly
Peter Varman

Assistant Professor
Vijay Pai

(with Psychology)
Professor
Daniel N. Osherson

(with Chemistry)
Professor
James Tour

Degrees Offered: B.A., B.S.C.S., M.C.S., M.S., and Ph.D.
Computer science is concerned with the study of computers and computing, focusing on algorithms, programs and programming, and computational systems. The main goal of the discipline is to build a systematic body of knowledge, theories, and models that explain the properties of computational systems, and to show how this body of knowledge can be used to produce solutions to real-world computational problems. Computer science is the intellectual discipline underlying information technology, which is widely accepted now as the ascendant technology of the next century. Students in computer science at Rice benefit from the latest in equipment and ideas as well as the flexibility of the educational programs. The research interests of the faculty include algorithms and complexity, artificial intelligence and robotics, compilers, distributed and parallel computation, graphics and visualization, operating systems, and programming languages.

The department offers two undergraduate degrees: the Bachelor of Arts degree (B.A.) and the Bachelor of Science in Computer Science degree (B.S.C.S.). The department offers two master’s degrees: the professional Master of Computer Science degree (M.C.S.) and the research-oriented Master of Science degree (M.S.). The department also offers a doctoral degree (Ph.D.).

A joint M.B.A./Master of Engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

**Degree Requirements for B.A. in Computer Science**

For general university requirements, see Graduation Requirements (pages 20–23). The undergraduate program in computer science has been designed to accommodate a wide range of student interests. The program is sufficiently flexible for a student to customize it to his or her interests. A student can develop a broad educational program that couples computer science education with a variety of other fields in engineering, natural sciences, the humanities, or social sciences. Alternatively, a program might be designed for a student preparing for graduate study in computer science or for a career in computing and information technology.

The undergraduate program consists of required core courses, which are introductory courses covering material required of all majors; required breadth courses, which are upper-level courses ensuring knowledge in a broad range of areas; and electives, which give students the freedom to explore specific interests. Students majoring in computer science must complete between 58 and 60 semester hours of courses in these three categories. Students graduating with a B.A. in computer science must have at least 120 semester hours.

**Core Courses:** 8 courses for a total of 28 hours, required for all majors, usually taken in the freshman and sophomore years

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 101/102</td>
<td>Single Variable Calculus I and II</td>
</tr>
<tr>
<td>COMP 210</td>
<td>Introduction to Principles of Scientific Computation</td>
</tr>
<tr>
<td>COMP 212</td>
<td>Intermediate Programming</td>
</tr>
<tr>
<td>COMP 280</td>
<td>Mathematics of Computer Science</td>
</tr>
<tr>
<td>COMP 314</td>
<td>Applied Algorithms and Data Structures</td>
</tr>
<tr>
<td>COMP 320</td>
<td>Introduction to Computer Organization</td>
</tr>
</tbody>
</table>

*Preferred choice*

**I course from the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>Ordinary Differential Equations and Linear Algebra</td>
</tr>
<tr>
<td>MATH 221</td>
<td>Honors Calculus III</td>
</tr>
</tbody>
</table>

*Preferred choice*
**Breadth Courses:** 7 courses for a total of 23 hours, required for all majors, usually taken in the junior and senior years

- STAT 331* or 310 *Probability*
- CAAM 353 *Numerical Analysis*
- MATH 355* or CAAM 335 *Linear Algebra*
- COMP 311 or 412 *Programming Languages*
- COMP 481 or 482 *Theory*
- COMP 421 *Operating Systems*
- ELEC 220 *Computer Engineering Fundamentals*

**Electives:** 2 courses for a total of 6 to 8 hours in computer science at the 300 level or higher. One of these may be an independent study project.

**Degree Requirements for B.S. in Computer Science**

The B.S. degree is designed for students who are interested in a more in-depth study of computer science to prepare themselves for a professional career in the computing industry. To receive a B.S. degree, a student must complete all the requirements of the B.A. degree (i.e., core, breadth, and electives), with the addition of PHYS 101/102 (or PHYS 111/112) (7 hours) to ensure a strong scientific background. In addition, the student must complete the depth component. This component consists of a coherent set of four or five courses specializing in some area of computer science. The same course cannot satisfy both the breadth requirement and the depth requirement. Students can adopt a preset depth component or design their own components, consisting of at least 15 hours. B.S. degree plans have to be approved by departmental advisers by no later than the end of the junior year. Sample curricula are listed on the departmental website; more information is available from department advisers. The computer science requirements of the B.S. degree total 79 to 81 semester hours. For a B.S. degree in computer science, a total of 128 semester hours is required.

**Degree Requirements for M.C.S. and M.S. in Computer Science**

For general university requirements, see Graduate Degrees (pages 65–70). The professional M.C.S. degree is a terminal degree for students intending to pursue a technical career in the computer industry. To earn the M.C.S. degree, students must successfully complete 30 semester hours of course work approved by the department and following the plan formulated in consultation with the department adviser.

Areas of concentration for the M.C.S. include algorithms and complexity, artificial intelligence, compiler construction, distributed and parallel computing, graphics and geometric modeling, operating systems, and programming languages. The professional program normally requires three semesters of study.

The M.C.S. degree with a concentration in Bioinformatics is for students intending to pursue a technical career in the biotechnology industry. Students learn to integrate mathematical and computational methods to analyze biological, biochemical, and biophysical data. This program requires prior background in computer science, biosciences, and mathematics. To earn this degree, students must successfully complete 40 hours of approved course work meeting departmental requirements. This program normally requires four semesters of study.

The M.S. degree is a research degree requiring a thesis in addition to course work.
Degree Requirements for Ph.D. in Computer Science

The Ph.D. degree is for students planning to pursue a career in computer science research and education. The doctoral program normally requires four to six years of study. To earn a Ph.D. in computer science, students must:

• Meet departmental course requirements
• Complete a COMP 590 project by the end of the third semester
• Complete a master’s thesis by the end of the fifth semester, if a previous master’s thesis has not been approved by the graduate committee
• Pass a qualifying examination in an area of specialization within seven semesters after entering the Ph.D. program
• Conduct original research, submit an acceptable Ph.D. thesis proposal, and successfully defend the thesis proposal
• Submit an acceptable Ph.D. thesis that reports research results and pass a final oral defense

Students who successfully meet the first three requirements are awarded the Master of Science degree. Students successfully meeting all requirements, plus any departmental and university requirements, are awarded the Ph.D. degree.

Financial Assistance. Fellowships and research assistantships are available to students in the Ph.D. program. Both provide a monthly stipend for the academic year and cover all tuition expenses. More substantial monthly stipends may be available during the summer for students working on departmental research projects. In all cases, continued support is contingent on satisfactory progress in the program. Ph.D. students also are expected to assist in the teaching and administration of undergraduate and graduate courses.

Additional Information. For further information and application materials, write the Department of Computer Science–MS 132, Rice University, P.O. Box 1892, Houston, Texas 77251-1892.

See COMP in the Courses of Instruction section.
Degrees Offered: B.A., B.S., M.A., Ph.D.

All undergraduate majors in earth science take a 4-course core sequence, typically in the sophomore and junior years, on earth processes, materials, observations, and history. Majors also take introductory courses in mathematics, chemistry, and in many cases, physics and biology.

The selection of upper-division courses and additional science courses depends on which major, B.A. or B.S., and, for the B.S. major, which of five tracks are chosen by the student: geology, geochemistry, geophysics, environmental earth science, or a track designed by the student subject to the approval of the department undergraduate adviser. The program of study typically includes experience with analytical equipment, computer systems, and fieldwork.

The B.S. in earth science degree should be chosen by students planning a career or further study in earth science or a related field. The B.A. in earth science degree has fewer requirements and might be a good choice for students planning a career or further study to which earth science is incidental.

For general university requirements, see Graduation Requirements (pages 20–23).
Degree Requirements for B.S. in Earth Science

For general university requirements, see Graduation Requirements (pages 20–23). B.S. majors must also complete the “Additional Requirements” for one track (described below).

The following courses are required for all tracks:

- **MATH 101/102 Single Variable Calculus I and II**
- **CHEM 121/122 or 151/152 General Chemistry I and II with lab**
- **PHYS 101/102 or 111/112 Introductory Physics I and II with lab**
- **ESCI 321 Earth System Evolution and Cycles**
- **ESCI 322 Earth Chemistry and Materials**
- **ESCI 323 Earth Structure and Deformation with lab**
- **ESCI 324 Earth’s Interior**
- **ESCI 334 Geological and Geophysical Techniques**
- **ESCI 390 Field Camp**

### Additional Requirements for the Geology Track

The following courses are required:

- **MATH 211 Ordinary Differential Equations and Linear Algebra**
- **ESCI 334 Geological and Geophysical Techniques**
- **ESCI 390 Field Camp**

Choose one of the following courses:

- **ESCI 427 Sequence Stratigraphy**
- **ESCI 521 Seminar in Applied Micropaleontology**

Choose one of the following courses:

- **ESCI 504 Siliciclastic Depositional Systems**
- **ESCI 506 Carbonate Depositional Systems**
- **ESCI 421 Paleoceanography**

### Additional Requirements for the Geochemistry Track

The following courses are required:

- **BIOS 201 Introductory Biology I**
- **A 6 hour field-based course or equivalent, approved by the department undergraduate adviser.**

Choose 9 hours from the following:

- **ESCI 412 Advanced Petrology**
- **ESCI 430 Principles of Trace-Element and Isotope Geochemistry**
- **ESCI 458 Thermodynamics/Kinetics for Geoscientists**
- **ESCI 203 Biogeochemistry**
- **ESCI 463 Advance Structural Geology**
- **ESCI 464 Global Tectonics**

Choose 9 hours from the following:

- **ESCI 446 Solid Earth Geophysics**
- **ESCI 442 Exploration Geophysics I**
- **ESCI 463 Advance Structural Geology**
- **ESCI 428 Geologic Interpretation of Reflection Seismic Profiles**
- **ESCI 504 Siliciclastic Depositional Systems**
- **ESCI 506 Carbonate Depositional Systems**
- **ESCI 421 Paleoceanography**

- **CEVE 401 Introduction to Environmental Chemistry**
- **CEVE 403 Principles of Environmental Engineering**
- **CEVE 434 Chemical Transport and Fate in the Environment**
- **CEVE 532 Physical-Chemical Processes in Environmental Engineering**
Additional Requirements for the Geophysics Track

The following courses are required:

• MATH 211 Ordinary Differential Equations and Linear Algebra
• MATH 212 Multivariable Calculus
• PHYS 201 Waves and Optics
• PHYS 231 Elementary Physics Lab II

In addition, the student must complete a field experience, equivalent to 6 semester hours, approved by the department undergraduate advisor.

Choose one of the following courses:

• COMP 110 Computation in Natural Science
• CAAM 210 Introduction to Engineering Computation (FORTRAN)
• CAAM 211 Introduction to Engineering Computation (C )
• COMP 210 Principles of Computing and Programming

Choose 6 hours from the following:

ESCI 440 Geophysical Data Analysis: Digital Signal Processing
ESCI 441 Geophysical Data Analysis: Inverse Theory
ESCI 442 Exploration Geophysics I
ESCI 444 Exploration Geophysics II
ESCI 450 Remote Sensing

ESCI 454 Geographic Information Science
ESCI 461 Seismology I
ESCI 462 Tectonophysics
ESCI 464 Global Tectonics
ESCI 532 Advanced Global Tectonics
ESCI 542 Seismology II

Choose 6 hours from the immediately preceding or following lists:

• Any 3- or 4- hour course in ESCI with a number between 411 and 475, except for research and special studies
• Any 300- or 400-level MATH, CAAM, OR PHYS class
• CHEM 311 Physical Chemistry
• CEVE 412 Hydrology & Watershed Analysis

Additional Requirements for the Environmental Earth Science Track

The following courses are required:

• MATH 211 Ordinary Differential Equations and Linear Algebra
• BIOS 201 Introductory Biology I
Choose one of the following courses:
- COMP 110 *Computation in Natural Science*
- CAAM 210 *Introduction to Engineering Computation (FORTRAN)*
- CAAM 211 *Introduction to Engineering Computation (C)*
- COMP 210 *Principles of Computing and Programming*

Choose 14 hours from the following, including at least two courses in ESCI:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESCI 451</td>
<td><em>Analysis of Environmental Data</em></td>
</tr>
<tr>
<td>ESCI 353</td>
<td><em>Environmental Geochemistry</em></td>
</tr>
<tr>
<td>ESCI 442</td>
<td><em>Exploration Geophysics</em></td>
</tr>
<tr>
<td>ESCI 454</td>
<td><em>Geographic Information Science</em></td>
</tr>
<tr>
<td>ESCI 463</td>
<td><em>Advanced Structural Geology I</em></td>
</tr>
<tr>
<td>ESCI 504</td>
<td><em>Clastics</em></td>
</tr>
<tr>
<td>ESCI 506</td>
<td><em>Carbonates</em></td>
</tr>
<tr>
<td>ESCI 568</td>
<td><em>Paleoclimates and Human Response</em></td>
</tr>
<tr>
<td>CEVE 306</td>
<td><em>Global Environmental Law and Sustainable Development</em></td>
</tr>
</tbody>
</table>

**Additional Requirements for the Self-Designed Track**

The department recognizes the interdisciplinary nature of modern earth science and the opportunity for students to specialize in nontraditional and emerging fields. Therefore, students can design their own specialty track, normally in close consultation with one faculty member and followed by approval from the department undergraduate adviser. In addition to required earth science courses and related courses, these tracks will generally comprise 15 additional hours that target a coherent theme from an approved list of 300- or higher-level courses, from inside or outside the department. Interested students are expected to submit a statement of rationale by the beginning of their third year.

Choose 9 hours from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 201</td>
<td><em>Introductory Biology I</em></td>
</tr>
<tr>
<td>COMP 110</td>
<td><em>Computation in Natural Science</em></td>
</tr>
<tr>
<td>CAAM 210</td>
<td><em>Introduction to Engineering Computation (FORTRAN)</em></td>
</tr>
<tr>
<td>CAAM 211</td>
<td><em>Introduction to Engineering Computation (C)</em></td>
</tr>
<tr>
<td>COMP 210</td>
<td><em>Principles of Computing and Programming</em></td>
</tr>
<tr>
<td>CHEM 311/312</td>
<td><em>Physical Chemistry I and II</em></td>
</tr>
<tr>
<td>MATH 211</td>
<td><em>Ordinary Differential Equations and Linear Algebra</em></td>
</tr>
<tr>
<td>MATH 212</td>
<td><em>Multivariable Calculus</em></td>
</tr>
<tr>
<td>PHYS 201</td>
<td><em>Waves and Optics</em></td>
</tr>
<tr>
<td>PHYS 231</td>
<td><em>Elementary Physics Lab II</em></td>
</tr>
<tr>
<td>BIOS 202</td>
<td><em>Introductory Biology II</em></td>
</tr>
</tbody>
</table>

- Complete a field experience, equivalent to 4 semester hours, approved by the department undergraduate adviser.
- Choose 15 hours of additional courses numbered 300 or higher targeting a coherent theme selected with approval of the department undergraduate adviser.

**Degree Requirements for B.A. in Earth Science**

For general university requirements, see Graduation Requirements (pages 20–23). The following courses are required:
MATH 101/102 *Single Variable Calculus I and II*
CHEM 121/122 or 151/152 *General Chemistry I and II with lab*
ESCI 321 *Earth System Evolution and Cycles*
ESCI 322 *Earth Chemistry and Materials*
ESCI 323 *Earth Structure and Deformation with lab*
ESCI 324 *Earth’s Interior*
ESCI 334 *Geological and Geophysical Techniques*

Choose 6 hours from the following:

- BIOL 201/202 *Introductory Biology I and II*
- BIOL 211, 213 *Biology Lab Modules*
- MATH 211 *Differential Equations*
- PHYS 101/102 or 125/126 *Introductory Physics*
- COMP 110 *Computation in Natural Science* or CAAM 210 *Introduction to Engineering Computation (FORTRAN)* or CAAM 211 *Introduction to Engineering Computation (C)* or COMP 210 *Principles of Computing and Programming*

- Choose four upper division ESCI courses, approved by the department undergraduate advisor.
- Choose 6 hours in science and engineering (including ESCI) courses at the 200 level or above approved by the department undergraduate advisor.

**Undergraduate Independent Research**

The department encourages, but does not require, earth science undergraduate majors to pursue independent supervised research in ESCI 481 *Research in Earth Science*. See also Honors Programs (page 34).

**Degree Requirements for M.A. and Ph.D. in Earth Science**

All incoming students should have a strong background in physics, chemistry, and mathematics and should have, or should acquire, a broad grounding in fundamental earth science. The department encourages applications from well-qualified students with degrees in the other sciences and mathematics. For general university requirements, see Graduate Degrees (pages 65–70). The requirements for the M.A. and Ph.D. in earth science are similar, but the Ph.D. demands a significantly higher level of knowledge, research skills, and scholarly independence. Most students need at least two years beyond the bachelor’s degree to complete the M.A. and at least two years beyond the M.A. degree for the Ph.D.

Candidates determine, with their major professor and advisory committee, a course of study following the *Guidelines for Advanced Degrees in the Department of Earth Science* distributed to all incoming students. For both degrees, candidates must:

- Complete 20 semester hours of course work at the 400 level and above (or other approved courses), not including research hours
- Pass a written preliminary exam
- Maintain a grade point average of 3.00 (B) or better
- Prepare a written thesis
- Produce a publishable thesis that represents an original contribution to science
- Defend the research and conclusions of the thesis in an oral examination

Students of exceptional ability with a bachelor’s degree and department approval may work directly toward the Ph.D., in which case the course of study is equivalent to that required for both degrees; performance on the examinations and the thesis, however, should be at the level required for the Ph.D.
Because the graduate programs require full-time study and close interaction with faculty and fellow students, the department discourages students from holding full (or nearly full) time jobs outside the university. Outside employment must be approved by the chair.

See ESCI in the Courses of Instruction section.
Degrees Offered: B.A., M.A., Ph.D.

Undergraduates may major in either economics or mathematical economic analysis. The latter is recommended for students who intend to continue on to graduate work in economics or pursue a business or governmental job in which analytical and quantitative skills are required.

The eight major fields available for graduate study are econometrics, economic development, economic theory, industrial organization and regulation, international trade and finance, labor, macroeconomics and/or monetary theory, and public finance.

Degree Requirements for B.A. in Economics or Mathematical Economic Analysis

Economics Major. All economics majors must complete a minimum of 10 courses with a grade point average of at least 2.00.

(1) These courses include 9 economics courses and 1 course in quantitative analysis as specified in (4) below. Major requirements are not reduced for multiple majors, although some courses can satisfy the requirements for more than one major. (Please note that students may not pursue a double major in economics and mathematical economic analysis.)

(2) The following courses are required for all economics majors:

- ECON 211 Principles of Economics I
- ECON 212 Principles of Economics II
- ECON 370 Microeconomic Theory
• And either ECON 355 Financial Markets and Institutions, ECON 375 Macroeconomic Theory, or ECON 455 Money and Financial Markets.

We suggest that economics majors take ECON 211 and 212 in the freshman year and take ECON 370 in the first semester of their sophomore year, leaving the junior and senior years for advanced electives. This plan is optional, but please note that failure to take prerequisite courses in earlier years may cause scheduling problems in later years.

(3) Given that item (2) has been satisfied, at least 3 of the remaining 5 required economics courses must be selected from the following courses in applied economics.

ECON 301 History of Economic Analysis
ECON 355 Financial Markets and Institutions
ECON 375 Macroeconomic Theory
ECON 415 Labor Economics
ECON 416 Economic History of the U.S., 1700–1945
ECON 417 Comparative History of Industrialization
ECON 420 International Economics
ECON 421 International Finance
ECON 430 Comparative Economic Systems
ECON 435 Industrial Organization
ECON 436 Government Regulation of Business
ECON 437 Economics of Information, Common Property Resources, and Public Goods
ECON 438 Economics of Law I
ECON 439 Economics of Law II
ECON 440 Risk, Uncertainty and Information
ECON 445 Managerial Economics
ECON 448 Corporation Finance

Please note that if you count ECON 355, 375, or 455 as 1 of the required courses in item (2), you may not also count that course as 1 of the 3 courses satisfying item (3).

(4) The quantitative methods course may be selected from the following, or an equivalent or higher-level course approved in advance by the chairman of the undergraduate committee may be taken.

ECON 382 Probability and Statistics
ECON 400 Econometrics
ECON 446 Applied Econometrics and Economic Modeling
ECON 475 Integer and Combinatorial Optimization
ECON 477 Mathematical Structure of Economic Theory
ACCO 305 Introduction to Accounting
CAAM 210 Introduction to Engineering Computation

CAAM 211 Introduction to Engineering Computation
CAAM 321 Introduction to Real Analysis
CAAM 322 Introduction to Real Analysis II
CAAM 335 Matrix Analysis
CAAM 336 Differential Equations in Science and Engineering
CAAM 353 Computational Numerical Analysis
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>CAAM 376</td>
<td>Introduction to Management Science</td>
</tr>
<tr>
<td>CAAM 378</td>
<td>Introduction to Operations Research</td>
</tr>
<tr>
<td>CAAM 400</td>
<td>Case Studies in Applied Mathematics</td>
</tr>
<tr>
<td>CAAM 435</td>
<td>Ordinary Differential Equations</td>
</tr>
<tr>
<td>CAAM 436</td>
<td>Partial Differential Equations I</td>
</tr>
<tr>
<td>CAAM 437</td>
<td>Partial Differential Equations II</td>
</tr>
<tr>
<td>CAAM 451</td>
<td>Numerical Linear Algebra</td>
</tr>
<tr>
<td>CAAM 452</td>
<td>Computational Methods for Differential Equations</td>
</tr>
<tr>
<td>CAAM 453</td>
<td>Numerical Analysis and Ordinary Differential Equations</td>
</tr>
<tr>
<td>CAAM 454</td>
<td>Optimization Problems in Computational Engineering and Science</td>
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<tr>
<td>CAAM 460</td>
<td>Optimization Theory</td>
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<tr>
<td>CAAM 471</td>
<td>Linear Programming</td>
</tr>
<tr>
<td>CAAM 474</td>
<td>Theory of Linear Inequalities</td>
</tr>
<tr>
<td>CAAM 475</td>
<td>Integer and Combinatorial Optimization</td>
</tr>
<tr>
<td>CAAM 483</td>
<td>Markov and Martingale Sequences—Renewal Processes</td>
</tr>
<tr>
<td>COMP 212</td>
<td>Intermediate Programming</td>
</tr>
<tr>
<td>COMP 312</td>
<td>Program Construction</td>
</tr>
<tr>
<td>COMP 314</td>
<td>Applied Algorithms and Data Structures</td>
</tr>
<tr>
<td>COMP 440</td>
<td>Artificial Intelligence</td>
</tr>
<tr>
<td>COMP 480</td>
<td>Concrete Mathematics</td>
</tr>
<tr>
<td>COMP 482</td>
<td>Design and Analysis of Algorithms</td>
</tr>
<tr>
<td>STAT 305</td>
<td>Introduction to Statistics for Biosciences</td>
</tr>
<tr>
<td>STAT 310</td>
<td>Probability and Statistics</td>
</tr>
<tr>
<td>STAT 331</td>
<td>Applied Probability</td>
</tr>
<tr>
<td>STAT 381</td>
<td>Introduction to Applied Probability</td>
</tr>
<tr>
<td>STAT 400</td>
<td>Econometrics</td>
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<tr>
<td>STAT 410</td>
<td>Introduction to Statistical Computing and Linear Models</td>
</tr>
<tr>
<td>STAT 421</td>
<td>Introduction to Time Series Analysis</td>
</tr>
<tr>
<td>STAT 431</td>
<td>Mathematical Statistics</td>
</tr>
<tr>
<td>STAT 450</td>
<td>Practicum in Statistical Modeling</td>
</tr>
<tr>
<td>STAT 486</td>
<td>Market Models</td>
</tr>
</tbody>
</table>

(5) We strongly recommend that students take two semesters of calculus (MATH 101/102 or MATH 111/112) and a course in probability and statistics (ECON 382/STAT 310). Failure to take these courses will limit the range of electives available to the student.

(6) No more than 3 of the 9 economics courses may be transferred from other schools. Additional transfer credits in economics may count toward meeting university graduation requirements but not toward fulfillment of the departmental major requirements. The required course in quantitative analysis may also be transferred. AP credits do not count as transfer credits. In order to transfer either ECON 211 or ECON 212, the student must pass a qualifying examination. Students wishing to take either the ECON 211 or ECON 212 qualifying examination must apply to the economics department office in Baker Hall 266B. For additional information on transfer credits, consult “Procedures for Transfer Credit,” available in the economics department office.

(7) Students may graduate with “Honors in Economics” by achieving a B+ (3.33) average in all economics courses and doing two semesters of independent research. For details, consult ECON 403/404 Senior Independent Research, available in the Economics Department Office.

(8) For additional course information, consult “Economics Course Descriptions,” compiled by the Rice chapter of the Omicron Delta Epsilon National Economics Honor Society.

(9) Please note that it is primarily the responsibility of the student to satisfy all degree requirements, including the general degree requirements (see pages 20–23). Consult with the appropriate departmental adviser, who must sign all registration forms for each major.

(10) Students who are considering either graduate work in economics or a business or governmental job in which analytical and quantitative skills are required should seriously consider obtaining the alternative major in mathematical economic analysis.
**Mathematical Economic Analysis Major.** Students majoring in mathematical economic analysis must take at least 16 courses.

1. The major in mathematical economic analysis is designed for students who are interested in graduate work in economics or a business or governmental job in which analytical and quantitative skills are required.

2. Students must choose between the 2 majors offered by the economics department; that is, students may not double major in economics and mathematical economic analysis. Major requirements are not reduced for students with multiple majors.

3. A minimum of 16 courses in 6 areas is required. These courses must include:

<table>
<thead>
<tr>
<th>(a) 5 courses in Economic Principles:</th>
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</thead>
<tbody>
<tr>
<td>ECON 211 Principles of Economics I</td>
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<tr>
<td>ECON 212 Principles of Economics II</td>
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<tr>
<td>ECON 370 Microeconomic Theory</td>
</tr>
<tr>
<td>ECON 477 Mathematical Structure of Economic Theory</td>
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<tr>
<td>ECON 375 Macroeconomic Theory</td>
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</tbody>
</table>

<table>
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<tr>
<th>(b) 3 courses in Applied Economics, selected from the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 301 History of Economic Analysis</td>
</tr>
<tr>
<td>ECON 355 Financial Markets and Institutions</td>
</tr>
<tr>
<td>ECON 415 Labor Economics</td>
</tr>
<tr>
<td>ECON 416 Economic History of the U.S., 1700-1945</td>
</tr>
<tr>
<td>ECON 417 Comparative History of Industrialization</td>
</tr>
<tr>
<td>ECON 420 International Economics</td>
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<tr>
<td>ECON 421 International Finance</td>
</tr>
<tr>
<td>ECON 430 Comparative Economic Systems</td>
</tr>
<tr>
<td>ECON 435 Industrial Organization</td>
</tr>
<tr>
<td>ECON 436 Government Regulation of Business</td>
</tr>
<tr>
<td>ECON 437 Economics of Information, Common Property Resources, and Public Goods</td>
</tr>
<tr>
<td>ECON 438 Economics of Law I</td>
</tr>
<tr>
<td>ECON 439 Economics of Law II</td>
</tr>
<tr>
<td>ECON 440 Financial Theory</td>
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<tr>
<td>ECON 445 Managerial Economics</td>
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<tr>
<td>ECON 446 Applied Econometrics and Economic Modeling</td>
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<tr>
<td>ECON 448 Corporation Finance</td>
</tr>
<tr>
<td>ECON 449 Basics of Financial Engineering</td>
</tr>
<tr>
<td>ECON 450 World Economic and Social Development</td>
</tr>
<tr>
<td>ECON 451 The Political Economy of Latin America</td>
</tr>
<tr>
<td>ECON 452 Principles of Islamic Economics</td>
</tr>
<tr>
<td>ECON 455 Money and Financial Markets</td>
</tr>
<tr>
<td>ECON 461 Urban Economics</td>
</tr>
<tr>
<td>ECON 472 Introduction to Game Theory</td>
</tr>
<tr>
<td>ECON 480 Environmental and Energy Economics</td>
</tr>
<tr>
<td>ECON 481 Health Economics</td>
</tr>
<tr>
<td>ECON 482 Distributive Justice—A Microeconomic Approach</td>
</tr>
<tr>
<td>ECON 483 Public Finance—Tax Policy</td>
</tr>
<tr>
<td>ECON 484 Public Expenditure Theory and Social Insurance</td>
</tr>
<tr>
<td>ECON 485 Contemporary Economic Issues</td>
</tr>
<tr>
<td>ECON 486 Contemporary Economic Issues</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>(c) 1 additional 400-level course in Applied Economics as listed in (b) or a course in advanced analysis, selected from the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 475 Integer and Combinatorial Optimization</td>
</tr>
<tr>
<td>CAAM 451 Numerical Linear Algebra</td>
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<tr>
<td>CAAM 452 Computational Methods for Differential Equations</td>
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<tr>
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<tr>
<td>CAAM 471 Linear Programming</td>
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<tr>
<td>CAAM 474 Theory of Linear Inequalities</td>
</tr>
<tr>
<td>CAAM 475 Integer and Combinatorial Optimization</td>
</tr>
</tbody>
</table>
(d) 1 course in Econometrics: ECON 400 Econometrics

(e) 5 courses in Mathematics and Statistics:

- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 211 Ordinary Differential Equations and Linear Algebra
- MATH 212 Multivariable Calculus or MATH 221 Honors Calculus III
- ECON 382/STAT 310 Probability and Statistics or STAT 410 Introduction to Statistical Computing and Linear Models or STAT 431 Mathematical Statistics

(f) 1 Senior Seminar or Senior Research: ECON 495/496 Senior Seminar or ECON 403/404 Senior Independent Research

(4) No more than 3 of the required economics courses and 2 of the required Mathematics (or computational and applied mathematics or statistics) courses may be transferred from other schools. Additional transfer credits in economics, mathematics, computational and applied mathematics or statistics may count toward meeting university graduation requirements but not toward fulfillment of the departmental major requirements. AP credits do not count as transfer credits. In order to transfer either 211 or 212, the student must pass a qualifying examination. Students wishing to take either the 211 or 212 qualifying examinations must apply to the economics department office in Baker Hall 266B. For additional information on transfer credits, consult “Procedures for Transfer Credit,” available in the economics department office.

(5) Students may graduate with “Honors in Mathematical Economic Analysis” by achieving a B+ (3.33) average in the 16 courses required for the major and any other economics electives taken.

(6) For additional course information, consult “Economics Course Descriptions,” compiled by the Rice chapter of the Omicron Delta Epsilon National Economics Honor Society.

(7) Please note that it is primarily the responsibility of the student to satisfy all degree requirements, including the “University Credit Requirements” and “University Distribution Requirements” specified in the General Announcements. Consult with the appropriate departmental adviser, who must sign all registration forms for each major.

Substituting Economics Graduate Courses for Undergraduate Courses. Undergraduate majors satisfying the course prerequisites may, subject to the approval of the instructor and of the departmental undergraduate program chair, substitute certain graduate courses for undergraduate courses. Only highly motivated students with excellent aptitudes for economics and a strong background in mathematics should consider making such substitutions. Typically, but not necessarily, such students will be majors in mathematical economic analysis. Permitted substitutions are as follows:

- ECON 501 for ECON 370 (if student has completed ECON 211 at Rice)
- ECON 502 for ECON 375 (if student has completed ECON 212 at Rice)
- ECON 504 for ECON 382
- ECON 510 for ECON 400
Furthermore, ECON 505 and ECON 508 also may be taken by undergraduates and may be used toward satisfying MTEC requirements. Specifically, ECON 505 could be used as 1 of the courses in the applied economics category or in the advanced analysis category, while ECON 508 could be used only in the advanced analysis category.

Note that this set of substitutable graduate courses includes 6 of the 7 courses required during the first year of the Ph.D. program at Rice. Accordingly, such advanced course work would be excellent preparation for graduate study in economics or in some related field such as finance. Taking such graduate courses should also open more opportunities for the student who will be seeking employment immediately after graduation.

The Five-Year M.A. Program

Advanced undergraduate students can, subject to the approval of the departmental five-year M.A. adviser, enter our five-year M.A. program. In this program, a student who has taken advantage of the full menu of graduate course substitutions available could, with an additional year of study at Rice, earn an M.A. in economics.

To obtain the M.A. degree, students must satisfy all of the requirements for Ph.D. candidacy. In particular, students must pass general examinations in microeconomic theory and in macroeconomic theory and econometrics, must pass an examination in a specialized field of study in economics, and must complete an original research project (a dissertation prospectus) that could be developed into a Ph.D. dissertation under the supervision of a faculty member. This work could be an extension of a paper written as a senior independent research project (ECON 403/404). In some cases, at the discretion of the independent research adviser, the paper produced in ECON 403/404 may fulfill this requirement. Finally, the first-year graduate requirement to take ECON 507 Mathematical Economics would be waived with the approval of the departmental five-year M.A. adviser.

Note that any student who subsequently decides to enter the economics Ph.D. program at Rice would be given graduate credit for all 500 level economics courses completed while an undergraduate. The completion of the Ph.D. dissertation typically requires at least one additional year of research (but no additional courses) beyond the M.A. degree.

Students who opt for the five-year M.A. degree program will have different backgrounds and interests on entering Rice and will choose to pursue this option at different stages in their academic careers. The following illustrates two (of many) possible paths to satisfying the MTEC major requirements, while at the same time completing all of the requirements for the M.A. degree over a five-year period.

Courses: Sample Path One

The student enters with AP credit for ECON 211/212 and MATH 101/102, and has an early interest in the five-year M.A. program.

**Freshman Year**
ECON 370, 375, 477, and MATH 211/212

**Sophomore Year**
ECON 501; 1 course from Applied Economics category; and MATH 355 or CAAM 310

**Junior Year**
ECON 502, 504, 505, 510, and 1 course from Applied Economics category

**Senior Year**
ECON 403/404 and ECON 508
Fifth Year
Complete all remaining graduate courses and pass all remaining examinations required to achieve Ph.D. candidacy.

(Note that with AP credit for MATH 101/102, but not for ECON 211/212, the student could substitute ECON 211/212 for ECON 370 and ECON 375 in the freshman year.)

Courses: Sample Path Two

The student has no relevant AP credit and/or decides to enter the five-year M.A. program only near the end of the sophomore year.

Freshman Year
ECON 211/212 and MATH 101/102

Sophomore Year
ECON 370, 375, 477, and 1 course from applied economics category; MATH 211/212

Junior Year
ECON 501, 502, 505, 508; MATH 355 or CAAM 310

Senior Year
ECON 504, 510, 403/404, and 1 course from applied economics category

Fifth Year
Complete all remaining graduate courses and pass all remaining examinations required to achieve Ph.D. candidacy.

Degree Requirements for Ph.D. in Economics

Preparation for Ph.D. Program. Applicants to the Ph.D. program should have had at least two semesters in calculus and one in linear algebra. Students who have not met these requirements may complete these prerequisites as Class III students (pages 84–85) before being admitted to the graduate program. All applicants are required to take the Graduate Record Exam.

Requirements. For general university requirements, see Graduate Degrees (pages 65–70). Candidates for the Ph.D. degree usually spend from two to two and one-half years in full-time course work and at least one year writing the dissertation; four to five years is a reasonable goal for completing the program. For the Ph.D., students must:

- Complete an approved program of at least 14 courses not including ECON 593/594 Workshop in Economics I and ECON 595/596 Workshop in Economics II
- Complete an approved program of at least 4 sections of ECON 593/594 Workshop in Economics I and ECON 595/596 Workshop in Economics II
- Perform satisfactorily on written general examinations in economic theory and econometrics
- Demonstrate proficiency in a major field by taking the relevant courses in that field and performing satisfactorily on a written examination
- Complete and defend orally a doctoral dissertation setting forth in publishable form the results of original research

See ECON in the Courses of Instruction section.
No degree is offered through the Education Department. This department offers opportunities for students to explore the background, purposes, and organization of American schools as well as the major issues facing education today. Research seminars allow students to engage in projects in a wide range of topics significant to education. Most courses require observation in the classroom.

Please see the section on Education Certification for information on the three teacher education plans offered at Rice:

1. A secondary teaching certificate in combination with the undergraduate degree in the elected subject field(s)
2. A Master of Arts in Teaching (M.A.T.)
3. A postbaccalaureate plan for Class III students that involves taking those courses and state examinations needed for certification but that does not confer a degree
Education Certification

**Chair**
Meredith Skura

**Director**
Lissa Heckelman

**Professor**
Linda M. McNeil

**Adjunct Professor**
Roland B. Smith, Jr.

**Lecturers**
Jean Ashmore
Eileen Coppola
Diana Norcross

**Adjunct Lecturers**
Judy Radigan
Carolynne White
Heidi Ziemer
Wallace Dominey
Elnora Harcombe
Anne Papakonstantinou

-Degrees Offered:
Secondary Teaching Certificate in conjunction with B.A. in major field, M.A.T.

Students in the teacher education program at Rice show a commitment to teaching, a strong record of scholarship in their subject areas, and promise as thoughtful, engaging teachers. The program emphasizes a sound liberal arts education; extensive knowledge of the subject(s) or area(s) to be taught; professional knowledge, including the relevant historical, philosophical, social, and psychological bases of education; and skills in classroom teaching, which include working with both children and adults. Graduates emerge from the program fully prepared for the teaching profession, trained in a multitude of teaching styles and methods to meet the needs of the diverse student population in schools today.

Rice offers three teacher education plans: (1) a secondary teaching certificate in combination with the undergraduate degree in the elected subject field(s), (2) a Master of Arts in Teaching (M.A.T.), and (3) a postbaccalaureate plan for Class III students that involves taking those courses and state examinations needed for certification but that does not confer a degree. All three plans include student teaching in the Rice Summer School for Grades 8–12. While maintaining its academic integrity, the Rice program complies with state of Texas certification requirements. Students seeking additional information about the teacher education program are encouraged to meet with education faculty.

**Texas Teaching Credential.** Rice is approved by the state of Texas to offer teacher preparation programs in the following fields: art, English, French, German, health science, history, Latin, life sciences, mathematics, physical education, physical science, Russian, science, social studies, and Spanish.

After satisfactory completion of the Rice program, which includes the state-mandated TExES examinations, students are recommended for a Texas teaching credential. The Texas Education Agency then awards a Texas Provisional Teaching Certificate (Grades 8–12).
Student Teaching. Apprenticeship (Plan A) and Internship (Plan B) programs are available. Unpaid apprenticeships are for undergraduates who wish to complete the teacher education program in four years and two six-week summer sessions. Candidates enroll for the summer sessions following their junior and senior years. Apprentices create and teach courses under the supervision of experienced mentor teachers and university faculty in the Rice Summer School for Grades 8–12.

Paid internships are undertaken by Master of Arts in Teaching candidates, by some Class III students, and by undergraduates who begin earning certification in their senior year. Under this plan, students serve one apprenticeship in the Rice Summer School and are then supervised through their first semester of a full-time, paid internship in a neighboring, cooperating school system. Permission for the internship is contingent upon completing a successful apprenticeship.

Requirements for Secondary Teaching Certificate

Admission. Students may apply to the Rice University Education Certification Office for admission to the teacher education program if they show:
- Attainment of junior standing at Rice (bachelor’s degree for M.A.T. candidates) by the semester of admission to the program
- Grades of C- or better in all semester hours attempted in their teaching field(s), with an overall grade point average of 2.5 or better
- Evidence of adequate physical vigor to perform as a teacher in a classroom
- Exemption or satisfactory scores on all required preprofessional skills tests
- A completed Plan of Study approved by department representatives and the major field adviser is required before admission to the program is complete

Completion of Program. To complete the program, students must:
- Be exempted from or pass the state’s Texas Academic Skills Program (TASP) exam prior to enrolling in any education courses
- Complete the courses specified by the major field adviser(s). Lists of courses for each subject are available in the Education Certification Office
- Complete 18 hours in professional education courses as follows:
  - either: EDUC 301/501 Philosophical, Historical, and Social Foundations of Education or EDUC 330/530 The American High School
  - EDUC 305/505 Educational Psychology
  - EDUC 420 Curriculum Development
  - 3 hours in the appropriate seminar(s) in teaching methods
  - 6 hours in student teaching (see following)
- Satisfy a state requirement for computer literacy by completing one course in computer use. EDUC 340 Computers in Education is recommended
- Complete all university and program requirements specified for undergraduates, M.A.T. candidates, or nondegree (Class III) candidates
- Make grades of C- or better in all teaching field courses and education courses (B- or better for M.A.T. students)
- Pass appropriate TExES exams
Apprenticeship Plan (Plan A)
(For students beginning certification in junior year and for some Class III students)

**Junior Year**
EDUC 301 Philosophical, Historical, and Social Foundations of Education
or EDUC 330 The American High School
EDUC 305 Educational Psychology
EDUC 410–416 Relevant seminar(s) in teaching methods
EDUC 420 Curriculum Development
EDUC 440 Supervised Teaching: Summer School

**Senior Year**
EDUC 420 Curriculum Development

**After Graduation**
EDUC 440 Supervised Teaching: Summer School

Internship Plan (Plan B)
(For students beginning certification in senior year, for some Class III students, and for M.A.T. students)

**Before Graduation**
EDUC 301/501 Philosophical, Historical, and Social Foundations of Education
or EDUC 330/530 The American High School
EDUC 305/505 Educational Psychology
EDUC 410–416 Relevant seminar(s) in teaching methods
EDUC 420 Curriculum Development

**After Academic Year**
EDUC 440 Supervised Teaching: Summer School
EDUC 540 Internship (paid internship in the fall in a local, accredited secondary school)

Requirements for M.A.T.

**Admission.** Applicants must have a bachelor’s degree, scholarly ability, and an interest in teaching, and they must have taken the Graduate Record Examination (GRE) aptitude test. Education faculty review each application. A limited number of tuition waivers is available. See Admission to Graduate Study (pages 64–65). Admitted students must pass or be exempted from the state’s Texas Academic Skills Program (TASP) exam prior to enrolling in any education courses.

**Degree Requirements.** For general university requirements, see Graduate Degrees (pages 65–70). The M.A.T. is a professional degree program for students who want to qualify for secondary school teaching following a liberal arts education. Most candidates entering the program have had no professional education courses. By completing the program, candidates fulfill all requirements for a Texas Provisional Teaching Certificate for grades 8–12. To earn the professional M.A.T. degree, students must complete, with grades of B- or higher, at least 33 semester hours (the need to remove deficiencies may require additional courses for certification). Requirements are as follows:

- Courses in secondary school educational theory, teaching strategies, educational practice, and evaluation
- Graduate or upper-level courses in the relevant teaching field(s) taken at Rice
- Supervised full-time teaching for one summer in the Rice Summer School for Grades 8–12, including design and implementation of courses, teaching, and evaluation
- Approval to begin an internship, based on a successful summer school teaching experience
- Supervised teaching internship for one semester in a cooperating secondary school, including the accompanying seminar
The cooperating school districts pay a regular salary for internship teaching, which covers the small cost of graduate tuition.

**Requirements for Class III Certification**

A nondegree (Class III) plan leading to secondary teacher certification is available for those who have earned a B.A. but do not choose to pursue a graduate degree. Candidates complete all requirements for secondary teacher certification, including professional education courses and courses in their selected fields. Interested students should direct their queries to the Education Certification Office.

**Higher Education Act Title II Reports**

The Higher Education Act (HEA) of the U.S. Congress requires each institution of higher education with a teacher preparation program enrolling students receiving federal assistance under this Act to report annually "to the State and the general public" certain information. This information consists of the pass rate of program completers on assessments required by the state for teacher licensure or certification, the statewide pass rate on those assessments, and other basic information on the teacher preparation program.

Rice University's Teacher Education program is accredited by the State of Texas. The first year pass rate for program completers on assessments required by the state for 2000–01 was 100% compared with 88% for the overall state pass rate. The combined cumulative pass rate for program completers on assessments required by the state for 1999–2001 was 100% compared to 93% for the overall state pass rate. A total of 26 students were enrolled in the program in 2001–02. The students spent an average of 40 hours per week in supervised student teaching with a student/faculty ratio of 3-to-1. Rice teacher education program graduates are regularly recruited by school districts in the Houston and surrounding areas because of their innovative ideas, leadership abilities, and dedication to the teaching profession.

See EDUC and PFDV in the Courses of Instruction section.
The electrical and computer engineering department strives to provide high quality degree programs that emphasize fundamental principles, respond to the changing demands and opportunities of technology, challenge the exceptional abilities of Rice students, and prepare these students for roles of leadership in their chosen careers.

In support of this goal, the electrical and computer engineering department’s objectives are to provide its undergraduate students with:

- A solid foundation in the fundamentals of electrical and computer engineering, mathematics, and science, enabling them to adapt easily to technological developments that will occur during their careers
- An in-depth exposure to one area of electrical and computer engineering, emphasizing its relationship to the basic framework of the discipline and to other appropriate topics outside that framework
- Courses and projects that actively involve them in their own education and enhance their ability to formulate and solve real-world design and research problems
A broad education outside of engineering and science that emphasizes the role of electrical and computer engineering in society and builds the leadership skills necessary to deal with the increasing impact of technology.

Graduate and undergraduate programs in electrical and computer engineering offer concentrations in areas that include system and control theory, bioengineering, communications, quantum electronics and lasers, computer systems, and electronic materials, devices, and circuits. Bioengineering is primarily a graduate program, although undergraduates may take introductory courses in this field as electives or as part of their specialization area courses.

**Undergraduate Program.** The department offers two undergraduate degrees, the Bachelor of Arts (B.A.) and the Bachelor of Science in Electrical Engineering (B.S.E.E.). The B.A. program is highly flexible, permitting a student to tailor the program to his or her interests, be they broad or highly focused. The B.S.E.E. degree is approved by the Accreditation Board for Engineering and Technology (ABET); requires more scientific and professional courses, for a total of at least 134 semester hours; and has fewer electives. Outstanding students interested in careers in research and teaching may enter graduate school after either bachelor degree. Both degrees are organized around a core of required courses and a selection of elective courses from five specialization areas. Each student’s program must contain a depth sequence in one area and courses from at least two areas to provide breadth. The specialization electives provide a flexibility that can be used to create a focus, such as optical communications, that crosses traditional areas. Because of the number of options, students should consult early with departmental advisers to plan a program that meets their needs.

The B.A. degree provides a basic foundation in electrical and computer engineering that the student can build upon to construct a custom program. Because of its flexibility and large number of free electives, the B.A. can be combined easily with another major to create an interdisciplinary program. This may be particularly appropriate for students planning further study in law, business, or medicine.

The B.S.E.E. is the usual degree taken by those students planning a career of engineering practice. It is accredited by ABET and can reduce the time required to become a licensed professional engineer. Accreditation and professional licensing are important for some careers, and many states require licensure for those providing engineering services directly to the public, for example, as a consultant. The program for the B.S.E.E. degree requires greater depth than the B.A. degree but still provides considerable flexibility. Students who place out of required courses but who do not have credit must substitute other approved courses in the same area.

The requirements for the two degrees are grouped into four categories, listed below. The specific courses required for each degree are listed in the section for that degree.

### Basic Mathematics and Science Courses
- MATH 101 *Single Variable Calculus I*
- MATH 102 *Single Variable Calculus II*
- CAAM 335 *Matrix Analysis* or MATH 355 *Linear Algebra*
- MATH 212 *Multivariable Calculus*
- PHYS 101 *Mechanics*
- PHYS 102 *Electricity and Magnetism*
- CHEM 121 *General Chemistry*

### Core Courses
- ELEC 220 *Fundamentals of Computer Engineering*
- ELEC 241 *Fundamentals of Electrical Engineering I*
- ELEC 242 *Fundamentals of Electrical Engineering II*
- ELEC 261 *Introduction to Waves and Photonics*
- ELEC 301 *Introduction to Signals*
- ELEC 305 *Introduction to Physical Electronics*
Core Courses (cont.)
ELEC 326 Digital Logic Design
ELEC 391 Professional Issues in Electrical Engineering
ELEC 331 Applied Probability

Restricted Electives

One from Computation
CAAM 210 Introduction to Engineering Computation
CAAM 211 Introduction to Engineering Computation
COMP 210 Introduction to Principles of Scientific Computation (COMP 210 is a prerequisite for many other computer courses.)

One from Laboratory
ELEC 201 Introduction to Engineering Design
ELEC 303 Systems Laboratory
ELEC 327 Digital Logic Design Laboratory
ELEC 423 VLSI Design II
ELEC 433 Communications Systems Lab
ELEC 465 Physical Electronics Lab
ELEC 490 Electrical Engineering Projects

Specialization Areas. The following groups of courses focus on specific areas within electrical and computer engineering. The systems area involves the study of processing and communicating signals and information through systems of devices, control and robotics, signal and image processing, and communications. The computer engineering area provides a broad background in computer systems engineering, including computer architecture, hardware engineering, software engineering, and computer systems performance analysis. The physical electronics area encompasses studies of electronic materials, semiconductor and optoelectronic devices, lasers, and photonics.

Computer Engineering
COMP 212 Intermediate Programming
COMP 311 Programming Languages
ELEC 322 Applied Algorithms and Data Structures
ELEC 421 Operating Systems and Concurrent Programs
COMP 410 Software Construction Methodology
COMP 413 Distributed Program Construction
COMP 422 Parallel Computing
ELEC 422 VLSI Design
ELEC 424 Computer Systems Design
ELEC 425 Computer Systems Architecture
ELEC 426 Digital Systems Design
ELEC 428 Computer Systems Performance
ELEC 429 Introduction to Computer Networks

Bioengineering
ELEC 481 Computational Neuroscience
ELEC 482 Physiological Control Systems
ELEC 483 Introduction to Biomedical Instrumentation and Measurement Techniques

Systems: Control, Communications, and Signal Processing
ELEC 301 Introduction to Signals
ELEC 302 Introduction to Systems
ELEC 430 Communication Theory and Systems
ELEC 431 Digital Signal Processing
ELEC 436 Control Systems I

Electronic Circuits and Devices
ELEC 342 Electronic Circuits
ELEC 427 Pulse and Digital Circuits
ELEC 435 Electromechanical Devices and Systems
ELEC 442 Advanced Electronic Circuits
ELEC 443 Power Electronic Circuits
ELEC 462 Semiconductor Devices
The department may add or delete courses in the areas. In addition, graduate courses and equivalent courses from other departments may be used to satisfy area requirements with permission; consult with departmental advisers for the latest information. A course can satisfy only one program requirement. ELEC 491/492 may be used to satisfy requirements in any area, depending on the nature of the design project.

**Degree Requirements for B.A. in Electrical and Computer Engineering**

For general university requirements, see Graduation Requirements (pages 20–23). Students completing the B.A. program must have a total of at least 120 semester hours at graduation.

**Basic Mathematics and Science.** Students in the B.A. program must take all of the courses listed above under basic mathematics and science courses, with the following exceptions: CHEM 121 is not required, and MATH 355 Linear Algebra, MATH 381 Introduction to Partial Differential Equations, or CAAM 353 Computational Numerical Analysis may be taken instead of ELEC 331.

**Core Courses.** All of the courses listed above under core courses are required for the B.A. degree, except for COMP 212, ELEC 301, and ELEC 391. Students also have the following options: CAAM 353 Computational Numerical Analysis may be taken instead of MATH 212, and CHEM 121 General Chemistry may be taken instead of PHYS 201.

**Restricted Electives.** Students must take 1 computation course and 1 laboratory course listed above.

**Specialization Areas.** Students must take 2-course sequence in 1 area and courses from at least 2 areas listed above.

**Degree Requirements for B.S. in Electrical Engineering**

For general university requirements, see Graduation Requirements (pages 20–23). Students completing the B.S.E.E. program must have a total of at least 134 semester hours to graduate.

**Basic Mathematics and Science.** Students must take all of the courses listed above under basic mathematics and science courses. They must also take additional math and science courses, approved by the department, to bring their total to 32 hours.

**Core Courses.** Students must take all of the courses listed above under core courses.

**Restricted Electives.** Students must take 1 computation course and 1 laboratory course listed above.

**Specialization Areas.** Students in the B.S.E.E. program choose courses from 2 or more specialization areas listed above. Students must take at least 7 specialization courses.
courses, including at least 4 courses in one area and courses from at least 2 different areas. Because of the number of options, students should consult early with department advisers to plan a program that meets their needs. Students going on to a technical career or graduate school may need to use unrestricted electives to create a coherent program.

**Design Component.** At least 1 of the specialization area courses must be an approved design course.

### Degree Requirements for M.E.E., M.S., and Ph.D. in Electrical and Computer Engineering

For general university requirements, see Graduate Degrees (pages 65–70). Students should also consult department advisers for specific courses of study.

**Master’s Degree Programs.** A candidate for the professional M.E.E. degree must complete an approved sequence of 10 advanced courses, totaling at least 30 hours. At least 4 of these must be technical courses at the 500 level or higher. At least 7 of the courses must be technical courses at the 400 level or higher. All 10 courses must be at the 300 level or higher and 2 credit hours or more. Specialization is possible in the general areas of bioengineering, signal processing, communication and control theory, electro-optics and physical electronics, and computer science and engineering.

The M.S. degree is not a terminal degree but part of the Ph.D. program. A candidate for the M.S. degree must complete both an approved course of study and an approved research program, culminating in an acceptable thesis.

A joint M.B.A./Master of Engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

**Ph.D. Program.** Candidates should expect to spend a minimum of three academic years of graduate study in this program. Normally, candidates complete the requirements for an M.S. degree as part of the Ph.D. program. For the Ph.D., students must:
- Obtain high standing in an approved course program
- Perform satisfactorily on qualifying examinations
- Complete a satisfactory dissertation of independent and creative research
- Pass a final oral examination

See ELEC in the Courses of Instruction section.
The School of Humanities

Chair
Susan Wood

Professors
Jane Chance
Terrence Arthur Doody
Linda P. Driskill
J. Dennis Huston
Walter Whitfield Isle
Helena Michie
Wesley Abram Morris
Robert L. Patten
Meredith Skura
Edward A. Snow
Gary S. Wihl
Cary Wolfe

Professors Emeriti
Max Apple
Edward O. Doughtie
Alan Grob
John Meixner
David Lee Minter
William Bowman Piper

Associate Professors
José F. Aranda, Jr.

Justin C. Cronin
Scott S. Derrick
Lucille P. Fultz
Betty Joseph
Colleen R. Lamos
Caroline Levander
Susan Lurie

Assistant Professors
Krista Comer
Elizabeth A. Dietz
Sarah Ellenzweig
Kirsten Ostherr

Writer in Residence
Marsha Recknagel

Lecturers
Jill “Thad” Logan
Mary L. Tobin

Lecturers on Theatre
Mark Ramont
Trish Rigdon

Degrees Offered: B.A., M.A., Ph.D.

The undergraduate program offers opportunities for students to improve their expository writing skills and explore literature while learning to appreciate it critically. The department also offers a variety of courses in creative writing, including poetry, fiction, and creative nonfiction. In addition, it is home to the Theatre Program, which offers courses in theatre and dramatic literature. The graduate program in English offers concentrations in all fields of British and American literature and literary theory.

Degree Requirements for B.A. in English

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in English must complete 36 semester hours in English with at least 24 hours in courses at the 300 level or above. A double major requires 30 hours in English with at least 18 hours in the upper-level courses. HUMA 101 and 102 may be counted toward the English major. All English majors must take the following:

- ENGL 200 Seminar in Literature and Literary Analysis
- ENGL 300 Practices in Literary Study
- 9 hours at the 300 level or above in periods before 1900 A.D.; 6 of the 9 hours must be in periods before 1800 A.D., but only one may be a Shakespearean course
• 3 hours at the 200 level or above in a course that focuses on noncanonical traditions, such as courses in women, African American, Chicano/a, Asian American, ethnic, global, and diasporic writers

The department recommends that all English majors take courses in British and American history and, if they plan to do graduate work, at least 6 hours of upper-level courses in a foreign language.

Degree Requirements for M.A. and Ph.D. in English

For general university requirements, see Graduate Degrees (pages 65–70). As part of their training, graduate students participate in both the teaching and research activities of the department. Upon entering, students will be assigned a Program Advisory Committee (PAC), consisting of two or three faculty members. In consultation with their PAC, students will design their own individualized program structured by the minimal requirements listed below. For more detailed information, please ask for a copy of the Department’s Program Outline.

M.A. Program. The English department does not have an M.A. program, but offers the M.A. degree to those Ph.D. students who have achieved candidacy and are in the process of completing their doctorate and to qualified Ph.D. students who leave the program before completing their doctorate. To receive an M.A. students must:

• Satisfactorily complete at least 30 hours of graduate work in English at Rice University. Courses must be those that count towards the Ph.D. in English. These include courses numbered in the 500s and 600s in the English department excluding 510, 601/602, 603/604; up to 2 approved graduate or equivalent courses taken in other departments; and up to 2 approved courses in the English department numbered 400 and above. Courses taken to fulfill the language requirement are excluded. Students must satisfactorily complete ENGL 600 and distribution requirements for the Ph.D. (see below).

• Satisfactorily complete two teaching assistantships (ENGL 601/602). These do not count toward the 30-hour requirement.

Ph.D. Program. To gain admission to Ph.D. candidacy, students must satisfy the first seven of the following requirements, and they must receive approval for their dissertation prospectus from the Department’s Graduate Committee. To earn a Ph.D. in English, candidates must also complete the last 2 requirements. Students must:

(1) Satisfactorily complete at least 33 hours of course work plus ENGL 510, exclusive of the thesis. Courses can include: graduate courses in the English department numbered 500 to 600, excluding 510, 601/602, 603/604; up to 2 approved undergraduate courses in the English department; and up to 2 approved courses in another department.

(2) Satisfactorily complete the following 2 required courses: ENGL 600 Professional Methods, and ENGL 605 Third-Year Writing Workshop. These count toward the 33-hour requirement.

(3) Satisfactorily complete the distribution requirement, which consists of 2 approved courses on literature before 1800 and 2 after 1800. These count toward the 33-hour requirement.

(4) Satisfactorily complete the teaching requirement by serving twice as a teaching assistant, by completing ENGL 510/511 Pedagogy, and by teaching a lower-level course designed in conjunction with the instructor of ENGL 510. ENGL 510 does not count toward the 33-hour requirement.
(5) Pass a six-hour written preliminary examination focusing on two lists of books: one representing the full range of a literary period as defined by the student and his or her preliminary committee, the other representing a second literary period, a single author, a genre traced over a period of time more comprehensive than that covered by the first list, or a particular theoretical or critical approach studied with reference to its own history and traditions as well as to the historical field of the first exam.

(6) Complete a dissertation prospectus that proposes a topic and an approach, offers a context to the topic in terms of work already done, offers an outline of chapters or sections, and includes a substantial bibliography.

(7) Complete a dissertation that demonstrates a capacity for independent and original work of high quality.

(8) Pass an oral exam on the dissertation and related fields of study.

Financial Support. Within the limits of available funds, qualified students may receive graduate scholarships or fellowships for up to four years. To qualify for this continuing financial aid, students must be approved for candidacy for the Ph.D. by the beginning of their seventh semester at Rice (fifth semester for those entering with an M.A.).

See ENGL and THEA in the Courses of Instruction section.
Environmental Analysis and Decision Making

The Wiess School of Natural Sciences

Director
Katherine B. Ensor

Professors
Andrew R. Barron
Neal F. Lane
Erzsébet Merényi
Dale S. Sawyer
Tayfun E. Tezduyar

Associate Professors
Vicki L. Colvin
Matthias Heinenschloss

Assistant Professors
Michael B. Heeley

Degrees Offered: M.S.

Rice University introduced a professional master’s degree in environmental analysis and decision making in fall 2002. This degree is geared to teach students rigorous methods that are needed by industrial and governmental organizations to deal with environmental issues. As an interdisciplinary program, it aims to give students the ability to predict environmental problems, not just solve them. It emphasizes core quantitative topics such as statistics, remote sensing, data analysis, and modeling. In addition, it teaches laboratory and computer skills and allows students to focus their education by taking electives in relevant fields.

The environmental analysis and decision making degree is one of three tracks in the new Professional Master’s Program at Rice housed in the Wiess School of Natural Sciences. These master’s degrees are designed for students seeking to gain further scientific core expertise coupled with enhanced management and communications skills. These degrees instill a level of scholastic proficiency that exceeds that of the bachelor’s level, and they create the cross-functional aptitudes needed in modern industry. This program will allow students to move more easily into management careers in consulting or research and development, design, and marketing of new science-based products.

Degree Requirements for M.S. in Environmental Analysis and Decision Making

The 21-month professional master’s program begins with two semesters of course work at Rice followed by a six-month industrial internship. After the internship, students return to Rice for a final semester of course work. In addition to taking technical courses, students in the Environmental Analysis and Decision Making Program will take two management courses, one science policy and ethics course, and a seminar jointly with the students involved in the other professional master’s tracks. No thesis is required; however, students are required to present their internship projects in both oral and written form in the Professional Master’s Seminar. Students also are required to attend events organized by the Rice Alliance for Technology and Entrepreneurship and will be guided in courses by the efforts of the Cain Project in Engineering and Professional Communication. Working professionals may be considered for part-time enrollment.

For general university requirements for graduate study, see pages 65–70, and see also Professional Degrees, page 66.
To ensure that all students obtain an excellent quantitative background, each student will be required to take the core courses listed below. If a student can demonstrate that s/he has learned the material elsewhere, s/he may be exempted. Students pursuing this degree part-time will meet with their assigned advisor to determine their coursework schedule.

**Year 1**

**Fall Semester**
1 or 2 electives*
STAT 305 *Introduction to Statistics for Biosciences with 1 hour environmental lab**
STAT 410 *Introduction to Statistical Computing and Linear Models*
Or STAT 385 *Methods for Data Analysis* (offered in spring)
CEVE 401 *Introduction to Environmental Chemistry with lab*
MGMT 750 *Management for Science and Engineering*
NSCI 501 *Professional Master’s Seminar*

* Dependent on the choice of STAT 410 or STAT 385
** Only required for students with no statistical background

**Spring Semester**
1 or 2 electives*
CEVE 412 *Hydrology and Watershed Analysis*
CEVE 512 *Hydrology and Watershed Analysis lab*
NSCI 501 *Professional Master’s Seminar*
STAT 685 *Quantitative Environmental Decision Making*

*Dependent on the choice of STAT 410 or STAT 385

**Summer Semester**
*Industrial Internship*

**Year 2**

**Fall Semester**
NSCI 510 *Industrial Internship*

**Spring Semester**
2 electives
NSCI 511 *Science Policy and Ethics*
ESCI 450 *Remote Sensing*
NSCI 501 *Professional Master’s Seminar*

**Elective Courses:** In addition to taking the core courses, the student will choose 5 electives from the list below. We recommend that three of the electives be in one of the focus areas: sustainability, biological sciences, chemistry, fluids and transport, engineering, or advanced computation. At least one should be from the management and policy area.

**Sustainable Development**
XXXX *Introduction to Sustainable Development*
BIOS 322 *Global Ecosystem Dynamics*
BIOS 325 *Ecology*
CEVE 406 *Introduction to Environmental Law*
CEVE 411 *Air Resource Management*
CEVE 434 *Chemical Transport and Fate in Environment*
Environmental Studies

Directors
Paul A. Harcombe (Ecology and Evolutionary Biology)
Walter W. Isle (English)

Professors
Arthur A. Few (Physics and Environmental Science)
Neal Lane (University Professor)
Ronald J. Parry (Chemistry)
Ronald L. Sass (Ecology and Evolutionary Biology)
Mark R. Wiesner (Civil and Environmental Engineering)

Gordon G. Wittenberg (Architecture)
Kyriacos Zygourakis (Chemical Engineering)

Associate Professor
Gerald R. Dickens (Earth Science)

Lecturer
Donald Ostdiek (Political Science)

The Environmental Studies Program offers several introductory courses for students interested in broadening their understanding of environmental issues. These courses are often team-taught by faculty from various areas of study.

Students wishing to major in an environmental program have three options: environmental science, environmental engineering (see Civil and Environmental Engineering), or environmental policy (see Policy Studies).

Students seeking advice regarding environmental programs may contact Dr. Isle, Dr. Harcombe, or Megan Wilde (Center for the Study of Environment and Society) for advice or more information.

Rice is a partner with Columbia University at Biosphere 2 Center, where Columbia offers a semester’s course in environmental studies, credit for which may transfer to Rice. Interested students should apply to the Environmental Studies Program directors.

Courses:

ENST 101 The Sustainable Environment
ENST 113 Environmental Crisis Seminar
ENST 200 Introduction to the Environment
ENST 303 Environmental Issues—Rice into the Future
ENST 400 Independent Study

See ENST in the Courses of Instruction section.
French Studies

The School of Humanities

Chair
Michel Achard

Professors
Madeleine Alcover
Bernard Aresu
Jean-Joseph Goux
Lynne Huffer
Deborah Nelson-Campbell

Associate Professors
Deborah A. Harter
Philip R. Wood

Assistant Professor
Louisa Shea

Visiting Assistant Professor
Jean-Luc Robin

Degrees Offered: B.A., M.A., Ph.D.

Courses in this department hone language skills in French while placing a diverse, generalized knowledge of French literature within a broad spectrum of cultural, historical, philosophical, and theoretical concerns. Students are also urged to take courses in fields closely related to French studies, including European and English history, literature, and philosophy. The department encourages students to spend time studying in a francophone country and to that end the French Studies department and Office of Student Advising will help students select an appropriate program.

Degree Requirements for B.A. in French Studies

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in French studies must complete at least 30 semester hours in upper-level courses (at the 300 or 400 level). A double major or an area major must complete 24 hours in upper-level courses.

Required Courses
FREN 311 Major Literary Works and Artifacts of Pre-Revolutionary France
FREN 312 Major Literary Works and Artifacts of Post-Revolutionary France: The Romantic Legacy
FREN 336 Writing for the Major

Electives
7 additional courses (for single majors)—at least 3 courses at the 400 level and at least 1 course from Group III (culture, history, and civilization)
5 additional courses (for double majors)—at least 2 courses at the 400 level and at least 1 course from Group III (culture, history, and civilization)

As many as 2 French courses taught in English may count toward a major in French studies. Students who have taken 300- and 400-level French courses (except those taught in English) cannot enroll simultaneously or afterward in 200-level French courses for credit. At least half of the courses for the major must be taken at Rice University. The department normally requires that the basic courses for the major (FREN 311, 312, and 336) be taken at Rice. Students who matriculate before 2003 may choose to graduate with the requirements listed in the General Announcements of the year of their matriculation or of their graduation.
Students with diplomas from French-speaking institutions must consult with the department before enrolling in courses, and all majors and prospective majors must have their programs of study approved by an undergraduate adviser. Students wishing to complete the honors program in French studies should also consult one of the advisers.

**Campus Activities.** To acquaint students with French language and culture, the department sponsors a weekly French Table that meets at lunch in a college. The Club Chouette also organizes outings to French movies, sponsors guest lectures, and, in cooperation with the department, helps to produce a play during the spring semester. Students who maintain at least a B average in 2 or more advanced French courses and have a GPA of at least B, are invited to join the Theta chapter of the honorary Pi Delta Phi.

**Travel Abroad.** The department encourages majors to spend time living and studying in a francophone country. The Alliance Française of Houston offers a summer scholarship of $3,000 each year to a qualified sophomore or junior for six weeks’ study in France. The Clyde Ferguson Bull Traveling Fellowship, awarded each year to one graduating senior with a major or double major in French studies, permits the recipient to spend an entire year in France. Information about study abroad is available from the department faculty and in the Office of Academic Advising.

**Degree Requirements for M.A. and Ph.D. in French Studies**

Admission to graduate study in French, granted each year to a limited number of qualified students, requires a distinguished undergraduate record in the study of French literature or a related field and a capacity for independent work. All candidates should have a near-native command of the French language. For general university requirements, see Graduate Degrees (pages 65–70).

**M.A. Program.** In most cases students take two years to complete work for the M.A. degree in French studies. While graduate students normally take 500-level courses, as many as 2 courses at the 400 level may count toward fulfillment of the following course requirements. M.A. candidates must:

- Complete with satisfactory standing 27 semester hours (in addition to B.A. course work) of upper-level courses, plus 6 hours of independent study in the preparation of three advanced research papers to be defended before their M.A. committee. The selection of the paper topics must receive preliminary approval from the examination committee.
- Complete LING 610 *Topics in Language Methodology*, a course normally required for all graduate teaching assistants
- Perform satisfactorily on a reading examination in one department-approved language other than French or English
- Perform satisfactorily on preliminary written and oral examinations conducted in French on works specified on the department reading list

**Ph.D. Program.** Candidates normally take 500-level courses, but students entering with a B.A. may count toward their Ph.D. degree as many as 3 courses at the 400 level; those entering with an M.A. may count 2 such courses. Graduate student enrollment in a course listed only at the 400 level, however, is subject to the instructor’s approval. Candidates for the Ph.D. degree must meet the following criteria, ensuring that they complete the language requirement and their preliminary exams one year before they submit a dissertation:
• In a program approved by the department, complete with high standing at least 57 semester hours of course work plus 36 thesis hours (for those already holding an M.A. degree, the requirement is 39 hours of course work plus 36 thesis hours). Six of these units may be fulfilled with a 600-level independent study course.

• In addition, complete LING 610 *Topics in Language Methodology*, a course normally required for all graduate language teaching assistants. Students entering with an M.A. who have completed the equivalent course are exempt from this requirement.

• Satisfactorily complete 1 course at the 300 level or above in a language other than French or English. With the permission of the graduate committee, this requirement may also be met through satisfactory performance on a written language examination or by such other means as the graduate committee may direct.

• Perform satisfactorily on preliminary written and oral examinations based on readings comprising both required and individually selected texts, including readings in French literature from all major periods and readings in philosophy and theory; history, cultural studies, and film; and postcolonial and gender studies. The oral exam can be taken only after successful completion of the written exam.

• Complete a dissertation, approved by the department, that represents an original contribution to the field of French studies.

• Perform satisfactorily on a final oral examination on the dissertation.

See FREN in the Courses of Instruction section.
German and Slavic Studies

The School of Humanities

Chair
Klaus Weissenberger

Professors
Peter Caldwell
Steven Crowell
Margret Eifler
Ewa M. Thompson
John Zammito

Associate Professors
Maria-Regina Kecht

Uwe Steiner
Sarah Westphal
Assistant Professor
Christian Emden
Visiting Assistant Professor
Florian Kreutzer
Lecturer
Dariusz Skorczewski

Degrees Offered: B.A. in German Studies, B.A. in Slavic Studies

German

The department offers instruction in the German language, in German literature (studied in the original and in translation), and in the achievements of German culture surveyed as a whole and in particular themes, genres, and periods. The department stresses linguistic competence, interdisciplinary study, and the role of German culture within the broad context of European history. Studies in film, cultural theory, and gender complement traditional studies of German literature, philosophy, history, and art.

The B.A. in German prepares students for graduate study in German, as well as for careers in law, business, international affairs, economics, and other academic fields. Our language acquisition courses maximize linguistic proficiency and prepare students for study abroad. Our freshman seminars are conducted in small groups and stress written and oral communication. Culture courses under the rubric “Mapping German Culture” are taught in English and consider major cultural and literary topics. For students who have some proficiency in German, the Mapping German Culture courses are accompanied by sections that conduct discussions and study sources in German. Upper-level literary courses and special topics seminars both polish linguistic skills and offer intensive study at a high level.

The department encourages and, by means of the Mitchell Fellowships, facilitates study abroad in Germany and Austria. There are weekly German tables in the colleges.

Degree Requirements for B.A. in German Studies

For general university requirements, see Graduation Requirements (pages 20–23). Students who have German as their only major must complete at least 27 semester hours above the 200 level. These 27 semester hours must include the following:

- GERM 302 (bridge course in German literary language)
- 3 Mapping German Culture courses (GERM 321–360) with attached one-hour FLAC sections
• GERM 411, 412 (basic German literature courses)
• GERM 421, 422 (special topics seminars)
• Option: GERM 301 Composition and Conversation I may be substituted for any one of the above courses except 302, 411, and 412.

Students who have German as a double major must complete at least 20 semester hours above the 200 level. These 20 semester hours must include the following:

• GERM 302 (bridge course in German literary language)
• 2 Mapping German Culture courses (GERM 321–360) with attached one-hour FLAC sections
• GERM 411, 412 (basic German literature courses)
• Either GERM 421 or 422 (special topics seminars)
• Option: GERM 301 Composition and Conversation I may be substituted for any one of the above courses except 302, 411, and 412.

Honors. Outstanding students are presented annually with the Max Freund Prize. The department also offers an honors program for majors excelling in their studies. Honors work consists of readings and research leading to a substantial honors essay under the supervision of a department faculty member (GERM 403). Students should consider this work to enhance preparation for graduate school.

Slavic

In the B.A. program in Slavic Studies, students acquire a proficiency in Russian and Eastern European languages, culture, and literature. A three-year study plan in Russian language is available. A variety of Russian literature courses are taught in English, including courses devoted to Tolstoy and Dostoevsky.

The department encourages and, by means of the Mitchell Fellowships, facilitates study abroad in a Slavic speaking country.

Degree Requirements for B.A. in Slavic Studies

For general university requirements, see Graduation Requirements (pages 20–23). Single majors in Slavic studies must complete 24 semester hours at the 300 level or above. Double majors must complete 18 semester hours at the 300 level or above. At least one of these courses must cover the entire Slavic area (e.g., SLAV 320 Slavic Cultures, RUSS 411 Contemporary Russia, or SLAV 412 Contemporary Eastern and Central Europe).

Courses in Polish are offered subject to availability of an instructor. Students may take two Slavic studies-related courses from outside the department, subject to approval by the Slavic studies advisor (Professor Thompson).

See GERM, PLSH, RUSS, and SLAV in the Courses of Instruction section.
Hispanic Studies

The School of Humanities

Chair
Maarten van Delden

Professors
James A. Castañeda
Beatriz González-Stephan

Associate Professors
Robert Lane Kauffmann

J. Bernardo Pérez
Rafael Salaberry

Assistant Professor
Kate Jenckes

Degrees Offered: B.A. and M.A. in Hispanic Studies

The department offers courses on the literatures and cultures of the Spanish-speaking nations of the world, and on Spanish linguistics. The department stresses linguistic competence, interdisciplinary study, and a transnational perspective on Spanish and Spanish American literature and culture. In addition to courses on the novel, poetry, and the essay, the department also offers the opportunity to study film, art, cultural theory, translation, and gender. Our freshman seminars are conducted in English and stress written and oral communication. Qualified students may undertake independent work.

Degree Requirements for B.A. in Hispanic Studies

For general university requirements, see Graduation Requirements (pages 20–23). Both single and double majors must take at least one course in Hispanic linguistics, one course in Spanish literature and/or culture, and one course in Latin American literature and/or culture. No more than two courses taught in English may count toward the major in Hispanic studies. At least half of the courses for the major must be taken at Rice University.

Single Majors: Students majoring in Hispanic studies must complete at least 30 semester hours in upper-level courses (SPAN 330 and above) as follows:

- 1 course between SPAN 330-SPAN 359
- 4 courses between SPAN 360-SPAN 399
- 4 courses at the 400 level
- 1 elective course

Double Majors: Students double majoring in Hispanic Studies must complete at least 24 semester hours in upper-level courses (SPAN 330 and above) as follows:

- 1 course between SPAN 330-SPAN 359
- 3 courses between SPAN 360-SPAN 399
- 3 courses at the 400 level
- 1 elective course

For a list of recommended elective courses, please see department coordinator.
Honors. Every year, the department presents the Cervantes Award for Outstanding Seniors to its top students. The department also offers an honors program for majors excelling in their studies. Honors work consists of an independent research project leading to a substantial essay. It is undertaken in close cooperation with a departmental faculty member, who must first approve the thesis proposal.

Degree Requirements for M.A. in Hispanic Studies

For general university requirements, see Graduate Degrees (pages 65–70). For the M.A. degree, candidates must:

- Complete with high standing an approved program that normally includes 24 semester hours in advanced courses, plus 6 hours of thesis work
- Pass a reading examination in one foreign language (other than Spanish) that has been approved by the department
- Perform satisfactorily on a written comprehensive examination in Spanish, which tests students’ competence in Hispanic literature and linguistics
- Take 1 semester of college Latin (or equivalent)
- Take SPAN 507 Teaching College Spanish
- Complete an acceptable thesis
- Perform satisfactorily on a final oral examination on the thesis

See SPAN in the Courses of Instruction section.
History

The School of Humanities

Chair
Peter C. Caldwell

Professors
John B. Boles
Peter C. Caldwell
Ira D. Gruber
Thomas L. Haskell
Michael Maas
Allen J. Matusow
Atieno Odhiambo
Patricia Seed
Richard J. Smith
Gale Stokes
Martin J. Wiener
John H. Zammito

Professors Emeriti
Katherine Fischer Drew
Harold Hyman
Albert Van Helden

Associate Professors
Edward L. Cox
Alex Lichtenstein
Ussama Makdisi
Carol E. Quillen
Paula A. Sanders
Lora Wildenthal
Joel W. Wolfe

Assistant Professors
Alexander X. Byrd
G. Daniel Cohen
Eva Haverkamp
Allison Sneider
Sarah Thal
Kerry R. Ward

Lecturer
Laura Baker

Degrees Offered: B.A., M.A., Ph.D.

The undergraduate program offers courses in the four main areas of ancient-medieval history, modern European history, U.S. history, and the histories of Asia, Latin America, and Africa. Faculty interests range from ancient Greek and medieval Jewish history to modern British and German; from areas in American history that include Colonial America, the Old and New South, the Civil War, and intellectual history to world military history; and from general global history to specific areas such as East Asian, Caribbean, and Middle Eastern. The department encourages its majors to acquaint themselves with other humanistic disciplines, such as literature, fine arts, and philosophy; the contributions of political science, sociology, economics, and anthropology also are vital to historical studies. The graduate program, which trains a limited number of carefully selected students, offers studies in American history, intellectual history, and global/world comparative history.

Degree Requirements for B.A. in History

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in history must complete at least 30 semester hours (10 courses) in history, with 18 hours (6 courses) at the 300 or 400 level. Students may apply advanced placement credit to no more than 6 of these hours (2 courses). Majors should select 2 of the required upper-level courses from a departmental list of seminars devoted mainly to writing and discussion. Departmental distribution requirements are as follows (students may not use advanced placement credit for these requirements):
Ancient medieval history—at least 1 course
Modern European history—at least 2 courses
U.S. history—at least 2 courses
Asian, Latin American, and African history—at least 2 courses

Some foreign language proficiency is desirable, and the department highly recommends that students who are contemplating graduate work in history study at least 1 foreign language in some depth.

Transfer Credit and Advanced Placement Credit. The Department of History grants transfer credit on a case-by-case basis to enrolled undergraduates (the registrar determines the hours to be credited). However, history majors must take at least 18 semester hours (6 courses) of the required 30 hours in history at Rice. No more than 4 courses may be satisfied through advanced placement and transfer credit. Advanced placement credit may not be used to satisfy departmental distribution requirements for a history major.

Rice students who wish to take classes for credit at another U.S. university should allow sufficient time to get advance confirmation from the department that the course is eligible: courses are eligible only if taken at a four-year institution. Rice students planning to study at a foreign university also must get course approval from the Office of International Programs.

After completing an approved course from either a domestic or a foreign university, students should submit a request for transfer credit, including evidence of the scope and work requirements of the course to be transferred (e.g., a syllabus, reading lists, and copies of exams and papers), to the department’s director of undergraduate studies.

Honors Program. Qualified undergraduates may enroll for 6 semester hours of directed honors research and writing, completing an honors thesis in their senior year (these 6 hours are in addition to the 30 hours required for the major). Students must complete both semesters of HIST 403/404 to receive credit; the grade for the final project applies to the full 6 hours. Interested students who have a grade point average of at least 3.50 in their history courses should submit a substantial historical essay, an honors thesis proposal, and recommendations from the instructor to whom the paper was submitted and from their proposed adviser. Financial assistance is available for honors students to conduct research on their honors theses during the summer between their junior and senior years. After their admission to the program, a periodic workshop allows honors students to share problems and ideas. Once the adviser and another reader have evaluated the completed thesis, the director of the honors program determines whether to award honors. Students who miss the final thesis deadline (which is well before the end of their senior year) will receive a grade and credit for completed work, but no honors.

Degree Requirements for M.A. and Ph.D. in History

The Rice University graduate program in history is primarily a Ph.D. program. Students who have a B.A. in history (or its equivalent) from an acceptable institution are eligible to apply to the Ph.D. and M.A. programs. Although many successful candidates to the Ph.D. program have an M.A. or other advanced degree, advanced study is not a requirement for admission. Graduate degrees are offered in U.S., European, intellectual, and other areas of history. Further information is available on request from the department. For general university requirements, see Graduate Degrees (pages 65-70).
The department awards graduate tuition waivers and fellowship stipends, within the limits of available funds, to qualified Ph.D. candidates with demonstrated ability. University funding is not available for masters program study only. All graduate students in the history department are expected to participate in the professional activities of the department as part of their training. These include, but are not limited to, assisting with the *Journal of Southern History* or the *Papers of Jefferson Davis* and serving as research assistants or teaching assistants for department members. Insofar as possible, these assignments are kept consistent with the interests of the students.

**M.A. Program.** The department gives priority to applicants for the Ph.D. Completion of the M.A. degree usually takes two years; no more than three years may elapse between graduate admission and the completion of the degree unless the department Graduate Committee approves an extension. M.A. degrees are awarded in two ways: (1) completion of one year of course work (24 credit hours) and a thesis written and defended in an oral examination during the second year; and (2) completion of two years of course work (48 credit hours), normally including at least 2 seminar research papers.

**Ph.D. Program.** Doctoral candidates must prepare themselves in three fields of history: two in their major area of concentration, whether European, U.S., or other history, and a third in an area outside of that concentration (e.g., if the major area is European history, the third field must be in U.S. or other non-European history, and if the major area is U.S. history, the third field must be in European or other non-U.S. history, and so on). Students who wish to pursue a third field in an area outside the department should petition the Graduate Committee by the end of their second semester.

The requirements for completing the degree will be administered as flexibly as possible within the bounds of the general university regulations. These requirements state that the Ph.D. degrees “will be awarded after successful completion of at least 90 semester hours of advanced study and an original investigation reported in an approved thesis.” Passing the qualifying exam and receiving approval of a dissertation prospectus allows the student to apply for formal admission to candidacy for the Ph.D. degree.

For the Ph.D., candidates must:
- Prepare themselves thoroughly in three examination fields.
- Take 8 graduate seminars, including Introduction to Doctoral Studies.
- Pass reading examinations in the principal language of research (unless it is English) and one other language (not English).
- Perform satisfactorily on written and oral examinations. For students entering with a B.A., those examinations will normally be taken before the beginning of the fifth semester and no later than the beginning of the sixth semester. Students entering with an M.A. may take their examinations earlier, with departmental approval.
- Complete a dissertation presenting the results of original research.
- Defend the thesis in a public oral examination.

See HIST in the Courses of Instruction section.
Kinesiology

The School of Humanities

Chair
Bruce Etnyre

Professors
Bruce Entyre
Nicholas K. Iammarino

Professors Emeriti
Eva J. Lee
Hally B.W. Poindexter
Dale W. Spence

Associate Professor
James G. Disch

Assistant Professors
Brian T. Gibson
Clark Haptonstall
Peter G. Weyand

Adjunct Professors
William J. Bryan
Becky Gorham
Mark Jenkins

David Melville
George Steve Morris
Daniel O'Connor
Ray Skaggs
Armin D. Weinberg

Lecturers
Marlene A. Dixon
John F. Elliot
Cynthia A. Lanier

Part-time Lecturers
Gwendolyn Adam
Roberta Anding
Cassius B. Bordelon, Jr.
Karen Lafleur
Joseph Pogge
Kristy Vandenberg

Degree Offered: B.A.

The department was one of the first of its kind in the nation to institute an academic program structure that allows students to concentrate their efforts on a specific subdiscipline. Academic programs include sports medicine, sport management, and health science. Detailed requirements of each program can be obtained on the departmental webpage at http://kinesiology.rice.edu.

Degree Requirements for the B.A. in Kinesiology

For general university requirements, see Graduation Requirements (pages 20–23). A minimum of 120 semester hours is required for a bachelor of arts degree in kinesiology. Because of the interdisciplinary and diverse nature of the field of kinesiology, each student is required to specify an academic program concentration within the major.

Sports Medicine Program
Director: Dr. Brian Gibson

Students who choose the sports medicine program of the kinesiology department typically continue their education at the graduate level or plan on attending medical school or other medically related professional schools such as physical therapy. Graduates may also be directly employed in medical and corporate settings, which include both preventative and rehabilitative programs. Graduates who choose not to
seek post-baccalaureate education are generally encouraged to obtain certification for exercise testing, physical fitness evaluation, or exercise prescription through the American College of Sports Medicine at http://www.acsm.org/.

The sports medicine curriculum intends to provide a strong natural science foundation and to interface this foundation with application to the human body. Prerequisite courses in chemistry and physics, elective courses in biology and biochemistry, as well as an array of required and elective courses offered within the department provide this foundation. The sports medicine program is the only academic specialization on campus that provides detailed exposure to human anatomy and human physiology. In addition, students receive a solid foundation in nutrition, biomechanics, sports psychology, motor learning, measurement and statistics, exercise physiology, and sports medicine. Practical experience is afforded through several academic labs. Other elective courses include writing for professional communication, epidemiology, case studies in human performance, motor control, advanced exercise physiology and preventative medicine, research methods, and muscle physiology and plasticity. During advising sessions, students are encouraged to select from these electives according to their respective career goals. Students in the sports medicine program are expected to develop a strong scientific knowledge base as well as adept critical reading, writing, and oral communication skills.

Qualified students of the sports medicine program will be encouraged to participate in an independent study. This independent study allows integral involvement in basic or applied research directed by a faculty adviser. The application (proposal) process for independent studies is outlined in the webpage listed below. Qualified students are also encouraged to apply for any one of a variety of highly competitive internships. The internships generally provide students with an opportunity to experience the application of preventative and rehabilitative sports medicine concepts and practice at a health care or corporate setting.

Sport Management Program


director: dr. clark haptonstall

Sport management is an interdisciplinary field of study of fairly modern development. It first appeared in the curricula of American universities under a variety of designations in the early to mid-1980’s. Rice University became a pioneer institution in integrating this field into the traditional academic area known as kinesiology by making sport management one of the original programs when the department was reorganized into its present configuration.

As a distinct body of knowledge and field of study, sport management draws from a wide range of academic disciplines: economics, sociology, political science, psychology, law, communication, and managerial studies. Each discipline can be applied to the business enterprise of amateur and professional sport, as well as the management of highly effective teams in sport, corporate America, or other management related professions. While public and private sector sport operation is the topic of a large segment of the curriculum, the thoroughly interdisciplinary emphasis aims at educating students in the skills and theory necessary to assume responsible leadership roles in and out of sport.

Career preparation for leadership and entrepreneurial positions is the ultimate goal of sport management at Rice. Students will acquire a solid foundation in public speech, professional writing, and leadership and thus will be competitive for opportunities at the country’s best law and business schools, as well as with journalism programs and premier consulting corporations.

Students wishing to gain employment in the sport industry should pay particular attention to practical experience. Networking and out-of-class development often plays the most significant role in obtaining jobs and promotions along high profile career paths such as those in collegiate or professional sports organizations. Students interested in
careers in public relations, media, event direction, or promotion, office management, management of coaching and scouting, human resources, business development, sports information, or advertising will therefore need to demonstrate a commitment to securing and completing internships. Membership in national sport societies, specifically the North American Society for Sport Management (NASSM)—the leading academic association in this field and governing body from which Rice is in the process of obtaining national accreditation—is strongly recommended.

Highly qualified students will also be encouraged to seek an honors major, a double major, and/or consider pursuit of an advanced degree in business, law, sport management, or organizational psychology.

Health Sciences Program
Director: Dr. Nicholas K. Iammarino

The goal of the health science program is to provide students with a fundamental background in health promotion and disease prevention. This background will enable them to understand the complexities of maintaining an optimal level of personal health while also considering the role that health promotion plays in society and the mechanisms that affect community health. The health science program is viewed as an excellent option for undergraduate students who are preparing to enter graduate school in health education, health promotion, or public health, as well as other health-related graduate or professional programs such as medicine or dentistry.

Students must complete a total of 42 semester hours in addition to the general university requirements (see pages 20–23). Six lecture courses are required for a total of 18 required hours. These required courses cover the structure and function of the human body (Human Anatomy), an introductory course designed to acquaint students with the fundamental concepts of health and models of health promotion (Concepts of Health Science), understanding and assessing community health needs (Principles of Community Health), methods of understanding the disease process (Epidemiology), a course that introduces statistics and measurement (Measurement and Statistics), and a professional preparation course (Foundations of Health Promotion/Health Education) that introduces students to the profession.

The remaining 24 semester hours are drawn from elective courses that are both within the kinesiology department and, at present, more than 20 courses from other academic departments. In keeping with the university’s interest in an interdisciplinary approach to undergraduate education, this allows students to choose health-related courses within the natural sciences, social sciences, and humanities divisions.

See HEAL and KINE in the Courses of Instruction section.
The mission of the Lifetime Physical Activity Program (LPAP) is to provide a multifaceted learning experience via a program of physical activity to foster physical, social, and emotional wellness. The ultimate goal of the LPAP is to provide each student with:

- Knowledge of health-related concepts of physical activity
- Cognitive and behavioral skills
- An understanding of physical activity as a mode of improved quality of life throughout the life-span
- A sense of emotional well-being
- Satisfying social interaction
- Knowledge of rules and strategies
- An opportunity to learn an activity which is not necessarily mainstream in U.S. culture
- Professional instruction specific to the course material
- An introduction to intramural sports, sport clubs, dance theatre, and recreational programs
- Improved quality of life at Rice University

Lifetime physical activity classes are strongly recommended for all first-year students, including transfers who have not had an equivalent course elsewhere. Satisfactory completion of LPAP 101 and 102 is a requirement of the baccalaureate degree. Student should not repeat an activity in LPAP 102 that was taken in LPAP 101.

The LPAP offers approximately 40 sections each semester. Within scheduling constraints, a student may select a section which offers activities that satisfy his/her interests. The LPAP offers a variety of activities. Some of the current activities offered include racquet sports (tennis, racquetball, badminton), fitness activities (aerobics, personal fitness, weight training, cycling), aquatics, dance (Latin ballroom, ballroom, modern, ballet, country western, Middle Eastern, classical Indian), martial arts, team sports (flag football, basketball, volleyball, soccer, softball), and other activities such as fencing, self defense for women, golf, disc golf, yoga, nutrition, and wellness.

See LPAP in the Courses of Instruction section.
Linguistics

The School of Humanities

Chair
Masayoshi Shibatani

Professor
Stephen A. Tyler

Professors Emeriti
James E. Copeland
Philip W. Davis
Sydney M. Lamb

Associate Professors
Michel Achard
Suzanne E. Kemmer
Nanxiu Qian
Rafael Salaberry

Assistant Professors
Michael Barlow
Robert Englebretson
Nancy Niedzielski

Adjunct Associate Professor
Spike Gildea

Lecturer and Playwright in Residence
E. Douglas Mitchell

Lecturer
Claude Mauk

Post-Doctoral Fellow
Gail Coelho

Degrees Offered: B.A., M.A., Ph.D.

B.A. in Linguistics

The department offers both a major program in linguistics and a Certificate in Teaching English as a Second Language, which may be earned with or without a linguistics major. For general university requirements, see Graduation Requirements (pages 20–23). In addition, students must satisfy the distribution requirements and complete no fewer than 60 semester hours for a total of at least 120 semester hours.

Because human language is a multifaceted object of study, linguistics is, by its nature, an interdisciplinary field. The undergraduate major in linguistics provides both an in-depth grounding in the field as well as cross-disciplinary breadth. Students beginning a linguistics major should take LING 200, which is a prerequisite for many upper-level courses in the department. All majors are required to take at least 8 courses (24 semester hours) in linguistics at the 300 level or above, including 4 core courses listed below:

Core Courses
LING 300 Linguistic Analysis
LING 301 Phonetics or LING 311 Phonology
LING 402 Syntax and Semantics or LING 416 Linguistic Universals and Typology
LING 305 Historical Linguistics or LING 315 Semantics: Introduction to the Study of Meaning or LING 415 Sociolinguistics

No more than 1 independent study course may be counted toward the major requirements. In addition, competency in 1 language other than English is required. This requirement may be satisfied by 2 courses in a foreign language at the 200 level or above or equivalent, or at the 100 level or above for non-European languages. The general
linguistics major requires, in addition to the 4 core courses and the language requirement, at least 4 upper-level linguistics electives.

Students may elect either a general linguistics major or one of four areas of concentration. Majors who plan to pursue graduate training in linguistics are recommended to choose one of the areas of concentration. These students also are urged to apply for admission to the honors program by the end of their junior year. The requirements for the various concentrations include additional courses, as follows.

- **Language Concentration.** In addition to the basic language competency required of all majors, the language concentration requires an advanced level competency in a different language. This can be satisfied by 2 language courses taught in a language other than English at the 300 level or above, or equivalent. In addition to the core courses, 4 advanced linguistics electives also are required, which should be chosen in consultation with the linguistics adviser. Courses in the structure or history of the languages studied are especially appropriate.

- **Cognitive Science Concentration.** This concentration requires 3 additional courses focused on the cognitive aspects of human language, selected from LING 306, 315, 317, 411, and 412; 2 courses from cognitively related disciplines (psychology, computer science, anthropology, philosophy) as approved by the major adviser; and 2 other advanced linguistics electives.

- **Language, Culture, and Society Concentration.** For an in-depth grounding in a particular language and culture, this concentration requires 2 language courses at the 300 level or above. The language may be the same as that used to satisfy the basic language competency. Besides the 4 core courses, the student must select 2 courses from LING 313, 406, or 415; and 2 more linguistics electives. Finally, 2 courses in sociocultural studies outside the department are required, and the selection must be approved by the major adviser. Examples of appropriate courses are ANTH 353, PSYC 202, RELI 393, or HIST 250.

- **Second Language Acquisition Concentration.** Two language courses at the 300 level or above are required; the language may be the same as that used to satisfy the basic language competency. In addition to the linguistics core courses, 4 additional courses are required as follows: LING 340 and LING 417, LING 394 or a foreign language equivalent (e.g., Structure of Spanish, Structure of German, etc.) as approved by the major adviser, and one of the following: LING 309, LING 313, LING 415, or LING 490.

**Honors Program.** The departmental honors program provides selected undergraduate majors with the opportunity to conduct supervised research within their area of specialization in the major. Majors planning to pursue graduate training in linguistics or a related field are strongly encouraged to apply, as well as others who wish to add the experience of an intensive, individualized research project to their undergraduate education.

Application to the honors program should be made in person to the undergraduate adviser in the second semester of a student’s junior year. In support of the application, the student should prepare a brief description of the proposed project signed by the faculty member who is to supervise the work. Acceptance into the program is by agreement of the linguistics faculty. On acceptance, the student will enroll in LING 482, with the supervising faculty member named as instructor.

The honors program framework is designed to facilitate the development of a mentoring relationship between student and faculty member. Students are thus expected to consult with the project supervisor periodically regarding their progress; the supervisor will provide research guidance and general support.
With the appropriate completion of major requirements and the honors project or thesis, the student will graduate with departmental honors as follows: “With Distinction,” “With High Distinction,” or “With Highest Distinction,” as determined by the linguistics faculty.

**Certificate in Teaching English as a Second Language.** This program is designed for students who plan to teach English to nonnative speakers in the U.S. or abroad. The Certificate in Teaching English as a Second Language provides undergraduate-level training in applied linguistics and the English language, as well as some practical preparation for English language teaching. It can be easily combined with a major in linguistics, education, or English. To enroll in the program, see the director of the ESL Certificate Program or the linguistics undergraduate adviser.

The program consists of 4 required courses and a practical component.

**Required Courses**
- LING 200 *Introduction to the Scientific Study of Language*
- LING 340 *Theory and Methods of Teaching ESL*
- LING 394 *Structure of the English Language*
- LING 205 *Language and Society* or LING 309 *Psychology of Language* or LING 313 *Language and Culture* or LING 415 *Sociolinguistics*

**Practical Component.** The practical component consists of a total of 20 contact hours of language teaching/tutoring experience. This requirement may be filled by tutoring in the Rice Student Volunteer Program or by teaching in a high school or community ESL program. Students will be expected to write a short report on their teaching experience.

Successful completion of the certificate program must be certified by the director of the ESL Certificate Program and will be indicated on the Rice transcript upon completion of degree requirements.

**Ph.D. in Linguistics**

The doctoral linguistics program at Rice emphasizes the study of language use and functional/cognitive approaches to linguistic theory. Areas of particular research strength in the department include field studies of particular languages (e.g., languages of North and South America; Austronesia; Africa; Europe; and East Asia), typology, language and mind (cognitive linguistics, neurolinguistics, schema-based theories, lexical semantics), language change (diachronic typology, grammaticalization theory, semantic change, language classification, and Indo-European linguistics), and discourse analysis, including corpus linguistics. Additional research areas represented are second language acquisition and applied linguistics.

The program only admits students planning to study for the Ph.D. degree full time. Undergraduate preparation should ideally include language study and course work in linguistics or disciplines related to linguistics, such as anthropology, applied linguistics, psychology, or computational modeling. Interdisciplinary interests are encouraged. A master’s degree may be earned during progress to the Ph.D. degree. Admission to the program is competitive, and an advanced degree is not required. Students admitted to the program are generally offered financial support in the form of tuition scholarships and/or stipends for living expenses.
During the first year of residence, each entering student works closely with the graduate adviser to choose a plan of study congruent with the demands of the program and the student’s interests. Emphasis throughout the program is on a close working relationship with faculty. Students should select areas of specialization that fit well with faculty research interests and activities. See the departmental homepage at http://linguistics.rice.edu.

Students with a master’s degrees in linguistics will normally progress through the degree program in four years; those without in five. With no prior linguistics background, course work in the first two years will generally include:

- 2 courses in the area of phonetics/phonology
- 2 courses in the area of syntactic/semantic analysis
- 1 two-course sequence in field methods
- 1 problem-solving course in linguistic analysis
- 2 courses in other subfields of linguistics

Prior preparation in linguistics will be assessed with regard to its equivalence to particular Rice courses. Students are also normally expected to serve as teaching assistants for 1 course per year during the time they are receiving departmental support; such service is included in the normal course load. Graduate students are required to register for at least 12 hours credit per semester before advancing to candidacy.

At the end of the first year of study, students undergo an oral qualifying examination to assess their progress in the doctoral program. Continuation to the second year requires successful performance on this examination and in first-year course work. In each of the second and third years, in addition to their course work, students prepare an in-depth research paper on a topic chosen in consultation with a committee of faculty. These 2 papers will represent different areas of the field, and at least 1 should be on the structure of a non-Indo-European language. Students should work toward establishing a close working relationship with various faculty such that multiple faculty members are closely familiar with the student’s work. After the second research paper is accepted, a dissertation adviser is selected and a doctoral committee formed, by mutual agreement of the student and the relevant faculty members.

Before advancing to candidacy, students must demonstrate reading competency in 2 research languages other than English. It is also expected that students will submit their work for presentation at one or more professional meetings and publish such work in conference proceedings and/or journals. Funds may be available to defray the cost of travel to such meetings.

During the fourth year, students present to their doctoral committee a third research paper consisting of a substantial dissertation proposal and a comprehensive bibliography. This proposal, ideally building on their previous research, may take the form of a grant proposal to an external funding agency, particularly where fieldwork abroad is proposed. The proposal is also presented orally in a departmental forum. On acceptance of the proposal, the student formally advances to Ph.D. candidacy.

The doctoral research project may require fieldwork in residence or abroad before writing the dissertation. The student is expected to consult regularly with faculty members during the writing process. After a complete draft of the dissertation is submitted, the student defends the dissertation publicly. When the final version of the dissertation is accepted by the doctoral committee and filed with the university, and all other requirements are certified as filled, the degree is then granted.

See LING and SANS in the Courses of Instruction section.
Management and Accounting

The Jesse H. Jones Graduate School of Management

Dean
Gilbert R. Whitaker, Jr.

Professors
Richard P. Bagozzi
Bala G. Dharan
Jennifer M. George
G. Anthony Gorry
George Kanatas
H. Albert Napier
Ronald N. Taylor
Wilfred C. Uecker
Robert A. Westbrook
Gilbert R. Whitaker, Jr.
Edward E. Williams
Duane Windsor
Stephen A. Zeff

Research Professors
Bob Bixby
Marc J. Epstein

Associate Professors
Shannon Anderson
Richard R. Batsell
Steven C. Currall
Jeff Fleming
Trichy Krishnan
Karen Nelson
Barbara Ostdiek
Douglas A. Schuler
D. Brent Smith
Jing Zhou

Assistant Professors
Sharad Borle
Maragret Cording
Utpal Dholakia
Jill Foote
Gustavo Grullon
Michael B. Heeley
Lisa R. Klein
Sharon F. Matusik
Thomas Moeller
Andrew Perkins
Larry Robinson
Francisco Roman
Brian R. Roundtree
Siddharta Singh
Christodoulos Stefanadis
Fu-Kuo Albert Wang
Masahiro Watanabe
Carmen Wigelt
James P. Weston
Sally Widener
Yuhang Xing
Yeosun Yoon
Yan Anthea Zhang
Rui Zhu

Instructor
Deborah J. Barrett

Adjunct Professors
Roberto Abib
Anne Marie Ainsworth
Paul S. Allen
Stephen J. Banks
Marc Boom
Cheyenne Currall
Rodney Eads
Jerry E. Finger
Robert N. Flatt
Joseph R. Gagliardi
Jack M. Gill
Terry Hemeyer
Vincent Kaminski
Robert Lesnick
Leo Linbeck III
Dennis Loughridge
Shahid Malik
Upendra Marathi
Timothy Nash
Robert B. Parke, Jr.
Nicholas R. Rasmussen
David Ross, III
Armand Shapiro
Joan E. Shook
Robert B. Stobaugh
Laurence Stuart
Stephen Whitney

Lecturers
Shahid Ansari
W. Clifford Atherton
David M. Austgen
John A. Baker
Lovett Baker
E. Scott Crist
Lawrence Hampton
John Kehoe
Pamela Kennedy
Steven F. Koch
Pilar Llusa
James P. Mandel
Dennis E. Murphree
Elizabeth O’Sullivan
Phaedon Papadopoulos
Elizabeth A. Peters
James R. Sowers
V. Richard Viebig, Jr.
Stuart Wagner
Alan Westheimer
Gale Wiley

Degrees Offered: M.B.A, M.B.A./Master of Engineering
The Jesse H. Jones Graduate School of Management was established in 1974 through a gift from Houston Endowment, Inc. The school provides its highly select graduate students with unique opportunities for professional training in management. The master of business administration (M.B.A.) program includes elective offerings in accounting, entrepreneurship, finance, international business, information technology, marketing, operations management, organizational behavior and human resource management, healthcare management, and strategic management and planning.

The M.B.A. is also offered in a format designed for executives who do not wish to interrupt their careers while they pursue their degrees. Meeting every other weekend, the M.B.A. for Executives Program features the same content and faculty as the traditional two-year M.B.A. program, and is completed in 21 months. This general management program offers no tracks for specialization; however, much of the content of elective courses in the two-year M.B.A. has been incorporated into the course modules for the executive format. The M.B.A. for Executives Program offers 4 electives at the end of the 21-month period.

A joint M.B.A./master of engineering degree offered by the Jones Graduate School and the George R. Brown School of Engineering, in any of the departments of engineering or in statistics, prepares students to become managers in organizations requiring a high level of technical expertise and management skills.

A joint M.B.A./M.D. offered by the Jones Graduate School and Baylor College of Medicine prepares students to become both physicians and managers in institutions involved in the delivery of high-quality health care, as well as biotechnology-focused industries, health insurance/managed healthcare firms, and pharmaceutical and medical supply and equipment companies.

Although no undergraduate major is offered, undergraduate accounting courses are available.

Admission Requirements for Jones Graduate School

For general information, see Admission to Graduate Study (pages 64–65). Applicants to the M.B.A. program must submit scores on the Graduate Management Admission Test (GMAT) rather than the Graduate Record Examination (GRE), and, unless they received an undergraduate degree from a U.S. college or university, foreign nationals whose native language is not English must submit recent scores on the Test of English as a Foreign Language (TOEFL). Admission to the Jones Graduate School is open to students regardless of their undergraduate major, but it is highly selective and limited to those who have performed with distinction in their previous academic work and on the GMAT.

M.B.A. Program. Although the M.B.A. program has not established specific prerequisite courses for admission, students may find it beneficial to have a background that includes undergraduate course work in principles of accounting, principles of microeconomics, and mathematics. Because spreadsheet and word-processing software are used extensively in course work, students should have a thorough understanding of these types of software packages before enrolling.

M.B.A. for Executives. In addition to meeting the standards for admission to the M.B.A. program, students admitted to the executive program typically have at least 10 years of relevant work experience.

Joint M.B.A./Master of Engineering Program. To enter the joint degree program, applicants must be accepted by both the Jones Graduate School and the engineering department in which they wish to enroll. The program requires the Jones Graduate School
application and the GRE, rather than the GMAT. Some engineering departments require advanced tests as well.

**Joint M.B.A. / M.D. Program.** To enter this joint degree program, applicants must first be accepted by Baylor College of Medicine and then apply separately to the Jones Graduate School. The MCAT is accepted rather than the GMAT. Two years of medical school are required before starting M.B.A. classes.

**Degree Requirements for M.B.A.**

For the M.B.A degree, students must:
- Spend at least 2 academic years in residence at Rice
- Complete at least 60 semester hours in course work
- Register for no fewer than 15 hours and no more than 18 hours each semester (any other registration requires special permission)

All registration and drop/add forms require the signature of the M.B.A. program director or a designee. The school, which must approve all courses, specifies the sequence of required first-year courses at registration for each entering class.

**Waivers and Transfers of Credit.** At its sole discretion, the school may allow students to transfer credits (up to 6 hours). This does not necessarily reduce the residence requirement, but it does make additional elective courses available. Students otherwise must follow the prescribed curriculum of study and are not allowed to waive any core requirements.

**First-Year Courses.** Students must complete at least 32 approved credit hours. The modular core curriculum includes financial accounting, data analysis, business ethics, information technology, marketing, finance, managerial economics, organization behavior, competitive strategy, managerial and leadership skills, managerial communication, economic environment of business, globalization of business, cost management, operations management, business-government relations, organization theory and change management, and 2 electives. During the second semester, teams of students participate in an action learning project in which they work at a company to solve a specific problem. This project allows them to integrate the business disciplines they studied and to turn knowledge into action. The core courses serve as prerequisites for required and elective courses taken in the second year.

**Second-Year Courses.** Students must complete at least 28 credit hours that include required courses in entrepreneurship and strategy formulation and implementation, and 25 credit hours of electives.

**Areas of Interest.** Although M.B.A. students are not required to select a formal elective concentration for degree purposes, they may wish to choose 1 or more areas of interest from among the following: accounting, entrepreneurship, finance, general management, international business, information technology, marketing, operations management, organizational behavior and human resource management, healthcare management, and strategic management and planning. The M.B.A. program director and individual faculty members offer students advice on course selection. Students may also take upper-level or graduate courses from other departments at Rice. Students may not credit basic foreign language courses toward the M.B.A. degree, but advanced language courses may qualify with approval from the M.B.A. program director.
Degree Requirements for M.B.A. for Executives

This degree requires completion of 11 mini-semesters totaling 56 credits, including Extended Learning Labs. The program is a lock-step progression in which all students take required courses in an identical sequence, except for the 4 elective courses at the end of the 21-month period.

Degree Requirements for Joint M.B.A./Master of Engineering

Students may earn this nonthesis engineering degree in the fields of chemical engineering, civil engineering, computational and applied mathematics, computer science, electrical and computer engineering, environmental science and engineering, mechanical engineering and materials science, and statistics. Ordinarily, the engineering degree takes one academic year to complete, whereas the M.B.A. requires two. Joint-degree candidates, however, can fulfill requirements for both degrees in two academic years.

For the joint M.B.A./master of engineering degree, students must complete:
• At least two academic years in residence at Rice
• 63 semester hours in approved course work:
  — 24 hours in an engineering discipline
  — 39 hours in business administration

Students plan their course schedules in consultation with the engineering department in which they are enrolled and with the M.B.A. program director.

Degree Requirements for the Joint M.B.A./M.D. Program

Students may earn both M.B.A. and M.D. degrees in five years. They divide their time as follows:
• Years one and two—medical training at Baylor College of Medicine
• Year three—core M.B.A. courses at Rice
• Year four—M.B.A. courses at Rice, including 3 semester hours of required courses and 12 semester hours of healthcare electives during the fall semester, and medical training at Baylor College of Medicine during the spring semester
• Year five—medical training at Baylor College of Medicine

Students use the summer between the third and fourth years to perform healthcare research programs or externships. Students receive their M.B.A. degree from Rice after they have completed 47 hours of approved management course work; they receive their M.D. degree after they have completed the requirements specified by Baylor College of Medicine.

Academic and Professional Standards

Students must meet both academic and professional standards to continue academic work and to graduate. In accepting admission to the M.B.A. degree program, all students agree to be governed by the standards and procedures for dismissal or disciplinary action stated below.

Academic Standards. A minimum cumulative grade point average of 3.00 (B) is required for graduation. All courses taken for the M.B.A. degree (including approved courses taken at the university but outside the Jones Graduate School) are counted in the cumulative grade point average calculation.

Students with a cumulative grade point average lower than 3.00 at the end of any
semester will be notified of dismissal and may no longer register for courses. A student who has been notified of dismissal may appeal to the Academic Standards Committee of the Jones Graduate School. The committee will decide, based on the circumstances of the appeal, whether the student (1) may resume studies on probation, (2) is to be suspended for one semester or an academic year, or (3) is to be dismissed from the M.B.A. program.

Students proposing to return after a period of academic suspension must apply to the Academic Standards Committee and receive permission to be readmitted.

Only grades of C and higher are counted for credit toward graduation. If students receive a grade lower than C in a course required for graduation, they must repeat the course. If students receive a grade lower than C in an elective course, they need not repeat the specific course, but they must make up the hours.

Students may retake a failed course only once and then only if their cumulative grade point average is 3.00 or higher, or they have received the permission of the Academic Standards Committee to do so. Students who fail a course twice will be notified of dismissal. (Students may not take any course for which the failed course is a prerequisite until they pass the prerequisite course.)

Students on academic probation cannot be candidates for student offices, cannot graduate or drop courses, and must complete all future courses with a grade of C or above. Students are removed from probation only upon achieving a cumulative grade point average of at least 3.00 at the end of the following semester of work.

Students who have completed the required number of hours for the M.B.A. degree, the joint M.B.A./master of engineering degrees, or the joint M.B.A./M.D. degree, but who have a cumulative grade point average lower than 3.00, are dismissed without graduation. If, in an appeal to the Academic Standards Committee, a student can substantiate a claim of extenuating circumstances, i.e., those beyond the student’s control, the student will be permitted to take additional course work at the university within the next year to raise his or her grade point average to 3.00.

Professional Standards. M.B.A. students are held to the high standards of professional conduct expected of managers—standards substantially exceeding those expected of them simply as students. Students may be dismissed or suspended for failure to meet professional standards, as defined in the University Code of Conduct. The dean may place a student on disciplinary probation for unacceptable conduct, giving oral and written notice that future misconduct will lead to filing of specific charges. (This probationary notice, however, is not required as a precondition for filing specific charges.)

Academic Regulations

Grading Policy

For All Courses:

• The grade of A+ should be given only as an exceptional grade reflecting extraordinary achievement by a student.

• Only grades of C and higher are counted for credit toward graduation. If students receive a grade lower than C in a (core) course required for graduation, they must repeat the course. If students receive a grade lower than C in an elective course, they need not repeat the specific course, but they must make up the hours.

• Grades are considered final and are rarely, if ever, changed for any reason other than calculation errors.
• Jones School students may not take courses pass/fail to count toward their degree requirements.
• Jones School students may audit course with departmental approval. The course will not count towards the M.B.A. or appear on the transcript.

For Core Courses:
• No more than half of all grades assigned by an instructor may be an A- or above.
• A course GPA (combining multiple sections where necessary) between 3.30 and 3.50 should be used as a “target” for assigning grades.
• Instructors in multi-section courses should coordinate the assignment of final grades such that they reflect a consistent grading philosophy for the overall course.

For Elective Courses:
• Regardless of class size, instructors “target” the course GPA (combining multiple sections where necessary) to fall between 3.50 and 3.80.
• To the extent that such course exists, instructors in multi-section electives should coordinate the assignment of final grades such that grades reflect a consistent grading philosophy for the overall course.

Guidelines for Appealing Academic Dismissal

The Process. A student who wishes to appeal a dismissal should address the following issues in a letter to the Academic Standards Committee. The student must send the letter to the chairman of the Academic Standards Committee. The following questions should be answered in the appeal letter.

1. What circumstances led to your academic performance last semester and to what degree were those circumstances beyond your control?
2. If your performance in a particular course(s) last semester was below par, describe any circumstances specific to that course that explain your performance.
3. Do you expect the circumstances that created the problems for you last semester to change next semester? If so, how?

You may include any other information that you deem relevant in your appeal letter.

Timing. Timing is critical in the appeals process because classes start immediately after the grades are distributed in January. The student must inform the director of the M.B.A./E. program (by email or written note) immediately of the intention to appeal. The appeal letter to the committee must be filed expediently, within or sooner than the first week of classes. If a student plans to appeal, he/she should attend classes in January without registering. It is important to keep up in his/her studies during the appeal process. If his/her appeal is accepted, the student may register later with a letter from the M.B.A. program office.

Grades are considered final, and are rarely changed for any reason other than calculation errors.

Appeals. Appeals beyond the Academic Standards committee must go to the dean of the Jones Graduate School, who may seek guidance from the Dean’s Advisory Council. All decisions rendered by the dean are final.

Grade Appeal Process

The procedure below outlines the process by which a student may appeal a grade in a course.

1. The student should first pursue any grading question with the professor following whatever formal or informal process the professor has outlined for the course.
2. If the matter is not resolved in step 1 above, the student must file a written appeal to the professor and send a copy to the director of the M.B.A./E. program. This written appeal must be filed no later than 45 days after the last day of finals for the module (mini-semester) in which the course was offered.

3. The professor must schedule a meeting with the student within two weeks of receiving the written appeal to further discuss the appeal with the student. Notice of the appeal time and date will be provided by the professor to the director of the M.B.A./E. program.

4. If step 3 does not resolve the issue to the satisfaction of both parties, the student may appeal to the Dean’s Advisory Committee by sending a written notice describing the grounds for the appeal within 2 weeks of the date of the scheduled meeting in step 3.

5. The Dean’s Advisory Committee will seek out information on the appeal from the professor and the student and, at its discretion, hold a hearing to further consider the matter. The decision of the Dean’s Advisory Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4).

6. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.

7. All decisions rendered by the Dean’s Advisory Committee are final.

8. The Family Educational Rights and Privacy Act of 1974 and amendments govern records of these actions.

ALP Grade Appeal Policy for Individual Student

The procedure below outlines the process by which an individual student may appeal a grade in the ALP course.

1. The student must send a letter of intent to appeal the grade to the director of ALP. This written appeal must be filed no later than 30 days after the last day of module 6. A copy of the letter must be sent to the director of the M.B.A. program.

2. The director of ALP must schedule a meeting with the student and director of the M.B.A. program by the end of module 1 during the following year to discuss the appeal with the student further. The purpose of the meeting is to review with the student the basis for the individual grade. The director of ALP will provide the meeting time to the director of the M.B.A. program.
2a. Up until this time, all information relevant to the case is confidential. If the student desires to talk with the ALP faculty or ALP team members about the matter, this will require the student to waive confidentiality with respect to the matter of the downgrade status. The student must notify the director of ALP about his/her preference to waive confidentiality. Upon receiving the request to waive confidentiality from the student, the director of ALP will apprise all related parties that an appeal is underway, that they are not obligated to discuss the matter with the appealing student, and that their confidential peer evaluations have not been shared with the appealing student. The student must wait for permission from the director of ALP before contacting team members and/or faculty liaisons.

3. If step 2 does not resolve the issue to the satisfaction of both parties, the student may appeal to the director of ALP by sending a written notice describing the grounds for the appeal within 2 weeks of the date of the scheduled meeting in step 2. A copy of the letter must be sent to the director of the M.B.A. program. The director of ALP will render a decision within 3 weeks of receiving the written notice.

4. If step 3 does not resolve the issue to the satisfaction of both parties, the student may appeal to the Dean’s Advisory Committee by sending a written notice describing the grounds for the appeal within 2 weeks of the decision rendered by the director of ALP in step 3. A copy of the letter must be sent to the director of ALP and the director of the M.B.A. program.

5. The Dean’s Advisory committee will seek out information on the appeal from the professor and the student and at its discretion hold a hearing to further consider the matter. The decision of the Dean’s Advisory Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4).

6. All decisions rendered by the Dean’s Advisory Committee are final.

7. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.

8. The Family Educational Rights and Privacy Act of 1974 and amendments govern records of these actions.

**ALP Grade Appeal Policy for Student Team**

The procedure below outlines the process by which an individual student may appeal a grade in the ALP course.

1. The student team must send a letter of intent to appeal the grade to all members of the faculty team. This written appeal must be filed no later than 30 days after the last day of module 6. All team members must sign the letter. A copy of the letter must be sent to the director of ALP and to the director of the M.B.A. program.

2. The faculty team must schedule a meeting with the student team by the end of module 1 during the following year to further discuss the appeal with the student team. The professors will provide the meeting time to the director of ALP and to the director of the M.B.A. program.
3. If the matter is not resolved in step 2 above, the student team must file a written appeal to the director of ALP within 2 weeks of the date of the scheduled meeting in step 2. All team members must sign the letter. The director of ALP must schedule a meeting with the student team within 2 weeks of receiving the written appeal to further discuss the appeal with the student team. The director of ALP will provide the meeting date to the director of the M.B.A. program.

4. If step 3 does not resolve the issue to the satisfaction of both parties, the student team may appeal to the Dean’s Advisory Committee by sending a written notice describing the grounds for the appeal within 2 weeks of the date of the scheduled meeting in step 3. All team members must sign the letter. A copy of the letter must be sent to the director of ALP and to the director of the M.B.A. program.

5. The Dean’s Advisory committee will seek out information on the appeal from the professors., the director of ALP, and the student team and, at its discretion, hold a hearing to further consider the matter. The decision of the Dean’s Advisory Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4). A copy of the decision must be sent to the director of ALP and to the director of the M.B.A. program.

6. All decisions rendered by the Dean’s Advisory Committee are final.

7. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.

8. The Family Educational Rights and Privacy Act of 1974 and amendments govern records of these actions.

**Drop/Add Policy**

*If student is taking a ONE-MODULE class:*
- May drop/add a class without penalty during the **first week** of class with director of M.B.A. program’s approval
- Must attend first class, and may not miss more than **one class** during the first week of class
- Must obtain director of M.B.A. program and instructors’ permission to add class after the first week
- May not drop courses after the first week of class

*If student is taking a TWO-MODULE class:*
- May drop/add a class without penalty during the **first week** of class with director of M.B.A. program’s approval
- Must attend first class, and may not miss more than **two classes** during the first two weeks of class
- Must obtain director of M.B.A. program and instructors’ permission to add class after the second week
- May not drop courses after the second week of class
- Students may not drop courses where the honor council has ruled a loss of credit
If student is taking a THREE-MODULE class:
- May drop/add a class without penalty during the first week of class with director of M.B.A. program’s approval
- Must attend first class, and may not miss more than three classes during the first two weeks of class
- Must obtain director of M.B.A. program and instructors’ permission to add class after the second week
- May not drop courses after the third week of class
- Students may not drop courses where the honor council has ruled a loss of credit

Independent Study

Minimum Hours Requirement. Each 1-unit credit for independent study should contain approximately as much time content as a 1-module course at JGSM, which is 12 hours of class time, plus an average of at least 24–36 outside-class hours, for a minimum total of 36–48 hours of work. Most independent study projects can probably be accommodated in a 1- or 2-unit independent study; 3-unit independent study projects should be less frequent. Occasionally, a group independent study project may arise, though most independent studies will be undertaken by individual students.

The number of credits for an independent study should be negotiated at the beginning of a project. Increases to the number of project credit hours after the project overview has been filed with the M.B.A. program office must be approved by the Academic Standards Committee. The committee will rely on input from sponsoring faculty in making its decision about ex post credit increases. Requests to increase the number of project credit hours must be made before the end of the second week of classes in the module in which the project begins, except when a student is in their last semester, in which case such requests must be made before the end of the second week of the semester.

Restrictions. No student may take more than 3 credit hours of independent study without the approval of the Academic Standards Committee.

Independent study projects are work for academic credit, not for hire. Students may not earn credit for paid research assistance.

Independent study projects may not duplicate existing courses, or portions thereof. Independent study projects may not focus on topics or projects available to the student through the established curriculum. Questions regarding whether an independent study duplicates existing coursework available to a specific student should be addressed to the M.B.A./E. program director; appeals to the program director’s decision will be sent to the Academic Standards Committee.

Faculty Sponsorship. Independent study projects are normally sponsored only by full-time JGSM faculty. Students wishing for sponsorship by an adjunct faculty member must submit a project overview to the Academic Standards Committee and obtain the committee’s approval, before the module(s) in which the project is to begin.

Common Requirements. The goal of independent study projects is to advance or deepen a student’s knowledge or competency in a business discipline or activity.

To facilitate these goals, independent study projects generally fall into two broad categories: (1) directed reading and study resulting in a research paper, or (2) an experiential or hands-on project resulting in an outcome such as an empirical analysis or a webpage/site with an executive summary of the “deliverable.”
While the content of individual independent study projects are at the discretion of a student and the sponsoring faculty member, JGSM would like to ensure relatively equal workloads per unit of independent study credit, and some common requirements between independent study projects. To that end, students and/or sponsoring faculty should:

1. Prepare and submit to the M.B.A. program office an overview of the independent study project with number of project credits, anticipated final results and a broad timeline of anticipated project milestones.
2. Meet to discuss the project, after the initial agreement on the project scope, at least once every 2–3 weeks.
3. Prepare a final paper (in the case of directed reading and research projects), or complete a concrete deliverable (for example, a completed webpage, computer program, survey results, empirical analyses, etc.) together with an executive summary of the project (in the case of experiential projects).
4. File a copy of each student’s final paper, or executive summary, with the M.B.A. program office.

Class Attendance Policy

Students are expected to be in class on the first day of each module. The faculty reserves the right to exclude students from their courses who do not show up on the first day. For special circumstances, see faculty and/or director of M.B.A. program immediately.

Withdrawal Policy

A Jones School student may voluntarily withdraw from school at any time. Rice University applies a sliding scale to tuition and fees, so early action to withdraw saves money.

Jones School Student Handbook

Generally, the Jones School adheres to the academic regulations of Rice University. However, the Jones School has unique policies and procedures that vary from the Office of Graduate Studies regarding, but not limited to, leave of absence, withdrawals and readmission, drop/add, academic discipline, dismissal, procedures for resolution of problems, and appeal of academic regulations. All Jones School students are responsible for adhering to policies and procedures listed in the Jones School Student Handbook given to students during pre-term. A copy of the handbook may also be obtained from the M.B.A. program office.

Financial Aid

Financial assistance by the Jones Graduate School is awarded only for a given semester or year. Continuation of assistance depends upon satisfactory academic performance, professional behavior, and availability of funds. Academic or disciplinary probation, suspension, or more than three grades below B- result in the removal of all forms of school financial assistance, whether scholarship, loan, or employment. Scholarships are awarded for a combination of need and academic merit.

See ACCO and MGMT in the Courses of Instruction section.
Managerial Studies

The School of Social Sciences

Program Director
Ronald Soligo

Degree Offered: B.A.

The major in managerial studies is an interdepartmental, nonprofessional program designed to provide undergraduates with an understanding of the environment in which businesses and other organizations exist today, and of some of the tools employed by management in the commitment of its financial and human resources. All students taking the managerial studies major must also complete at least one of the established departmental or interdepartmental majors, other than an area major. Managerial studies is not the equivalent of an undergraduate business major at other universities.

Degree Requirements for B.A. in Managerial Studies

For general university requirements, see Graduation Requirements (pages 20–23). For the B.A. degree, students majoring in managerial studies must complete the following 11 core courses in addition to satisfying all the requirements for their second departmental or interdepartmental major:

ACCO 305 Introduction to Accounting
ECON 211 Principles of Economics I
  (microeconomics)
ECON 212 Principles of Economics II
  (macroeconomics)
ECON 448 Corporation Finance or
  ENGI 303 Engineering Economics
  and Management
MANA 404 Management Communications in a Consulting Simulation
PSYC 101 Introduction to Psychology
PSYC 231 Industrial and Organizational Psychology
*STAT 280 Elementary Applied Statistics
**STAT 385 Methods for Data Analysis and System Optimization

I course from the following:
ECON 355 Financial Markets and Institutions
ECON 435 Industrial Organization
ECON 436 Regulation
ECON 438 Economics of the Law I
POLI 335 Political Environment of Business
POLI 338 Policy Analysis

I course from the following:
ACCO 406 Management Accounting
ACCO 409 Financial Reporting and Analysis
ECON 370 Microeconomic Theory

* Psychology, sociology, and political science majors may satisfy this requirement with PSYC 339/STAT 339, SOCI 398, or POLI 395 respectively. Students with a calculus background should take STAT 305, STAT 310/ECON 382, or STAT 331/ELEC 331.
* *or CAAM 378, STAT/ECON 400, STAT 410, 421, 486

MANA 404 is a capstone course that may not be taken until 8 of the 10 other required courses in the major have been completed.
**Honors Program.** To apply for admission to the honors program, students must have completed eight of the regular managerial studies courses and have a B+ (3.33) average in those courses. All applications must be approved by the Director of Managerial Studies.

A student in the honors program must take 2 additional courses from:

- MANA 497/498 *Independent Research*
- ECON 440 *Risk, Uncertainty, and Information*
- ECON 445 *Managerial Economics*
- ECON 449 *Basics of Financial Engineering*
- STAT 486 *Methods in Computational Finance I: Market Models*
- STAT 421 *Methods in Computational Finance II: Time Series*

MANA 497/498 are offered in collaboration with select faculty in the Jesse H. Jones Graduate School of Management. Admission to these courses must be approved by a participating faculty member. A list of participating faculty and their research interests is available from the director of Managerial Studies.

For more information, students should consult the program director in 268 Baker Hall.

See MANA in the Courses of Instruction section.
Mathematics
The Wiess School of Natural Sciences

Chair
Robin Forman

Professors
Michael Boshernitzan
Tim D. Cochran
Robert M. Hardt
John Hempel
Frank Jones
John C. Polking
Stephen W. Semmes
Richard A. Stong
William A. Veech
Michael Wolf

Professor Emeritus
F. Reese Harvey

Associate Professor
Brendan Hassett
Zhiyong Gao

Instructors
Pralay Chatterjee
Donghoon (David) Hyeon
Taehee Kim
Joung (Jaime) M. N. Song
Tamas Wiandt

Degrees Offered: B.A., M.A., Ph.D.

The program in mathematics provides undergraduates with a spectrum of choices, from nontheoretical treatments of calculus and courses in modern algebra, combinatorics, elementary number theory, and projective geometry to a broad variety of sophisticated mathematics, including real and complex analysis, differential geometry, abstract algebra, algebraic and geometric topology, algebraic geometry, and partial differential equations.

Faculty research interests range from differential geometry, ergodic theory, group representation, partial differential equations, and probability, to real analysis, mathematical physics, complex variables, algebraic geometry, combinatorics, geometric topology, and algebraic topology.

Degree Requirements for B.A. in Mathematics

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in mathematics may choose between the regular math major and the double major. Regular math majors must complete:

- MATH 101 and 102 Single Variable Calculus I and II
- MATH 211 Ordinary Differential Equations and Linear Algebra and MATH 212 Multivariable Calculus
  
  or MATH 221 and 222 Honors Calculus III and IV
- At least 24 semester hours (8 courses) in departmental courses at the 300 level or above (in many instances, the math department will waive the 100- and 200-level courses for a math major)

The requirements for the double major are the same except that students may substitute approved mathematics-related courses for up to 9 of the 24 hours required at the 300 level or above.

Students receive advanced placement credit for MATH 101 by achieving a score of 4 or 5 on the AP AB-level test and for MATH 101 and 102 by achieving a score of 4 or 5 on the BC-level test. Students who have had calculus but have not taken the AP test may
petition the department for a waiver of the calculus requirements. Entering students should enroll in the most advanced course commensurate with their background; advice is available from the mathematics faculty during Orientation Week.

Degree Requirements for M.A. and Ph.D. in Mathematics

Admission to graduate study in mathematics is granted to a limited number of students who have indicated an ability for advanced and original work. Normally, students take one or two years after the B.A. degree to obtain an M.A. degree, and they take four or five years to obtain a Ph.D. An M.A. is not a prerequisite for the Ph.D. For general university requirements, see Graduate Degrees (pages 65–70).

A number of graduate scholarships and fellowships are available, awarded on the basis of merit. As part of the graduate education in mathematics, students also engage in teaching or other instructional duties, generally for no more than 6 hours a week.

M.A. Program. Candidates for the M.A. in mathematics must:
• Complete with a grade of B or better a course of study approved by the department (students may transfer credits from another university only with the approval of both the department and the University Graduate Council)
• Perform satisfactorily on an examination in at least 1 approved foreign language (French, German, or Russian)
• Either complete all requirements for qualification as a candidate for the Ph.D. (see below) or present, and provide an oral defense of, an original thesis acceptable to the department

Ph.D. Program. Candidates for the Ph.D. in mathematics must:
• Complete with a grade of B or better a course of study approved by the department (students may transfer credits from another university only with the approval of both the department and the University Graduate Council)
• Perform satisfactorily on qualifying examinations (see below)
• Perform satisfactorily on examinations in 1 approved foreign language (French, German, or Russian)
• Write an original thesis acceptable to the department
• Perform satisfactorily on a final oral examination on the thesis

Qualifying Examinations. The qualifying examinations in mathematics consist of the general examinations and the advanced oral examination.

To complete the general examinations, students must take 3 exams, 1 each in algebra, analysis, and topology. Exams are offered every August and January. First-year students may take any combination of exams at any time. After two semesters of study, students must attempt to pass all remaining exams at each offering. Students must perform satisfactorily on all 3 by the start of their fifth semester. Students may take an exam several times.

To complete the advanced oral examination, students must select a special field (e.g., homotopy theory, several complex variables, or group theory) and submit it to the department Graduate Committee for approval. The committee schedules an advanced examination in the selected field, normally six to nine months after the student completes the general examinations. While students failing the advanced examination may, with the approval of the committee, retake it on the same or possibly on a different topic, they generally are not allowed to take the advanced examination more than twice.

See MATH in the Courses of Instruction section.
Mechanical Engineering and Materials Science

The George R. Brown School of Engineering

Chair
Tayfun E. Tezduyar

Professors
John E. Akin
Andrew R. Barron
Yildiz Bayazitoglu
Michael M. Carroll
Rex B. McLellan
Pol D. Spanos
James Tour

Professors Emeriti
Franz R. Brotzen
Alan J. Chapman
Angelo Miele
Ronald P. Nordgren
Chao-Cheng Wang

Associate Professors
Enrique V. Barrera
Fathi Ghorbel
Andrew J. Meade
Boris I. Yakobson

Assistant Professors
Chad M. Landis
Marcia E. O’Malley

Adjunct Associate Professors
Jeffrey D. Reuben
Keith Stein

Adjunct Professor
Thomas J.R. Hughes

Adjunct Assistant Professors
Sarmed Adnan
Nazareth S. Bedrossian
Aladin Boriek
James B. Dabney

Visiting Assistant Professors
Catherine G. Ambrose

Lecturers
Robert Cunningham
David M. McStravick

Degrees Offered: B.A., B.S.M.E., B.S.M.S., M.M.E., M.M.S., M.S., Ph.D.

Studies in mechanical engineering may lead to specialization in one of several areas, including mechanics, computational mechanics, stochastic mechanics, fluid dynamics, heat transfer, dynamics and control, robotics, biomedical systems, and aerospace sciences. Studies in materials science may lead to specialization in one of several areas, including nanotechnology, metals physics, statistical mechanics, metallic solid thermodynamics, materials chemistry, aspects of composites, coatings and thin films, and interface science.

The graduate program offers professional degrees in both materials science and engineering, which is based on undergraduate preparation in a number of related fields, and mechanical engineering, which permits specialization in the areas mentioned in the previous paragraph. Graduate students may also pursue research degrees. Faculty research areas are indicated in the previous paragraph. A joint M.B.A./Master of Engineering degree is available in conjunction with the Jesse H. Jones Graduate School of Management. Also, a combined M.D. and advanced research degree for research careers in medicine is available with Baylor College of Medicine.

The graduate program collaborates with other departments in its comprehensive educational and research activities. The Department of Computational and Applied Mathematics supports research in applied analysis and computational mathematics. Work on expert systems and robotics is done in cooperation with the Departments of Electrical and Computer Engineering and Computer Science. Computer graphics re-
search involves the cooperation of the Department of Computer Science and the School of Architecture. The campus-wide Rice Quantum Institute is also active in the research of electronic materials and other aspects of materials science. Finally, biomechanics and biomaterials research involves several institutions in the Texas Medical Center.

**Degree Requirements for B.A., B.S.M.E. in Mechanical Engineering or B.A., B.S.M.S. in Materials Science and Engineering**

For general university requirements, see Graduation Requirements (pages 20–23). The B.A. program in either mechanical engineering or materials science and engineering is highly flexible, involves less technical content than the B.S., and allows students greater freedom to pursue areas of interest outside of engineering.

The two B.S. programs prepare students for professional practice of engineering. During their senior year, mechanical engineering students in the B.S. program take courses in design application while completing a major design project, and materials science and engineering students in the B.S. program work on a design problem in an industrial setting. The B.S.M.E. program is accredited by the Accreditation Board for Engineering and Technology (ABET). Departmental goals and objectives are available at http://mems.rice.edu/undergraduate/goals.html.

**B.S.M.E. Program.** Lists of representative undergraduate courses and the usual order in which students take them are available from the department for either the B.A. or B.S. programs in both mechanical engineering and materials science and engineering. The B.S.M.E. degree contains a core of required courses and selected electives from 1 of 6 specialization areas. The requirements (for a total of 131 hours) are:

**Basic Mathematics and Science**

*(26 hours)*

- CHEM 121 *Chemistry*
- MATH 101 *Single Variable Calculus I*
- MATH 102 *Single Variable Calculus II*
- MATH 211 *Ordinary Differential Equations and Linear Algebra*
- MATH 212 *Multivariable Calculus*
- MSCF 301 *Materials Science*
- PHYS 101 *Mechanics*
- PHYS 102 *Electricity and Magnetism*

**Computational and Applied Mathematics (12 hours)**

- COMP 110 *Computation in Science and Engineering*
- CAAM 211 *Engineering Computation*
- CAAM 335 *Matrix Analysis*
- CAAM 336 *Differential Equations in Science and Engineering*

**Senior Design (7 hours)**

- MECH 407 *Mechanical Design Project I*
- MECH 408 *Mechanical Design Project II*

**Labs (3 hours)**

- MECH 331 *Mechanics Lab*
- MECH 332 *Thermo/Fluids Lab*
- MECH 431 *Senior Lab*

**Mechanical Engineering (32 hours)**

- MECH 200 *Classical Thermodynamics*
- MECH 211 *Engineering Mechanics*
- MECH 311 *Mechanics-Deformable Solids*
- MECH 340 *Industrial Process Lab*
- MECH 343 *Modeling of Dynamic Systems*
- MECH 371 *Fluid Mechanics I*
- MECH 401 *Machine Design*
- MECH 412 *Vibrations*
- MECH 420 *Feedback Control of Dynamic Systems*
- MECH 481 *Heat Transfer*

**Limited Electives: 3 hours in any 300-level or higher MATH, CAAM, STAT, or MECH course**

**Distribution Electives (24 hours)**

**Free Electives (15 hours)**
Specialization Area Options: The specialization area can be 1 of the following 5 clusters. Students must take at least 2 of the following required cluster courses for their selected cluster and 2 from the departmental list of the suggested cluster elective courses, for a total of not less than 12 hours. The cluster advisors will maintain updated lists of electives in the department. The choices for the required cluster courses are:

1. Biomechanics
   BIOE 372 Intro Biomechanics
   MECH 380 Tissue Mechanics

2. Computational mechanics
   MECH 417 Finite Element Analysis
   MECH 454 Finite Elements in Fluids

3. Fluid mechanics and thermal science
   MECH 372 Fluid Mechanics, II
   MECH 471 App. of Thermodynamics

4. Solid Mechanics and Materials
   CEVE 400 Mechanics of Solids II
   MSCI 402 Mech. Properties of Materials

5. System dynamics and control
   MECH 498 Intro to Robotics
   MECH 435 Electromechanical Systems
   or ELEC 243 Intro to Electronics

6. General mechanical engineering
   Any 4 required courses listed above may be taken to define a general cluster.

B.A. in Mechanical Engineering Program. Students seeking the B.A. degree with a major in mechanical engineering must complete 120 hours with at least 66 semester hours in courses specified by the department along with 24 hours of university distribution electives and 30 hours of free electives. Lists of courses, including general university requirements and the usual order in which students take them are available from the department. The B.A. program mirrors the B.S.M.E. program in the freshman and sophomore years with the exceptions that MECH 340 and MECH 331 are not required. Specific major requirements are completed in the junior and senior years along with electives. A summary appears below:

Freshman Year: Same as B.S. with 23 major and 9 elective hours for 32 hours.

Sophomore Year: Same as B.S. (except MECH 340 and 331 are not required) with 18 major and 15 elective hours for 33 hours.

Junior and Senior Years: 25 major and 30 electives for 55 hours. The following courses are required in junior and senior years:

CAAM 335 Matrix Analysis (3)  MECH 401 Machine Design (3)
CAAM 336 Differential Equations in Science and Engineering (3)  MECH 412 Vibrations (3)
MECH 343 Modeling of Dynamic Systems (4)  MECH 420 Feedback Control of Dynamic Systems (3)
MECH 371 Fluid Mechanics I (3)  MECH 481 Heat Transfer (3)

B.A. in Materials Science and Engineering Program. Students seeking the B.A. degree with a major in materials science and engineering must complete at least 52 hours in courses specified by the department plus additional hours for a total of 120 hours at graduation.

B.S.M.S. Program. Students seeking the B.S.M.S. must complete at least 91 semester hours in courses specified by the department within the total requirements of 134 hours. Basic departmental course requirements for the B.S.M.S. are as follows:
Mechanical Engineering and Materials Science 215
CHEM 121–122 General Chemistry
MATH 101 and 102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
MECH 211 Engineering Mechanics
MSCI 301 Materials Science
PHYS 101 Mechanics
PHYS 102 Electricity and Magnetism

Specific requirements
CAAM 211 Introduction to Engineering Computation
CAAM 335 Matrix Analysis
CIVI 300 Mechanics of Solids
ELEC 241 Fundamentals of Electrical Engineering I (or ELEC 243 Introduction to Electronics)
MSCI 301 Materials Science
MSCI 303 Materials Science Junior Lab
MSCI 311 Introduction to Design
MSCI 401 Thermodynamics and Transport Phenomena in Materials Science
MSCI 402 Mechanical Properties of Materials
MSCI 404 Materials Engineering and Design
MSCI 406 Physical Properties of Solids (or MSCI 415 Ceramics and Glasses)
MSCI 411 Metallography and Phase Relations (or MSCI 415 Ceramics and Glasses)
MSCI 500/501 Materials Science Seminar
MSCI 535 Crystallography and Diffraction
MSCI 537 Materials Science Senior Lab
MSCI 594 Properties of Polymers

1 course from the following
PHYS 201 Waves and Optics
CHEM 211 Organic Chemistry
CHEM 311 Physical Chemistry

Electives
1 approved science elective (at the 200 level or higher)
1 approved engineering science elective (not MSCI)
1 approved technical elective

Degree Requirements for M.M.E., M.M.S., M.S., and Ph.D. in Mechanical Engineering or Materials Science and Engineering

Professional Degree Programs. The professional degrees offered by this department, the Master of Mechanical Engineering (M.M.E.) and the Master of Materials Science (M.M.S.), involve a fifth year of specialized study, which is integrated with the four undergraduate years leading to either the B.A. or the B.S. degree in the same areas of interest. The professional degree programs are open to students who have shown academic excellence in their undergraduate studies.

For general university requirements, see Graduate Degrees (pages 65–70). For both the M.M.E. and M.M.S. degrees, students must complete 30 semester hours of course work. Lists of suggested courses are available from the department. Students should develop a specific plan of study based on their particular interests.

Research Degree Programs. The programs leading to the M.S. and Ph.D. degrees are open to students who have demonstrated outstanding performance in their undergraduate studies. The granting of a graduate research degree presupposes academic work of superior quality and a demonstrated ability to do original research.

For general university requirements, see Graduate Degrees (pages 65–70). Course requirements for the research degrees vary, depending on the extent of individual undergraduate preparation as well as each student’s performance in graduate courses and on qualifying examinations. For both the M.S. and Ph.D. degrees, students must present a thesis that comprises an original contribution to knowledge and defend it in a public oral examination.

See MECH and MSCI in the Courses of Instruction section.
Mechanical Engineering and Materials Science

The George R. Brown School of Engineering

Chair
Tayfun E. Tezduyar

Professors
John E. Akin
Andrew R. Barron
Yildiz Bayazitoglu
Michael M. Carroll
Rex B. McLellan
Pol D. Spanos
James Tour

Professors Emeriti
Franz R. Brotzen
Alan J. Chapman
Angelo Miele
Ronald P. Nordgren
Chao-Cheng Wang

Associate Professors
Enrique V. Barrera
Fathi Ghorbel
Andrew J. Meade
Boris I. Yakobson

Assistant Professors
Chad M. Landis
Marcia E. O’Malley

Adjunct Associate Professors
Jeffrey D. Reuben
Keith Stein

Adjunct Professor
Thomas J.R. Hughes

Adjunct Assistant Professors
Sarmed Adnan
Nazareth S. Bedrossian
Aladin Boriek
James B. Dabney

Visiting Assistant Professors
Catherine G. Ambrose

Lecturers
Robert Cunningham
David M. McStravick

Degrees Offered: B.A., B.S.M.E., B.S.M.S., M.M.E., M.M.S., M.S., Ph.D.

Studies in mechanical engineering may lead to specialization in one of several areas, including mechanics, computational mechanics, stochastic mechanics, fluid dynamics, heat transfer, dynamics and control, robotics, biomedical systems, and aerospace sciences. Studies in materials science may lead to specialization in one of several areas, including nanotechnology, metals physics, statistical mechanics, metallic solid thermodynamics, materials chemistry, aspects of composites, coatings and thin films, and interface science.

The graduate program offers professional degrees in both materials science and engineering, which is based on undergraduate preparation in a number of related fields, and mechanical engineering, which permits specialization in the areas mentioned in the previous paragraph. Graduate students may also pursue research degrees. Faculty research areas are indicated in the previous paragraph. A joint M.B.A./Master of Engineering degree is available in conjunction with the Jesse H. Jones Graduate School of Management. Also, a combined M.D. and advanced research degree for research careers in medicine is available with Baylor College of Medicine.

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Degree Requirements for B.A., B.S.M.E. in Mechanical Engineering or B.A., B.S.M.S. in Materials Science and Engineering

For general university requirements, see Graduation Requirements (pages 20–23). The B.A. program in either mechanical engineering or materials science and engineering is highly flexible, involves less technical content than the B.S., and allows students greater freedom to pursue areas of interest outside of engineering.

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Basic Mathematics and Science (26 hours)
CHEM 121 Chemistry
MATH 101 Single Variable Calculus I
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MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
MSCI 301 Materials Science
PHYS 101 Mechanics
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Computational and Applied Mathematics (12 hours)
COMP 110 Computation in Science and Engineering
CAAM 211 Engineering Computation
CAAM 335 Matrix Analysis
CAAM 336 Differential Equations in Science and Engineering

Senior Design (7 hours)
MECH 407 Mechanical Design Project I
MECH 408 Mechanical Design Project II

Labs (3 hours)
MECH 331 Mechanics Lab
MECH 332 Thermo/Fluids Lab
MECH 431 Senior Lab

Mechanical Engineering (32 hours)
MECH 200 Classical Thermodynamics
MECH 211 Engineering Mechanics
MECH 311 Mechanics-Deformable Solids
MECH 340 Industrial Process Lab
MECH 343 Modeling of Dynamic Systems
MECH 371 Fluid Mechanics I
MECH 401 Machine Design
MECH 412 Vibrations
MECH 420 Feedback Control of Dynamic Systems
MECH 481 Heat Transfer

Limited Electives: 3 hours in any 300-level or higher MATH, CAAM, STAT, or MECH course

Distribution Electives (24 hours)
Free Electives (15 hours)
Specialization Area Options: The specialization area can be 1 of the following 5 clusters. Students must take at least 2 of the following required cluster courses for their selected cluster and 2 from the departmental list of the suggested cluster elective courses, for a total of not less than 12 hours. The cluster advisors will maintain updated lists of electives in the department. The choices for the required cluster courses are:

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5. System dynamics and control
   MECH 498 Intro to Robotics
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   or ELEC 243 Intro to Electronics

6. General mechanical engineering
   Any 4 required courses listed above may be taken to define a general cluster.

B.A. in Mechanical Engineering Program. Students seeking the B.A. degree with a major in mechanical engineering must complete 120 hours with at least 66 semester hours in courses specified by the department along with 24 hours of university distribution electives and 30 hours of free electives. Lists of courses, including general university requirements and the usual order in which students take them are available from the department. The B.A. program mirrors the B.S.M.E. program in the freshman and sophomore years with the exceptions that MECH 340 and MECH 331 are not required. Specific major requirements are completed in the junior and senior years along with electives. A summary appears below:

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Junior and Senior Years: 25 major and 30 electives for 55 hours. The following courses are required in junior and senior years:

CAAM 335 Matrix Analysis (3) MECH 401 Machine Design (3)
CAAM 336 Differential Equations in MECH 412 Vibrations (3)
Science and Engineering (3) MECH 420 Feedback Control of
MECH 343 Modeling of Dynamic Dynamic Systems (3)
Systems (4) MECH 481 Heat Transfer (3)
MECH 371 Fluid Mechanics I (3)

B.A. in Materials Science and Engineering Program. Students seeking the B.A. degree with a major in materials science and engineering must complete at least 52 hours in courses specified by the department plus additional hours for a total of 120 hours at graduation.

B.S.M.S. Program. Students seeking the B.S.M.S. must complete at least 91 semester hours in courses specified by the department within the total requirements of 134 hours. Basic departmental course requirements for the B.S.M.S. are as follows:
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MATH 101 and 102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
MECH 211 Engineering Mechanics
MSCI 301 Materials Science
PHYS 101 Mechanics
PHYS 102 Electricity and Magnetism

**Specific requirements**
CAAM 211 Introduction to Engineering Computation
CAAM 335 Matrix Analysis
CIVI 300 Mechanics of Solids
ELEC 241 Fundamentals of Electrical Engineering I (or ELEC 243 Introduction to Electronics)
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MSCI 303 Materials Science Junior Lab
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MSCI 401 Thermodynamics and Transport Phenomena in Materials Science
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MSCI 411 Metallography and Phase Relations (or MSCI 415 Ceramics and Glasses)
MSCI 500/501 Materials Science Seminar
MSCI 535 Crystallography and Diffraction
MSCI 537 Materials Science Senior Lab
MSCI 594 Properties of Polymers

**1 course from the following**
PHYS 201 Waves and Optics
CHEM 211 Organic Chemistry
CHEM 311 Physical Chemistry

**Electives**
1 approved science elective (at the 200 level or higher)
1 approved engineering science elective (not MSCI)
1 approved technical elective

Degree Requirements for M.M.E., M.M.S., M.S., and Ph.D. in Mechanical Engineering or Materials Science and Engineering

**Professional Degree Programs.** The professional degrees offered by this department, the Master of Mechanical Engineering (M.M.E.) and the Master of Materials Science (M.M.S.), involve a fifth year of specialized study, which is integrated with the four undergraduate years leading to either the B.A. or the B.S. degree in the same areas of interest. The professional degree programs are open to students who have shown academic excellence in their undergraduate studies.

For general university requirements, see Graduate Degrees (pages 65–70). For both the M.M.E. and M.M.S. degrees, students must complete 30 semester hours of course work. Lists of suggested courses are available from the department. Students should develop a specific plan of study based on their particular interests.

**Research Degree Programs.** The programs leading to the M.S. and Ph.D. degrees are open to students who have demonstrated outstanding performance in their undergraduate studies. The granting of a graduate research degree presupposes academic work of superior quality and a demonstrated ability to do original research.

For general university requirements, see Graduate Degrees (pages 65–70). Course requirements for the research degrees vary, depending on the extent of individual undergraduate preparation as well as each student’s performance in graduate courses and on qualifying examinations. For both the M.S. and Ph.D. degrees, students must present a thesis that comprises an original contribution to knowledge and defend it in a public oral examination.

See MECH and MSCI in the Courses of Instruction section.
Medieval Studies

The School of Humanities

Director and Adviser
Honey Meconi

Professors
Jane Chance
Gilbert Morris Cuthbertson
Michael Maas
Donald Ray Morrison
Deborah Nelson-Campbell

Associate Professors
Linda E. Neagley
Nanxiu Qian
Carol E. Quillen
Paula Sanders
Sarah Westphal

Assistant Professors
David Cook
Eva Haverkamp
Scott McGill

Lecturer and Playwright in Residence
E. Douglas Mitchell

Degree Offered: B.A.

This interdisciplinary major enables students to compare medieval cultures, noting both their differences and their common traditions, in the period between 500 and 1500 A.D. The program combines a broad background in various aspects of medieval culture with more specialized study in a selected field. These fields of emphasis include art history, history, medieval literature (English, French, or Latin), music, philosophy, or religion.

Degree Requirements for B.A. in Medieval Studies

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in medieval studies must complete at least 30 semester hours (10 courses); the minimum for double majors is 30 hours. All majors must complete five (5) of these medieval studies courses at the 300 or 400 level.

Required and recommended courses include the following:

• A minimum of 30 semester hours (10 semester courses), of which at least five courses must be at the 300/400 level. Double majors must complete a minimum of 24 semester hours.
• One course in medieval literature OR medieval art OR medieval music

Recommended Courses:
MDST 316 Chaucer
MDST 317 Arthurian Literature
MDST 368 Mythologies

MDST 414 Literature & Culture of the Middle Ages: Saints & Sinners
MDST 425 Courtly Love in Medieval France
MDST 330 Early Medieval Art from 5th Century to the Romanesque Period
MDST 331 Gothic Art & Architecture in Northern Europe, 1140–1300
MDST 332 Late Gothic Art & Architecture in Northern Europe, 1300–1500
MDST 222 Medieval & Renaissance Eras
MDST 429 Music in the Middle Ages

One of the following courses:
- MDST 201 History of Philosophy I
- MDST 257/357 Jews & Christians in Medieval Europe
- MDST 382 Classical Islamic Culture

• Two semesters of foreign language study, determined in consultation with the medieval studies advisor.

• Three courses (at least two at the 300 or 400 level) in the student’s chosen field of emphasis—one of these may be a directed reading course

Recommended Courses:
- MDST 202 Introduction to Medieval Civilization I: The Early Middle Ages
- MDST 203 Introduction to Medieval Civilization II: The High Middle Ages
- MDST 315 Introduction to Medieval Culture

For single majors, 3 additional courses in the medieval period, one of which may be a senior thesis (1 semester) on a topic in the student’s field of emphasis; for double majors, 1 additional course in the medieval period.

Students work out their programs of study in consultation with the program director. Those contemplating graduate work in medieval studies should study at least one foreign language in some depth (as most graduate schools require a reading knowledge or French and German for the Ph.D.)

Students may select from among the following to fulfill the course requirements for the major in medieval studies.

Please note that not all courses listed below will be offered during the academic year. For a current list of courses that will be offered in fall 2003 and spring 2004, please visit the Medieval Studies web site at http://medieval.rice.edu.

### Classical Studies

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>MDST 101</td>
<td>Elementary Latin I</td>
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<tr>
<td>MDST 102</td>
<td>Elementary Latin II</td>
</tr>
<tr>
<td>MDST 211</td>
<td>Intermediate Latin I</td>
</tr>
<tr>
<td>MDST 212</td>
<td>Intermediate Latin II</td>
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### English

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>MDST 300</td>
<td>Medieval Women Writers</td>
</tr>
<tr>
<td>MDST 310</td>
<td>Dante in Translation</td>
</tr>
<tr>
<td>MDST 311</td>
<td>Old English</td>
</tr>
<tr>
<td>MDST 312</td>
<td>Survey of Old English Literature: Gender &amp; Power in Old English</td>
</tr>
<tr>
<td>MDST 314</td>
<td>Survey of Middle English Literature</td>
</tr>
<tr>
<td>MDST 315</td>
<td>Introduction to Medieval Culture</td>
</tr>
<tr>
<td>MDST 316</td>
<td>Chaucer</td>
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<tr>
<td>MDST 317</td>
<td>Arthurian Literature</td>
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<tr>
<td>MDST 318</td>
<td>J.R.R. Tolkien</td>
</tr>
<tr>
<td>MDST 368</td>
<td>Mythologies</td>
</tr>
<tr>
<td>MDST 406</td>
<td>Christine de Pizan in 15th-Century England</td>
</tr>
</tbody>
</table>

### French Studies

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>FREN 416</td>
<td>Literature &amp; Culture of the Middle Ages: King Arthur</td>
</tr>
<tr>
<td>MDST 410</td>
<td>The Literary &amp; Historical Image of the Medieval Woman</td>
</tr>
<tr>
<td>MDST 414</td>
<td>Literature &amp; Culture of the Middle Ages: Saints &amp; Sinners</td>
</tr>
<tr>
<td>MDST 425</td>
<td>Courtly Love in Medieval France</td>
</tr>
</tbody>
</table>

### German Studies

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GERM 126</td>
<td>Freshman Seminar: The Legend of King Arthur in the Middle Ages</td>
</tr>
<tr>
<td>GERM 330</td>
<td>Mapping German Culture: Courtship, Love &amp; Marriage in the Age of Chivalry</td>
</tr>
</tbody>
</table>

### History of Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>MDST 108</td>
<td>Art in Context: Late Medieval &amp; Renaissance Culture</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>MDST 111</td>
<td>Introduction to the History of Western Art I: Prehistoric to Gothic</td>
</tr>
<tr>
<td>MDST 238</td>
<td>Special Topics in Medieval Art</td>
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<tr>
<td>MDST 239</td>
<td>Independent Study in Medieval Art</td>
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<tr>
<td>MDST 330</td>
<td>Early Medieval Art from the 5th Century to the Romanesque Period</td>
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<tr>
<td>MDST 331</td>
<td>Gothic Art &amp; Architecture in Northern Europe, 1140–1300: The Age of Cathedrals</td>
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<td>MDST 332</td>
<td>Late Gothic Art &amp; Architecture in Northern Europe, 1300–1500</td>
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<tr>
<td>MDST 430</td>
<td>The Gothic Portal</td>
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<tr>
<td>MDST 440</td>
<td>Jan van Eyck: Problems of Interpretation</td>
</tr>
<tr>
<td>MDST 458</td>
<td>Special Topics in Medieval Art</td>
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<tr>
<td>MDST 459</td>
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<tr>
<td>MDST 202</td>
<td>Introduction to Medieval Civilization I: The Early Middle Ages</td>
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<td>MDST 203</td>
<td>Introduction to Medieval Civilization II: The High Middle Ages</td>
</tr>
<tr>
<td>MDST 257</td>
<td>Jews &amp; Christians in Medieval Europe</td>
</tr>
<tr>
<td>MDST 281</td>
<td>Pre-Modern Middle East History: The Middle East from the Prophet Muhammad to Muhammad Ali</td>
</tr>
<tr>
<td>MDST 303</td>
<td>Undergraduate Independent Reading</td>
</tr>
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<td>MDST 304</td>
<td>Undergraduate Independent Reading</td>
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<tr>
<td>MDST 308</td>
<td>The World of Late Antiquity</td>
</tr>
<tr>
<td>MDST 321</td>
<td>Directed Readings in Medieval History</td>
</tr>
<tr>
<td>MDST 322</td>
<td>Directed Readings in Medieval History</td>
</tr>
<tr>
<td>MDST 325</td>
<td>Introduction to Medieval Civilization I: The Early Middle Ages (enriched version)</td>
</tr>
<tr>
<td>MDST 326</td>
<td>Introduction to Medieval Civilization II: The High Middle Ages (enriched version)</td>
</tr>
<tr>
<td>MDST 345</td>
<td>Renaissance Europe: Humanism &amp; Expansion</td>
</tr>
<tr>
<td>MDST 357</td>
<td>Jews &amp; Christians in Medieval Europe (enriched version)</td>
</tr>
<tr>
<td>MDST 358</td>
<td>European Intellectual History from Augustine to Descartes</td>
</tr>
<tr>
<td>MDST 382</td>
<td>Classical Islamic Cultures</td>
</tr>
<tr>
<td>MDST 384</td>
<td>The Crusades: Holy War in Medieval Christendom &amp; Islam</td>
</tr>
<tr>
<td>MDST 385</td>
<td>Christians &amp; Jews in the Medieval Islamic World</td>
</tr>
<tr>
<td>MDST 387</td>
<td>Life on the Nile: Egyptian Politics, Culture, &amp; Society, Medieval to Modern Times</td>
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<tr>
<td>MDST 438</td>
<td>Women &amp; Gender in Medieval Islamic Societies</td>
</tr>
<tr>
<td>MDST 444</td>
<td>Memory &amp; Commemoration in the Middle Ages</td>
</tr>
<tr>
<td>MDST 446</td>
<td>Jewish &amp; Christian Communities in the Middle Ages</td>
</tr>
<tr>
<td>MDST 447</td>
<td>The Age of the Crusades</td>
</tr>
<tr>
<td>MDST 455</td>
<td>Guide to the Sources of Medieval History</td>
</tr>
<tr>
<td>MDST 465</td>
<td>Jews &amp; Christians: Perceptions of the Other</td>
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<tr>
<td>MDST 488</td>
<td>Topics in Medieval History</td>
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<tr>
<td>MDST 311</td>
<td>Old English</td>
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<tr>
<td>MDST 222</td>
<td>Medieval &amp; Renaissance Eras</td>
</tr>
<tr>
<td>MDST 429</td>
<td>Music of the Middle Ages</td>
</tr>
<tr>
<td>MDST 441</td>
<td>Hildegard of Bingen</td>
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<tr>
<td>MDST 456</td>
<td>Collegium</td>
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<tr>
<td>MDST 486</td>
<td>Illuminated Music Manuscripts</td>
</tr>
<tr>
<td>MDST 201</td>
<td>History of Philosophy I</td>
</tr>
<tr>
<td>MDST 301</td>
<td>Ancient &amp; Medieval Philosophy</td>
</tr>
<tr>
<td>MDST 481</td>
<td>Seminar in Ancient &amp; Medieval Philosophy</td>
</tr>
<tr>
<td>RELI 443</td>
<td>Maimonides’ Guide for the Perplexed</td>
</tr>
</tbody>
</table>

See MDST in the Courses of Instruction section.
Military Science

Chair and Professor
Lieutenant Colonel Brian Whalen
Assistant Professors
Sergeant First Class Tol Avery
Captain Dexter Caston
Captain Renee Russo
Master Sergeant Thomas Braaten

Degrees Offered: None

The goal of the U.S. Army ROTC program is to develop technically competent, physically fit, and highly motivated men and women for positions of responsibility as commissioned officers in the active army, the army reserve, and the National Guard. Upon completion of the curriculum, students will have an understanding of the fundamental concepts and principles of the military as an art and as a science. The leadership and managerial experience gained through ROTC provides great benefit for students in both their civilian endeavors and in their military careers.

Degree Requirements

Rice does not offer a bachelor's in Military Science. However, interested students can obtain a degree in any of the other programs offered by Rice, with a minor in Military Science obtained by attending courses at the University of Houston. The financial aid available to a ROTC student may be used for Rice courses as well as the University of Houston ROTC courses.

For general university requirements, see Graduation Requirements (pages 20–23). For requirements for a specific degree program, see the pages for that degree program. Further details on ROTC programs at Rice are available on page 27. For more information on the Army ROTC program in particular, contact the military science department at the University of Houston by calling 713-743-3875.

Statutory Authority. General statutory authority for establishment and operation of the ROTC program, including the scholarship program, is contained in Title 10, United States Code, Chapter 103 (Sec. 2102-2111). Specific rules and procedures are found in U.S. Army Regulation 145-1.

Course Credit. ROTC classes may be taken for elective credit toward any degree plan at the University of Houston or Rice University. Freshman- and sophomore-level classes are open to all students, regardless of age or physical condition. No military obligation is incurred as a result of enrollment in these courses. Junior- and senior-level courses are more restrictive and do require a military obligation. ROTC scholarship students also incur a military obligation.

Four-Year Program. The four-year program is divided into two courses: the basic course, which is normally attended by students during their freshman and sophomore years, and the advanced course, attended during the junior and senior years. Advanced course students attend a six-week advanced camp in Fort Lewis, Washington, normally between their junior and senior years.
**The Basic Course.** The basic course consists of four semesters of military science, which include MILI 121, MILI 122, MILI 201, and MILI 202. These freshman- and sophomore-level classes are open to all students without obligation.

**The Advanced Course.** Students entering the advanced course must enter into a contract to pursue and accept a commission in the active Army, the Army Reserve, or the National Guard. To be considered for contracting into the advanced course, the student must be a full-time student in a course of instruction that leads to a degree in a recognized academic field, have a minimum of two years of academic work remaining in a curriculum leading to a baccalaureate or advanced degree, be under age 30 when commissioned, and pass a physical examination.

**Two-Year Program.** The two-year program is designed for students who did not take the basic course but are otherwise eligible to enroll in the advanced course. This program allows students completing their sophomore year to attend a five-week Leader's Training Course during June and July at Fort Knox, Kentucky, in lieu of taking the first two years of ROTC. *There is no military obligation for attending Leader's Training Course.* The army provides transportation, room, and board. Students are paid approximately $700 for the five-week period.

**Laboratory Requirements.** A military science laboratory is required for students enrolling in MILI 121, MILI 122, MILI 201, MILI 202, MILI 301, MILI 302, MILI 401, and MILI 402. This laboratory provides opportunities for marksmanship training, rappelling, drill and ceremonies, communications training, and other activities.

**Veterans.** Veterans who have served on active duty or in the army reserve or National Guard are also eligible for the ROTC program. Although veterans are not required to take the basic course, they are encouraged to do so. All students, including veterans, must have a minimum of 60 credit hours prior to enrolling in the advanced course.

**National Guard and Army Reserve Members.** Students enrolled in ROTC may also be members of the Army Reserve/National Guard. Through the Simultaneous Membership Program (SMP), those students enrolled in the advanced course will be placed in a leadership position as a cadet and will receive pay and entitlements from the National Guard or Army Reserve in the pay grade of Sergeant (E-5).

**Financial Assistance.** The United States Army offers, on a competitive nationwide basis, four-, three-, and two-year scholarships. The scholarships cover up to $20,000 of tuition. Recipients also receive benefits for educational fees (to include lab fees), a book allowance, and a subsistence allowance of $350 per month. Applicants must be U.S. citizens and must be under age 27 on the anticipated graduation date. Applications are available from the military science department. Veteran applicants can extend the age limit up to a maximum of three years, based on prior active duty service.

**Other Financial Aid.** All students enrolled in the advanced course will receive a subsistence allowance of $350 per month. For more information, contact the military science department. GI Bill recipients still retain benefits.

**Tuition.** Members of the Army or the Army Reserve, National Guard, Texas State Guard, or other reserve forces may be exempted from the nonresident tuition fee and other fees and charges.
Special Training. Basic- and advanced-course students may volunteer for and may attend the U.S. Army Airborne and Air Assault courses during June, July, and August. Cadet Troop Leadership training positions are also available to advanced-course cadets during the summer months.

Miscellaneous. Cadets in the advanced course are paid an allowance of $350 per month during the school year. Military textbooks and uniforms are furnished to all cadets. The Corps of Cadets sponsors an annual military ball in addition to other social events throughout the school year. The Department of Military Science sponsors extracurricular activities such as the University of Houston Color Guard and the Ranger Challenge Team.

Minor in Military Science. To qualify for a minor in military science, students must complete a minimum of 18 semester hours of course work, of which 12 must be advanced. Nine semester hours must be completed in residence, of which 6 must be advanced. Students must also attend advanced camp. Students must attain a 2.00 grade point average or higher in military science courses attempted at this university. Students may receive credit for 100- and 200-level courses based on prior military training, completion of ROTC Basic Camp, completion of JROTC training, or completion of one year at a service academy.

See MILI in the Courses of Instruction section (these are University of Houston listings).
Music

The Shepherd School of Music

Dean
Robert Yekovich

Professors
Robert Atherhold
Richard Brown
Leone Buyse
Marcia J. Citron
James Dunham
Paul V. H. Ellison
Joyce Farwell
Norman Fischer
Kenneth Goldsmith
Arthur Gottschalk
Lynn Harrell
Clyde Holloway
Benjamin C. Kamins
Kathleen Kaun
Stephen King
Richard Lavenda
Sergiu Luca
Jon Kimura Parker
Larry Rachleff
Robert Roux
Anne Schnoebelen
Marie Speziale
William Ver Meulen
Kathleen Winkler

Assistant Professors
Honey Meconi
Paula Page
Timothy Pitts
Karen Ritscher
David L. Waters
Michael Webster

Instructor
Joan DerHovespian

Artists
Brian Connelly
Jan de Chambrier
Debra Dickinson
Jeanne Kierman Fischer
Michael Franciosi
Christopher French
Hans Graf
Janet Rarick
C. Dean Shank, Jr.

Assistant Professors
Karim Al-Zand
Gregory Barnett
Anthony K. Brandt
Shih-Hui Chen
David Ferris
Kurt Stallmann

Lecturer
Nancy Gisbrecht Bailey
Susan Dunn
Phillip Klobeckner

Adjunct Lecturers
Robert Simpson
C. Richard Stasney
Pieter A. Visser

Degrees Offered: B.A., B.Mus., B.Mus./M.Mus., M.Mus., D.M.A.

At the undergraduate level, the Shepherd School of Music offers both professional training and a broad liberal arts curriculum. Degree programs include a B.A. degree in music and a B.Mus. degree in performance, composition, music history, and music theory. Acceptance into a five-year honors program leads to the simultaneous awarding of the B.Mus. and M.Mus degrees.
At the graduate level, the school offers professional music training for qualified students who concentrate on music composition, performance, or research that is supported by lab or performing ensembles. This training includes theory and history seminars. Advanced degree programs include a M.Mus. degree in composition, choral and instrumental conducting, historical musicology, performance, and music theory and a D.M.A. degree in composition and selected areas of performance.

Requirements for All Music Majors

For general university requirements, see Graduation Requirements (pages 20–23). All students majoring in music must participate in core music, applied music, and other required music courses, as well as in chamber music and large ensembles, plus electives. They are entitled to one hour of private lessons each week of each semester they are enrolled as a music major; private or group lessons beyond this may result in additional fees. Students in the B.A. program who wish to continue taking private lessons beyond the required four semesters of instrumental or vocal study must obtain permission from the dean of the Shepherd School.

Examinations. At the end of each semester, a jury examination in applied music is given over the material studied during the semester. (All degree candidates except B.A. students must demonstrate keyboard proficiency in an examination. If students have little or no knowledge of the keyboard, they should enroll in secondary piano at the beginning of their first semester and continue study until they can meet the examination requirements.)

Performance. Students are expected to perform frequently during their residence at Rice. Performance majors must present at least 2 full recitals. Composition and conducting students should present recitals as specified by their degree programs. Students are expected to attend both faculty and student recitals. In addition, all music majors must participate in the school’s conducted ensembles as assigned.

Degree Requirements for B.A. in Music, B.Mus., and B.Mus./M.Mus.

Admission. An audition, either in person or on tape, is required of each undergraduate applicant. The Shepherd School faculty and the university’s Committee on Admission jointly determine admission, the latter basing its evaluation upon successful academic achievement and other standards of college admission. Transfer applicants from other colleges, conservatories, and universities must also provide an audition, personal or taped, and take placement exams in both music history and music theory. Once admitted, their prior preparation in music is assessed, which may reduce the required period of study at Rice.

B.A. and B.Mus. Program. For general university requirements, see Graduation Requirements (pages 20–23). For either bachelor’s degree, students majoring in music must have a total of at least 120 semester hours at graduation. The complete curriculum for each major in music is available in the Shepherd School Student Handbook or in the undergraduate music office on the second floor of Alice Pratt Brown Hall. While the number of required hours vary according to major area, all music students must take the following core courses (those in the B.A. program are not required to take MUSI 331, 332 and 431).

- **Music Theory:** MUSI 211, 212, 311, 312, and a theory elective chosen from MUSI 416, 512, 513, or 613.
- **Music History:** MUSI 222, 321, 322, and 421
- **Aural Skills and Performance Techniques:** MUSI 231, 232, 331, 332, and 431
B.Mus./M.Mus. Honors Program. The same general university requirements apply, but students seeking the combined B.Mus./M.Mus. degree must complete a total of at least 150 semester hours by graduation. The number of required hours varies according to major area.

The first five semesters of course work in this program parallel the core curriculum of the bachelor’s degrees. The sixth semester is a transitional semester during which students qualify for admission to the combined program. For further information, including application procedures, see the Shepherd School Student Handbook.

Degree Requirements for M.Mus. and D.M.A. in Music

Admission. For instrumental, voice, and conducting applicants, an audition is required. Composition majors must submit portfolios, and musicology and theory majors must provide samples of their written work. The Graduate Record Examination (GRE) is required of graduate applicants in musicology, theory, and composition. Musicology applicants must also complete the advanced music tests.

Requirements. For general university requirements, see Graduate Degrees (pages 65–70). For the M.Mus. degree, candidates must complete at least two semesters of full-time study at Rice. Semester hour minimums for the M.Mus. degree vary according to major area. For the D.M.A., candidates must complete a total of 90 hours beyond the bachelor’s degree, attending Rice full time for at least four semesters after receiving their M.Mus. degree.

Thesis. A thesis is required of both music history and music theory majors. In lieu of a thesis, composition majors must produce an original work of extended scope, and conducting majors must present an extended composition or project.

Academic Standards

Curriculum and Degree Requirements. Further information on curricular requirements for all majors and degree programs is available from The Shepherd School of Music.

Grading Policy. All music students must achieve at least a B- in course work in their major applied area. Students who receive a C+ or lower in their major applied area are placed on music probation. Music probation signifies that the work of the student has been sufficiently unsatisfactory to preclude graduation unless marked improvement is achieved promptly. While on probation, they may not be absent from class except for extraordinary reasons, and they may not represent the school in any public function that is not directly part of a degree program. After receiving a second C+ or lower in their major area, whether in consecutive semesters or not, students are discontinued as music majors.

Leaves of Absence and Voluntary Withdrawal. Music majors must obtain permission in writing from the dean of the Shepherd School before requesting a leave of absence from the university. Requests must be in the dean’s office before the first day of classes in the semester for which leave is requested. Music majors taking voluntary withdrawal from the university are not guaranteed readmission into the Shepherd School and may be asked to reapply/reaudition. Students should explain the reasons for their withdrawal to the dean before leaving campus.
Other Musical Opportunities

For Nonmajors. Students who are not music majors may take the following courses designed for the general student (other music courses require the permission of the instructor and the approval of the dean of the Shepherd School).

- MUSI 117/118 Fundamentals of Music I and II
- MUSI 307 Composition for Nonmajors
- MUSI 317/318 Theory for Nonmajors I and II
- MUSI 327/328 Music Literature for Nonmajors I and II
- MUSI 334/335 Campanile Orchestra and Rice Chorale
- MUSI 141–197 for individual instruction in all instruments
- MUSI 340 Concert Band
- MUSI 342 Jazz Ensemble
- MUSI 345 Jazz Improvisation
- MUSI 415 Band Arranging

Lectures and Performances. A visiting lecturer series, a professional concert series, and numerous distinguished visiting musicians contribute to the Shepherd School environment. The Houston Symphony Orchestra, Symphony Chorus, Houston Grand Opera, Texas Opera Theater, Houston Ballet, Houston Oratorio Society, Da Camera, Context, and Houston Friends of Music, as well as the activities of other institutions of higher learning in the area, also provide exceptional opportunities for students to enjoy a wide spectrum of music.

See MUSI in the Courses of Instruction section.
Nanoscale Physics

The Wiess School of Natural Sciences

Director
F. Barry Dunning

Professors
Andrew R. Barron
Neal F. Lane

Associate Professor
Vicki L. Colvin

Assistant Professors
Jason H. Hafner
Michael B. Heeley
Thomas C. Killian
Douglas A. Natelson
Alexander J. Rimberg
Frank R. Toffoletto

Degrees Offered: M.S.

Rice University introduced a professional master’s degree in Nanoscale Physics in fall 2002. This program combines a strong component in quantum theory, which governs the behavior of systems at the nanoscale, with the study of practical nano- and mesoscale devices. The program provides the student with the knowledge required to successfully navigate the emerging field of nanotechnology. New courses cover cutting-edge areas such as quantum behavior of nanostructures, quantum nanotechnology, nanoscale imaging, and the fabrication of nanostructures. In addition, a year-long course in methods of experimental physics ensures that students obtain the advanced practical skills valuable to industry.

The Nanoscale Physics degree is one of three tracks in the new Professional Master’s Program at Rice housed in the Wiess School of Natural Sciences. These master’s degrees are designed for students seeking to gain further scientific core expertise coupled with enhanced management and communication skills. These degrees instill a level of scholastic proficiency that exceeds that of the bachelor’s level and creates the cross-functional aptitudes needed in modern industry. This will allow students to move more easily into management careers in consulting or research and development, design, and marketing of new science-based products.

Degree Requirements for the M.S. in Nanoscale Physics

The 21-month professional master’s program begins with two semesters of course work at Rice followed by a six-month industrial internship. After the internship, students return to Rice for a final semester of course work. In addition to taking technical courses, students in the Nanoscale Physics program will take management courses, a science policy and ethics course, and a seminar jointly with the students involved in the other professional master’s tracks. No thesis is required; however, students are required to present their internship projects in both oral and written form in the Professional Master’s Seminar. Students also are required to attend events organized by the Rice Alliance for Technology and Entrepreneurship and will be guided in courses by the efforts of the Cain Project in Engineering and Professional Communication. Working professionals may be considered for part-time enrollment.

For general university requirements for graduate studies, see pages 65–70, and see also Professional Degrees, page 66.
To ensure that all students obtain an excellent quantitative background, each student will be required to take the core courses listed below. If a student can demonstrate that s/he has learned the material elsewhere, s/he may be exempted. Students pursuing this degree part-time will meet with their assigned adviser to determine their coursework schedule.

Year 1

**Fall Semester**
NSCI 501 Professional Master’s Seminar
MGMT 750 Management for Science and Engineering
PHYS 533 Nanostructures and Nanotechnology I
PHYS 537 Methods of Experimental Physics I
PHYS 539 Characterization and Fabrication at the Nanoscale

**Spring Semester**
Elective
NSCI 501 Professional Master’s Seminar
PHYS 534 Nanostructures and Nanotechnology II
PHYS 538 Methods of Experimental Physics II
PHYS 416 Numerical Methods and Modeling

**Summer**
Industrial Internship

Year 2

**Fall Semester**
NSCI 510 Industrial Internship

**Spring Semester**
3 electives
NSCI 511 Science Policy and Ethics
NSCI 501 Professional Master’s Seminar

**Elective Courses:** In addition to taking the core courses, the student will choose 4 electives from the list below. We recommend that at least 2 of the electives be science or engineering courses at the 500 level or above.

CAAM 378 Introduction to Operations Research
CHEM 630 Molecular Spectroscopy and Group Theory
ELEC 568 Laser Spectroscopy
ELEC 595 Microlithography
ELEC 603 Nano-Optics and Nanophotonics
ELEC 645 Thin Films
ELEC 685 Fundamentals of Medical Imaging
ENGI 303 Engineering Economics and Management
MGMT 617 Managerial Decision Making
MGMT 636 Systems Analysis and Database Design
MGMT 661 International Business Law
MGMT 674 Production and Operations Management
MGMT 676 Project Management/Project Finance
MGMT 721 General Business Law
MGMT 751 New Venture Creation in Science and Engineering
PHYS 569 Ultrafast Optical Phenomena or other courses as specified by the program director and approved by the Oversight Committee
Naval Science

Chair
James K. York

Associate Professor
James R. Wallace

Assistant Professors
Kelley A. Frederickson
Morris D. Hale
Paul J. Kane

Degrees Offered: none

Students enroll in the Navy Reserve Officers’ Training Corps (ROTC) program as scholarship or nonscholarship students. Sophomores may apply for the optional two-year program. The Department of Naval Science is administered by a senior U.S. Navy officer, assisted by officers and enlisted personnel of the U.S. Navy and Marine Corps.

Degree Requirements

Rice does not offer a bachelor's in Naval Science. However, interested students can obtain a degree in any of the other programs offered by Rice, with a minor in Naval Science. Financial aid may be available to a Navy ROTC student.

For university requirements for a specific degree, see Graduation Requirements (pages 20–23) and the section pertaining to that degree. For further details on ROTC programs at Rice, see page 27. Program requirements differ slightly depending on the student’s scholarship status.

Scholarship Navy ROTC students are appointed midshipmen, U.S. Naval Reserve, on a nationwide competitive basis. They receive retainer pay of $250–$400 per month for a maximum of four academic years, with all tuition, fees, and equipment paid for by the government. Additionally, students receive $275 per semester for books. Midshipmen must complete the prescribed naval science courses and participate in drills and three summer cruises. After graduating with a bachelor’s or graduate degree, they accept a commission as an ensign in the U.S. Navy or as a second lieutenant in the U.S. Marine Corps.

Nonscholarship Navy ROTC students enter into a mutual contract with the Secretary of the Navy to take naval science courses and to participate in drills and one summer training cruise. On a competitive basis, students may apply to continue in the Navy ROTC program through their junior and senior years. The U.S. Navy pays these continuing students $300–$400 per month during their junior and senior years, offering them a commission in the U.S. Navy or Marine Corps upon graduation. The program chair may recommend nonscholarship students, on a local competitive basis, for scholarship status.

Two-Year Program Option. In their sophomore year (junior year for five-year Rice students), students may apply for the two-year Navy ROTC program, competing nationwide for available scholarships. If selected, they attend the six-week Naval
Science Institute (NSI) at Newport, Rhode Island, during July and August. NSI provides students with course material and training normally covered during the first two years of the regular Navy ROTC program. Successful completion of NSI qualifies students for enrollment in the advanced Navy ROTC program on an equal footing with the four-year students. Usually about 15 percent of the nonscholarship students finishing NSI are offered two-year Navy ROTC scholarships. Additional scholarships occasionally may be awarded to others upon the recommendation of the program chair.

**U.S. Marine Corps Program.** Navy ROTC students, either scholarship or nonscholarship, may apply for the U.S. Marine Corps program. Students selected for that program are referred to as “Marine Corps option students” and attend separate classes under a U.S. Marine officer instructor during their junior and senior years.

See NAVA in the Courses of Instruction section.
In the 1999–2000 academic year, Rice University began offering a new set of courses in the area of Neuroscience to supplement a set of courses already offered by various departments in closely allied areas. These courses, which carry the designation NEUR, are offered in part by faculty associated with the Division of Neurosciences at Baylor College of Medicine and in part by faculty at Rice in several different departments (including biochemistry and cell biology; computer science, electrical and computer engineering, linguistics, and psychology.) They are intended primarily for Rice graduate students but, with permission, are available to advanced undergraduates. Some of these classes are taught at the nearby Baylor campus, and some are taught according to Baylor’s academic calendar, which is different from Rice’s. For further information on what courses are available and for instructions on how to apply to enter these classes, consult Rice’s neuroscience website at http://www.ruf.rice.edu/~neurosci/.

See NEUR in the Courses of Instruction section.
Philosophy

The School of Humanities

Chair
Steven G. Crowell

Professors
Baruch Brody
Hugo Tristram Engelhardt, Jr.
Richard E. Grandy
Mark Kulstad
Donald Ray Morrison
George Sher

Associate Professors
Eric Margolis
Alastair Norcross

Assistant Professors
Sherrilyn Roush
Rachel Zuckert

Adjunct Professor
Laurence McCullough

Degrees Offered: B.A., M.A., Ph.D.

Philosophy is best described as the attempt to think clearly and deeply about the fundamental questions that arise for us as human beings. What is the nature of knowledge (epistemology)? How are we to distinguish between what really is and what only seems to be (metaphysics)? What is the right thing to do (ethics)? Is there any meaning to existence? To study the history of philosophy is to study the best, most enduring answers that have been given to these questions in the past. Because every other field of study adopts some stance toward these questions, though often implicitly, philosophical issues arise in the natural and social sciences, history, linguistics, literature, art, and so on. Special courses in philosophy deal with each of these. Characteristic of philosophy are commitments to the construction and evaluation of arguments, to expressing thoughts clearly and precisely, and to defending one’s ideas and evaluating the ideas of others. The study of philosophy thus provides resources for critical participation in all realms of human endeavor.

The graduate program trains students to teach and pursue research in the main areas of department concentration: ethics (especially bioethics) and social and political philosophy, history of philosophy, continental philosophy, and core portions of contemporary analytic philosophy.

Degree Requirements for B.A. in Philosophy

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in philosophy must complete 30 semester hours (10 departmental courses); at least 18 hours (6 courses) must be at the 300 level or above. A double major must complete 27 hours (9 departmental courses) with all other requirements remaining the same.

Majors must take the following courses:

• PHIL 201 History of Philosophy I
• PHIL 202 History of Philosophy II
• Either PHIL 106 Logic or PHIL 305 Mathematical Logic
In addition, majors must take at least one course from each of the following area lists:

**History**
PHIL 301 Ancient and Medieval Philosophy
PHIL 302 Modern Philosophy
PHIL 308 Continental Philosophy
PHIL 321 Kant and 19th Century Philosophy

**Core Analytic**
PHIL 303 Theory of Knowledge
PHIL 304 Metaphysics

PHIL 312 Philosophy of Mind
PHIL 313 Philosophy of Science
PHIL 353 Philosophy of Language

**Value Theory**
PHIL 306 Ethics
PHIL 307 Social & Political Philosophy
PHIL 326 History of Ethics
PHIL 327 History of Social & Political Philosophy

Degree Requirements for M.A. and Ph.D. in Philosophy

For general university requirements, see Graduate Degrees (pages 65–70). Students have the additional option of applying for a doctoral program specializing in bioethics (see below).

For the **M.A.** in philosophy, candidates must:
- Complete with high standing at least 30 semester hours in advanced courses approved by the department
- Complete a written thesis on a subject approved by the department
- Perform satisfactorily on a final oral examination (not limited to the student’s special field of study)

For the **Ph.D.** in philosophy, candidates must:
- Complete with high standing 42 hours of course work approved by the department (including logic)
- Demonstrate competence in logic
- Pass a qualifying examination
- Perform satisfactorily on an oral defense of their thesis proposal
- Complete a written thesis on a subject approved by the department (at least one year of thesis research must be spent in residence)
- Perform satisfactorily on a final oral examination (not limited to the student’s special field of study)

**Bioethics Program.** The Ph.D. in philosophy with a specialization in medical ethics is offered in cooperation with the Center for Medical Ethics and Health Policy at Baylor College of Medicine. Applicants to this special program must have enough background in philosophy to complete two and a half years of strong general training in philosophy at the graduate level. After completing their general training, students receive instruction in clinical bioethics at Baylor College of Medicine and then write a dissertation drawing upon their philosophical and clinical training. Further information about this program is available from the Department of Philosophy.

**Continental Philosophy Program**

The Ph.D. program in Continental philosophy allows graduate students to take advantage of resource faculty in history, French studies, philosophy, and religious studies, all of whom have done distinguished philosophical work in the Continental tradition. Students master the basic fields of analytic philosophy while doing a substantial amount of their course work with resource faculty. Further information is available from the Department of Philosophy.

See PHIL in the Courses of Instruction section.
Physics and Astronomy

The Wiess School of Natural Sciences

Chair
F. Barry Dunning

Professors
Stephen D. Baker
Billy E. Bonner
Paul A. Cloutier
Marjorie D. Corcoran
Michael W. Deem
Ian M. Duck
Reginald J. Dufour
Arthur A. Few, Jr.
James P. Hannon
Thomas W. Hill
Huey W. Huang
Randall G. Hulet
Neal Lane
Eugene H. Levy
Edison P. Liang
Hannu E. Miettinen
Gordon S. Mutchler
Peter Nordlander
Carl Rau
Patricia H. Reiff
Jabus B. Roberts, Jr.
Richard E. Smalley
Paul M. Stevenson

Professors Emeriti
John W. Freeman
William E. Gordon, Distinguished
F. Curtis Michel
Ronald F. Stebbings
G. King Walters
Richard A. Wolf

Associate Professors
David Alexander
Anthony A. Chan
Stanley A. Dodds

Patrick M. Hartigan
Qimiao Si

Assistant Professors
Matthew G. Baring
Kedar S. Damle
Jason H. Hafner
Christopher Johns-Krull
Ching-Hwa Kiang
Thomas C. Killian
Douglas A. Natelson
Uwe Oberlack
B. Paul Padley
Han Pu
Alexander J. Rimberg
Frank R. Toffoletto

Adjunct Professors
David C. Black
James L. Burch
Franklin R. Chang-Diaz
James H. Newman
Carolyn Sumners
J. David Winningham

Adjunct Associate Professors
Hui Li
Tomasz F. Stepinski

Instructor
Gary A. Morris

Senior Faculty Fellows
William J. Llope
Pablo P. Yepes

Faculty Fellows
Giovanni Fossati
Bernard G. Lindsay
Ian A. Smith

Degrees Offered: B.A., B.S., M.S., Ph.D.

The Department of Physics and Astronomy offers undergraduate and graduate programs for a wide range of interests. The bachelor of arts degrees in physics and in
astronomy are suitable for students who wish to obtain a broad liberal education with a concentration in physical science. The bachelor of science degrees in physics, in astrophysics, and in chemical physics provide preparation for employment or further study in physics and related fields. Research facilities and thesis supervision are available for M.S. and Ph.D. students in atomic, molecular, and optical physics; biophysics; condensed matter and surface physics; earth systems science; nuclear and particle physics; observational astronomy; solar system physics; space plasma physics; and theoretical physics and astrophysics.

Undergraduate Degree Requirements

For general university requirements, see Graduation Requirements (pages 20–23). Major requirements consist of a common core of basic physics and mathematics courses, with additional course work specific to each degree program. Students may obtain credit for some courses by advanced placement, and the department’s Undergraduate Committee can modify requirements to meet the needs of students with special backgrounds.

All physics majors must complete the following courses:

PHYS 101 or 111 Mechanics (with Lab)
PHYS 102 or 112 Electricity and Magnetism (with Lab)
PHYS 201 Waves and Optics
PHYS 202 Modern Physics
PHYS 231 Elementary Physics Laboratory II
PHYS 301 Intermediate Mechanics

PHYS 101 or 111 Mechanics (with Lab)
MATH 101/102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
(MATH 221/222 Honors Calculus III and IV may substitute for MATH 211/ MATH 212)

Additional courses for the B.S. degree in physics:

PHYS 302 Intermediate Electrodynamics
PHYS 311/312 Introduction to Quantum Physics I and II
PHYS 331/332 Junior Physics Laboratory I and II
PHYS 411 Introduction to Nuclear and Particle Physics
PHYS 412 Solid-state Physics
PHYS 425 Statistical and Thermal Physics
PHYS 491//492 Undergraduate Research Seminar

PHYS 302 Intermediate Electrodynamics
PHYS 311/312 Introduction to Quantum Physics I and II
(PHYS 411 Introduction to Nuclear and Particle Physics
PHYS 412 Solid-state Physics
PHYS 425 Statistical and Thermal Physics
PHYS 491//492 Undergraduate Research Seminar

The Undergraduate Research course and seminar must be taken concurrently.)
MATH 381 Introduction to Partial Differential Equations and
MATH 382 Complex Analysis or
CAAM 335 Matrix Analysis and
CAAM 336 Differential Equations in Science and Engineering
CHEM 121/122 General Chemistry with Laboratory or
CHEM 151/152 Honors Chemistry with Laboratory

Additional courses for the B.S. degree in physics with option in applied physics:

PHYS 302 Intermediate Electrodynamics
or ELEC 306 Electromagnetic Fields and Devices
PHYS 311 Introduction to Quantum Physics I
PHYS 312 Introduction to Quantum Physics II or ELEC 361 Electronic Materials and Quantum Devices
2 of PHYS 331/332 Junior Physics Laboratory I and II, ELEC 327 Digital Logic Design Laboratory, ELEC 342 Electronic Circuits, and ELEC 465 Physical Electronics Practicum

PHYS 412 Solid-state Physics or Approved substitute in applied physics

PHYS 425 Statistical and Thermal Physics

PHYS 491/492 Undergraduate Research

PHYS 493/494 Undergraduate Research Seminar

(The Undergraduate Research course and seminar must be taken concurrently.)

Additional courses for the B.S. degree in physics with option in biophysics:

PHYS 302 Intermediate Electrodynamics
PHYS 311/312 Introduction to Quantum Physics I and II
PHYS 425 Statistical and Thermal Physics
BIOS 201/202 Introductory Biology
BIOS 301 Biochemistry

CHEM 121/122 General Chemistry with Laboratory or CHEM 151/152 Honors Chemistry with Laboratory
CHEM 211/212 Organic Chemistry
CHEM 215 Organic Chemistry Laboratory

Additional courses for B.S. degree in physics with option in computational physics:

PHYS 302 Intermediate Electrodynamics
PHYS 311/312 Introduction to Quantum Physics I and II
PHYS 416 Computational Physics
PHYS 425 Statistical and Thermal Physics
PHYS 491/492 Undergraduate Research
PHYS 493/494 Undergraduate Research Seminar

(The Undergraduate Research course and seminar must be taken concurrently.)

MATH 381 Introduction to Partial Differential Equations and MATH 382 Complex Analysis

or CAAM 335 Matrix Analysis and CAAM 336 Differential Equations in Science and Engineering
CAAM 210 or 211 Introduction to Engineering Computation
CAAM 353 Computational Numerical Analysis
CAAM 420/421 Computational Science I and II
CHEM 121 General Chemistry with Laboratory or CHEM 151 Honors Chemistry with Laboratory

Additional courses for the B.S. degree in astrophysics:

PHYS 302 Intermediate Electrodynamics
PHYS 311 Introduction to Quantum Physics I
PHYS 425 Statistical and Thermal Physics
ASTR 230 Astronomy Laboratory

ASTR 350/360 Introduction to Astrophysics—Stars, Galaxies, and Cosmology

3 courses from:
ASTR 450 Experimental Space Science
ASTR 451 Solar and Stellar Astrophysics
ASTR 452 Galaxies and Cosmology
ASTR 470 Solar System Physics
PHYS 312 Introduction to Quantum Physics II
PHYS 480 Introduction to Plasma Physics
PHYS 491/492 Undergraduate Research
PHYS 493/494 Undergraduate Research Seminar

(The Undergraduate Research course and seminar must be taken concurrently.)

NSCI 230 Computation in Natural Science or CAAM 210 or 211 Introduction to Engineering Computation
CAAM 336 Differential Equations in Science and Engineering
CHEM 121 General Chemistry with Laboratory

Additional courses for the B.A. degree in physics:

PHYS 302 Intermediate Electrodynamics
PHYS 311 Introduction to Quantum Physics I
PHYS 331 Junior Physics Laboratory I
PHYS 425 Statistical and Thermal Physics

1 additional PHYS or ASTR course (3 credit hours) at 400 level

NSCI 230 Computation in Natural Science or CAAM 210 or 211 Introduction to Engineering Computation or 1 MATH or CAAM course (3 credit hours) at or above 300 level

Additional courses for the B.A. degree in astronomy:

PHYS 331 Junior Physics Laboratory I
or
NSCI 230 Computation in Natural Science
PHYS 425 Statistical and Thermal Physics
or
CHEM 311 Physical Chemistry

ASTR 230 Astronomy Laboratory
ASTR 350/360 Introduction to Astrophysics—Stars, Galaxies, and Cosmology
ASTR 470 Solar System Physics
1 of: ASTR 430 Teaching Astronomy Laboratory, ASTR 450 Experimental Space Science, or PHYS 443 Atmospheric Science

Additional courses for the B.S. degree in chemical physics:

CHEM 121/122 General Chemistry or CHEM 151/152 Honors Chemistry with Laboratory
CHEM 211 Organic Chemistry
CHEM 212 Organic Chemistry
or
CHEM 360 Inorganic Chemistry
CHEM 311/312 Physical Chemistry

PHYS 302 Intermediate Electrodynamics
2 of: PHYS 311 or 312 Introduction to Quantum Physics I or II, CHEM 415 Chemical Kinetics and Dynamics, and CHEM 430 Quantum Chemistry
Physics and Astronomy 237

Requirements for Advanced Degrees

For general university requirements, see Graduate Degrees (pages 65–70). More detailed information on courses and requirements is available from the Department of Physics and Astronomy.

The master of science is a research degree, normally undertaken as the first stage of doctoral study. The M.S. requires at least 30 credit hours of approved graduate-level studies, including a thesis performed under the direction of a departmental faculty member.

To be eligible for the Ph.D. degree, graduate students must demonstrate to the department their ability to engage in advanced research. This is normally accomplished by successfully completing the work for the M.S. Students must also complete 60 credit hours of approved graduate-level study at Rice and produce a research thesis under the direction of a departmental faculty member. At least two years of graduate study are required for the Ph.D.

See ASTR and PHYS in the Courses of Instruction section.
Policy Studies

The School of Social Sciences

Director
Donald Ostdiek

Degree Offered: B.A.

This interdisciplinary major focuses on policy issues that are of public interest. Students in policy studies evaluate and analyze both the determinants and the effects of policy decisions, gaining an understanding of the policy-making process and acquiring an intellectual base for policy-making skills. The course of study addresses theoretical issues as well as applied and prescriptive policy questions.

Students may take policy studies only as a second major. It complements majors in any university department. For instance, engineering or science majors who are contemplating careers in business or government can investigate how technical innovations or regulations are adopted and implemented as matters of public policy, and humanities majors can explore career options where language skills are particularly valuable.

Students are encouraged to investigate research opportunities with Rice faculty. Students may also elect to participate in the Washington Semester Program at American University, which includes both course work and an internship within the federal government. See the policy studies director for more information.

Degree Requirements for B.A. in Policy Studies

For general university requirements, see Graduation Requirements (pages 20–23). Students may take the policy studies major only as a second major (their first major cannot also be in an interdepartmental program). The major contains 11 courses divided into the following elements: a basic curriculum, an area curriculum, and a research requirement.

The policy studies basic curriculum introduces students to the basic concepts and tools needed to understand and study policy, regardless of the policy area they choose to focus on. The four courses ensure that all policy studies majors have a common professional vocabulary and conceptual frame of reference. The policy studies area curriculum provides specialized training that builds on students’ work in the basic curriculum.

Students are required to take 6 courses from one of the following areas of specialization:
• Environmental policy
• Government policy and management
• Healthcare management
• International affairs
• Law and justice
• Business policy and management
• Urban and social change

Policy studies students must also engage in a research project in their area of interest. In consultation with the policy studies director, each student must select a research seminar or complete an approved research project through independent study or other credit. The Policy Studies Research Seminar (SOSC 400) also counts for this requirement.
4 Basic Curriculum Courses
POLI 338/SOSC 301 Policy Analysis
ECON 211 or 212 Principles of Economics I or II
POLI 337 Public Policy and Bureaucracy or SOSC 300 Social Science and Public Policy or POLI 436 Politics of Regulation
1 advanced analysis or methods course approved by the policy studies director

6 Area Curriculum Courses
6 courses from one of the following seven groups:

Core Courses (Choose at least 3)

1. Environmental Policy
ECON 480 Environmental and Energy Economics I
POLI 331 Environmental Politics and Policy
SO CI 367 Environmental Sociology
ENVI 306 Global Environmental Law and Sustainable Development
ENVI 406 Introduction to Environmental Law
HIST 330 U.S. Environmental History

Electives (Choose up to 3)
ARCH 313 Sustainable Architecture
ANTH 468 Palaeoclimate and Human Response
BIOS 322 Global Ecosystem Dynamics
BIOS 324 Wetland Ecosystems
BIOS 325 Ecology
ENGL 478 Literature and the Environment
ENVI/HPHS 201 Introduction to Environmental Systems
ENVI 445 Natural Environmental Factors
GEOL 326 Environmental Geology
GEOL 341 The Oceans
GEOL 345 Geology of National Parks
POLI 336 Politics of Regulation
RELI 362 Environmental Ethics
SPAC 203 Atmosphere, Weather, and Climate
SPAC 443/ENVI 443 Atmospheric Science
UNIV 303 Environmental Problem Solving

2. Government Policy and Management
ECON 436 Government Regulation of Business
ECON 461 Urban Economics
ECON 483 Public Finance
POLI 300 Federalism and Intergovernmental Politics
POLI 301 State Politics
POLI 332/432 Urban Politics
POLI 436 Politics of Regulation
ANTH 344 City/Culture
ECON 438 Economics of the Law
ECON 480 Environmental and Energy Economics I
HIST 337 Gender and Politics in the West
POLI 330 Minority Politics
POLI 331 Environmental Politics and Policy
POLI 335 Political Environment of Business
POLI 458 Property Rights and Privatization
ENVI 406 Introduction to Environmental Law
HIST 468 Women and the Welfare State
SOSC 330 Healthcare Reform in the 50 States
SOSC 430 The Shaping of Health Policy in the United States
SO CI 308 Houston: The Sociology of a City
SO CI 331 Politics and Society in Texas
SO CI 370 Sociology of Education
SO CI 350 Sociological Approaches to Poverty
SO CI 399 Immigration and Public Health
SO CI 411 Social Change
SO CI 441 Minorities in the Schooling Process

3. Healthcare Policy and Management
(Choose 6)
ANTH 381 Medical Anthropology
ANTH 386 Human Nutrition
ANTH 388 Life Cycle: A Biocultural View
HEAL 212 Consumer Health
HEAL 350 Understanding Cancer
HEAL 407 Epidemiology
HEAL 410 Program Development in Health Education
PHIL 315 Ethics, Medicine, and Public Policy
RELI 462/463 Medical Ethics and American Values I and II
SOSC 330 Healthcare Reform in the 50 States
SOSC 420 Healthcare: Competition and Managed Care
SOSC 430 The Shaping of Health Policy in the United States
SOCI 334 Sociology of the Family
SOCI 345 Sociology of Medicine
SOCI 399 Immigration and Public Health
SOCI 433 Sociology of the Life Cycle: Death and Dying
SPAN 307/308 The Language of Healthcare

Core Courses (Choose at least 2)

4. International Affairs
ECON 420 International Economics
POLI 372 American Foreign Policy
POLI 376 International Political Economy
POLI 378 The Politics of American National Security Policy
POLI 462 Comparative Public Policy

Electives (Choose up to 4)
ANTH 360 Modernity and Social Space
ECON 421 International Finance
ECON 430 Comparative Economic Systems
ECON 451 Political Economy of Latin America
HIST 232 The Making of Modern Africa
HIST 353 The Cold War
HIST 394 War in the Modern World
HIST 464 Foreign Policy of Nixon and Kissinger
HIST 469 US–Latin America Relation
POLI 354 Latin American Politics
POLI 355 Government and Politics of the Middle East
POLI 356 Politics of Latin American Economic Development
POLI 360 West European Democracies
POLI 361 Comparative Post-Communist Systems
POLI 373 International Conflict
POLI 376 International Political Economy

POLI 464 Political Economy of Development

5. Law and Justice (Choose 6)
ANTH 326 Anthropology of Law
ANTH 419 Law and Society
ECON 438/439 Economics of the Law I and II
ENVI 406 Introduction to Environmental Law
HIST 297/298 American Legal History I and II
PHIL 307 Social and Political Philosophy
PHIL 316 Philosophy of Law
POLI 321 American Constitutional Law
POLI 458 Property Rights and Privatization
SOCI 321 Criminology

Core Courses (Choose at least 3)

6. Business Policy and Management
ECON 436 Government Regulation of Business
ECON 445 Managerial Economics
ECON 435 Industrial Organization
POLI 335 Political Environment of Business
POLI 336 Politics of Regulation
PSYC 231 Industrial and Organizational Psychology

Electives (Choose up to 3)
ACCO 305 Introduction to Accounting
ECON 355 Money and Banking
ECON 370 Microeconomic Theory
ECON 375 Macroeconomic Theory
ECON 415 Human Resources, Wages, and Welfare
ECON 420 International Economics
ECON 421 International Finance
ECON 448 Corporation Finance
HIST 331 Labor in America
POLI 376 International Political Economy
POLI 458 Property Rights and Privatization
7. Urban and Social Change

ANTH 344 City/Culture
ANTH 360 Modernity and Social Space
ARCH 311 Houston Architecture
ARCH 313 Sustainable Architecture
ARCH 321 Economics of the Built Environment
ARCH 346 19th- and 20th-Century Architectural History
ARCH 351 Social Issues and Architecture
ARCH 455 Housing and Urban Programs
ECON 461 Urban Economics
ECON 480 Environmental Economics

HIST 377 The Ancient City
HIST 429 Technologies of Nationalism
HART 325 Art and Architecture in the Middle East
PHIL 307 Social and Political Philosophy
SOCI 301 Social Inequality
SOCI 308 Houston: The Sociology of a City
SOCI 309 Race and Ethnic Relations
SOCI 310 Urban Sociology
SOCI 313 Demography
SOCI 411 Social Change
POLI 332 Urban Politics
POLI 438 Race and Public Policy
POLI 441 Common Property Resources
Political Science

The School of Social Sciences

Chair
T. Clifton Morgan

Professors
Earl Black
Paul Brace
Gilbert Morris Cuthbertson
Keith Edward Hamm
William P. Hobby
Robert M. Stein
Richard J. Stoll
Rick K. Wilson

Associate Professors
Fred R. von der Mehden

Professors Emeriti
John S. Ambler
Chandler Davidson

Associate Professors
John R. Alford
Brett Ashley Leeds
Randolph T. Stevenson

Assistant Professors
Regina P. Branton
Debra Javeline
Melissa J. Marschall
William Reed

Lecturer
C. M. Hudspeth

Degrees Offered: B.A., M.A., Ph.D.

Students majoring in political science are encouraged to achieve both a broad understanding of the field and a specialized knowledge of one or more aspects of political science, including American and comparative politics, international relations (see also majors in managerial studies and public policy). Graduate study is grounded in the areas of American government (public policy, Congress, and intergovernmental relations), comparative government (Western Europe, Latin America, and political development), and international relations (international conflict).

Degree Requirements for B.A. in Political Science

For general university requirements, see Graduation Requirements (pages 20–23).

Students majoring in political science must complete 30 semester hours (10 courses) in the field of political science, plus 6 hours (2 courses) of upper-level work in any of the following fields: anthropology, economics, history, philosophy, psychology, or sociology. Students select these upper-level courses in consultation with the department adviser.

For students who entered Rice in fall 1999 and thereafter, political science degree requirements are as follows:

- At least 1 course in each of the following fields: American government, comparative politics, international relations, theory and methods.
- At least 2 of the 4 introductory courses
- A concentration of at least 4 courses in one of the following fields: American government, comparative politics, international relations. These 4 courses must include the introductory course and a seminar.
- A statistics course offered by the Department of Political Science
- 2 seminars, at the 400 or 500 level, with different instructors
Students who entered Rice before fall 1999 may choose to satisfy the above requirements, or they may satisfy requirements in force at the time of their enrollment at Rice, which usually will be as follows:

- At least 1 course in any four of the following areas: American political institutions and behavior, comparative politics, international relations, political philosophy and legal theory, empirical theory and method, and American public policy
- 2 seminars, at the 400 or 500 level, with different instructors

Double majors in one of the related disciplines named above may automatically substitute 6 hours (2 courses) in upper-level studies (at the 300 level or above) from their second field for 6 of the required 30 hours of political science courses. Double majors whose second major is managerial studies or policy studies may automatically substitute 3 hours (1 course). Double majors whose second major is in a field other than those listed above normally must take the full 30 hours (10 courses) in political science. They may petition to substitute a course from another field for a political science course, but this is permitted only when the course to be substituted has a significant relationship to political science. Note: The reduction of political science course requirements for double majors is eliminated for students who entered in and after fall 1999.

Introductory Courses. POLI 209 Introduction to Constitutionalism and Modern Political Thought, POLI 210 American Government and Politics, POLI 211 International Relations, and POLI 212 Introduction to Comparative Politics constitute the introductory courses in political science. Students entering in the fall 1999 and after must take at least 2 of these, including the 1 in the field of specialization. Students should note, however, that POLI 210 is the course that meets the Texas state licensing requirements in political science for teachers. Students who entered Rice before fall 1999 and choose to stay with the old plan may count no more than 2 of the introductory courses toward their major requirements.

Directed Readings Courses. Directed readings courses are intended for students who have completed a substantial number of political science courses and who seek to explore a subject not covered in regular courses. They are available only if an appropriate faculty member agrees to supervise. The faculty member supervising a directed readings course must have a full-time appointment, and a student may not take more than 1 readings course from him or her. Students should submit a brief, one-page description of the work to be conducted in the readings course (including the name of the faculty supervisor) to the department director of undergraduate studies no later than two weeks into the semester in which they intend to take the course. Readings courses do not count toward the department’s distribution requirement.

Honors Program. Admission to the honors program requires the approval of the department director of undergraduate studies. During the first semester of the two-semester program, students take a readings course that provides them with a basis for drawing up a thesis prospectus. At the end of the first semester, a thesis committee composed of two full-time members of the political science department reviews and approves the prospectus. During the second semester, students write their honors thesis, which also must meet with committee approval. Students may not combine the 2 honors courses into one semester. Those who successfully complete the honors program may substitute it for one of the seminars required for the major. See also Honors Programs (page 34).
Degree Requirements for M.A. and Ph.D. in Political Science

For general university requirements, see Graduate Degrees (pages 65–70). Students in the Ph.D. program must complete 48 semester hours in advanced courses or seminars before candidacy and conclude the degree program with the oral presentation of a dissertation displaying original research. Normally, students take the specified core courses in the three general fields of American government, comparative government, and international relations, completing additional course work and comprehensive examinations in two of those three fields. Before taking the comprehensive examinations, students must:

- Complete courses in statistical analysis
- Demonstrate some familiarity with traditional political theory
- Satisfy the language or skill requirement in their major field
- Complete all course requirements

Students select specific courses for graduate study in consultation with the faculty adviser.

The master of arts degree can be obtained with 36 semester hours of course work, all of which must be taken at the graduate level (400 level or above), and the completion of 2 research papers in seminars taken over the course of study. A minimum G.P.A. of 3.0 is required for awarding the M.A.

The political science department requires that not more than three years elapse between the time the student is admitted to graduate study and the completion of the M.A. degree, unless an extension is approved by the department graduate committee.

See POLI in the Courses of Instruction section.
Psychology

The School of Social Sciences

Chair
Randi C. Martin

**Professors**
- Richard Bagozzi
- Robert L. Dipboye
- Jennifer George
- Randi C. Martin
- H. Albert Napier
- James Pomerantz
- David J. Schneider
- Ronald N. Taylor
- Michael J. Watkins
- Rick K. Wilson

**Professors Emeritus**
- John Brelsford
- Kenneth R. Laughery

**Associate Professors**
- Richard R. Batsell
- Sarah A. Burnett
- Steven C. Currall
- David M. Lane
- Miguel A. Quiñones
- Tony Ro

**Assistant Professors**
- Darcy Burgund
- Michael Byrne
- Xiaohong Denise Chen
- Mikki Hebl
- Geoff Potts
- Brent Smith

**Adjunct Professors**
- John H. Byrne
- J. Maxwell Elden
- William C. Howell
- Dick Jeanneret
- Katherine A. Loveland
- John E. Overall
- Anthony A. Wright

**Adjunct Associate Professors**
- Jocelyne Bachevalier
- Lindley E. Doran
- Mort McPhail
- Deborah A. Pearson
- Kevin C. Wooten

**Adjunct Assistant Professors**
- Janice Bordeaux
- Ronald Fisher
- Betty S. Sanders
- Anne Bibiana Sereno
- Mihriban Whitmore
- Heidi Ziemer

**Adjunct Instructors**
- Roberta M. Diddel
- Mark H. McManis
- Anne Victoria Wilkinson

**Visiting Scholars**
- Mary Newsome
- Henry Trueba

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*Degrees Offered: B.A., M.A., Ph.D.*

The undergraduate program offers the core preparation recommended by the nation’s leading graduate schools of psychology, with advanced courses and research opportunities to fit individual needs. Programs of study may be structured around prospective careers in medicine, law, business, and education. Program emphasis in graduate study is on doctoral training, which requires course work in memory, cognition, engineering and industrial/organizational psychology, social psychology, and methodology. Faculty research interests include cognitive psychology (human memory, psycholinguistics, perception, and information processing), cognitive neuropsychology (memory, perception, and language disorders), and industrial/organizational psychology (personnel selection, training, work motivation, discrimination, and group processes).
Degree Requirements for B.A. in Psychology

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in psychology must complete 29 semester hours in departmental courses, including the following required courses.

**Core Courses**
- PSYC 101 *Introduction to Psychology*
- PSYC 202 *Introduction to Social Psychology*
- PSYC 203 *Introduction to Cognitive Psychology*
- PSYC 339 *Statistical Methods—Psychology*
- PSYC 340 *Research Methods* (no substitutions or transfer credits allowed for PSYC 339 or 340)

At least 1 course from each block*

**Block 1**
- PSYC 308 *Memory*
- PSYC 309 *Psychology of Language*
- PSYC 350 *Psychology of Learning*
- PSYC 351 *Psychology of Perception*
- PSYC 360 *Thinking*
- PSYC 362 *Biopsychology*

**Block 2**
- PSYC 329 *Psychological Testing*
- PSYC 330 *Personality Theory*
- PSYC 331 *The Psychology of Gender*
- PSYC 332 *Abnormal Behavior*
- PSYC 460 *The Psychology of Motivation*

*No substitutions or transfer credits allowed to fulfill Block I and II requirements.

**Honors Program.** Qualified students may apply to the honors program during preregistration in the spring semester of their junior year. A written proposal for the project must be submitted by the end of the second week of classes in fall of the senior year, and the faculty will decide on final admission to the honors program by the end of the fourth week of classes. Admission to the honors program requires a psychology GPA of 3.5 and an overall GPA of 3.3, completion of PSYC 339, and completion or concurrent enrollment in PSYC 340. To graduate with departmental honors, students must complete the requirements for the psychology major, a written honors thesis approved by a faculty committee, and other requirements as determined by their honors committee (see Honors Program, page 34). Detailed information about the honors program is available from the instructor of the course or the departmental office.

Degree Requirements for M.A. and Ph.D. in Psychology

Students must complete an admission-to-candidacy procedure that should establish their expertise in their chosen specialty. For general university requirements, see Graduate Degrees (pages 65–70). For both M.A. and Ph.D. degrees, students must complete a research thesis, including a public oral defense, and accumulate 30 semester hours for the M.A. and 60 hours for the Ph.D. Course work includes required courses in certain areas, plus whatever offerings are available in the student’s specialty area, either cognitive/experimental, industrial/organizational/social, or engineering psychology. Competence in a foreign language is not required.

See PSYC in the Courses of Instruction section.
Religious Studies

The School of Humanities

Chair
William B. Parsons

Professors
Werner H. Kelber
Anne C. Klein
John M. Stroup

Professor Emerita
Edith Wyschogrod

Associate Professors
Elias K. Bongmba
Jeffrey J. Kripal

Assistant Professors
David Cook
Matthias Henze
Gregory Kaplan

Adjunct Professor
Stanley J. Reiser

Adjunct Associate Professor
Elizabeth Heitman

Lecturer
Beverlee Jill Carroll

Degrees Offered: B.A., Ph.D.

The undergraduate major includes courses in methodology (textual, historical, normative, and sociocultural approaches to the study of religion) and religious traditions (African religions, Buddhism, Christianity, comparative religions, Hinduism, Islam, and Judaism). For research degrees in the graduate program, see below. Within these clearly defined fields, students acquire a broad knowledge of religious studies with enough flexibility for interdisciplinary pursuits.

Degree Requirements for B.A. in Religious Studies

For general university requirements, see Graduation Requirements (pages 20–23). In addition, students must also satisfy the distribution requirements and complete no fewer than 60 semester hours outside the departmental requirements for a program totaling at least 120 semester hours. See Distribution Requirements (pages 21–22) and Majors (pages 23–24).

Students majoring or double-majoring in religious studies must complete:
• 30 hours for majors
• 24 hours for double majors
• 24 hours for majors at 200, 300, or 400 level
• 18 hours for double-majors at 200, 300, or 400 level
• No more than 2 courses outside the Department of Religious Studies

To ensure breadth and depth to the major, students are encouraged to work out a program of study with the undergraduate advisor. The 30 hours (24 for double-majors) must include the following requirements:
• RELI 101 Introduction to Religion
• 2 introductory courses in religious traditions (one Western; one non-Western)
• At least 3 courses concentrated in one of the following fields: Judaism, Christianity, African religion, Buddhism, comparative studies, cross-cultural studies, methodological studies, or ethics/philosophy of religion
Honors Program. Qualified undergraduates may choose the option of writing a senior thesis. To complete a thesis, the student must enroll for 6 hours in addition to the 30 hours (24 for double majors) required for the major. Students are expected to have at least a 3.50 average in their religious studies courses before undertaking thesis work and must obtain the permission of a faculty advisor who will supervise the project, usually during the second semester of the junior year and first semester of the senior year. Any additional supervisors and readers of the completed thesis (if any) will be arranged in advance by the primary faculty advisor in consultation with relevant faculty.

Degree Requirements for Ph.D. in Religious Studies

The graduate program accepts a limited number of qualified students. A distinguished undergraduate record and high scores on the Graduate Record Examination (GRE) are essential and an advanced degree in the humanities is desirable. For general university requirements, see Graduate Degrees (pages 65–70). Students admitted into the program will normally receive financial assistance in the form of a tuition waiver and a stipend. As part of their training and in return for their stipends, students in their second year and beyond are expected to serve as research assistants or teaching assistants. Students receiving stipends may also be asked on occasion to assist the department in other ways.

The Ph.D. in religious studies is normally a five-year program. Requirements are as follows:

- 18 courses (54 hours required):
  - 6 courses in the major field
  - 3 courses in each of two minor fields (see list of fields below)
  - 2 department seminars (one or more of which may count as a major or minor course) to be taken in each of the first two years
  - 4 to 6 elective courses chosen in consultation with the student’s adviser
- Passing grades on reading examinations in 2 foreign languages, at least 1 of which must be a language of scholarship in the student’s chosen field
- Passing grades in 5 qualifying examinations: 3 in the student’s major field, 1 in each of the students 2 minor fields. (In place of examinations, the student may, in consultation with the faculty member, substitute papers that demonstrate a thorough grasp of the field.) The nature and content of the examinations or papers will be determined one year prior to the date the student expects to write them, which is ordinarily the end of the third or beginning of the fourth year in the program.
- Oral discussion of dissertation proposal
- Satisfactory completion of dissertation and oral defense

Reading Lists. Students should become broadly familiar with the literature of their majors and minors; reading lists will be provided. Students are expected to familiarize themselves with this material enough that they draw on it on their exams and the dissertation itself. The graduate seminar is, in part, an introduction to areas of the reading list and to the techniques for engaging in deep, independent reading.

Fields of Study. Religion and contemporary cultures, scriptural interpretation, ethics and philosophy of religion, mysticism, psychology, and religious practices are fields of study in this program. These fields will include courses covering one or more of the following traditions: African and African-based religions, Buddhism, Christianity, Hinduism, Judaism, and new and alternative religions. Students may concentrate in one or more of these traditions in the context of their major and minor fields.
Professional Development

Opportunities may be available to teach undergraduate courses in the department or in local colleges and universities. Limited funds are also available for students to attend conferences to present their research. The department encourages these and other efforts to prepare students for academic careers.

See RELI in the Courses of Instruction section.
The School of Social Sciences

Degree Offered: B.A.

This undergraduate major fosters an analytic approach to the study of human societies, whether as a preparation for graduate work in sociology and related fields, or as the foundation for a variety of occupations. It is also an important component of a liberal arts education and as such, can serve as effective preparation for professions such as law or medicine. The program provides students with considerable latitude in pursuing personal interests while ensuring familiarity with basic theoretical approaches and research methods.

Degree Requirements for the B.A. in Sociology

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in sociology must complete at least 33 semester hours (11 courses) in sociology. Requirements for the major normally include the following.

SOCI 203 Introduction to Sociology
*SOCI 398 Social Statistics

1 of the following:
SOCI 390 Research Methods
SOCI 421 Craft of Sociology

At least 1 theory course, such as:
SOCI 317 Contemporary Sociological Theory
SOCI 359 Individual and Society
SOCI 395 Feminist Social Thought

Any other sociology courses to reach a total of 11

Sociology majors are not required to take a foreign language, but those planning graduate study should be competent in at least one such language. Some sociology courses listed in the Courses of Instruction section may not be offered every year, and courses among the regular offerings are occasionally added or dropped. Students are responsible for making sure they satisfy all the requirements for their degree. One of the sociology faculty, preferably department adviser Professor Long, should sign each major’s registration.

*This requirement may be waived, and only 10 other courses required for the major, if a student passes the departmental statistics exam.
**Honors Program.** For general information, see Honors Programs (page 34). Students who have maintained an A- average in all sociology courses beyond the introductory level may apply to enter the honors program. They should submit their research proposals:

a) by November 15 of the first semester of their junior year, in which case they will research and write their thesis during the second semester of their junior year and the first semester of their senior year

b) by March 15 of the second semester of their junior year, in which case they will complete their thesis during the two semesters of their senior year.

Since departmental awards for seniors are usually determined around March 1, and the honors thesis is often taken into consideration in this determination, students who wish to be considered for these awards are advised to begin their thesis in the spring of their junior year. Research proposals must be carefully thought out and discussed with at least one professor before being submitted. Once submitted, they will be considered by the department faculty as a whole and, if acceptable, the student will be assigned a faculty adviser.

Students in the honors program register for two successive semesters in Directed Honors Research (SOCI 492 and 493). The first of the 2 courses is typically devoted to a thorough review of the relevant literature, the formulation of hypotheses growing out of the literature review, and a proposal consisting of a research design that clearly describes how the data are to be collected and analyzed. To receive a grade for the first semester, the student must submit a paper to the primary thesis adviser by the last day of classes. This paper must contain the literature review, hypotheses, and research design, along with a bibliography. The research itself is usually carried out in the second semester (and sometimes in the summer following the junior year) and is analyzed, written up, and defended as a completed Honors Thesis during that semester.

All honors students should complete SOCI 390 *Research Methods* or SOCI 421 *The Craft of Sociology* before beginning the second semester of the program. If their project requires statistical analysis, students should also complete SOCI 398 *Social Statistics* before beginning the second semester of their research.

See SOCI in the Courses of Instruction section.
Statistics

The George R. Brown School of Engineering

Chair
Katherine B. Ensor

Professors
Bryan W. Brown (joint appointment: Economics)
Dennis Cox
Mahmoud El-Gamal (joint appointment: Economics)
Don H. Johnson (joint appointment: Electrical and Computer Engineering)
Marek Kimmel
Javier Rojo
David W. Scott
Robin Sickles (joint appointment: Economics)
James R. Thompson
Edward E. Williams (joint appointment: Jones Graduate School of Management)
Rick K. Wilson (joint appointment: Political Science)

Associate Professors
Steven Currall (joint appointment: Jones Graduate School of Management)
Rudy Guerra
David M. Lane (joint appointment: Psychology)
Barbara Ostdiek (joint appointment: Jones Graduate School of Management)

Assistant Professor
Rudolph H. Riedi

Adjunct Professors
E. Neely Atkinson
Donald A. Berry
Barry W. Brown
Thomas D. Downs
Ralph F. Frankowski
Richard Heydorn
Gary Rosner
Howard D. Thames, Jr.
Robert A. White
Stuart Zimmerman

Adjunct Associate Professors
Joaquin Diaz-Saiz
Kim-Anh Do
Carl S. Hacker
Kenneth Hess
Yu Shen

Lecturers
L. Scott Baggett
Peter Olofsson

Faculty Fellow
Janet Siefert

Degrees Offered: B.A., M.Stat., M.A., Ph.D.

Course work in statistics acquaints students with the role played in the modern world by probabilistic and statistical ideas and methods. Students grow familiar with both the theory and the applications of techniques in common use as they are trained in statistical research. The flexibility of the undergraduate program allows students to concentrate on theoretical or applied training, or they may link their studies in statistics to work in other related departments (see majors in economics, education, electrical and computer engineering, computational and applied mathematics, managerial studies, mathematics, political science, and psychology). Graduate study has concentrations in applied probability, bioinformatics, biomathematics, biostatistics, computational finance, data analysis, density estimation, epidemiology, image processing, model build-
ing, quality control, statistical computing, spatical processes, stochastic processes, and
time series analysis. A joint M.B.A./master of engineering degree is also available in
conjunction with the Jesse H. Jones Graduate School of Management.

Degree Requirements for B.A. in Statistics

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in statistics normally complete the following:

- MATH 101/102 *Single Variable Calculus I and II*
- MATH 211 *Ordinary Differential Equations and Linear Algebra*
- CAAM 210 or 211 *Introduction to Engineering Computation*
- STAT 300 *Model Building*
- STAT 310 *Probability and Statistics*
- STAT 410 *Introduction to Statistical Computing and Regression*
- 5 elective courses from the statistics department (or other departments with
  approval from their adviser) at the 300 level or higher

Mathematically oriented students should also take MATH 212 *Multivariable Calculus*
and MATH 355 *Linear Algebra* (or CAAM 335 *Matrix Analysis*).

Degree Requirements for M.Stat., M.A., and Ph.D. in Statistics

For general university requirements, see Graduate Degrees (pages 65–70). Admis-
sions applications should include scores on the Graduate Record Examination (GRE)
in the quantitative, verbal, and analytical tests. Financial support is available for
well-qualified doctoral students. Course work for all degree programs should be at the
400 level or above, although 2 approved 300-level courses may be accepted.

**Master’s Programs.** Candidates for the nonthesis M.Stat. degree must complete 30
semester hours of approved course work. Candidates for the M.A. degree in statistics
must complete 30 semester hours of approved course work as well as one of the
following: (1) complete an original thesis and defend it in a public oral examination; or
(2) perform satisfactorily on the second-year Ph.D. comprehensive examinations.

**Ph.D. Program.** Candidates for the Ph.D. degree in statistics must:
- Complete at least 90 semester hours of approved course work beyond the
  bachelor’s degree and a minimum of 60 hours beyond a master’s degree
- Perform satisfactorily on preliminary and qualifying examinations
- Complete an original thesis with a public oral defense

See STAT in the Courses of Instruction section.
Subsurface Geoscience

The George R. Brown School of Engineering

Director
Alan Levander

Professors
John B. Anderson
Andrew R. Barron
Katherine B. Ensor
Hans G. Ave Lallemant
Neal F. Lane
Dale S. Sawyer
Manik Talwani

Associate Professors
Gerald R. Dickens

André W. Droxler
Colin A. Zelt

Assistant Professor
Michael B. Heeley
Julia Morgan

Adjunct Professor
Stephan H. Danbom

Lecturer
W. C. Rusty Riese

Degrees Offered: M.S.

Rice University will introduce a professional master’s degree in subsurface geoscience for the 2003-2004 academic year. This degree is designed for students who wish to become proficient in applying geological knowledge and geophysical methods to finding and developing reserves of oil and natural gas. Students can specialize in one of three focus areas: information technology, geology, and geophysics. The information technology focus area prepares students to apply IT principles to the rapidly growing industry need to store, access, and interpret very large and diverse geological, geophysical, cultural, and infrastructural datasets. The geology focus area prepares students to be explorationists, with strong skills in using seismic and other geophysical methods along with geological principles to find oil and natural gas. The geophysics focus area prepares students to become technical experts in aspects of exploration seismology.

The subsurface geoscience degree is one of three tracks in the new Professional Master’s Program at Rice housed in the Wiess School of Natural Sciences. These master’s degrees are designed for students seeking to gain further scientific core expertise coupled with enhanced management and communication skills. These degrees instill a level of scholastic proficiency that exceeds that of the bachelor’s level, and they create the cross-functional aptitudes needed in modern industry. This program will allow students to move more easily into management careers in consulting or research and development, design, and/or marketing of new science-based products.

Degree Requirements for M.S. in Subsurface Geoscience

The 21-month professional master’s program begins with two semesters of coursework at Rice followed by a six-month industrial internship. After the internship, students return to Rice for a final semester of coursework. In addition to technical courses, the students in the Subsurface Geoscience program will take management courses, one science policy and ethics course, and a seminar jointly with the students involved in the other professional master’s tracks. No thesis is required; however, students are required to present their internship project in both oral and written form in
the Professional Master’s Seminar. Students also are required to attend events organized by the Rice Alliance for Technology and Entrepreneurship and will be guided in courses by the Cain Project in Engineering and Professional Communication. Working professionals may be considered for part-time enrollment.

For general university requirements for graduate study, see pages 65–70, and see also Professional Degrees, page 66.

To ensure that all students obtain an excellent quantitative background, each student will be required to take the core courses listed below. If a student can demonstrate that s/he has learned the material elsewhere, s/he may be exempted. Students pursuing this degree part-time will meet with their assigned adviser to determine their course work schedule.

**Year 1**

**Fall Semester**
1 elective  
ESCI 441 *Geophysical Data Analysis*  
ESCI 442 *Exploration Geophysics I*  
MGMT 750 *Management for Science and Engineering*  
NSCI 501 *Professional Master’s Seminar*

**Spring Semester**
2 electives  
ESCI 417 *Petroleum Industry Economics and Management*  
ESCI 444 *Exploration Geophysics II*  
NSCI 501 *Professional Master’s Seminar*

**Summer**  
*Industrial Internship*

**Year 2**

**Fall Semester**  
NSCI 510 *Industrial Internship*

**Spring Semester**
2 electives  
XXXX ### *Modern Industrial Exploration Techniques*  
NSCI 511 *Science Policy and Ethics*  
NSCI 501 *Professional Master’s Seminar*

**Elective Courses:**  
In addition to the core courses, the student will choose 5 electives from the list below. We recommend that three of the electives be in one focus area (Information Technology, Geology, or Geophysics).

**Information Technology**
- COMP 429 *Introduction to Computer Networks*
- ESCI 454 *Geographic Information Science*

**Statistics**
- STAT 310 *Probability and Statistics*
- STAT 410 *Introduction to Statistical Computing and Computer Models*
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ESCI 415</td>
<td>Petroleum Geology</td>
</tr>
<tr>
<td>ESCI 427</td>
<td>Seismic Sequence Stratigraphy</td>
</tr>
<tr>
<td>ESCI 428</td>
<td>Interpretation of Reflection Seismograms</td>
</tr>
<tr>
<td>ESCI 450</td>
<td>Remote Sensing</td>
</tr>
<tr>
<td>ESCI 463</td>
<td>Advanced Structural Geology</td>
</tr>
<tr>
<td>ESCI 504</td>
<td>Clastic Sedimentary Environments, Processes, and Facies</td>
</tr>
<tr>
<td>ESCI 505</td>
<td>Applied Sedimentology</td>
</tr>
<tr>
<td>ESCI 506</td>
<td>Carbonate Depositional Systems</td>
</tr>
<tr>
<td>CENG 571</td>
<td>Flow and Transport through Porous Media I</td>
</tr>
<tr>
<td>ESCI 427</td>
<td>Seismic Sequence Stratigraphy</td>
</tr>
<tr>
<td>ESCI 428</td>
<td>Interpretation of Reflection Seismograms</td>
</tr>
<tr>
<td>ESCI 454</td>
<td>Geographic Information Science</td>
</tr>
<tr>
<td>ESCI 461</td>
<td>Seismology I</td>
</tr>
<tr>
<td>STAT 310</td>
<td>Probability and Statistics</td>
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<tr>
<td>XXXX</td>
<td>Advanced Statistics for Geoscientists</td>
</tr>
<tr>
<td>CAAM 378</td>
<td>Introduction to Operations Research</td>
</tr>
<tr>
<td>ECON 486</td>
<td>Energy Economics</td>
</tr>
<tr>
<td>ENGI 303 / CIVI 322</td>
<td>Engineering Economics and Management</td>
</tr>
<tr>
<td>MGMT 617</td>
<td>Managerial Decision Making</td>
</tr>
<tr>
<td>MGMT 636</td>
<td>Systems Analysis and Database Design</td>
</tr>
<tr>
<td>MGMT 661</td>
<td>International Business Law</td>
</tr>
<tr>
<td>MGMT 674</td>
<td>Production and Operations Management</td>
</tr>
<tr>
<td>MGMT 676</td>
<td>Project Management/Project Finance</td>
</tr>
<tr>
<td>MGMT 721</td>
<td>General Business Law</td>
</tr>
<tr>
<td>MGMT 751</td>
<td>New Venture Creation for Science and Engineering</td>
</tr>
</tbody>
</table>
The Program for the Study of Women and Gender

Director and Adviser

Lynne Huffer

Professors

Peter C. Caldwell
Jane Chance
Marcia J. Citron
Margret Eifler
James D. Faubion
Beatriz González-Stephan
Lynne Huffer
Anne C. Klein
Susan Keech McIntosh
Helena Michie
Deborah Nelson-Campbell
Meredith Skura
Ewa M. Thompson

Assistant Professors

Elizabeth Long
Susan Lurie
Honey Meconi
Nanxiu Qian
Carol E. Quillen
Paula Sanders
Julie M. Taylor
Sara Westphal
Lora Wildenthal

Associate Professors

José F. Aranda, Jr.
Elias K. Bongmba
Scott S. Derrick
Katharine M. Donato
Lucille P. Fultz
Eugenia Georges
Deborah A. Harter
Betty Joseph
Colleen R. Lamos
Caroline F. Levander

Assistants

Regina Branton
Marcia Brennan
Krista Comer
Elizabeth Dietz
Sarah Ellenzweig
Holly Heard
Michelle R. Hebl
Nancy A. Niedzielski
Kirsten Ostherr
Sherrilyn Roush
Elora Shehabuddin
Allison Sneider
Rachel Zuckert
Thad Logan

Lecturer

Thad Logan

Degrees Offered: B.A.

This undergraduate major takes an interdisciplinary approach in its exploration of women’s experiences and the role that ideas about sexual differences have played in human societies. Areas of inquiry include women’s participation in social and cultural production; the construction of gender roles and sexuality; the relationship between ideas about gender and concepts inherent in other social, political, and legal structures; and the implications of feminist theory for philosophical and epistemological traditions. Students acquire an understanding of how adopting gender as a significant category of analysis challenges existing disciplines. They also gain proficiency in the methods used to study and compare cultural constructions of gender and sexuality, and they become familiar with the ongoing fundamental debates in women’s and gender studies.

Degree Requirements for B.A. in the Study of Women and Gender (SWG)

For general university requirements, see Graduation Requirements (pages 20–23). Students majoring in the study of women and gender must complete:

• 36 semester hours of departmental course work (30 hours if this is a second major)
• WGST 101 *Introduction to the Study of Women and Gender* OR WGST 201 *Introduction to Lesbian, Gay, Bisexual, and Transgender Studies*
• WGST 499 and WGST 500 (capstone courses in fall and spring respectively)
• At least 1 approved non-Western studies course
• At least 1 approved critical race studies course
• At least 1 approved theory course

Of the remaining required courses, no more than 4 courses may be from a single department. All students must work out their individual courses of study with their faculty advisers. Each student’s course of study must be approved by the director of the major. Major tracking forms are available in the SWG office for declared SWG majors.

The following courses are among those that can be used to fulfill requirements for the major. As course offerings may vary from year to year, students are urged to consult with their faculty advisers or with the director at the beginning of each semester.

Please note that not all courses listed below will be offered during the academic year. For a current list of courses that will be offered in fall 2003 and spring 2004, please visit the SWG website at http://www.swg.rice.edu.

**I. Courses that Satisfy the Core Requirements**

- WGST 101 *Introduction to the Study of Women & Gender*
- WGST 201 *Introduction to Lesbian, Gay, Bisexual, & Transgender Studies*
- WGST 499 *Capstone: Research in the Study of Women & Gender (fall)*
- WGST 500 *Capstone: Research in the Study of Women & Gender (spring)*

**II. Courses that Satisfy the Non-Western Studies Requirement**

- WGST 210 *Islam & Politics*
- WGST 240 *Gender & Politicized Religion*
- WGST 250 *International Political Economy of Gender*
- WGST 283 *Women in the Islamic World*
- WGST 323 *The Knowing Body: Buddhism, Gender, & the Social World*
- WGST 328 *Latin American Genders*
- WGST 340 *Gender & Politicized Religion (enriched version)*
- WGST 399 *Women in Chinese Literature*
- WGST 432 *Islam in South Asia*
- WGST 455 *Women & Gender in Medieval Islamic Societies*

**III. Courses that satisfy the Critical Race Studies Requirement**

- WGST 234 *U.S. Women’s History I: Colonial Beginnings to the Civil War*
- WGST 235 *U.S. Women’s History II: Civil War to the Present*
- WGST 370 *Survey of African American Literature*
- WGST 381 *U.S. Women’s History I: Colonial Beginnings to the Civil War (enriched version)*
- WGST 382 *U.S. Women’s History II: Civil War to the Present (enriched version)*
- WGST 387 *Cultural Studies: Race, Gender, & the Politics of Representation*
- WGST 387 *Cultural Studies: Mexican & Mexican-American Literature, 1848–1950*
- WGST 415 *Sociolinguistics*
- WGST 453 *Topics in African American Literature: Black Women in Culture & Society*
- WGST 462 *20th-21st-Century American Literary Studies*
- WGST 468 *Women & the U.S. Welfare State: Sexual Politics & American Poverty*
IV. Courses that Satisfy the Theory Requirement

WGST 339 Feminist Philosophy
WGST 391 Producing Feminist Knowledge: Methodology & Visual Culture
WGST 407 Feminist Literary Theory & Criticism
WGST 430 Studies in Literary Theory: Queer Theory
WGST 434 French Feminist Theory
WGST 460 Feminist Social Thought
WGST 480 Feminist Literary Theory
WGST 482 Problems in Contemporary Feminist Theory

V. Other Courses

WGST 205 Language & Society
WGST 225 Women in Greece & Rome
WGST 300 Medieval Literature: Medieval Women Writers
WGST 301 Arthuriann Literature
WGST 303 Women’s Stories & Legal Change
WGST 305 Chaucer & the Subversive Other: Women, Gender, Nation, Class
WGST 312 Survey of Old English Literature: Gender & Power in Old English
WGST 317 Mapping German Culture: Women & National Socialism
WGST 324 Sociology of Gender
WGST 325 Sociology of the Family
WGST 327 20th-Century Women Writers: Sex, Gender, & Modernism
WGST 329 Literature of the American West: Women in the West
WGST 331 The Psychology of Gender
WGST 332 Self, Sex, & Society in Ancient Greece
WGST 333 Masculinities
WGST 335 The Lifecycle: A Biocultural View
WGST 336 History as a Cultural Myth
WGST 337 Feminist Issues: Witches, Saints, Soldiers & Shrews – Women’s Voices in the Renaissance

WGST 338 Gender & Society in Early Modern Europe
WGST 341 Gender & Politics
WGST 349 Survey of British Women Writers from 1400–1900
WGST 350 Gender & Symbolism
WGST 358 Mapping German Culture: European Women Filmmakers
WGST 365 Gender, Subjectivity, & the History of Photography
WGST 367 American Ecofeminism
WGST 368 Mythologies
WGST 369 Seminar on Beauty & Fragmentation in Modern Art
WGST 372 Survey of Victorian Fiction: The 19th-Century Novel
WGST 388 Generation X in Literature & Culture
WGST 390 Hispanic Cinema
WGST 400 Constructing Identities in Modern Fiction
WGST 405 Austen Only
WGST 406 Christine De Pizan in 15th-Century England
WGST 408 Topics in Literature: Sex & Class in the British 18th Century
WGST 410 The Literary & Historical Image of the Medieval Woman
WGST 412 Women & Women’s Voices in French Literature
WGST 420 Women & Gender in 19th-Century Europe
WGST 440 Women in Music
WGST 441 Hildegard of Bingen
WGST 442 Women in Russian Literature
WGST 448 The Body in Visual Culture
WGST 477 Race, Class, & Gender in Mexican Art
WGST 485 Gender & Hollywood Cinema in the 1950s
WGST 496 Applied Women’s & Gender Studies
WGST 497 Directed Reading
WGST 498 Independent Study
WGST 499 Research in the Study of Women & Gender (fall semester)
WGST 500 Research in the Study of Women & Gender (spring semester)

See WGST in the Courses of Instruction section.
University Courses

University courses provide opportunities for dialogue across disciplinary and departmental boundaries. They are an experiment in curriculum development, directed toward students interested in interdisciplinary subjects beyond their elected major.

See UNIV in the Courses of Instruction section.
Visual Arts

The School of Humanities

Chair
Karin Broker

Professors
Karin Broker
Basilios N. Poulos
George Smith
Geoff Winningham

Associate Professors
Brian M. Huberman

Degrees Offered: B.A., B.F.A.

Department of Visual Arts majors are students who declare a major in the studio arts (drawing, digital video and film production, painting, photography, printmaking, or sculpture). Each student will discuss with the faculty advisor the selection of courses and any other matters of concern in the student’s academic life, such as study and travel abroad, scholarships and internships, career goals or options, etc.

Degree Requirements for B.A. in Visual Arts

For general university requirements, see Graduation Requirements (pages 20–23).

Single Major Track in Visual Arts (12 courses required)

• ARTS 225 Drawing I
• ARTS 205 Photography I or ARTS 311 Intaglio I or ARTS 327 Documentary Production
• ARTS 301 Painting I or ARTS 325 Life Drawing or ARTS 337 Color Drawing or ARTS 425 Advanced Drawing
• ARTS 365 Sculpture I
• 6 ARTS electives
• 2 courses in art history-open selections qualified by course prerequisites and consultation with the studio art faculty adviser

Double Major Track in Visual Arts (10 courses required)

• ARTS 225 Drawing I
• ARTS 205 Photography I or ARTS 311 Intaglio I or ARTS 327 Documentary Production
• ARTS 301 Painting I or ARTS 325 Life Drawing or ARTS 337 Color Drawing or ARTS 425 Advanced Drawing
• 5 ARTS electives
• 2 courses in art history-open selections qualified by course prerequisites and consultation with the studio art faculty adviser
Degree Requirements for the Bachelor of Fine Arts (B.F.A.)

Students with a B.A. degree in art from Rice or an equivalent degree from another university may apply for admission to the Bachelor of Fine Arts (B.F.A.) program, which consists of a fifth year of intensive study in the creative arts. Students with a B.A. in a major other than art may, in exceptional cases, be admitted. Interested students should complete a special degree application in the Admissions Office and submit a portfolio of artwork for review by department faculty. Students will not be admitted into the program until after the portfolio review process. Information about application forms, deadlines, and admission standards is available from the Admissions Office.

For the B.F.A. degree, students must complete 30 semester hours in approved courses, or the equivalent in approved major electives at the 300 level or above. In addition to the usual departmental upper-level courses, special 500-level courses are offered for B.F.A. candidates only.

Transfer Credit

No more than 2 courses may be transferred out of 10 for a single visual arts major, or 8 for the double major. The two transfer credit courses must be studio practice courses required for all majors. Advanced placement credit may not be used by art majors to fulfill department requirements. The 2 required art history classes may be transfer credits.

Exhibitions and Arts Programs at Rice

The Department of Visual Arts mounts several art and photography exhibitions each year and sponsors Rice Cinema, a public alternative film program. Feature films include classic and contemporary titles, independent and experimental films, documentaries, international, foreign, and alternative cinema programs. Rice Cinema, which is intimately connected with the curriculum both in film and media studies and in film and photography production, hosts frequent guest lecturers, panel discussions, and media events.

Exhibitions and related activities organized by Rice University Art Gallery (Kimberly Davenport, director) enrich the teaching program of the Department of Visual Arts as well as the larger university and Houston community.

See ARTS and HART in the Courses of Instruction section.
ACC (Accounting)

The Jesse H. Jones Graduate School of Management

**ACCO 305 (F) INTRODUCTION TO ACCOUNTING (3)**
Survey of basic accounting theory and practice with emphasis on the primary problems of asset valuation and income determination. Not open to first-year students (freshmen). Enrollment limited to 65. *Instructor(s): Zeff*

**ACCO 406 (F) COST ACCOUNTING (3)**
Uses of accounting data to plan and evaluate long-run investment and financing decisions and short-run price, costing, output, and financing decisions of the business firm or public entity. *Instructor(s): Mandel*

**ACCO 409 (F) CORPORATE FIN REPORTING (3)**
Using a case and readings format, this course deals with controversial issues in financial accounting and the analysis and interpretation of companies’ financial statements.

**ACCO 411 (F) ASSET ACCOUNTING (3)**
Deals with the major questions of asset valuation and income determination in the context of accounting theory and the evolving financial, economic, and political factors that have shaped the existing standards. The standard-setting process is discussed.

**ACCO 497 (F) INDEPENDENT STUDY (3)**
Independent study on an approved project under faculty supervision.

**ACCO 498 (F) INDEPENDENT STUDY (3)**
Continuation of ACCO 497.

AMC (Ancient Mediterranean Civilizations)

The School of Humanities

**AMC 200 ORIGINS OF WESTERN CIVILIZATIONS (3)**
How were the great empires of the ancient Near Eastern and Mediterranean worlds organized? This introductory course will explore the development of imperial systems from the Bronze Age to the Roman Empire and pay special attention to how subject peoples participated in the imperial systems of multi-ethnic states. Aspects of the art, law, economics, religions, and literature of the empires of the Hittites, Assyrians, Persians, Greeks and Romans will be examined. Consideration will be given to the strengths and weaknesses of these empires along with discussions of their contributions to the modern world. Also offered as HIST 200. Not offered 2003–2004. *Instructor: Maas*

For more information on courses that may be taken for AMC credit, refer to (pages 86–88).

ANTH (Anthropology)

The School of Social Sciences/Department of Anthropology

**ANTH 200 INTRODUCTION TO THE SCIENTIFIC STUDY OF LANGUAGE (3)**
Introduction to concepts and terminology in the scientific study of language. Includes sound systems (phonology), construction of words (morphology), organization of words in the sentence (syntax), meaning (semantics), and information flow (pragmatics), as well as a survey of interdisciplinary uses of linguistics such as historical linguistics (archaeology), dialectology (sociology), and language acquisition (psychology, cognitive sciences, and language teaching). Also listed as LING 200. Enrollment limited to 80. *Instructor(s): Englebretson*

(#) = credit hours per semester
ANTH 201 (F)  INTRODUCTION TO SOCIAL/CULTURAL ANTHROPOLOGY (3)
Introduction to the history, methods, and concepts of social/cultural anthropology, which is devoted to the systematic description and understanding of cultural diversity in human societies. Instructor(s): Georges

ANTH 203 (F)  HUMAN ANTIQUITY: AN INTRODUCTION TO PHYSICAL ANTHROPOLOGY AND PREHISTORY (3)
This course offers a broad introduction to the human past as revealed by evolutionary studies of both biochemical and fossil evidence, and by archaeological studies of human cultural behavior. Instructor(s): McIntosh, S.

ANTH 205 (F)  INTRODUCTION TO ARCHAEOLOGY (3)
An introduction to the elementary concepts of the discipline through a series of case studies. Instructor(s): McIntosh, R.

ANTH 210 (S)  TECHNOLOGY, CULTURE, AND COGNITION (3)
An examination of the history of information technologies perceived as media transfers from oral to written, to print, and to electronic communication, and as multiple media interfaces. In that context, the course explores the categorization and organization of knowledge. Explores the construction of self, national identities, education, authority, censorship, etc. Also listed as HIST 210, UNIV 210, and LING 210. Instructor(s): Kelber, Henry

ANTH 290 (F)  THE HISTORY AND ETHNOGRAPHY OF THE (TO BE NAMED) (3)
This course focuses intensively on the history and ethnography of a single people, the selection of which changes from year to year. Using all available materials, this course provides an introduction to the approaches of the discipline and how they have changed, registered by the different ways anthropologists and others have represented the same subjects over time. Instructor(s): Marcus

ANTH 298 (S)  BIOTECHNOLOGY, 1900 TO NOW (3)
The technical manipulation of living matter from humans, animals and plants is both a scientific and a social undertaking. This course is designed for humanities and science students who want to know more about how biotechnology came into existence, and the questions, controversies, and changes which come with the ability to engineer living things. A series of case studies of contemporary events in cloning, patenting, genetically modified organisms, and stem cell research will be set in the context of the 20th century history of biotechnology. Not offered 2003–04. Instructor(s): Landecker

ANTH 300 (S)  LINGUISTIC ANALYSIS (3)
Language as an object of scientific analysis, focused on how different languages organize semantic and pragmatic information into simple sentences. Topics: morphology, syntactic categories and constituency, propositional semantics, tense-aspect-modality, pragmatic information status, grammatical relations, and voice systems. Also listed as LING 300. Prerequisite(s): LING 200 or permission of instructor. Instructor(s): Englebretson

ANTH 301 (S)  PHONETICS (3)
Introductory study of sound as it relates to speech and sound systems in the world’s languages. Speech sounds are examined in terms of production mechanisms (articulatory phonetics), propagation mechanisms (acoustic phonetics), and perception mechanisms (auditory phonetics). Includes a basic introduction to Digital Signal Processing. Prerequisite(s): LING 200 or permission of instructor. Also listed as LING 301. Instructor(s): Staff

ANTH 305 (S)  HISTORICAL LINGUISTICS (3)
Exploration of the nature of language change in its phonological, morphological, syntactic, semantic, and sociocultural aspects, using the perspective of language acquisition. Includes techniques of internal and comparative reconstruction of proto-languages. Required for linguistic majors; may substitute LING 315. Prerequisite(s): LING 200, 300, or 301 or permission of instructor. Also listed as LING 305. Not offered 2003–04.
ANTH 306 (F)  HISTORY OF ANTHROPOLOGICAL IDEAS (3)
An introduction to the history of anthropology, its theories, and methods. The emphasis is upon social and cultural anthropology. Instructor(s): Faubion

ANTH 307 (S)  ANTHROPOLOGICAL DIRECTIONS FROM THE SECOND WORLD WAR TO THE PRESENT (3)
As a sequel to ANTH 306/506, this course explores turns and trends in sociocultural research and critique during the past half-century. Special attention is paid to the rise and fall of structuralism, the problematization of the primitive, and the proliferation of theories of practice. Instructor(s): Faubion

ANTH 308 (S)  HISTORY AS A CULTURAL MYTH (3)
Explores ideas of history and attitudes toward the past as culturally conditioned phenomena. Emphasizes history as a statement of cultural values as well as conceptualizations of cause, change, time, and reality. Also listed as WGST 336. Not offered 2003–04. Instructor(s): Taylor

ANTH 309 (S)  GLOBAL CULTURES (3)
This course will examine specific cultural debates and issues that have overflowed national boundaries. Topics will include student movements, democracy and citizenship, and the internationalization of professional and popular culture.

ANTH 310 (S)  CONTEMPORARY CHINA (3)
This introductory course is designed to encourage ways of thinking about Cultural China—a broad-ranging concept that includes the People’s Republic of China, the newly established Special Administrative Region (SAR) of Hong Kong, the Republic of China on Taiwan, and overseas Chinese communities throughout the world. Also listed as ANTH 220, HIST 220, and HIST 310. Instructor(s): Lewis, Smith

ANTH 311 (S)  MASCULINITIES (3)
This course deals with masculinities in the West, concentrating on concepts of masculine protagonism and personhood. Readings explore identities constructed in realms such as law, politics, finances, art, the home, and war. Also listed as WGST 333. Not offered 2003–04. Instructor(s): Taylor

ANTH 312 (F)  AFRICAN PREHISTORY (3)
Thematic coverage of developments throughout the continent from the Lower Paleolithic to medieval times, with emphasis on food production, metallurgy and the rise of cities and complex societies. Not offered 2003–04. Instructor(s): McIntosh, R.

ANTH 313 (F)  LANGUAGE AND CULTURE (3)
Investigates the relation between language and thought, language and world view, language and logic. Also listed as LING 313. Not offered 2003–04. Instructor(s): Tyler

ANTH 314 (F)  GENETICS: BIOLOGICAL, CULTURE-HISTORICAL, AND ETHICAL PERSPECTIVES (3)
The course uses an interdisciplinary perspective to examine the claims and counter-claims made regarding genetics and new technologies for identifying and manipulating genetic material. The course will cover biological basics of genes, DNA, and sequencing techniques; cultural and historical aspects of approaches to genetics, including essentialism and eugenics past and present; ethical issues arising from new genetic technologies; and policy issues. Also listed as UNIV 314 and BIOS 307. Not offered 2003–04. Instructor(s): Georges; McIntosh, S.; Novotny

ANTH 315 (F)  INTRODUCTION TO THE ANTHROPOLOGY OF INFORMATION AND NETWORKS (3)
History and social study of information and network technologies. Thematic focus on communication, exchange, information/knowledge production, and institutions of property and contract law. Empirical topics include networking technologies, money and financial institutions, free software and open source, cryptography, standards bodies, history of the internet, patents, copyright, trademark, and contract law. Includes North America, Europe, and South Asia. Instructor(s): Kelty

(#) = credit hours per semester
ANTH 316 (F)  CULTURAL ANALYSIS (3)
This course is specifically intended for lower-level undergraduates as a means of gaining familiarity with the analytical tradition of cultural anthropology from the beginning of the 20th century. This course is intended to provide students with background for upper-level courses in the department.

ANTH 318 (F)  GRAPHING, COUNTING, FILMING: REPRESENTATION IN SCIENCE AND ANTHROPOLOGY (3)
Cinema originated in the inscription of physiology on film; this was quickly followed by biology, ethology and ethnology done by cinematography. This course examines the historical, critical, and methodological relations between film as medium or method of visual investigation and cinema as site of cultural analysis. Also listed as HART 381. Instructor(s): Landecker

ANTH 319 (S)  SYMBOLISM AND POWER (3)
This course will use both traditional and contemporary readings to emphasize the trend in cultural analysis from a view of culture as monolithic and static to perceptions that any culture is internally varied and contradictory as well as changing and complex. Not offered 2003–04. Instructor(s): Taylor

ANTH 320 (F)  PUBLIC SPHERES AND PUBLIC CULTURES (3)
This course will discuss some of the basic issues surrounding civil society and the public sphere. It will look at specific contemporary debates in public culture, such as multiculturalism, identity politics, and the crisis of contemporary liberalism. Not offered 2003–04. Instructor(s): Lee

ANTH 321 (S)  TEXT AS PROPERTY, PROPERTY AS TEXT: ACROSS THE AGES (3)
Examines forms and norms of authorship and ownership from antiquity to the present. What is an author? Is a text public or private property? What are the licit/illicit forms of rewriting and appropriating a text, and how are those forms defined? This class investigates historically these and other issues. Instructor(s): Kelty, McGill

ANTH 322 (S)  CULTURES AND IDENTITIES: RACE, ETHNICITY AND NATIONALISM (3)
How do cultural conceptions of race, ethnicity, and nationalism shape who we think we are? How are these ideas related to Western views of the relations between nature and society, and how do these differ from those in other cultures? Instructor(s): Lee

ANTH 323 (F)  PHONOLOGY (3)
Introduction to sound patterns in the languages of the world and to interpretation of these patterns in four theoretical traditions: distribution of holistic segments (Phonemic Theory), process-oriented feature models (Generative and Austosegmental models), constraint-based models (Optimality Theory), and cognitive approaches (Natural Generative Phonology and Cognitive Phonology). Prerequisite ANTH 200 or ANTH 301 or permission of instructor. Also listed as LING 311. Instructor(s): Coelho

ANTH 325 (F)  THE ANTHROPOLOGY OF LAW (3)

ANTH 326 (F)  SEX, SELF, AND SOCIETY IN ANCIENT GREECE (3)
An introductory venture into conducting fieldwork in the past. The course treats a wide range of artifacts, from philosophical essays to vase paintings. It derives its focus from a rich corpus of recent research into the ancient problemization of desire and self-control. Also listed as WGST 332. Not offered 2003–04. Instructor(s): Faubion

ANTH 327 (S)  GENDER AND SYMBOLISM (3)
Examinations of beliefs concerning men, women, and gender in different cultures, including the West, relating to issues of symbolism, power, and the distribution of cultural models. Also listed as WGST 350. Instructor(s): Taylor

(F) = Fall; (S) = Spring
ANTH 328 (F)  VIOLENCE, TERROR, AND SOCIAL TRAUMA (3)
This course addresses the central place of violence in our society and its relations with social and political terror in other cultures. Readings, film, and theatre probe everyday violence as well as spectacular events of our times. Aftermaths, including cross-generational trauma, will be explored. Instructor(s): Taylor

ANTH 329 (S)  BODIES, SENSUALITIES & ART (3)
Cross-cultural approaches to art and the senses. Students may engage any medium. Emphasis to be placed on issues generated from performance in the arts rather than from academia. Contrasts art and academic knowledge to explore alternative epistemologies and aesthetics. Not offered 2003–04. Instructor(s): Taylor

ANTH 335 (S)  ANTHROPOLOGY AS CULTURAL CRITIQUE (3)
The critical assessment and interpretation of Euroamerican social institutions and cultural forms have always been an integral part of anthropology's intellectual project. This course will explain the techniques, history, and achievements of such critique. It will also view the purpose in the context of a more general tradition of critical social thought in the West, especially the U.S. Not offered 2003–04. Instructor(s): Marcus

ANTH 338 (F)  READING POPULAR CULTURE (3)
The course examines a number of cases from popular genres—romance, novels, television sit-coms, tourist sites, movies, rock music and submits them to a variety of theoretical approaches from disciplines such as anthropology, sociology, literary studies, and philosophy

ANTH 343 (S)  NEW RELIGIOUS MOVEMENTS IN AFRICA (3)
Study of the religious, sociological, and political factors leading to the rise of religious movements in Africa, as well as missionary and colonial reactions to them. Includes the movements' relationship to indigenous religions, political praxis, and the focus on this-worldly salvation in light of political and economic marginality. Prerequisite(s): permission of instructor. Also listed as RELI 342. Not offered 2003–04. Instructor(s): Bongmba

ANTH 344 (S)  CITY/CULTURE (3)
The course treats both the theorization and the ethnographic exploration of the urban imaginary; urban spaces and practices; urban, suburban, and post-urban planning; city-states, colonial cities, and capital cities; and the late 20th century metropolis.

ANTH 345 (F)  THE POLITICS OF THE PAST: ARCHAEOLOGY AND SOCIAL CONTEXT (3)
An examination of the way that archaeological evidence of the past has been used and viewed by particular groups at different times. Using case studies, the course considers issues of gender, race, Eurocentrism, political domination, and legitimacy that emerge from critical analysis of representations of the past by archaeologists, museums, and collectors. Instructor(s): McIntosh, S.

ANTH 347 (F)  THE U.S. AS A FOREIGN COUNTRY (3)
This course looks at selected aspects of American culture and society from an anthropological point of view. Readings derive from the works of both foreign and native observers, past and present. Instructor(s): Faubion

ANTH 351 (S)  CULTURES OF NATIONALISM (3)
This course will examine the cultural dimensions of nationalism, particularly around the creation of forms of peoplehood that seem to be presupposed by almost all nation-building projects. Texts to be analyzed will include the Declaration of Independence, the United States Constitution, and the Declaration of the Rights of Man. Not offered 2003–04. Instructor(s): Lee

ANTH 353 (S)  CULTURES OF INDIA (3)
Summary of the prehistory, ethnography, and ethnology of the Indian subcontinent. Special emphasis on Hinduism, Buddhism, and Indian philosophy. Instructor(s): Tyler

(#) = credit hours per semester
ANTH 358 (F)  THE FOURTH WORLD: ISSUES OF INDIGENOUS PEOPLES (3)
In contrast with people self-identified within political structures of the First, Second, and Third Worlds, Fourth World peoples are, generally speaking, stateless peoples. In this course we will examine both how this unofficial status affects their struggle for self-determination and how native peoples engage traditional beliefs and practices for self-empowerment. Through readings, films, and speakers we will examine current conflicts facing indigenous peoples in North and South America, the Soviet Union, Europe, Asia and Australia. Not offered 2003–04.

ANTH 362 (S)  ARCHEOLOGICAL FIELD TECHNIQUES (3)
Methods used in field work, laboratory analysis, and interpretation of archaeological data from a local site excavated by the class. Prerequisite(s): ANTH 205. Instructor(s): McIntosh, R.

ANTH 363 (F)  EARLY CIVILIZATIONS (3)
A comparative study of the civilizations of Mesopotamia, Egypt, the Indus, China, and the Maya, emphasizing the causes and conditions of their origins. Instructor(s): McIntosh, R.

ANTH 367 (S)  HUMAN EVOLUTION (3)
Covers the fossil evidence for the evolution of primates an hominids, insights into early hominid behavior from comparative studies in primate ecology and behavior, and how evolution has shaped contemporary human diversity and behavior. Prerequisite(s): ANTH 203 or BIOS 202 or BIOS 334. Instructor(s): McIntosh, S.

ANTH 371 (F)  MONEY AND EVERYDAY LIFE (3)
Money is such a part of everyday modern life that it is hard for us to imagine living without it. Yet in many pre-modern societies, gift-exchange was as important as money is in our own. This course will look at the cultural dimensions of systems of exchange, ranging from gift-giving among Northwest Coast Indians to foreign currency exchanges between financial institutions. Along with the classic work of Marx and Simmel on money and capital, we will also cover some of the anthropological work on gifts and exchange, such as that of Mauss, Levi-Strauss, and Bourdies, as well as some of the contemporary debates initiated by Bataille and Derrida. Not offered 2003–04.

Instructor(s): Lee

ANTH 372 (S)  CULTURES OF CAPITALISM (3)
Most of us think of capitalism as primarily an economic phenomenon. Yet, it also has a profoundly cultural dimension that includes culturally specific forms of risk taking, speculation, and even money and capital. This course will explore contemporary phenomenon such as speculation, booms and busts, and the stock market, and use them to discuss some of the classic work on the cultures of capitalism, including Marx, Simmel, Kracauer, and contemporary writers such as Jameson, DeBord, and Virilio. This is not an introductory course in economics but will look at how people talk and write about culture and capitalism. Not offered 2003–04.

Instructor(s): Lee

ANTH 373 (F)  THE LINGUISTIC TURN: LANGUAGE, NARRATION, AND MODERNITY (3)
This course will look at the role of narration and the construction of some of the basic forms of modernity and post-modernity, ranging from nationalism to performative approaches to identity. The first half of the course will introduce the basic linguistic tools necessary to analyze a variety of cultural materials, and the second half will be devoted to analyzing specific texts and student presentations. The course does not presuppose any technical training in linguistic or literary analysis. Also listed as LING 373. Not offered 2003–04.

Instructor(s): Lee

ANTH 375 (S)  ABRACADABRA: LANGUAGE AND MEMORY IN SCIENCE AND TECHNOLOGY (3)
The history of language, writing, and formal notational systems in science and technology. Includes ancient and renaissance arts of memory, universal languages and the development of the calculus, secret writing and cryptography, the graphical method, the rise of the ‘scriptural’ mode of DNA, the development and use of programming languages, and psychoanalysis. No technical knowledge is assumed. Not offered 2003–04.

Instructor(s): Kelty

(F) = Fall; (S) = Spring
ANTH 377 (F) THE ANCIENT CITY (3)
Compare the historian’s and social scientist’s approach to the emerging pre-industrial city. Cities are the products of an interaction of physical and social environments and their histories may reflect their enormous symbolic weight. We use the comparative method to explore general principles of development lurking behind the different faces of ancient urbanism. Also listed as HIST 377. Not offered 2003–04. Instructor(s): Maas, McIntosh, R.

ANTH 379 (F) GIFTS AND CONTRACTS (3)
This course uses philosophical, literary, and economic approaches to examine the role that gifts and contracts play in everyday life and in constructing society and culture. Authors discussed include Derrida, Marx, Mauss, David Lewis, Schelling, Von Neumann and Morgenstern. Not offered 2003–04. Instructor(s): Lee

ANTH 381 (S) MEDICAL ANTHROPOLOGY (3)
Cultural, ecological, and biological perspectives on human health and disease throughout the world. Instructor(s): Georges

ANTH 383 (F) HUMAN ADAPTATION (3)

ANTH 388 (S) THE LIFE CYCLE: A BIOCULTURAL VIEW (3)
The human life cycle from conception to death. Focus is on the interaction between biological processes and culture. Also listed as WGST 335. Not offered 2003–04. Instructor(s): Georges

ANTH 390 (F) CULTURE, NARRATION, AND SUBJECTIVITY (3)
This course examines how linguistic and narrative structures interact to produce specific cultures of interpretation. The focus will be on linguistic and literary representations of subjectivity. This course will use novels by Western authors, such as Virginia Woolf and Dostoevsky, and some Chinese materials as comparison. Not offered 2003–04. Instructor(s): Lee

ANTH 395 (F) CULTURE AND COMMUNICATION (3)
Investigates the relations between different forms of communication—speech, print, and film—and cultural constructions such as audiences, publics, and communities. Instructor(s): Lee

ANTH 402 SYNTAX AND SEMANTICS (3)
Study of semantic categories and their formal expression in morphological, syntactic, and lexical units and patterns. Also listed as LING 402.

ANTH 403 (F) ANALYZING PRACTICE (3)
A critical review of work informed by what has sometimes been deemed the key concept of anthropological theory and research since the 1960s. Special attention will be devoted to the analytics of practice developed by Foucault, by Bourdieu, and by de Corteau. Not offered 2003–04. Instructor(s): Faubion

ANTH 404 INDEPENDENT STUDY (3)
Directed reading and preparation of written papers on anthropological subjects. Not offered in the curriculum and advanced study of subjects on which courses are offered.

ANTH 406 (F) COGNITIVE STUDIES IN ANTHROPOLOGY AND LINGUISTICS (3)
Relations between thought, language, and culture. Special emphasis given to natural systems of classification and the logical principles underlying them. Also listed as LING 406. Not offered 2003–04. Instructor(s): Tyler

(#) = credit hours per semester
ANTH 407 (F)  FIELD TECHNIQUES AND ANALYSIS (3)
Techniques and practice in the observation, analysis, and the recording of a human language. Includes discussion of ethical issues in working with indigenous peoples. Enrollment limited. LING 300, 301, and 402 recommended. Prerequisite(s): permission of instructor. Also listed as LING 407. Course may be repeated for credit. Instructor(s): Shibatani

ANTH 408 (S)  FIELD TECHNIQUES AND ANALYSIS (3)
Continuation of ANTH 407/LING 407. Prerequisite(s): permission of instructor. Also listed as LING 408. Instructor(s): Shibatani

ANTH 409 (S)  AUTHORSHIP AND OWNERSHIP (3)
A course on the relations that bind persons to particular things or ideas as property. Looks at forms of ownership as embodied by patents, copyrights, brand names, and trademarks, and explores how such laws, marks, and names function as useful anthropological objects. Not offered 2003–04. Instructor(s): Landecker

ANTH 410 (F)  THE ETHNOGRAPHY OF DEVELOPMENT (3)
This course suggests the necessity of a solid ethnographic grounding for both practical development work and for further intellectual growth of the discipline. Offered occasionally.

ANTH 411 (S)  NEUROLINGUISTICS (3)
Study of language and the brain. Includes the organization of the brain (e.g., the localization of speech, language, and memory functions), hemispheric dominance, and the pathologies of speech and language associated with brain damage. Also listed as LING 411. Instructor(s): Lamb, Achard

ANTH 412 (S)  RHETORIC (3)
Overview of classical theories. Intensive discussion of contemporary theories and applications in a wide variety of disciplines. Also listed as LING 410. Instructor(s): Tyler

ANTH 414 (S)  HERMENEUTICS AND LINGUISTIC ANTHROPOLOGY (3)
Application of linguistic theory and method in the analysis of cultural materials. Includes discourse analysis and the structure and interpretation of texts and conversation. Also listed as LING 414. Not offered 2003–04. Instructor(s): Tyler

ANTH 415 (F)  THEORIES OF MODERNITY/POSTMODERNITY (3)
An advanced course for graduate students and undergraduate majors with interests in the interdisciplinary field of cultural studies. Readings in the work of Marx, Weber, and Durkheim, Saussure, Gadamer, Derrida, Bahktin, Foucault, and others. Not offered 2003–04. Instructor(s): Faubion

ANTH 418 (S)  CAN HUMANS THINK? ANTHROPOS, HUMANISM AND TECHNOLOGY (3)
An upper level reading and research seminar that combines readings in the history of humanism with empirical and theoretical issues from the present. Texts and topics from Kant to JCR Licklider on anthropos and humanism, and examples from current debates: genetic engineering, environmentalism, interfaces and networking technologies, testing technologies, and intellectual property regimes. Emphasis on the three R’s. Not offered 2003–04. Instructor(s): Kelty

ANTH 419 (S)  LAW AND SOCIETY (3)
In addition to focusing on works associated with critical legal studies and its antecedent legal realism, this course will examine a number of cases in the international domain that challenge concepts of civil society arising with the modern nation-state. Instructor(s): Hamilton

ANTH 423 (S)  AFRICAN MYTHS AND RITUAL (3)
Explore and analyze specific myths and rituals that provide legitimization for community ceremonies and that serve as a basis for the negotiation of power and ideology for members within that community. Readings from classic theorists: Durkheim, Levi-Strauss, Edmond Leach, Gennap and Turner, and contemporary theorists: Werbner, Heusch, Comaroff, and Ray. Also listed as RELI 423. Instructor(s): Bongmba

(F) = Fall; (S) = Spring
ANTH 425 (F)  ADVANCED TOPICS IN ARCHAEOLOGY (3)
Seminar on selected topics in archaeological analysis and theory. The course will variously focus on ceramic analysis and classification, archaeological sampling in regional survey and excavation, and statistical approaches to data analysis and presentation. Prerequisite(s): ANTH 205 and 362. Not offered 2003–04. Instructor(s): McIntosh, S.

ANTH 430 (F)  EXPERIMENTAL WRITING AND ANTHROPOLOGY (3)
Explores relationships between ethnography and other genres. Emphasizes experimental styles, including combinations of ethnographic and personal material, and problems of writing to communicate experiences such as violence and art. Instructor(s): Taylor

ANTH 440 (F)  BIOTECHNOLOGY AND CULTURE (3)
This course focuses on anthropology of the life sciences. We will examine how this work takes contemporary bioscience as a site for cultural analysis, and also the allied proposals that this represents an opportunity to renovate classic anthropological analyses and categories of kinship, reproduction, the body, life, death, and identity. Instructor(s): Landecker

ANTH 446 (S)  ADVANCED TOPICS IN BIOMEDICAL ANTHROPOLOGY (3)
Seminar on contemporary research on the biomedical aspects of human health and disease. Includes topics from medical ecology and epidemiology. Prerequisite(s): ANTH 381 or permission of the instructor. Not offered 2003–04. Instructor(s): Georges

ANTH 447 (F)  MODERN ETHNOGRAPHY AND THE ETHNOGRAPHY OF MODERNITY (3)
The course explores the strategies of representation, the methodologies, and the diagnostic categories to which anthropologists have resorted in coming to terms with such phenomena as rationalization, economic and informational globalization, and the commodification of culture. Not offered 2003–04. Instructor(s): Faubion

ANTH 450 (S)  ANTHROPOLOGY IN THE CONTEMPORARY WORLD: A SEMINAR FOR MAJORS (3)
This seminar is designed specifically for juniors and seniors who have declared anthropology as a major, and is intended as an opportunity for them to survey the various applications and points of relevance of anthropology in the rapid transformations of contemporary societies and cultures. It is meant to both assess and challenge the forms of knowledge that anthropology has produced since its inception as a discipline. Instructor(s): Marcus

ANTH 455 (F)  INTRODUCTION TO SCIENCE AND TECHNOLOGY STUDIES (3)
Introduction to the historical and social aspects of science and technology. Directed towards providing social scientists ways to understand the role of science and technology in their field sites and research projects; with additional emphasis on the use of media and internet technologies for qualitative social science research. Enrollment limited. Instructor(s): Kelty

ANTH 458 (S)  HUMAN OSTEOLOGY (3)
Introduction to the analysis of human skeletal material from archaeological sites. Instructor(s): McIntosh, S.

ANTH 460 (S)  ADVANCED ARCHAEOLOGICAL THEORY (3)
History and analysis of the major currents of archaeological theory from the Encyclopaedist origins of positivism, through cultural evolutionism and historical particularism, to the New Archaeology and current trends. Prerequisite(s): ANTH 205. Not offered 2003–04. Instructor(s): McIntosh, R.

ANTH 463 (F)  WEST AFRICAN PREHISTORY (3)
Seminar providing in-depth consideration of the later prehistoric archaeology (late Stone Age and Iron Age) of the West African subcontinent. Not offered 2003–04. Instructor(s): McIntosh, S.
ANTH 468 (S) PALAEOCLIMATE & HUMAN RESPONSE (3)
Paleoscientists have records extending through the Holocene of forcing processes, such as climate, that influence humans. We examine these records and their impact on past and present society. We explore the concept of social memory, used to understand how past communities use information about climate change and past responses in long term adaptive strategies. Also listed as ESCI 468. Instructor(s): Droxler; McIntosh, R.

ANTH 474 (S) ADVANCED SEMINAR ON THE PREHISTORIC LANDSCAPE (3)
The interaction of human geography (cultural ecology) and the physical landscape (geomorphology and physical geography) as applied to past and present settlement on major floodplains. Not offered 2003–04. Instructor(s): McIntosh, R.

ANTH 475 (S) PLIO-PLEISTOCENE CLIMATE CHANGE & HOMINID ADAPTATION (3)
Junctures in the evolution of the hominids appear to coincide with shifts in the earth’s climate record. We will explore the current status of our knowledge of global climate in the Plio-Pleistocene and of the hominid record from the end of the Miocene to the appearance of H. sapiens. Also listed as ESCI 475. Not offered 2003–04. Instructor(s): Droxler; McIntosh, R.

ANTH 482 (F) NON-WESTERN CINEMA: THIRD-WORLD CINEMA (4)
Study of significant national cinemas, film movements, and filmmakers of the Third World from Africa to Latin America and from the Middle East to China. Includes colonial and postcolonial discourses. Enrollment limited. Also listed as HART 482. Instructor(s): Naficy

ANTH 483 (S) DOCUMENTARY & ETHNOGRAPHIC FILM (4)
Overview of the history of documentary and ethnographic cinema from a worldwide perspective. Includes both canonical and alternative films and film movements, with emphasis on the shifting and overlapping boundaries of fiction and nonfiction genres. Enrollment limited. Also listed as HART 483. Not offered 2003–04. Instructor(s): Naficy

ANTH 484 (S) CULTURE, MEDIA, SOCIETY: EXILE & DIASPORA CINEMAS (4)
Examination of cultural productions as vehicles for communication across national, cultural, and other boundaries, using contemporary theories of culture and media. Includes the creation of meaning and cultural capital, the representation of minority and alternative views, and the construction of individual and group identities. Also listed as HART 484. Instructor(s): Naficy

ANTH 490 (F) DIRECTED HONORS RESEARCH (3)
A two-semester sequence of independent research culminating in the preparation and defense of an honors thesis. Open only to candidates formally accepted into the honors program.

ANTH 491 (S) DIRECTED HONORS RESEARCH (3)
A two-semester sequence of independent research culminating in the preparation and defense of an honors thesis. Open only to candidates formally accepted into the honors program.

ANTH 506 (F) HISTORY OF ANTHROPOLOGICAL IDEAS (3)
Graduate version of ANTH 306.

ANTH 507 (S) ANTHROPOLOGICAL DIRECTIONS FROM SECOND WORLD WAR TO PRESENT (3)
Graduate version of ANTH 307.

ANTH 508 (S) HISTORY AS A CULTURAL MYTH (3)
Graduate version of ANTH 308.

ANTH 509 (S) GLOBAL CULTURES (3)
Graduate version of ANTH 309.

(F) = Fall; (S) = Spring
ANTH 511 (S)  MASCULINITIES (3)  
Graduate version of ANTH 311.

ANTH 512 (F)  AFRICAN PREHISTORY (3)  
Graduate version of ANTH 312.

ANTH 513 (F)  LANGUAGE AND CULTURE (3)  
Graduate version of ANTH 313.

ANTH 515 (F)  INTRODUCTION TO THE ANTHROPOLOGY OF INFORMATION AND NETWORKS (3)  
Graduate version of ANTH 315.

ANTH 518 (F)  GRAPHING, COUNTING, FILMING: REPRESENTATION IN SCIENCE AND ANTHROPOLOGY (3)  
Graduate version of ANTH 318.

ANTH 519 (S)  SYMBOLISM AND POWER (3)  
Graduate version of ANTH 319.

ANTH 520 (F)  PUBLIC SPHERES AND PUBLIC CULTURES (3)  
Graduate version of ANTH 320.

ANTH 522 (S)  CULTURES AND IDENTITIES: RACE, ETHNICITY & NATIONALISM (3)  
Graduate version of ANTH 322.

ANTH 525 (F)  SEX, SELF, AND SOCIETY IN ANCIENT GREECE (3)  
Graduate version of ANTH 325.

ANTH 527 (S)  GENDER AND SYMBOLISM (3)  
Graduate version of ANTH 327.

ANTH 528 (F)  VIOLENCE, TERROR AND SOCIAL TRAUMA (3)  
Graduate version of ANTH 328.

ANTH 529 (S)  BODIES, SENSUALITIES, AND ART (3)  
Graduate version of ANTH 329.

ANTH 535 (S)  ANTHROPOLOGY AS CULTURAL CRITIQUE (3)  
Graduate version of ANTH 335.

ANTH 538 (F)  READING POPULAR CULTURE (3)  
Graduate version of ANTH 338.

ANTH 544 (S)  CITY/CULTURE (3)  
Graduate version of ANTH 344.

ANTH 545 (F)  THE POLITICS OF THE PAST: ARCHAEOLOGY IN SOCIAL CONTEXT (3)  
Graduate version of ANTH 345.

ANTH 547 (F)  THE U.S. AS A FOREIGN COUNTRY (3)  
Graduate version of ANTH 347.

ANTH 551 (S)  CULTURES OF NATIONALISM (3)  
Graduate version of ANTH 351.

(#) = credit hours per semester
ANTH 553 (S)  CULTURES OF INDIA (3)
Graduate version of ANTH 353.

ANTH 558 (F)  THE FOURTH WORLD: ISSUES OF INDIGENOUS PEOPLES (3)
Graduate version of ANTH 358.

ANTH 562 (S)  ARCHAEOLOGICAL FIELD TECHNIQUES (3)
Graduate version of ANTH 362.

ANTH 563 (F)  EARLY CIVILIZATIONS (3)
Graduate version of ANTH 363.

ANTH 571 (F)  MONEY AND EVERYDAY LIFE (3)
Graduate version of ANTH 371.

ANTH 572 (S)  CULTURES OF CAPITALISM (3)
Graduate version of ANTH 372.

ANTH 573 (F)  THE LINGUISTIC TURN: LANGUAGE, NARRATION, AND MODERNITY (3)
Graduate version of ANTH 373.

ANTH 575 (S)  ABRACADABRA: LANGUAGE AND MEMORY IN SCIENCE AND TECHNOLOGY (3)
Graduate version of ANTH 375.

ANTH 577 (F)  THE ANCIENT CITY (3)
Graduate version of ANTH 377.

ANTH 579 (F)  GIFTS AND CONTRACTS (3)
Graduate version of ANTH 379.

ANTH 581 (S)  MEDICAL ANTHROPOLOGY (3)
Graduate version of ANTH 381.

ANTH 583 (F)  HUMAN ADAPTATION (3)
Graduate version of ANTH 383.

ANTH 588 (S)  THE LIFE CYCLE: A BIOCULTURAL VIEW (3)
Graduate version of ANTH 388.

ANTH 590 (F)  CULTURE, NARRATION AND SUBJECTIVITY (3)
Graduate version of ANTH 390.

ANTH 595 (F)  CULTURE AND COMMUNICATION (3)
Graduate version of ANTH 395.

ANTH 600  INDEPENDENT STUDY (3)

ANTH 601 (F)  GRADUATE PROSEMINAR IN ANTHROPOLOGY (3)
Mapping the current fields of anthropological discourses, examining the debates in and between each of these fields, and discussing how these debates are conducted in the domains of fieldwork, ethnographic writing, and in the construction of careers in anthropology. Instructor(s): Marcus

(F) = Fall; (S) = Spring
ANTH 602 (F)  ANTHROPOLOGY PROPOSAL WRITING SEMINAR (3)
This seminar prepares anthropology graduate students to write a successful grant proposal. Basic elements of proposal writing, including problem conceptualization, literature reviews and methods will be covered. Instructor(s): Georges

ANTH 603 (F)  ANALYZING PRACTICE (3)
Graduate version of ANTH 403.

ANTH 605 (F)  FIELDWORK (4)
Fieldwork—In which students pursue ethnographic research, learn to manage information and create presentations using a variety of tools and technologies. Topics and themes change. Not offered 2003–04. Instructor(s): Kelty

ANTH 606 (F)  COGNITIVE STUDIES IN ANTHROPOLOGY AND LINGUISTICS (3)
Graduate version of ANTH 406.

ANTH 607 (F)  FIELD TECHNIQUES AND ANALYSIS (3)
Graduate version of ANTH 407.

ANTH 608 (S)  FIELD TECHNIQUES AND ANALYSIS (3)
Graduate version of ANTH 408.

ANTH 609 (S)  AUTHORSHIP AND OWNERSHIP (3)
Graduate version of ANTH 409.

ANTH 610 (F)  THE ETHNOGRAPHY OF DEVELOPMENT (3)
Graduate version of ANTH 410.

ANTH 611 (S)  NEUROLINGUISTICS (3)
Graduate version of ANTH 411.

ANTH 612 (S)  RHETORIC (3)
Graduate version of ANTH 412.

ANTH 614 (S)  HERMENEUTICS AND LINGUISTIC ANTHROPOLOGY (3)
Graduate version of ANTH 414.

ANTH 615 (F)  THEORIES OF MODERNITY/ POSTMODERNITY (3)
Graduate version of ANTH 415.

ANTH 618 (S)  CAN HUMANS THINK: ANTHROPOS, HUMANISM AND TECHNOLOGY (3)
Graduate version of ANTH 418.

ANTH 619 (S)  LAW AND SOCIETY (3)
Graduate version of ANTH 419.

ANTH 625 (F)  ADVANCED TOPICS IN ARCHAEOLOGY (3)
Graduate version of ANTH 425.

ANTH 630 (F)  EXPERIMENTAL WRITING & ANTHROPOLOGY (3)
Graduate version of ANTH 430.

ANTH 640 (F)  BIOTECHNOLOGY AND CULTURE (3)
Graduate version of ANTH 440.

(#) = credit hours per semester
ANTH 646 (S)  ADVANCED TOPICS IN BIOMEDICAL ANTHROPOLOGY (3)
Graduate version of ANTH 446.

ANTH 647 (F)  MODERN ETHNOGRAPHY AND THE ETHNOGRAPHY OF MODERNITY (3)
Graduate version of ANTH 447.

ANTH 650 (F)  PEDAGOGY (3)
Training in the basic elements of teaching in anthropology to be taken in conjunction with applied graduate student training in ANTH 316. Prerequisite(s): third year and above graduate students. Instructor(s): Marcus

ANTH 655 (S)  INTRODUCTION TO SCIENCE AND TECHNOLOGY STUDIES (3)
Graduate version of ANTH 455.

ANTH 658 (S)  HUMAN OSTEOLOGY (3)
Graduate version of ANTH 458.

ANTH 660 (S)  ADVANCED ARCHAEOLOGICAL THEORY (3)
Graduate version of ANTH 460.

ANTH 663 (F)  WEST AFRICAN PREHISTORY (3)
Graduate version of ANTH 463.

ANTH 668 (S)  PALAEOClimatE & HUMAN RESPONSE (3)
Graduate version of ANTH 468.

ANTH 674 (S)  ADVANCED SEMINAR ON THE PREHISTORIC LANDSCAPE (3)
Graduate version of ANTH 474.

ANTH 675 (S)  Plio-Pleistocene CLIMATE CHANGE AND HOMINID ADAPTATION (3)
Graduate version of ANTH 475.

ANTH 682 (F)  NON-WESTERN CINEMA: THIRD WORLD CINEMA (4)
Graduate version of ANTH 482.

ANTH 683 (S)  DOCUMENTARY & ETHNOGRAPHIC FILM (4)
Graduate version of ANTH 483.

ANTH 684 (S)  CULTURE, MEDIA, SOCIETY: EXILE & DIASPORA CINEMAS (4)
Graduate version of ANTH 484.

ANTH 800  RESEARCH AND THESIS (3)
ARAB (Arabic)

The School of Humanities / Center for the Study of Languages

ARAB 101 (F)  INTRODUCTION TO MODERN ARABIC LANGUAGE AND CULTURE I (5)
This course introduces students to the Modern Standard Arabic Language as well as some cultural aspects related to the Arab world. The students will develop listening and speaking skills through communicative exercises. They will also learn the writing system and will use it to express simple ideas and topics. Each lesson includes conversation practice and writing. Language lab required. Instructor(s): Attieh

ARAB 102 (S)  INTRODUCTION TO MODERN ARABIC LANGUAGE AND CULTURE II (5)
This is the continuation of ARAB 101. Using the direct method and an interactive approach, this course attempts to balance the four language skills seasoned with a strong cultural content. Students will be exposed to additional basic structures, a wider range of vocabulary for daily life use and cultural aspects related to the Arab world. Most of the content focuses on the self, college, home, and work environments in both the American and Arab contexts. Audio and Video media are required. For more details on the course content and approach, please check with the instructor. Instructor(s): Attieh

ARAB 201 (F)  INTERMEDIATE MODERN ARABIC LANGUAGE AND CULTURE I (4)
In this second-year Arabic class students will develop proficiency in reading and writing. They will be introduced to more complex semantic and syntactic structures. They will practice class presentations as well as writing about a variety of topics. There is also emphasis on etymology, and students will be introduced to the use of the Arabic dictionary. Language lab required. Instructor(s): Attieh

ARAB 202 (S)  INTERMEDIATE MODERN ARABIC LANGUAGE AND CULTURE II (4)
This is the fourth sequel of the Arabic language courses. In balancing the four language skills, the assignments and activities center on a variety of text types of historical, geographical, social, and literary nature as well as current topics and issues of the Arab world. Students will acquire additional forms, structures and expressions that help them communicate their thoughts and discourse at the Intermediate High level. Instructor(s): Attieh

ARAB 301 (F)  SEMINAR IN ARABIC (3)
Advanced readings and discussions focus on literary and cultural topics, ranging from classical to contemporary. This course integrates advanced grammatical constructions with comprehension and communication skills. Instructor(s): Attieh

ARAB 302 (S)  SEMINAR IN ARABIC (3)
Advanced readings and discussions focus on literary and cultural topics ranging from the classical to contemporary. This course integrates advanced grammatical constructions with comprehension and communication skills. Instructor(s): Attieh

ARAB 333  THE CULTURE OF CONTEMPORARY ARAB SOCIETIES (3)
Using a topical approach, this course attempts to make students gain insight into the rich cultural heritage and fabric of contemporary Arab societies within the context of tradition and change. The course will cover a variety of topics such as the political and economic systems, social, ethnic, language and religious groups, family and kinship, status of women and minorities, national identity and immigration. The format of the class will be a combination of lecture, class discussion, film viewing, and guest presentations. Students will be expected to do interactive reading (resulting in written work), active class participation, and some experiential projects (for example, communication with Arab/Arab Americans or related organizations in the Houston area). Course conducted in English. No knowledge of Arabic required. Not offered 2003–04.

(#) = credit hours per semester
ARAB 398 (F) INDEPENDENT STUDY (3)
ARAB 399 (S) INDEPENDENT STUDY (3)
ARAB 401 DIRECTED READING (3)
Permission of instructor required.
ARAB 402 DIRECTED READING (3)
Permission of instructor required.

ARCH (Architecture)

The School of Architecture

ARCH 101 (F) PRINCIPLES OF ARCHITECTURE I (4)
Visual studies using simple tools and materials to develop an awareness of the environment and a vocabulary to describe it. Requisite for architecture majors. Instructor(s): Grenader, Samuels

ARCH 102 (S) PRINCIPLES OF ARCHITECTURE I (4)
A development of communication of formal information from further investigation of visual structures and their order. Requisite for architecture majors. Instructor(s): Grenader, Samuels

ARCH 132 (S) FRESHMAN SEMINAR ON ARCHITECTURAL ISSUES (2)
Introductory tutorial. Readings, field trips, and seminar discussions. Exploration of the role of the architect and architecture in the metropolis. Instructor(s): Casbarian

ARCH 201 (F) PRINCIPLES OF ARCHITECTURE II (6)
Introduction to concepts of beginning architectural design. Design process as problem solving with emphasis on conscious method. Requisite for architecture majors. Instructor(s): Oliver, Williams

ARCH 202 (S) PRINCIPLES OF ARCHITECTURE II (6)
See ARCH 201. Instructor(s): Williams, Wittenberg

ARCH 207 (F) INTRO TO DESIGN OF STRUCTURES (3)
The course will introduce students to historical and contemporary structures through multi-media presentations, computer-based visualizations, field trips and hands-on experiments with materials of construction and physical models of structures. This is an introductory interactive course on the art and science of designing engineered structures and in intended for freshmen and sophomores interested in both civil engineering and architecture. Also listed as CEVE 207. Instructor(s): Wittenberg

ARCH 214 (S) DESIGN OF STRUCTURES II (3)
Application of materials & construction (wood, masonry, concrete & steel). Case studies & field trips. Instructor: Oberholzer

ARCH 301 (F) PRINCIPLES OF ARCHITECTURE III (6)
Intermediate level design problems with emphasis on building technology, programming and formal design. Requisite for paraprofessional major in architecture.

ARCH 302 (S) PRINCIPLES OF ARCHITECTURE III (6)
Variety of intermediate level problems for developing comprehensive experience in design methods and processes. Requisite for paraprofessional major in architecture. Instructor(s): Cannady (section 1); Finley (section 2); Guthrie (section 3); Parsons (section 4)

(F) = Fall; (S) = Spring
ARCH 303 (S)  SEMINAR IN SUSTAINABLE ENVIRONMENT ANALYSIS (1)
Engineering students will work with architecture students in analyzing basic design principles of sustainable design. Students analyses will be incorporated in the final design projects and culminate in a semester final report. Instructor(s): Cannady

ARCH 310 (F)  BUILDING WORKSHOP; THEATER RENOVATION (3)
In conjunction with the Rice Building Design Workshop, students enrolled in this class will design a community arts facility at the site of the Old Delux Theater. Programmatic elements will include a gallery, a renovated theater and space for local artists. We will design and produce construction documents along with overseeing the bidding process. Construction is expected to begin this fall. Not offered 2003–04.

ARCH 311 (F)  HOUSTON ARCHITECTURE (3)
This course consists of a series of illustrated lectures and walking tours that describe and analyze the architecture of Houston from the city’s founding in 1836 to the present. Characteristic building types and exceptional works of architecture are identified; tours stimulate an awareness of the historical dimension of urban sites. Instructor(s): Fox

ARCH 313 (F)  SUSTAINABLE ARCHITECTURE (3)
This course will explore sustainable design from initial sustainable facility concepts and team organizations, to enlisting community support and process assessment. The course will develop info details about sustainable design, lessons learned, processes and outcomes. Instructor(s): Taylor

ARCH 315 (S)  DESIGN OF STRUCTURES III (3)
Application of principles of analysis to construction of steel & concrete framed structures. Continuation of ARCH 213, 214. Instructor(s): Oberholzer

ARCH 316 (F)  ENVIRONMENTAL CONTROL SYSTEMS (3)
An introduction to the thermal performance of buildings. Course is divided into 2 parts: Building Climatology and Air Conditioning Systems. Instructor(s): Oberholzer

ARCH 317 (F)  LANDSCAPE AND SITE STRATEGIES FOR HOUSTON (3)
This course is a workshop in site planning, with Houston as its focus. It will allow students to gain practice assessing, cataloging, and communicating the many complex issues that go into plugging a building into a site. We will navigate the networks created by natural environments, the build and legal environments, and access. The final product of this course is a site plan. Enrollment limited to 15. Instructor(s): Albert, Whitehead

ARCH 321 (F)  ECONOMIC OF THE BUILT ENVIRONMENT (3)
In relation to the built environment, the course define basic economic terms and systems, outline conflicting economic perspectives of stakeholders, explain different investment valuation methods & provide students with an initial set of economic tools. Not offered 2003–04. Instructor(s): Barry

ARCH 322 (F)  METHODS OF MAKING (3)
The intent of the class is to saturate the design process with direct experience, to make fabrication synonymous with design. The focus is on identifying and developing an awareness of the underlying principles manifest in joining materials. Enrollment limited to 12. Instructor(s): Guthrie

ARCH 324 (F)  ARCHITECTURAL THEORY&PRACTICE (3)
Taught by the faculty in the School of Architecture. Each professor presents one project and explains how theory entered into this practical project. A short paper is required at mid-term on one of the faculty presentations. The final will consist of questions composed by each faculty participant. Not offered 2003–04.

(#) = credit hours per semester
ARCH 327 (F)  RICE BUILDING WORKSHOP I (3)
The Rice Building Workshop involves students in the design and construction of real projects at various scales. Elective courses and course sequences will be formatted to address the specific requirements of each project as required. Please consult postings for further information. Instructor: Samuels

ARCH 330 (S)  METHODS OF MAKING II (3)
Continuation of ARCH 322/622. Enrollment limited. Not offered 2003–04. Instructor(s): Guthrie

ARCH 334 (S)  BUILDING WORKSHOP II (3)
Real-life problems dealing with design and construction. Instructor(s): Grenader, Samuels

ARCH 343 (F)  CITIES AND HISTORY (3)
Cities conform to general historical trends, yet all cities are bound to particular geographic and cultural circumstances that make the history of each unique. In each lecture a single city will be examined in terms of its formal and geographical particulars and the consequence it has had on social and cultural history. The architecture of each city is a unique expression of a mixture of desire and habit, making it a complex cultural artifact with legions of authors and just as many interpreters. Not offered 2003–04.

ARCH 344 (F)  CONSTRUCTION & DESIGN (3)
A seminar in which the relationship between the construction of an object and its usefulness is explored. The premise in the course is that the way things are made can be one credible point of departure for the architectural design process. Instructor(s): Parsons

ARCH 345 (F)  ARCHITECTURE AND THE CITY I (3)
This course will trace the development of Renaissance and Baroque architecture in Italy and France with reference to the dialectic of license and rule. The first part, which covers the period from 1400-1600, will focus on the civil, domestic and ecclesiastical architecture of the chief protagonists of the Italian Renaissance: Brunelleschi, Alberti, Bramante, Giulio Romano, Michelangelo and Palladio. Their buildings and urban initiatives will be interpreted in terms of continuities & discontinuities between an emerging theoretical tradition & the demands of actual practice. Also listed as HART 205. Instructor(s): Staff

ARCH 346 (S)  ARCHITECTURE AND THE CITY II (3)
This course is an overview of modern architecture with reference to related issues in cultural modernity. The course will consider important work of the 19th and 20th century, although reference will be made to earlier material where it bears on the issues under discussion. The course begins with the claim that the architecture of modernity has historically been conceived and developed in relation to utopian ideals, and that architectural modernism cannot be adequately understood unless attention is paid to its various utopian and dystopian ‘moments’. Also listed as HART 206. Instructor(s): Wittenberg, staff

ARCH 350 (F)  URBAN IDENTITY, UTOPIA AND REFUSAL (3)
This course is intended to function as a small research seminar. Interested students will participate in exploring a related set of concerns involving the development of historical urban utopia conditioned by desires both to express social resistance and to produce new social identities. Not offered 2003–04.

ARCH 353 (F)  PHOTOGRAPHY FOR ARCHITECTS (3)
Exploration of a variety of photographic techniques for architectural research, design, and presentation. Instructor(s): White

ARCH 358 (S)  CAST MODERNITY (3)
This seminar will look at concrete’s role as a facilitator of the conceptual and theoretical agendas of the architecture of the 20th century. Just as the Domino system enabled a new architecture at the beginning of the century, the current interests in topological and nontreated form are again arguing for concrete’s unique properties. Instructor(s): Oliver

(F) = Fall; (S) = Spring
ARCH 360 (F)  CRISIS AND COMMUNICATIONS (3)
As the demands for design today shift toward social, economic and technological concerns, the group/crisis model is re-emerging in both corporate and popular and radical milieus. We will study the history of these developments, form our own collective operation and produce a publication that reflects this emerging new approach to design culture. This is both a history and research course and a hands-on course in communications design. Instructor(s): Staff

ARCH 362 (F)  THE PHILOSOPHY OF MATTER, FORCE AND EVENT (3)
A lecture course on the philosophy of Gilles Deleuze will deal with the metaphysical foundations of contemporary space and time. Readings will include Deleuze’s analyses of Spinoza, Leibniz, Nietzsche, and Bergson. Strong emphasis will be placed on reading, writing, as well as on design applications of principles from the work. Instructor(s): Staff

ARCH 363 (F)  ARCHITECTURAL REPRESENTATION: FREEHAND DRAWING WORKSHOP (3)
A semester long workshop designed to impart skills in free-hand drawing, with an emphasis on architectural subjects. The course will consist of in-class sketching exercises and out-of-class drawing assignments. Instructor(s): DeLaura

ARCH 368 (F)  TECHNOLOGY AND SOCIETY (3)
History and philosophy of technology in the 20th century with emphasis on the postwar years. This course will focus on actually doing history and philosophy of technology by developing programs (formal studies, books, documentary films) on everyday objects or innovations (nylon stockings, the running shoe, the I.Q. tests, etc.) that have had invisible but profound effect on postwar society. Instructor(s): Kwinter

ARCH 372 (F)  SILENCE/SOUND/NOISE (3)
This course will examine the sonorous dimensions and implications of architecture. While the course will provide an overview of basic principles of acoustics and architecture’s materiality in relation to sound, the primary focus will be the architectural implications of sound-dominant rather than vision-dominant modes of thought. Enrollment limited. Not offered 2003–04.

ARCH 374 (S)  THE JOY OF MATERIALS (3)
An investigation of how materials influence and inspire the making of works of architecture. Instructor(s): Jimenez

ARCH 375 (F)  CULTURAL CRITICISM IN ARCHITECTURE (3)
This seminar explores the relationship between architecture and culture. Course readings include Cornel West, bell hooks, and Bill Goode. Specifically, we will study the effects of advanced capitalism, identity politics and latent biases which form the foundation of the architecture profession. Enrollment limited. Instructor: Williams

ARCH 376 (S)  COMING TO AMERICA (3)
This seminar will explore the impact of American methods and practices on 20th century architectural theory and practice in Europe. The course will focus primarily on a critical examination of several primary texts which will include readings from Mendolsohn, A+P, Smithson, Archigram, Banham, Koolhaas, and others. Enrollment limited. Instructor(s): Krumwiede

ARCH 382 (S)  REPOSITIONING THE SEAM (TECHNOLOGY SEMINAR) (3)
This class will explore through the use of surface modeling software and CAD modeling tools how various techniques of articulating form, in relation to programmatic performance, affects the visual, formal and spatial organization of the places we inhabit. Instructor(s): Lally

ARCH 384 (S)  CONCEPTUAL ART AND ARCHITECTURE (3)
The first part of the course will examine the conceptual art practices that began in the 1960s, including Bochner, Kosuth, art and language, LeWitt, Haacke, Kelly, and Smithson. The second part of the course will focus on the question of what constitutes a conceptual architecture by interrogating a series of potential practices including: Super Studio, Archigram, Eisenman, Libeskind, Shinohara, Hejduf, Tschumi, and others. Also listed as HART 392. Instructor(s): Last

(#) = credit hours per semester
ARCH 386 (S)  ARCHITECTURE AND SOCIETY II (ENLIGHTENMENT-POSTMODERNITY) (3)
Through a series of case studies, this course will examine the socio-cultural consequences of exemplary buildings from the Enlightenment through Postmodernity. Instructor(s): Biln

ARCH 388 (F)  GRAY SPACE: INVESTIGATIONS INTO THE DOMESTIC CLOSET (3)
The closet as we know it is a late-18th century invention. Prior to this time, storage was relegated to objects-figures against the ground of an architectural space. We will investigate and utilize various techniques in diagramming to develop and synthesize our storage research. Enrollment limited to 15. Not offered 2003–04. Instructor(s): Staff

ARCH 401 (F)  PRINCIPLES OF ARCHITECTURE IV (6)
Upper level architectural design problems with an emphasis on urban issues and site planning, and complex building organization. Required for pre-professional major in architecture. Instructor(s): Jimenez

ARCH 402 (S)  PRINCIPLES OF ARCHITECTURE IV (6)
See ARCH 302. Instructor(s): Cannady (section 1); Finley (section 2); Guthrie (section 3); Parsons (section 4)

ARCH 412 (F)  ADV DESIGN-STRUCTURAL SYSTEMS (3)
Advanced course in structural design. Topics include factors controlling structural design of buildings, floor systems, building systems, facade treatments, long span structures, pneumatic and cable structures, and new structural systems and materials. Case studies will also be conducted. Not offered 2003–04. Instructor(s): Staff

ARCH 414 (F)  EXTRA-ARCHITECTURE (3)
This seminar will serve as a forum to research zones of cultural production wherein architecture is implicated but not necessarily sustained. Cinema, theater, fashion, music, media, land art, industrial design and even adaptive computation will be considered as disciplines in which one finds undeclared complicities with architecture. Not offered 2003–04. Instructor(s): Staff

ARCH 419 (F)  MAKING IT: THE CULTURE OF CONSTRUCTION (3)
In the principal part of the course, small teams of students (2-3) will be assigned to one of several projects now being built around Houston. The teams will follow the course on construction in detail during the semester, talking with the architects, the engineers, the contractors, the craftsmen of the job, attending job meetings, etc. In parallel seminar sessions, we will try to place construction in a broader context. We will view the building not so much as a singular static object, but more as a dynamic system that develops, evolves and adapts over time to a changing environment. Not offered 2003–04. Instructor(s): Staff

ARCH 423 (S)  PROFESSIONALISM & MGMT IN ARCH PRACTICE (3)
An introductory survey of the characteristics of the delivery of architectural services by professional design organizations. Through readings and lectures, students become familiar with the social, technical, legal, ethical, and financial milieu of modern architecture practice. Instructor(s): Fleishacker, Furr

ARCH 425 (S)  SHAPE AND SUBSTANCE (3)
This course will consider certain key relationships between architecture and film in the 20th century. Our focus will be on the ways that one particular ‘filmic’ genealogy—that of the ‘haunted house’—at once negotiates, defines, and unsettles popular notions architecture and its various debts and responsibilities to its social and cultural worlds. Instructor(s): Biln
ARCH 426 (F)  DESIGNING THE LOW-COST HOUSE (3)
The spring course begins the sequence to produce a small house under the auspices of the Rice Building Workshop. The history and development of the small house will be examined, followed by an analysis of the proposed mid-town site and its context. Construction technologies, materials, costs, climate conditions, and code issues will be considered. Each student will develop a design approach in some detail, and a single proposal (or merging of proposals) will be selected and documented for permitting and construction. All phases of the project will incorporate collaboration with the larger community, from neighborhood organizations to local contractors. Instructor(s): Grenader, Samuels

ARCH 429 (F)  BUILDING LOW COST HOUSE II (3)
This elective course will continue student involvement in the hands-on process of constructing a new structure for Project Row Houses, a noted grass-roots art project promoting neighborhood revitalization and community service in the Third Ward. Instructor(s): Grenader, Samuels

ARCH 432 (S)  INTRO TO COMPUTER APPL IN ARCH (3)
This course is designed as a general introduction to computing in the context of architectural design. Emphasis is on the use of digital media as design tools and the appropriate use of these tools in the varying processes of design. This course includes exposure to a broad spectrum of design, drafting, modeling and presentation software. Instructor(s): DeLaura

ARCH 433 (F)  INTRO TO COMPUTER APPLICATIONS IN ARCHITECTURE (3)
This course is designed as a general introduction to computing in the context of architectural design. Emphasis is on the use of digital media as design tools and the appropriate use of these tools in the varying processes of design. This course includes exposure to a broad spectrum of design, drafting, modeling and presentation software. Instructor(s): DeLaura

ARCH 434 (F)  DRAWING: PENCILS, COMPUTERS & THE CLASSICAL LANGUAGE (3)
This seminar investigates the relationship and potentials between traditional and electronic modes of architectural representation with an emphasis placed on the role of drawing as a primary communicator of architectural intention. Not offered 2003–04. Instructor(s): Staff

ARCH 435 (F)  COMPUTER-AIDED DESIGN IN ARCH (3)
This course is intended as a systematic introduction to Computer-Aided Design in an Architectural context. Although the course will expose the student to several CAD packages, it will primarily promote the mastery of a specific CAD software (AutoCAD). Other relevant topics will include project development, professional procedures, development of job standards, and system customization. Prerequisite(s): ARCH 433/633 or equivalent. Instructor(s): DeLaura

ARCH 436 (S)  COMPUTER AIDED DESIGN IN ARCH (3)
Advanced computer graphic techniques using CAD in architecture as a design and presentation medium. Instructor(s): DeLaura

ARCH 437 (F)  VIDEO 1, 2, 3 (3)
Production of architectural space through the use of video, scale physical models, installations, and the urban environment. Enrollment limited to 12. Instructor(s): Heiss

ARCH 438 (F)  FOUND IN THE TRANSLATION (3)
Advanced computer workshop investigating the translation of physical objects and space into and out of the digital environment. Independent research will be encouraged on new devices and methods. Enrollment limited to 5. Not offered 2003–04. Instructor(s): Staff

ARCH 439 (F)  THREE DIMENSIONAL COMPUTER GRAPHICS (3)
A workshop in three dimensional computer modeling and its theoretical implications for architecture and design. One class session each week will be a how to lecture covering the technical side of modeling. The other sessions will consist of group discussion through which we will explore the theoretical implications of the medium and test the limits of its use as architectural representation. Permission of instructor required. Instructor(s): Lally

(#) = credit hours per semester
ARCH 440 (S) ANIMATING ARCHITECTURE (3)
The goal of this class will be the production of a short animated film whose central theme will be an unbuilt work of conic architecture. Modeling and rendering skills in any 3D software package are required for this course. Although we will primarily be using 3DS MAX, general knowledge of a wide range of supporting software will be very helpful. Enrollment limited to 12. Instructor(s): Heiss

ARCH 441 (F) CONSTRUCTION DOCUMENTS (3)
This course is offered to a limited number of students to develop a complete and detailed instructional package (step-by-step construction drawings, shop drawings, didactic framing model) for the projected duplex, to be used by the construction trainees. AutoCAD skills will be very useful. These students would have the option of continue their involvement during the construction phase in the spring and summer. Not offered 2003–04. Instructor(s): Staff

ARCH 454 (F) 20TH-CENTURY NORTH AMER ARCH (3)
A seminar in history and criticism. In this course we will consider the establishment of a canon of 20th century architecture in North America (US & Canada). Each week we will take apart the various criteria that qualify buildings for history including aesthetic and stylistic quality, technological invention, architectural careerism, urban contributions, stylistic quality, technological invention, architectural careerism, urban contributions, geographic influence, typology, theory, art movements, and social implications. The goal of the course is to investigate the way texts relate to build reality. Not offered 2003–04. Instructor(s): Staff

ARCH 455 (F) HOUSING AND URBAN PROGRAMS: ISSUES IN POLICY (3)
This course will explore current issues in the formulation and implementation of housing and urban development programs in the U.S. An oral presentation and written paper on a specific topic within a general policy area required. Instructor: Lord

ARCH 461 SPECIAL PROJECTS (3)
Independent research or design arranged in consultation with a faculty member. Subject to approval of faculty advisor and director. Enrollment very limited. Instructor(s): Staff

ARCH 469 (F) CASE STUDY IN URBAN DESIGN: BRASILIA (3)
Starting with two principal documents describing the city of Brasilia, the original hand drawn competition entry in 1957 and a digital survey of 1997, this seminar will study modern urban design in relation to the 1950’s project for a new Brazilian capital. The project of Brasilia, and its inevitable transformation over time, will be looked at historically, politically, culturally, formally and esthetically. Enrollment limited to 12. Instructor(s): el-Dahdah

ARCH 470 (F) TAUTNESS AND PARTICULATES (3)
The research of underlying regulatory systems—material, theoretical, legislative—leads to the development/proposal of new system strands that attempt to redefine the built and economic environment at multiple scales of invention. Conducted in three parts, the seminar begins with a series of presentations, followed by individual research, leading to the innovative collective: particulates of the metropolis. Instructor(s): Staff

ARCH 472 (F) BYPRODUCTS (3)
Through case studies, the seminar will identify and examine the processes, financial structures, and physical components shaping the design of retail architecture and retail space today. Investigations will extend form markets, regulations, and technology to organizational strategies, proximity, counters, and transactions. This is a research-based seminar with an emphasis on communication and information design. Research gathered by individual students will be structured through drawing and writing assignments, to be presented in graphic form. The collective outcome will be the production of a document. Students will be asked to cross-reference and index the collective bodies of research in an opportunistic manner. The seminar will not attempt to be conclusive or definitive, but will be valuable in the potentials, the dilemmas, and the question it raises, and in the development of informed and productive methods of working. Not offered 2003–04. Instructor(s): Staff

(F) = Fall; (S) = Spring
ARCH 481 (F)  THE IDEA OF HOUSING (3)
In the 1920’s, the architectural idea of housing and the philosophical idea of existentialism emerged simultaneously in presumably unrelated intellectual circles. Being and Time was published in 1927, the same year the Weissenhof Settlement opened to the public in Stuttgart. One need only emphasize the fact that Martin Heidegger is precisely the same age as both Le Corbusier and Mies to suggest an exploration of the possible connections between the two seemingly disparate intellectual trends. Whether this shared history represents only a coincidence or the overlap of significant content is an open question. The first part of the seminar will examine this question. The second part will catalogue the institutionalization of these ideas through the 1950s using a series of case studies. Not offered 2003–04. Instructor(s): Staff

ARCH 483 (F)  20TH-CENTURY HISTORY OF IDEAS OF ARCHITECTURE (3)
This course will examine 20th century architectural discourse in a broad intellectual context. Course material will cover the period between 1900 and the present, focusing on 1965-1995. Special attention will be paid to relationships among philosophy, critical theory, cultural criticism, and the objects and theories of architecture. The following topics are covered: Anticipation and Reflection, Formalist Aesthetics, Architecture and Form, Culture and Modernity, Culture and Depth Analysis, Psychoanalytic Interpretation, Architecture and Desire, Culture and Politics, Marxism and Neo-Historicism, Architecture and Political Critique, Phenomology and Reception, Architecture and the Life-World, Culture after Modernism, Semiotics and Structuralism, Discourse and Discipline, Deconstruction and Textuality, Deconstruction (Re)constructed, Feminism and Gender Theory, Architecture and Difference. Instructor(s): Last

ARCH 485 (F)  ARCHITECTURE AND SOCIETY I (3)
Through a series of case studies, this course will examine the socio-cultural consequences of exemplary buildings from Antiquity through the 17th century. Instructor(s): el-Dahdah

ARCH 486 (S)  ARCHITECTURE AND SOCIETY II (ENLIGHTENMENT-POSTMODERNITY) (3)
Through a series of case studies, this course will examine the socio-cultural consequences of exemplary buildings from the Enlightenment through Postmodernity. Instructor(s): Biln

ARCH 492 (S)  PROBLEMS IN RESEARCH AND DESIGN (3)
This course will focus on the contemporary mutations emerging within the American context with emphasis on social and economic factors. Research oriented, workshop style with a view to developing materials for public display and information design. Instructor(s): Kwinter

ARCH 493  LINES OF ESCAPE FROM FUNCTIONALISM (3)
Not offered 2003–04. Instructor(s): Staff

ARCH 500  PRECEPTORSHIP PROGRAM (15)
Full time internship for nine to twelve months under guidance of appointed preceptor. Required for all recipients of Rice B.A. degrees in pre-professional program of area majors who seek admission to graduate studies in Architecture. Instructor(s): Casbarian

ARCH 501 (F)  CORE DESIGN STUDIO I (10)
Requisite for admission to graduate professional program options in architecture or urban design for students with nonarchitectural bachelor’s degree. Lectures, seminars, laboratories, and design studio projects adjusted to individual needs. Prerequisites determined by the Graduate Affairs Committee in the School of Architecture. Instructor(s): Krumwiede, Staff

ARCH 502 (S)  CORE DESIGN STUDIO II (10)
This studio emphasizes the impact of building systems and protocols on the spatial and formal organization of architecture with a final project focused on the design of a public building in a metropolitan context. The studio focuses equally on the development of conceptual rigor and technical expertise. Instructor(s): Oliver

(#) = credit hours per semester
ARCH 503 (F)  CORE DESIGN STUDIO III (10)
Design studio to follow ARCH 501, 502. Preparation for entering studios in the regular graduate programs in architecture and urban design in the following semester. Instructor(s): Finley, Wittenberg

ARCH 504 (S)  ARCHITECTURAL PROBLEMS (10)
Exploration of abstract thought and design capabilities relevant to systematic processes of designing specific buildings and facilities. Course content is topic oriented and varies to section. Instructor(s): Pope, Lally (section 1); Jimenez (section 2); Hight (section 3); Last (section 4); Brown (section 5)

ARCH 507 (F)  INTRO TO DESIGN OF STRUCTURES (3)
See ARCH 207. Instructor(s): Wittenberg

ARCH 514 (S)  DESIGN OF STRUCTURES II (3)
See Arch. 214. Course in structures for students in the Qualifying Graduate Program. Instructor(s): Oberholzer

ARCH 515 (S)  DESIGN OF STRUCTURES III (3)
A second course in structures for students in the Qualifying Graduate Program. Topics include: additional topics in the behavior, analysis, and design of structural elements; synthesis of structural elements into structural systems; integration of structural systems with other building systems. Instructor(s): Oberholzer

ARCH 516 (F)  ENVIRONMENTAL CONTROL SYSTEMS (3)
See ARCH 316. Instructor(s): Oberholzer

ARCH 532 (S)  INTRO TO DIGITAL VISUALIZATION & COMMUNICATION (3)
Provides an introduction to digital visualization and communication in the context of architectural design. Emphasis is placed on working methods that engage specific issues of the complex assemblies in architectural practice, coordinating various software and graphic techniques through composite methods. Instructor(s): Finley

ARCH 600  M. ARCH. I INTERNSHIP (3)
Practical work experience for students who have completed at least four semesters in the Option I Program prior to their entrance into the regular Master of Architecture studio sequence. Permission of instructor required. Enrollment very limited. Instructor(s): Staff

ARCH 601 (F)  ARCHITECTURAL PROBLEMS:STUDIO (10)
Emphasis on abstract thought and design capabilities relevant to systematic processes of designing specific buildings and facilities. Instructor(s): Cannady (section 1); Guthrie, Lally (section 2); Wamble (section 3); RSA Paris (section 4)

ARCH 602 (S)  ARCHITECTURAL PROBLEMS (10)
Emphasis on abstract thought and design capabilities relevant to systematic processes of designing specific buildings and facilities. Instructor(s): Pope, Lally (section 1); Jimenez (section 2); Hight (section 3); Last (section 4); Brown (section 5)

ARCH 605  ARCH PROBLEMS: STUDIO (10)
Studio conducted in a workshop format with exercises in such topical areas as program development, energy analysis and design, building system integration, and financial analysis. Course may be repeated for credit. Instructor(s): Staff

ARCH 610  HISTORY, THEORY AND STRUCTURE/ RSA PARIS PROGRAM (6)
Special seminars, lectures and site visits relevant to history, urban theory, and structure of Paris and other European centers. Instructor(s): Fitzsimons, Staff

(F) = Fall; (S) = Spring
ARCH 611 (F)  HOUSTON ARCHITECTURE (3)
See ARCH 311. Instructor(s): Fox

ARCH 612 (F)  ADV DES OF STRUC SYSTEM (3)
See ARCH 412. Not offered 2003–04. Instructor(s): Staff

ARCH 613 (F)  SUSTAINABLE ARCHITECTURE (3)
See ARCH 313. Instructor(s): Taylor

ARCH 614 (F)  EXTRA-ARCHITECTURE (3)
See ARCH 414. Not offered 2003–04. Instructor(s): Staff

ARCH 617 (F)  LANDSCAPE AND SITE STRATEGIES FOR HOUSTON (3)
See Arch. 317. Instructor(s): Albert, Whitehead

ARCH 619 (F)  MAKING IT: THE CULTURE OF CONSTRUCTION (3)
See ARCH 419. Instructor(s): Staff

ARCH 620(F&S)  ARCHITECTURAL PROBLEMS: STUDIO/RSA PARIS PROGRAM (10)
Advanced issues in building design and urban infrastructure using Paris as context. Exploration of compound design processes resulting in the development of complex building typologies. Instructor(s): Casbarian, Pope, Fitzsimons, Visitors

ARCH 621 (F)  ECONOMICS OF THE BUILT ENVIRONMENT (3)

ARCH 622 (F)  METHODS OF MAKING (3)
See ARCH 322. Instructor(s): Guthrie

ARCH 623 (S)  PROFESSIONALISM & MGMT IN ARCH PRACTICE (3)
See ARCH 423. Instructor(s): Fleishacker, Furr

ARCH 625 (F)  SHAPE AND SUBSTANCE (3)
See Arch. 425. Instructor(s): Biln

ARCH 626 (F)  DESIGNING THE LOW-COST HOUSE (3)
See ARCH 426. Instructor(s): Grenader, Samuels

ARCH 627 (F)  RICE BUILDING WORKSHOP I (3)
See ARCH 327. Instructor(s): Samuels

ARCH 629 (F)  BUILDING LOW COST HOUSE II (3)
See ARCH 429. Instructor(s): Grenader, Samuels

ARCH 632 (S)  INTRO TO COMPUTERS IN ARCHITECTURE (3)
See ARCH 432. Instructor(s): DeLaura

ARCH 633 (F)  INTRO TO COMPUTER APPLICATIONS IN ARCHITECTURE (3)
See ARCH 433. Instructor(s): DeLaura

ARCH 634 (F)  BUILDING WORKSHOP II (3)
Repeatable for credit. See ARCH 334. Instructor(s): Grenader, Samuels

ARCH 635 (F)  COMPUTER AIDED DESIGN IN ARCHITECTURE (3)
See ARCH 435. Instructor(s): DeLaura

(#) = credit hours per semester
ARCH 636 (S) COMPUTER AIDED DESIGN IN ARCH (3)
See ARCH 436. Instructor(s): DeLaura

ARCH 637 (F) VIDEO 1, 2, 3 (3)
See ARCH 437. Instructor(s): Heiss

ARCH 638 (F) FOUND IN THE TRANSLATION (3)
Graduate version of ARCH 438. Enrollment limited to 5.

ARCH 639 (F) THREE DIMENSIONAL COMPUTER GRAPHICS (3)
See ARCH 439. Instructor(s): Lally

ARCH 640 (S) ANIMATING ARCHITECTURE (3)
See Arch. 440. Instructor(s): Heiss

ARCH 641 (F) CONSTRUCTION DOCUMENTS (3)
See ARCH 441. Instructor(s): Staff

ARCH 643 (F) CITIES AND HISTORY (3)
See ARCH 343. Not offered 2003–04. Instructor(s): Staff

ARCH 644 (F) CONSTRUCTION & DESIGN (3)
See ARCH 344. Instructor(s): Parsons

ARCH 645 (F) ARCHITECTURE AND THE CITY I (3)
See ARCH 345. Instructor(s): Staff

ARCH 646 (S) ARCHITECTURE AND THE CITY II (3)
Graduate level of Arch. 346. Also listed as HART 646. Instructor(s): Wittenberg, Staff

ARCH 650 (F) URBAN IDENTITY, UTOPIA AND REFUSAL (3)
See ARCH 350. Not offered 2003–04. Instructor(s): Staff

ARCH 653 (F) PHOTOGRAPHY FOR ARCHITECTS (3)
See ARCH 353. Instructor(s): White

ARCH 654 (F) 20TH-CENTURY NORTH AMER ARCH (3)
See ARCH 454. Not offered 2003–04. Instructor(s): Staff

ARCH 655 (F) HOUSING AND URBAN PROGRAMS: ISSUES IN POLICY (3)
See Arch. 455. Instructor(s): Lord

ARCH 658 (S) CAST MODERNITY (3)
See ARCH 358. Instructor(s): Oliver

ARCH 660 (F) CRISIS AND COMMUNICATION (3)
See ARCH 360. Instructor(s): Staff

ARCH 662 (F) THE PHILOSOPHY OF MATTER, FORCE AND EVENT (3)
See ARCH 362. Instructor(s): Staff

ARCH 663 (F) ARCHITECTURAL REPRESENTATION: FREEHAND DRAWING WORKSHOP (3)
See ARCH 363. Instructor(s): DeLaura

(F) = Fall; (S) = Spring
ARCH 665 (F)  CONVERSATIONS: VISITING CRITIC SEMINAR (3)
Seminars structured around topics dealing with design theory, with special emphasis on participation by visiting critics and professors. Instructor(s): Staff

ARCH 667 (F)  GRADUATE SEMINAR: CRITICISM AND ARCHITECTURE (3)
The seminar will examine the history of critical writings on architecture from the 18th century to the present, consider the various categories used to criticize, such as aesthetics, politics, and technology, and analyze the role that architectural criticism has played in a general cultural context, keeping an eye on parallel trends in the theory of criticism in other disciplines. Instructor(s): Staff

ARCH 668 (F)  TECHNOLOGY AND SOCIETY (3)
See ARCH 368. Instructor(s): Kwinter

ARCH 669 (F)  CASE STUDY IN URBAN DESIGN: BRASILIA (3)
Graduate version of ARCH 469. Instructor(s): el-Dahdah

ARCH 670 (F)  TAUTNESS AND PARTICULATES (3)
An examination of the textual background of one of the most influential sources of modern design in the 20th century, the Bauhaus. Writings of three directors will be examined: Walter Gropius, Hannes Meyer, and Mies van der Rohe, and others. Models for an exhibition on the work of a bauhausler who emigrated to Israel in the mid 1930s and applied the political, technical, and formal lessons of his school in the production of several hundred projects. Instructor(s): Staff

ARCH 671  ISSUES IN COMPUTER AIDED DESIGN (3)
The class will produce an interactive creative multimedia CD-ROM project about the City of Houston: an investigative multi-dimensional map of the city and its population. We will explore various issues such as content creation and its presentation, interface design, and ease of use. Students will conceive the structure, do the investigative research with the city, write, direct, and edit content (text, images, video, computer graphics, etc. Instructor(s): Staff

ARCH 674 (S)  THE JOY OF MATERIALS (3)
See ARCH 374. Instructor(s): Jimenez

ARCH 675 (F)  CULTURAL CRITICISM IN ARCHITECTURE (3)
See ARCH 375. Enrollment limited. Instructor(s): Williams

ARCH 676 (S)  COMING TO AMERICA (3)
Graduate level of ARCH 376. Instructor(s): Krumwiede

ARCH 681 (F)  THE IDEA OF HOUSING (3)
See ARCH 481. Not offered 2003–04. Instructor(s): Staff

ARCH 682 (S)  REPOSITIONING THE SEAM (TECHNOLOGY SEMINAR)
See ARCH 382. Instructor(s): Lally

ARCH 683 (F)  20TH-CENTURY HISTORY OF IDEAS OF ARCHITECTURE (3)
See ARCH 483. Instructor(s): Last

ARCH 684 (F)  CONCEPTUAL ART AND ARCHITECTURE (3)
See ARCH 384. Instructor(s): Last

ARCH 685 (F)  ARCHITECTURE AND SOCIETY I (3)
Graduate level of Arch. 485. Instructor(s): el-Dahdah

ARCH 686 (S)  ARCHITECTURE AND SOCIETY II (ENLIGHTENMENT-POSTMODERNITY) (3)
Graduate level of Arch. 486. Cross-listed with HART 506. Instructor(s): Biln

(#) = credit hours per semester
ARCH 688 (F)  GRAY SPACE: INVESTIGATIONS INTO THE DOMESTIC CLOSET (3)
See ARCH 388. Not offered 2003–04. Instructor(s): Staff

ARCH 692 (S)  PROBLEMS IN RESEARCH AND DESIGN (3)
Graduate level of Arch. 492. Instructor(s): Kwinter

ARCH 693(F&S) LINES OF ESCAPE FROM FUNCTIONALISM (3)
Not offered 2003–04. Instructor(s): Staff

ARCH 700(F&S) PRACTICUM (3)
Full-time internship service in approved local offices under interdisciplinary supervision. Emphasis on real world design, planning, or research experiences. Special tuition. May be taken in any semester or in summer. Instructor(s): Staff

ARCH 702 (S)  PRE-THESIS PREPARATION (3)
Instructor(s): Staff

ARCH 703 (F)  DESIGN THESIS STUDIO (13)
Instructor(s): Brown, Staff

ARCH 706 (F)  WRITTEN THESIS (13)
Instructor(s): Staff

ARCH 711 (SECTION 1) SPECIAL PROJECTS (3)
Independent research or design arranged in consultation with a faculty member subject to approval of the student’s faculty advisor and director. Instructor(s): Staff

ARCH 711 (SECTION 2) SPECIAL PROJECTS (3)
Independent research or design arranged in consultation with a faculty member subject to approval of the student’s faculty advisor and director. Instructor(s): Staff

ARCH 714  INDEPENDENT DESIGN PROJECTS (3)
Instructor(s): Staff

ARCH 800  GRADUATE RESEARCH (3-12)
Instructor(s): Staff

ARTS (Studio Art, Film, and Photography)

The School of Humanities / Department of Visual Arts

ARTS 102 (F)  CREATIVE 3-D DESIGN (3)
Study of the elements and principles of design. Three-dimensional problems are introduced. ARCH 102 accepted as equivalent. Also listed as ARCH 102. Instructor(s): Smith

ARTS 205 (F)  PHOTOGRAPHY I (3)
Exploration of the basic materials and processes of the photographic medium. Includes viewing, analysis, and discussion of the medium’s history and current trends. Instructor(s): Winningham, Hester

ARTS 206 (S)  PHOTOGRAPHY II (3)
Continuation of ARTS 205. Exploration of the basic materials and processes of the photographic medium. Includes viewing, analysis, and discussion of the medium’s history and current trends. Instructor(s): Winningham, Paul Hester

(F) = Fall; (S) = Spring
ARTS 216  35MM PHOTOGRAPHY (3)
Introduction to 35mm photography. Prerequisite(s): permission of the instructor. Instructor(s): Winningham

ARTS 225  DRAWING I (3)
This course introduces the student to techniques and materials, processes of drawing, and the use of drawing to explore the visual language of line, tone, composition, and linear and atmospheric perspective. Emphasis on learning to articulate form in space through observational studies using both wet and dry media. Instructor(s): Keeton, Poulos, Sparagana

ARTS 291  SPECIAL PROB: 3-D DESIGN (3)
Special Problems in Design: Creative 3-D. Study of problems at the introductory level in creative art. May be used in awarding transfer credit. Instructor(s): Smith

ARTS 292 (F)  SPECIAL PROB: DRAWING (3)
Special Problems in Drawing. Study of problems at the introductory level in creative art. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Instructor(s): Keeton, Poulos, Sparagana

ARTS 293 (S)  SPECIAL PROB: DRAWING (3)
Special Problems in Drawing. Study or problems at the introductory level in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 294  SPECIAL PROB: STUDIO ART (3)
Special Problems in Studio Art. Study of problems at the introductory level in creative art. May be used in awarding transfer credit.

ARTS 295  SPECIAL PROB: PHOTO (3)
Special Problems in Photography. Study of problems at the introductory level in creative art. May be used in awarding transfer credit.

ARTS 296  SPECIAL PROB: FILM & VIDEOTAPE (3)
Special Problems in Film & Videotape Making. Study of problems at the introductory level in creative art. May be used in awarding transfer credit.

ARTS 301  PAINTING I (3)
Study of problems in painting, both traditional and experimental, in various opaque media. Instructor(s): Keeton, Poulos, Sparagana

ARTS 303 (S)  INTERMEDIATE PAINTING (3)
Continuation of studies of problems in painting, both traditional and experimental, in various opaque media. Instructor(s): Keeton, Poulos, Sparagana

ARTS 305 (F)  PHOTOGRAPHY III (3)
Study of advanced problems in photography, with emphasis on independent pursuit of projects submitted by the students. Prerequisite(s): permission of instructor. Instructor(s): Winningham

ARTS 306 (S)  PHOTOGRAPHY IV (3)
Study of advanced problems in photography, with emphasis on the independent pursuit of projects submitted by the students. Continuation of ARTS 305. Prerequisite(s): permission of the instructor. Instructor(s): Winningham

ARTS 310 (S)  COLLABORATIVE PRINTMAKING (3)
This course is designed to interactively educate the student about the collaborative print process beyond artistic dialog, allowing each student to work as artist-printmaker, economist, and business planner. The course will examine the process of taking artwork from the beginning concept to the finished product to the marketplace-all the while staying within a budget. Enrollment limited to 10. Instructor(s): Broker

(#) = credit hours per semester
ARTS 311  INTAGLIO I (3)
Instruction in black and white etching and photo etching. Instructor(s): Broker

ARTS 312  RELIEF I (3)
Instruction in black-and-white linoleum prints. Includes advanced color methods. Prerequisite(s): ARTS 225 and permission of the instructor. Instructor(s): Broker

ARTS 313  LITHOGRAPHY I (3)
Introduction in stone lithography in black-and-white and color. Instructor(s): Broker

ARTS 320  MONOTYPE I (3)
Introduction to Monotype. Includes black-and-white and color Monotype printing. Instructor(s): Broker

ARTS 325  LIFE DRAWING (3)
Instruction in drawing from the model in various media. Instructor(s): Keeton, Poulos, Sparagana

ARTS 327 (F)  DOCUMENTARY PRODUCTION (3)
Study of the expressive possibilities of documentary production using digital systems. Instructor(s): Huberman

ARTS 328  FILMMAKING I (3)
Continuation of ARTS 327. Includes the completion of one major film project by the class using 16mm film and synchronous sound equipment. Instructor(s): Huberman

ARTS 329 (S)  FILM FORUM (3)
Viewing, analysis, and discussion of modern and classic films. Prerequisite(s): permission of the instructor. Instructor(s): Huberman

ARTS 337  COLOR DRAWING (3)
Introduction to color using still lifes and employing various media (pastel and watercolor). Instructor(s): Keeton, Poulos, Sparagana

ARTS 345 (F)  COLOR PHOTOGRAPHY I (3)
Study in the fundamental techniques of color photography. Includes special problems in color camera work, color negative and transparency processing, and color printing. Prerequisite(s): ARTS 205, ARTS 206, and permission of the instructor. Continuation of ARTS 345. Instructor(s): Winningham

ARTS 346 (S)  COLOR PHOTOGRAPHY II (3)
Study in the fundamental techniques of color photography. Includes special problems in color camera work, color negative and transparency processing, and color printing. Continuation of ARTS 345. Instructor(s): Winningham

ARTS 349  PRINTMAKING I (3)
Study of the problems and techniques in printmaking at the beginning level. Both traditional and experimental forms of printmaking will be examined. Instructor(s): Broker

ARTS 350  SPECIAL PROB: PRINTMAKING (3)
Special Problems in Printmaking. Study at the introductory level of the problems in the creative art of printmaking. May be used in awarding transfer credit.

ARTS 365 (F)  SCULPTURE I (3)
Exploration of sculpture in wood, metal, and other sculptural media. Instructor(s): Smith

ARTS 366 (S)  SCULPTURE STUDIO (3)
Exploration of sculpture in wood, metal, and other sculptural media. Continuation of ARTS 365. Instructor(s): Smith

(F) = Fall; (S) = Spring
ARTS 381 (F) DIGITAL IMAGING I (3)
This course is designed as an introduction to electronic media as a tool for artistic production. Students will learn the foundations of Adobe Photoshop as it relates to production of image making and new media applications. This course will address, among other things, constructing images, color correction and duo tones, using layers, Bezier curves, use of text, and issues of input/output. Instructor(s): Thomas

ARTS 382 (S) DIGITAL IMAGING II (3)
A continuation of ARTS 381, this course will introduce electronic media as a tool for artistic production. Students will learn more advanced uses of Adobe Photoshop as it relates to production of image making and new media applications. Instructor(s): Thomas

ARTS 390 INVESTIGATING DRAWING (3)
Investigating Drawing: Theory & Practice. Examination of the basic principles of drawing and representation, with emphasis on studio practice, art history, and theory. Includes categories of representation (e.g., still life, landscape, and figure) and the process of making drawings, as well as related readings, group discussions, and writing assignments. May substitute ARTS 390 for ARTS 225 as a studio prerequisite. Prerequisite(s): permission of the instructor. Corequisite HART 390.

ARTS 391 SPECIAL PROB: DRAWING (3)
Special Problems in Drawing. Study of problems in creative art. May be used in awarding transfer credit.

ARTS 392 SPECIAL PROB: LIFE DRAWING (3)
Special Problems in Life Drawing. Study of problems in creative art. May be used in awarding transfer credit.

ARTS 393 SPECIAL PROB: PAINTING (3)
Special Problems in Painting. Study of problems in creative art. May be used in awarding transfer credit.

ARTS 394 SPECIAL PROB: PRINTMAKING (3)
Special Problems in Printmaking. Study of problems in creative art. May be used in awarding transfer credit.

ARTS 395 SPECIAL PROB: PHOTO (3)
Special Problems in Photography. Study of problem in creative art. May be used in awarding transfer credit.

ARTS 396 SPECIAL PROB: FILM & VIDEO (3)
Study of problems in creative art. May be used in awarding transfer credit.

ARTS 397 SPECIAL PROB: SCULPTURE (3)
Special Problems in Sculpture. Study of problems in creative art. May be used in awarding transfer credit.

ARTS 411 INTAGLIO II (3)
Black-and-white etching and photoetching at the advanced level. Instructor(s): Broker

ARTS 412 RELIEF II (3)
Instruction in black-and-white linoleum prints at the advanced level. Includes advanced color methods. Instructor(s): Broker

ARTS 413 LITHOGRAPHY II (3)
Instruction at the advanced level in stone and plate lithography in black-and-white and color. Instructor(s): Broker

(#) = credit hours per semester
ARTS 420  MONOTYPE II (3)
Advanced monotype processes: emphasis on color and drawing techniques. Prerequisite(s): ARTS 225, 320, and permission of the instructor. Instructor(s): Broker

ARTS 423  SPECIAL PROB: PAINTING (3)
Special Problems in Painting. Study of problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 425  ADVANCED DRAWING (3)
An advanced level course for experiencing the art of drawing by working in an expansive format. By using, but not limited to, traditional materials, students will be encouraged to explore the language of drawing in contemporary art making. Emphasis will be on individual project development and staying with ideas to observe, investigate, and document evolutions in the work. Instructor(s): Keeton, Poulos, Sparagana

ARTS 426 (F)  STUDIO SUBJECTS (3)
Studio Subjects: Life/Self-Portraiture. A studio class with in-depth exploration of still life and self-portraiture painting problems. The students will be expected to develop a body of work using water-based mediums, collage, and different surfaces. There will be discussions/critiques of the students’ work using historical concepts of past masters of both studio subjects. Instructor(s): Poulos

ARTS 427 (F)  FILM & VIDEO II (3)
Film & Videotape Making II. Completion of one major film project by each student, using either video or 16 mm film. Instructor(s): Huberman

ARTS 428 (S)  FILMMAKING II (3)
Completion of one major film project by each student, using either video or 16mm film. Instructor(s): Huberman

ARTS 432  FILM GENRE: THE WESTERN (3)
Survey of the essential American film experience spanning all the years of U.S. cinema, with emphasis on the western and its mythic function in society. Instructor(s): Huberman

ARTS 443  SPECIAL PROB: DESIGN (3)
Special Problems in Design. Study of advanced problems in creative art. May be used in awarding credit. Instructor(s): Smith

ARTS 445 (F)  SPECIAL PROB: DRAWING (1)
Special Problems in Drawing. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 446 (S)  SPECIAL PROB: DRAWING (1)
Special Problems in Drawing. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 447 (F)  SPECIAL PROB: LIFE DRAWING (3)
Special Problems in Life Drawing. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 448 (S)  SPECIAL PROB: LIFE DRAWING (3)
Special Problems in Life Drawing. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 449  PRINTMAKING STUDIO (3)
Exploration of etching, lithography, photogravure, and monoprinting. Prerequisite(s): ARTS 225 and permission of the instructor. Instructor(s): Broker

(F) = Fall; (S) = Spring
ARTS 450  SPECIAL PROB: PRINTMAKING (3)
Special Problems in Printmaking. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Broker

ARTS 451 (F)  SPECIAL PROB: PAINTING (3)
Special Problems in Painting. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 452 (S)  SPECIAL PROB: PAINTING (3)
Special Problems in Painting. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Keeton, Poulos, Sparagana

ARTS 453 (F)  SPECIAL PROB: PHOTOGRAPHY (3)
Special Problems in Photography. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Winningham

ARTS 454 (S)  SPECIAL PROB: PHOTOGRAPHY (3)
Special Problems in Photography. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Winningham

ARTS 455  SPECIAL PROB: FILM & VIDEO (3)
Special Problems in Film and Videotape Making. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Huberman

ARTS 456  SPECIAL PROB: FILMMAKING (3)
Special Problems in Filmmaking. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Huberman

ARTS 457 (F)  SPECIAL PROB: SCULPTURE (0-1-1)
Special Problems in Sculpture. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Smith

ARTS 458 (S)  SPECIAL PROB: SCULPTURE (3)
Special Problems in Sculpture. Study of advanced problems in creative art. May be used in awarding transfer credit. Instructor(s): Smith

ARTS 465 (F)  SCULPTURE I (3)
Study of advanced problems in various sculptural media. Instructor(s): Smith

ARTS 466 (S)  SCULPTURE STUDIO (3)
Study of advanced problems in various sculptural media. Instructor(s): Smith

ARTS 475  ADVANCED PAINTING (3)
Study of advanced problems in painting, with emphasis on independent development and participation in class critiques. Instructor(s): Keeton, Poulos, Sparagana

ARTS 494  SPECIAL PROB: PRINTMAKING (3)
Special Problems in Printmaking. Study at the advanced level of the problems in the creative art of printmaking. May be used in awarding transfer credit. Prerequisite(s): ARTS 225 and permission of instructor. Instructor(s): Broker

ARTS 501  STUDIO I: PAINTING (3)
Individual work in painting under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Keeton, Poulos, Sparagana

ARTS 503  STUDIO I: SCULPTURE (3)
Individual work in sculpture under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Smith

(#) = credit hours per semester
ARTS 505  STUDIO I: DRAWING (3)
Individual work in drawing under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Keeton, Poulos, Sparagana

ARTS 507  STUDIO I: LIFE DRAWING (3)
Individual work in life drawing under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Keeton, Poulos, Sparagana

ARTS 509  STUDIO I: DESIGN (3)
Individual work in design under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Smith

ARTS 511  STUDIO I: PRINTMAKING (3)
Individual work in printmaking under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Broker

ARTS 513  STUDIO I: PHOTOGRAPHY (3)
Individual work in photography under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Winningham

ARTS 515  STUDIO I: FILMMAKING (3)
Individual work in filmmaking under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Huberman

ARTS 520  STUDIO II: PAINTING (6)
Individual work in painting under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Keeton, Poulos, Sparagana

ARTS 522  STUDIO II: SCULPTURE (6)
Individual work in sculpture under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Smith

ARTS 524  STUDIO II: DRAWING (6)
Individual work in drawing under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Keeton, Poulos, Sparagana

ARTS 526  STUDIO II: LIFE DRAWING (6)
Individual work in life drawing under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Keeton, Poulos, Sparagana

ARTS 530  STUDIO II: PRINTMAKING (6)
Individual work in printmaking under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Broker

ARTS 532  STUDIO II: PHOTOGRAPHY (6)
Individual work in photography under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Winningham

ARTS 534  STUDIO II: FILMMAKING (6)
Individual work in filmmaking under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Huberman

ARTS 546  STUDIO III: PHOTOGRAPHY (9)
Individual work in photography under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Winningham

ARTS 548  STUDIO III: FILMMAKING (9)
Individual work in filmmaking under the direction of one or more faculty members. This class is for B.F.A. candidates only. Instructor(s): Huberman

(F) = Fall; (S) = Spring
ASIA (Asian Studies)

The School of Humanities / Asian Studies Program

ASIA 139 (F)  INTRO INDIAN RELIGIONS (3)
This course will survey the four major religions which originated in India, namely Hinduism, Buddhism, Jainism, and Sikhism. Emphasis will be placed on the study of the scriptures of these religions. Also listed as RELI 139. Not offered 2003–04. Instructor(s): Gray

ASIA 140 (S)  INTRO CHINESE RELIGIONS (3)
This course will survey the major Chinese religious traditions of Confucianism, Daoism and Buddhism. Readings will include both philosophical texts, historical and anthropological studies, as well as popular literature. (Cross-listed with RELI 140.) Not offered 2003–04. Instructor(s): Gray

ASIA 170 (F)  THE ARTS OF CHINA (3)
Introduction to history of the visual arts in China in the Bronze Age to the present. We will pay special attention to the artworks’ physical and social contexts (e.g., tomb, temple, court, literati’s garden and studio, city, nation-state). Topics include: funerary art and the imagination of the afterlife, art and imperial cosmology, the rise of literati aesthetics, relationship between landscape painting and calligraphy, and the emergence of propaganda and avant-garde in Modern China. Also listed as HART 170. Instructor(s): Nakatani

ASIA 211 (F)  INTRO TO ASIAN CIVILIZATIONS (3)
Introduction to the great cultural traditions of Asia, past and present, with emphasis on evolving religious and philosophical traditions, artistic and literary achievements, and patterns of political, social, and economic change. Also listed as HIST 206. Instructor(s): Klein, Shehabuddin, Thal

ASIA 221 (F)  LIFE OF THE PROPHET MUHAMMAD
This course will examine the life of the Prophet Muhammad, focusing on its significance for Muslims and for non-Muslims. Readings in the Qur’an, Ibn Hisham, and Haykal. Also listed as RELI 221. Not offered 2003–04. Instructor(s): Cook

ASIA 231 (F)  THE ENLIGHTENMENT OF THE BODY (3)
Beginning with a historical survey of the American metaphysical tradition, this course turns to a close study of the Esalen Institute in Big Sur, California, as a unique window into some of the different ways the tradition has appropriated Asian religions, psychological models of the unconscious, and contemporary scientific paradigms. Also listed as RELI 231. Instructor(s): Kripal

ASIA 232 (S)  RELIGIONS FROM INDIA (3)
This course will survey the four major religions which originate in India, namely Hinduism, Buddhism, Jainism and Sikhism. Emphasis will be placed on the study of scriptures of these traditions and their continuing global relevance, particularly in American history and culture. Also listed as RELI 232/500. Not offered 2003–04. Instructor(s): Kripal

ASIA 240 (S)  GENDER & POLITICIZED RELIGION (3)
This course examines the emergence of religion-based politics in various Asian countries—particularly Hindu and Muslim—focusing on the women participants in these movements as well as the movements’ concern with gender roles in society. We will investigate, for instance, the extent to which women participants have been willing or able to reshape the central ideas of such movements. Also listed as WGST 240. Instructor(s): Shehabuddin

ASIA 250 (F)  MEDITATION, MYSTICISM, AND MAGIC (3)
The course moves between Buddhist religious and Western psychological literature, analyzing these as models of human development, as guides to a meditative life or critiques of it, and above all as expressions of deeply rooted cultural proclivities. Reading Freud, Khakar, Milarepa, Norbu, Obeyesekere, Sutric and Tantric literature, Taylor and Wangyal. Also listed as RELI 250. Not offered 2003–04. Instructor(s): Klein, Parsons

(#) = credit hours per semester
ASIA 280 (F)  THE ASIAN AMERICAN EXPERIENCE (3)
This course will investigate the diverse cultural traditions and shared experiences of Asian Americans in the United States, with an emphasis on people of Chinese, Filipino, Japanese, Korean, Southeast Asian, and South Asian ancestry. We shall explore the history of Asian immigration into the United States, as well as contemporary issues such as ethnic identity, racism, model minority stereotyping, interracial conflict, family structure, gender roles and relationships, and generational differences. We will analyze and discuss historical, social and literary texts, as well as documentary and feature films. Students are expected to gain from this course an appreciation of the cultural complexity of the Asian American community as well as a sense of its common interests and shared experiences. Not offered 2003–04. *Instructor(s): Yeh*

ASIA 323 (F)  THE KNOWING BODY (3)
Western thought tends to regard mind and body dualistically, a view with significant impact on religious, cultural, gender, and social processes. This course juxtaposes received Western assumptions (especially Tibetan Buddhist), mapping Western and Buddhist categories onto each other to better understand the implications of each. Also listed as RELI 323/577, WGST 323, and SOCI 323. Not offered 2003–04. *Instructor(s): Klein, Long*

ASIA 330 (S)  INTRO TRAD CHINESE POETRY (3)
The most elite literary form in classical Chinese literature, traditional poetry also enjoys large readership among common folks. This seeming contradiction emerges from its terse, single-syllabic language and rich, perceptible imagery that offer easy access to highly condensed messages. This course seeks to decode enchanting features of traditional Chinese poetry through examining the transformation of poetic genres, the interaction between poetic creation and political, social, and cultural changes, and the close association of poetry with art. Thus, this course also serves to understand Chinese culture and history through poetic perspectives. All readings in English translation. No previous knowledge of Chinese literature or language required. Also listed as CHIN 330. *Instructor(s): Qian*

ASIA 332  CHINESE FLM & MODERN CHINESE LIT (3)
Designed to approach modern Chinese literature through visual images (Chinese films, subtitled in English), this course analyzes movie adaptations in comparison with their original texts. The approach is intended to examine how and why different time periods and different media affect the theme of a story. Discussion focuses on literary and cultural history, with attention given to narratology and movie theories as well. Topics include: China’s modernity and the formation and cinematic visualization of modern Chinese literature; self, state, and nation; sex, gender, and power; etc. All readings in English translation. Also listed as CHIN 332. *Instructor(s): Qian*

ASIA 335 (F)  INTRO CLASCL CHINESE NOVELS (3)
Examination of the basic characteristics of classical Chinese novels, primarily through six important works from the 16th to 18th centuries: Water Margin, Monkey, Golden Lotus, Scholars, Romance of the Three Kingdoms, and Dream of the Red Chamber. Also listed as CHIN 335. *Instructor(s): Qian*

ASIA 340 (F)  GENDER & POLITICIZED RELIGION (ENRICHED VERSION) (3)
This course examine the emergence of religion-based politics in various Asian countries-particularly Hindu and Muslim-focusing on the women participants in these movements as well as the movements’ concern with gender roles in society. We will investigate, for instance, the extent to which women participants have been willing or able to reshape the central ideas of such movements. Also listed as WGST 340. *Instructor(s): Shehabuddin*

ASIA 344 (F)  KOREAN LITERATURE AND CULTURE (3)
Exploration of selections from modern Korean literature and watching Korean films. Includes background survey of Korean history, philosophy and religion. All texts and films in English translation. No previous knowledge of Korean required. Also listed as KORE 344 and HUMA 344. Not offered 2003–04. *Instructor(s): Lee*
ASIA 345 (F) LINGUISTIC STRUCTURE OF KOREAN (3)
This course focuses on the origin of Korean and related languages. It explores the way the Korean language evolved and interacted with other East Asian languages, including Chinese and Japanese. The socio-linguistic aspect of these languages will be studied, including the difference in male and female language usage and the honorific systems. Also listed as KORE 345 and LING 345. Not offered 2003–04. Instructor(s): Lee

ASIA 346 (F) KOREAN CULTURE AND HISTORY (3)
This course will introduce students to the important elements of Korean history and culture through a reading of modern Korean literature. The class will concentrate on the period from the early 20th century to the present. Special attention will be given to topics such as Korean religion, family life, and literature. Films will be used in conjunction with lectures and class discussions to provide students with a better understanding of the basic elements of Korean society. Also listed as KORE 346. All readings in English translation. Instructor(s): Lee

ASIA 354 (S) ASIAN APOCALYPTIC MOVEMENTS (3)
This course will focus upon the rich and neglected apocalyptic and millenarian tradition of Asia, discussing Hinduism, Buddhism, Zoroasterianism, Manichaeism and Eastern Christianity as each of these faiths interact with and react to each other. Readings will be from scriptures and translations covering approximately the period between the first and 19th centuries. Also listed as RELI 354. Not offered 2003–04. Instructor(s): Cook, Gray

ASIA 360 (F) CHINA AND THE CHINESE DIASPORA (3)
Exploration of the political, economic, and social forces changing the lives of nearly a quarter of humanity, the 1.4 billion people of Mainland China, Taiwan, Hong Kong, Singapore and the diasporic Chinese communities of East and Southeast Asia. Topics include political and economic liberalization, nationalism and urban identity, privatization and consumerism, environmentalism and public goods, and the globalization of communication technologies and Chinese cultural media. Instructor(s): Lewis

ASIA 361 THE ORIENTAL RENAISSANCE (3)
This course will explore the European and American encounters with India from 17th-century France to 20th-century America. Particular attention will be given to the translation of Sanskrit texts, the English and German Romantic traditions, the depth psychology of C.G. Jung, and the American New Age. Also listed as RELI 361/501. Instructor(s): Kripal

ASIA 363 (F) MARRIAGE OF HEAVEN AND HELL (3)
This history of mysticism is marked by symbolic systems and ritual practices suffused with erotic and ethical paradoxes. This course examines such themes in a wide variety of historical contexts, from Plato’s dialogues and Blake’s poetry to Christian mysticism, Hindu, and Buddhist Tantric traditions, and the modern study of religion. Also listed as RELI 363. Not offered 2003–04. Instructor(s): Kripal

ASIA 365 (F) CHINESE MYSTICISM AND MEDITATION
This course will investigate the major mystical and meditative traditions in Taoism, Buddhism and Neo-Confucianism. Focus will be placed upon the inner and outer traditions of Taoist alchemy, Buddhist meditation traditions (primarily Chan/Zen and Pure Land techniques), and the influence of these traditions upon Chinese intellectual discourse and the creative arts. Also listed as RELI 365. Not offered 2003–04.

ASIA 366 TOPICS IN AMERICAN LITERATURE—THE ASIAN AMERICAN NOVEL
This course surveys the thematics and historical contexts of Asian American literary traditions. We read of range of texts, from the late 19th century to the present, emphasizing the novel but also including some short fiction. We start in Gold Rush California, move to early Chinese America, then to mid-century Chinatown, and World War II and Japanese internment. The largest part of the course deals in Civil Rights inspired literatures, and this backdrop also informs the course’s concluding look on recent texts that work from new and different political and literary paradigms. Also listed as ENGL 366. Instructor(s): Comer

(##) = credit hours per semester
ASIA 369 (F)  FILM, LIT & JAPANESE PAST (3)
Every day, we retell our past to find meaning in our present. Authors and film directors in Japan have shaped national identities, created moral ideas, made sense of the horrors of war, and articulated new visions of the future—all through artistic reinterpretations of historical themes. In this class, we will examine both these allusions to the past and the uses to which they have been put in Japanese film and literature over the years. Also listed as HIST 369. Instructor(s): Thal

ASIA 380 (F)  THE ASIAN AMERICAN EXPERIENCE (3)
This course will investigate the diverse cultural traditions and shared experiences of Asian Americans in the United States, with an emphasis on people of Chinese, Filipino, Japanese, Korean, Southeast Asian, and South Asian ancestry. We shall explore the history of Asian immigration into the United States, as well as contemporary issues such as ethnic identity, racism, model minority stereotyping, interracial conflict, family structure, gender roles and relationships, and generational differences. We will analyze and discuss historical, social and literary texts, as well as documentary and feature films. Students are expected to gain from this course an appreciation of the cultural complexity of the Asian American community. Not offered 2003–04. Instructor(s): Yeh

ASIA 399 (F)  WOMEN IN CHINESE LITERATURE (3)
This course examines women’s roles in Chinese literature as writers, readers, and characters, focusing particularly on the tension between women’s lived bodily experiences and the cultural experiences inscribed on the female body and how, in the process, women have contrarily gendered patriarchal culture into their own. It will also touch on Chinese women’s incorporation of the Western Tradition. Also listed as WGST 399. Instructor(s): Qian

ASIA 401 (F)  INDEPENDENT STUDY (3)
Reading or research project to be determined by discussions between student (S) and faculty member (S).

ASIA 402 (F)  INDEPENDENT STUDY (3)
Reading or research project to be determined by discussions between student (S) and faculty member (S).

ASIA 432 (S)  ISLAM IN SOUTH ASIA (3)
Seminar on Islamic history, politics, and culture in the South Asian subcontinent. Topics will include emergence of Indian Muslim society; Muslim responses to colonialism and the movement for Pakistan; and the role of Islam in politics in contemporary India, Pakistan, and Bangladesh. Requires no prior knowledge of Islam or South Asia. Also listed as HIST 432 and WGST 432. Not offered 2003–04. Instructor(s): Shehabuddin

ASIA 441 (F)  POPULAR RELIGION IN THE MIDDLE EAST (3)
This course will examine the popular religion in the Middle East from Late Antiquity until the 19th century, focusing on healing practices, astrology, protection, amulets, seasoned/life-cycle rituals, and other popular beliefs common to Islam, Judaism and Christianity. Also listed as RELI 441. Not offered 2003–04. Instructor(s): Cook

ASIA 470 (S)  VISUAL CULT IN REV & POSTREV CHINA
Exploration of the deployment of socialist, critical, and avant-garde art in modern Chinese visual culture. The course will cover a wide range of materials from painting and installation art to propaganda posters and film. Issues addressed will include: the notion of the avant-garde (social and aesthetic), the structure of authoritarian art, art as a social movement, and the paradox of counter-discourse. The course will maintain a global and comparative frame of analysis, drawing on scholarship on Soviet and Nazi Germany visual cultures. Also listed as HART 470. Instructor(s): Nakatani

(F) = Fall; (S) = Spring
ASIA 472 (F)  JAPANESE ANIMATION (3)
Japanese Animation: Narrative, History & Society. Since the 1980s, animation has become a major force in Japanese popular culture, serving as a medium to address the diverse concerns of a high-tech media-focused society. This seminar explores the social, historical, and aesthetic significance of Japanese animation. Topics include gender and sexuality, ecological consciousness and religious animation, folklore and history, viewership and fandom, the centrality of the fantastic and the grotesque, visions of a media- and technology-saturated society, and the prevalence of apocalyptic motifs and conspiracy theory. Also listed as HIST 472 and HART 472. Instructor(s): Nakatani, Thal

ASIA 473  TOPICS IN ASIAN AMERICAN LIT (3)
Topics will vary from year to year. Also listed as ENGL 473. Not offered 2003–04.

ASIA 489 (F)  MIGRATIONS & DIASPORAS (3)
The Indian Ocean presents an enormously varied arena of cultural exchange and interaction spanning coastal regions of Africa, the Middle East, South and Southeast Asia and Australia. This seminar introduces students to this fascinating region by examining societies and empires shaped by voyages of exploration, religious pilgrimages, trading diasporas and forced migration. Also listed as HIST 489. Not offered 2003–04. Instructor(s): Ward

ASTR (Astronomy)

The Wiess School of Natural Sciences / Department of Physics and Astronomy

ASTR 100 (F)  EXPLORING THE COSMOS (1)
Introduction to concepts and methods used in astronomy and astrophysics, with a theme of Astrobiology—Life in the Universe. Will include student presentations and webpage development. For first-year students intending to major in science or engineering. Corequisite: PHYS 102 or PHYS 112. Instructor(s): Dufour

ASTR 201  STARS, GALAXIES, AND THE UNIVERSE (3)
An introductory course for students in academic programs. The formation, evolution, and death of stars; the composition and evolution of galaxies; the structure and evolution of the universe. Instructor(s): Oberlack

ASTR 202  EXPLORATION OF THE SOLAR SYSTEM (3)
An introductory course for students in academic programs, surveying the sun, planetary motions, interplanetary fields and plasmas, the planets, their satellites and rings, and comets. The purposes and methods of manned and unmanned solar system exploration are also discussed. Instructor(s): Reiff, Oberlack

ASTR 205  FROM SPACE AND TIME TO SPACE-TIME (3)
Introduces nonscience students to major transformation in our views of space and time precipitated by Einstein’s special theory of relativity (SR). We will build a space-time framework and then use it to introduce the essential results of SR. We will also discuss the historical circumstances and philosophical and cultural implications surrounding the invention of SR. Not offered 2003–04.

ASTR 221 (F)  OBSERVING THE NIGHT SKY (1)
Use of small telescopes and binoculars to study constellations, bright stars, planets and the sun at the campus observatory and at dark-sky sites. Modern analog and digital techniques will be used along with direct visual observation. Intended for students in academic programs. Prerequisite(s): One of ASTR 100, ASTR 201, ASTR 202. Instructor(s): Dufour

(#) = credit hours per semester
ASTR 230 (S)  ASTRONOMY LAB (3)
A hands-on introduction to modern techniques of observational astronomy. Students use telescopes, CCDs, and computers to obtain and analyze their own images of solar system, galactic, and extragalactic objects. This course involves field trips to dark sky observing sites such as George Observatory and makes extensive use of state-of-the-art data analysis software. Prerequisite(s): any one of the following courses plus consent of the Instructor(s): ASTR 100, ASTR 201, ASTR 350, ASTR 360. Instructor(s): Johns-Krull

ASTR 350 (F)  INTRODUCTION TO ASTROPHYSICS—STARS (3)
An introduction to celestial mechanics, radiative transfer, stellar structure, and stellar remnants (including black holes and neutron stars). Aspects of planetary science and solar system formation may also be explored. Together, ASTR 350 and ASTR 360 provide a comprehensive survey of modern astrophysics needed for senior research and graduate study in astronomy. Either ASTR 350 or 360 may be taken first. Prerequisite(s): MATH 211. Corequisite: PHYS 202 or CHEM 312. Instructor(s): Baring

ASTR 360 (S)  INTRODUCTION TO ASTROPHYSICS—GALAXIES AND COSMOLOGY (3)
Morphology, kinematics, and dynamics of the Milky Way and external galaxies, including interstellar matter and evidence for dark matter. Peculiar and active galaxies, including interacting systems and evidence for supermassive black holes in active galactic nuclei such as quasars. Large scale structure and expansion of the universe, including various cosmologies ranging from the inflationary big bang theory to steady-state and anthropic concepts. Either ASTR 350 or 360 may be taken first. Prerequisite(s): MATH 211. Corequisite: PHYS 202 or CHEM 312. Instructor(s): Dufour

ASTR 400  UNDERGRADUATE SEMINAR IN ASTROPHYSICS (1)
Seminar on current research topics in astronomy, astrophysics, and space physics for juniors and seniors. Students will be expected to give one oral presentation each semester. May be repeated for credit. Instructor(s): Johns-Krull

ASTR 402 (S)  TEACHING EARTH AND SPACE SCIENCE (3)
Overview of the earth and the solar system, their structure, evolution, and dynamics. Fundamentals of earth and space science topics as taught in 6th grade. Includes mathematics of solar motion at level of algebra and simple trigonometry. Includes teaching in use of earth and solar system software and weather station software. This course is designed for science and math teachers (grades 6-12) but is also available for a general audience. One hour of lab per week. Also listed as EDUC 588. Instructor(s): Reiff

ASTR 403 (S)  ASTRONOMY FOR TEACHERS (3)
Learn how to teach astronomy concepts as specified by the state of Texas. This class provides the most basic concepts and what is necessary for students to master them, following the development specified in the TEKS. Lab activities suitable for replication in K-9 classrooms and as local field trip experience. Also listed as EDUC 589. Instructor(s): Reiff

ASTR 430 (S)  TEACHING ASTRONOMY LABORATORY (3)
Methods and facilities of observational astronomy for public education. Students will help train beginners in the use of telescopes and carry out a modest observational program of their own. The course requires one public talk to a nontechnical audience and internship work at the George Observatory and the Houston Museum of Natural Science. Prerequisite(s): ASTR 230, ASTR 350 or 360, or permission of instructor. Instructor(s): Reiff

ASTR 450  EXPERIMENTAL SPACE SCIENCE (3)
Study of instruments and methods used in space physics and astronomy. May include the electromagnetic spectrum, cosmic rays, neutrinos, magnetic fields, and particles in the solar system, as well as discussion of special techniques for remote sensing or for the analysis of massive astronomical data sets. Prerequisite(s): ASTR 230 and 350, or permission of the instructor. Not offered 2003–04.
ASTR 451 (F)  SOLAR AND STELLAR ASTROPHYSICS (3)
Undergraduate version of ASTR 551. Prerequisite(s): ASTR 350 or ASTR 360 and PHYS 301 and 302. Instructor(s): Johns-Krull

ASTR 470 (F)  SOLAR SYSTEM PHYSICS (3)
The Sun, solar-terrestrial relationships, solar wind; planetary atmospheres, ionospheres and magnetospheres. Prerequisite(s): ASTR 350 or ASTR 360 and PHYS 301 and 302. Instructor(s): Cloutier

ASTR 500  GRADUATE SEMINAR (1)
A presentation of current research programs in the department. Course may be repeated for credit. Instructor(s): Johns-Krull

ASTR 505  PROCESSES IN COSMIC PLASMAS (3)
Study of plasma phenomena that occur widely in nature. May include quasi-static equilibrium, magnetic equilibrium, magnetic reconnection, particle acceleration, plasma winds and jets, and interchange instabilities. Prerequisite(s): ASTR 470 and PHYS 480. Not offered 2003–04.

ASTR 542 (F)  NEBULAR ASTROPHYSICS (3)
The physics of emission nebulae, including radiative transfer, photoionization, and thermal equilibria, and internal gaseous dynamics. Physical processes in the interstellar medium. Instructor(s): Hartigan

ASTR 551 (F)  ASTROPHYSICS I: SUN AND STARS (3)
Physics of stellar interiors and atmospheres; solar phenomena. Concepts of stellar evolution. Instructor(s): Johns-Krull

ASTR 552 (S)  ASTROPHYSICS II: GALAXIES & COSMOLOGY (3)
The physics of interstellar matter; structure of the Milky Way and other normal galaxies; physical cosmology and high-redshift phenomena. Instructor(s): Baring

ASTR 565  COMPACT OBJECTS (3)
Selected topics involving white dwarfs, neutron stars, black holes and their environments, e.g., pulsars, supernova remnants, and accretion disks. Not offered 2003–04.

ASTR 600 (S)  ADVANCED TOPICS IN ASTROPHYSICS (3)
Lecture/seminars which treat topics of departmental interest. Not offered every year. Course may be repeated for credit. Instructor(s): Liang

BIOE (Bioengineering)

The George R. Brown School of Engineering / Department of Bioengineering

BIOE 252 (F)  BIOENGINEERING FUNDAMENTALS (3)
Introduction to material, energy, charge and momentum balances in biological systems. Steady-state and transient conservation equations for mass, energy, charge and momentum will be derived and applied using basic mathematical principles, physical laws, stoichiometry, and thermodynamics properties. Required for students intending to major in bioengineering. Offered only in the Fall semester. Prerequisite(s): PHYS 125 and 126 or PHYS 101 and 102, CHEM 121 and 122, MATH 101 and 102, CAAM 211 or 210. Corequisite: Math 211 001. Instructor(s): San, Saterbak

BIOE 320 (S)  SYSTEMS PHYSIOLOGY LAB MODULE (1)
Exploration of common biomedical equipment including EEG, ECG, pulmonary function test, etc. Students will explore concepts through computer simulations and data collection and analysis. Enrollment limited to 9 per section. Enrollment in BIOE 322 is expected. Prerequisite(s): BIOE 322 and BIOE 252. Instructor(s): Saterbak

(#) = credit hours per semester
BIOE 321 (F)  CELLULAR ENGINEERING (3)
Introduction to engineering principles and modeling at the cellular level. Topics include cytomechanics, receptor/ligand binding, genetic engineering, enzyme kinetics, and metabolic pathway engineering. Prerequisite(s): BIOE 252 or permission of instructor. Instructor(s): Athanasiou, McIntire, San

BIOE 322 (S)  FUNDAMENTALS OF SYSTEMS PHYSIOLOGY (3)
This course will teach the fundamentals of physiology at the organism, tissue, and cellular levels. Emphasis will be on engineering aspects of physiology. Prerequisite(s): Intro Biology and Differential Equations. Instructor(s): West

BIOE 332 (S)  THERMODYNAMICS (3)
This course will be mathematically rigorous coverage of the fundamentals of thermodynamics with applications drawn from contemporary bioengineering problems. Topics covered include thermodynamics of self assembly, the hydrophobic effect, polymer and membrane phase transitions, membrane transport, cell mechanics, electromechanical coupling in biological systems, nonequilibrium thermodynamics, open systems and statistical mechanics. Instructor(s): Raphael

BIOE 342 (S)  LAB MODULE IN TISSUE CULTURE (1)
Introduction to tissue culture techniques, including cell passage, cell attachment and proliferation assays, and a transfection assay. Sections 1 and 2 are taught during the first half of the semester. Sections 3 and 4 are taught during the second half of the semester. Enrollment limited to 12 per section. Section sign-up is required by the instructor in Keck 108 during preregistration week. Also listed as BIOS 320. Prerequisite(s): BIOS 211 or CHEM 214 or permission of instructor. Instructor(s): Saterbak

BIOE 372 (S)  INTRODUCTION TO BIOMECHANICS AND BIOMATERIALS (3)
Introduction to the fundamentals of biomechanics including force analysis, mechanics of deformable bodies, stress and strain, multiaxial deformations, and viscoelasticity. Biomechanics of soft and hard tissues. Physical and chemical properties of biomaterials. Materials covered include both natural and synthetic ones intended to function in the biological environment. Prerequisite(s): BIOE 252 or permission of instructor. Instructor(s): Athanasiou, Liebschner

BIOE 381 (F)  FUNDAMENTALS OF ELECTROPHYSIOLOGY (3)
Introduction to cellular electrophysiology. Includes the development of whole-cell models for neurons and muscle (cardiac, skeletal and smooth muscle) cells, based on ion channel currents obtained from whole-cell voltage-clamp experiments. Ion balance equations are developed, as well as, those for chemical signaling agents such as “second messengers.” The construction of small neuron circuits are discussed. Volume conductor boundary-value problems frequently encountered in electrophysiology are posed, and solutions obtained based on adequate descriptions of the bioelectric current source and the volume conductor (surrounding tissue) medium. This course provides a basis for the interpretation of macroscopic bioelectric signals such as the electrocardiogram (ECG), electromyogram (EMG) and electroencephalogram (EEG). Also listed as ELEC 381. Prerequisite(s): consent of instructor. Instructor(s): Clark

BIOE 383 (F)  BIOMEDICAL ENGINEERING INSTRUMENTATION (3)
This is an introductory level course on fundamentals of biomedical engineering instrumentation and analysis. Topics include measurement principles; fundamental concepts in electronics including circuit analysis, data acquisition, amplifiers, and A/D converters; temperature, pressure, and flow measurements in biological systems. Also listed as ELEC 383. Laboratory sections will be offered 2-5pm on M, T, W, TH. Prerequisite(s): MATH 211/212, PHYS 126 or equivalent, CHEM 122, BIOS 201, and BIOE 252. Instructor(s): Anvari

BIOE 384 (F)  BIOPHOTONICS INSTRUMENTATION AND APPLICATIONS (3)
Introduction to fundamentals of biophotonics instrumentation related to coherent light generation, transmission by optical components such as lenses and fibers, and modulation and detection. Interference and polarization concepts and light theories including x-ray and wave optics will be covered. Biomedical applications in optical sensing and diagnosis will be discussed. Prerequisite(s): MATH 211/212, PHYS 126 or equivalent, and BIOS 201. Instructor(s): Drezek

(F) = Fall; (S) = Spring
BIOE 391 (F)  NUMERICAL METHODS & STATISTICS (3)
Required for bioengineering majors. Numerical methods include solutions to ordinary differential equations. Statistics includes hypothesis testing, ANOVA, and regression. Prerequisite(s): CAAM 210 or 211. Instructor(s): Staff

BIOE 400 (S)  UNDERGRADUATE RESEARCH (VAR, MAX 3)
Instructor(s): San

BIOE 420 (F)  BIOSYSTEMS TRANSPORT AND REACTION PROCESSES (3)
The principles of reaction kinetics and transport phenomena will be used to quantitatively describe biological systems. Cell biology, physiology, anatomy, and materials science topics will be covered as background for the study of cell membrane transport, receptor-ligand interactions, and normal organ function. Models will be introduced to describe pathological conditions, drug pharmacokinetics, and artificial organ designs. Also listed as CENG 420. Prerequisite(s): Math 211/212. Instructor(s): Mikos

BIOE 425 (S)  PHARMACEUTICAL ENGINEERING (3)
This course will examine how pharmaceutical active agents function in the body and how they are delivered to the body. Topics to be covered include the kinetics of drug absorption and tissue distribution along with the transport phenomena associated with the release bioactive agents. Focus will be placed on mathematical modeling of pharmacokinetic and diffusional processes. Prerequisite(s): BIOE 420 or permission of instructor. Instructor(s): Nichol

BIOE 440 (F)  STATISTICS FOR BIOENGINEERING (1)
Course covers application of statistics to bioengineering. Topics include descriptive statistics, estimation, hypothesis testing, ANOVA, and regression. Required for students not taking BIOE 391. Prerequisite(s): CAAM 210 or 211. Instructor(s): Saterbak

BIOE 441 (F)  ADVANCED BIOENGINEERING LAB AND STATISTICS (4)
Laboratory modules include biomaterial synthesis and characterization, systems physiology, ethics, mechanical testing of bone and skin, laser tweezers. Lectures focus on application of statistics in bioengineering. Required for students majoring in bioengineering. Prerequisite(s): BIOE 342, BIOE 252, and BIOE 372. Instructor(s): Saterbak

BIOE 452 (S)  BIOENGINEERING DESIGN (4)
Instructor(s): Liebschner

BIOE 454 (F)  FINITE ELEMENT METHODS IN FLUID MECHANICS (3)
Fundamental concepts of finite element methods in fluid mechanics, including spatial discretization and numerical integration in multidimensions, time-integration, and solution of nonlinear ordinary differential equation systems. Advanced numerical stabilization techniques designed for fluid mechanics problems. Strategies for solution of complex, real-world problems. Topics in large-scale computing, parallel processing, and visualization. Also listed as CEVE 454 and MECH 454. Prerequisite(s): MECH 371 or consent of instructor. Instructor(s): Tezduyar

BIOE 460 (S)  BIOCHEMICAL ENGINEERING (3)
Design, operation, and analysis of processes in the biochemical industries. Topics include enzyme kinetics, cell growth kinetics, energetics, recombinant DNA technology, microbial, tissue and plant cell cultures, bioreactor design and operation, down stream processing. Also listed as CENG 460. Instructor(s): San

(#) = credit hours per semester
BIOE 472 (F) EXPERIMENTAL TECHNIQUES IN BIO-ENGINEERING (3)
Introduction to experimental techniques used in bioengineering to assess biomaterials and tissues. This course will primarily concentrate on basic concepts of measurement methods, experimental design, signal analysis, and the development of experimental protocols. In laboratory modules focusing on mechanical testing of non-Newtonian materials, parameter extraction out of signal data sets, and electronic circuits the theoretical concepts covered in class will be implemented hands-on. Prerequisite(s): BIOE 372 or consent of instructor. Instructor(s): Liebschner

BIOE 482 (S) PHYSIOLOGICAL CONTROL SYSTEMS (3)
Nervous system control of biological systems can be represented utilizing techniques common to the field of linear, nonlinear or adaptive control theory. This course begins with a review of the basic aspects of control theory, followed by detailed discussion of the structure of several biological systems including the visual, cardiovascular and pulmonary systems. Specific examples of neural control are developed for each system utilizing modeling and simulation techniques. Parameter sensitivity analysis and parameter estimation techniques are likewise brought to bear on some of these models to achieve good least-squares fits to experimental data. Also listed as ELEC 482. Instructor(s): Clark

BIOE 485 (F) FUNDAMENTALS OF MEDICAL IMAGING (3)
The course will introduce basic medical imaging modalities, such as x-ray, CT, and MRI, used to identify the anatomy of human organs, as well as other modalities, such as PET, SPECT, fMRI, and MEG, specifically developed to localize brain function. The course includes visits to clinical sites. Also offered as ELEC 485 and COMP 485. Prerequisite(s): Consent of instructor. Instructor(s): Mawlawi

BIOE 486 (S) FUNDAMENTALS OF MEDICAL IMAGING II (3)
See description of ELEC 486. Instructor(s): Mawlawi

BIOE 492 (F) SENSORY NEUROENGINEERING I
This course will explore how bioengineering techniques and principles are applied to sensory systems, with a focus on the auditory, vestibular, and retinal systems. The interaction between the electrical, mechanical and optical aspects of these systems, and ways to modulate these interactions, will be explored. Design and current technologies used as auditory and visual prosthetics will be covered. Enrollment limited to 15. Prerequisite(s): BIOE 322, BIOE 332, or permission of instructor. Instructor(s): Raphael

BIOE 493 (S) SENSORY NEUROENGINEERING II (1)
In this seminar course, the topics introduced in Sensory Neuroengineering I will be explored in greater depth. The emphasis will be on critical review or recent scientific literature relating to applications of bioengineering principles to sensory systems. Students will be expected to lead class discussions. Prerequisite(s): Permission of instructor. Instructor(s): Raphael

BIOE 500 (F) GRADUATE RESEARCH (VAR, NO MAX)
Instructor(s): Staff

BIOE 500 (S) GRADUATE RESEARCH
Instructor(s): Mikos

BIOE 520 (F) BIOSYSTEMS TRANSPORT PHENOMENA (3)
The principles of transport phenomena will be used to quantitatively describe biological systems. Prerequisite(s): Permission of instructor. Instructor(s): McIntire, R.

BIOE 522 (S) GENE THERAPY COURSE (3)
This course will review the principles and strategies underlying gene therapy approaches in animal models and human beings. The current methods for gene delivery to cells ex vivo and in vivo will be discussed along with current cutting-edge approaches for improving the specificity and persistence of gene expression. The course will also cover current disease applications of gene therapy and the strategies taken to produce therapeutic results. Regulatory issues concerning biomaterials will also be addressed. Prerequisite(s): organic chemistry and biology. Instructor(s): Barry

(F) = Fall; (S) = Spring
BIOE 531 (F)  BIOMATERIALS ENGINEERING (3)
Emphasis will be placed on issues regarding design and synthesis of materials to achieve specific properties and biocompatibility. An overview of significant biomaterials application will be given, including topics such as ophthalmic biomaterials, orthopedic applications, cardiovascular biomaterials, and drug delivery systems. Regulatory issues concerning biomaterials will also be addressed. Prerequisite(s): organic chemistry and biology. Instructor(s): West

BIOE 551 (F)  INTRODUCTION TO BIOENGINEERING (1)
Seminar/tutorial introducing current research in bioengineering and biotechnology to acquaint students with activities of various labs at Rice and the Texas Medical Center. Also listed as CENG 551. Prerequisite(s): graduate standing or instructor’s approval. Instructor(s): McIntire

BIOE 554 (F)  FINITE ELEMENT METHODS IN FLUID MECHANIC (3)
Graduate version of BIOE 454. Additional work required. Prerequisite(s): MECH 371 and MECH 517 or consent of instructor. Instructor(s): Tezduyar

BIOE 572 (S)  FUNDAMENTALS OF SYSTEMS PHYSIOLOGY (3)
This course will teach the fundamentals of physiology at the organism, tissue, and cellular levels. Emphasis will be on engineering aspects of physiology. Prerequisite(s): introductory biology and differential equations. Instructor(s): Drezek

BIOE 575  ADVANCED BIOMECHANICS (3)
Biomechanical models at an advanced mathematical level. Selected topics in tensor analysis, continuum biomechanics, mixture theories, elasticity, and viscoelasticity. Applications in soft and hard tissues. Not offered in 2003–04 academic year. Not offered 2003–04 academic year. Prerequisite(s): BIOE 372 or permission of instructor. Instructor(s): Staff

BIOE 581 (F)  CARIOVASCULAR DYNAMICS (4)
Analysis of properties and functions of the cardiovascular system. Includes detailed study of cardiac electrophysiology, ventricular mechanics, arterial hemodynamics, coronary and cerebral circulations, heart rate control, and imaging methods for determining ventricular volume and output flow, as well as therapeutic devices and computer-controlled drug delivery systems with their mathematical models. Internship project with engineer or life scientist working in the Texas Medical Center required. Also listed as ELEC 581. Not offered every year. Prerequisite(s): ELEC 481,482, and 507 or equivalent. Instructor(s): Clark

BIOE 584 (S)  LASERS IN MEDICINE AND BIOENGINEERING (3)
This course will provide an overview of various types of interactions between lasers and biological tissues. Methods of optical properties measurements, mathematical modeling of light propagation, and selected therapeutic applications of lasers will be addressed. Optically based diagnostic procedures, including absorption and scattering-based techniques, will be introduced. Physics of optical tweezers and their applications in biomedical sciences will be discussed. Prerequisite(s): differential equations, introductory physics, and engineering computation. Instructor(s): Bahman

BIOE 589 (F)  COMPUTATIONAL MOLECULAR BIOENGINEERING (3)
This is a course designed for students in computationally-oriented biomedical and bioengineering majors to introduce the principles and methods used for the simulations and modeling of macromolecules of biological interest. Protein conformation and dynamics are emphasized. Empirical energy function and molecular dynamics calculations, as well as other approaches, are described. Specific biological problems are discussed to illustrate the methodology. Classic examples such as the cooperative mechanism of hemoglobin and more frontier topics such as the motional properties of molecular motors and ion channels as well as results derived from the current literature are covered. Other potential topics are protein folding/predictions, the nature of reaction rate enhancement in enzyme catalysis, physical chemistry properties of biologically relevant nanomaterials, simulations of free energy changes in mutations, electrostatic properties of protein, molecular recognition, and the properties of binding sites. Particular emphasis is also given to the applications of molecular graphics. During the final reading period, each student carries out an original research project that makes use of the techniques and grading is based on the written and oral presentations of the results from the final projects. Suggested Prerequisite(s): college-level calculus, undergraduate level physical chemistry and biochemistry, entry-level thermodynamics and statistical mechanics. Also listed as BIOS 589. Instructor(s): Ma

(#) = credit hours per semester
BIOE 592 (F)  SENSORY NEUROENGINEERING I (2)
Graduate version of BIOE 492. This course will explore how bioengineering techniques and principles are applied to sensory systems, with a focus on the auditory, vestibular, and retinal systems. The interaction between the electrical, mechanical and optical aspects of these systems, and ways to modulate these interactions, will be explored. Design and current technologies used as auditory and visual prosthetics will be covered. Enrollment limited to 15. Instructor(s): Raphael

BIOE 594 (F)  THE ETHICS OF BIOSCIENCES AND BIOENGINEERING (1)
This course will consider ethical issues involving human and animal subjects, record keeping, publications, potential conflict of interest, and behavior toward colleagues, research fellows, students, and employees. Also listed as BIOE 594. Enrollment limited to 40. GRADUATE STUDENTS ONLY. Instructor(s): Staff

BIOE 594 (S)  THE ETHICS OF BIOSCIENCES AND BIOENGINEERING (1)
This course will consider ethical issues involving human and animal subjects, record keeping, publications, potential conflict of interest, and behavior toward colleagues, research fellows, students, and employees. Also listed as BIOE 594. Enrollment limited to 40. GRADUATE STUDENTS ONLY. Instructor(s): Novotny

BIOE 620 (S)  TISSUE ENGINEERING (3)
Study of cell-cell interactions and the role of the extracellular matrix in the structure and function of normal and pathological tissues. Includes strategies to regenerate metabolic organs and repair structural tissues, as well as cell-based therapies to deliver proteins and other therapeutic drugs, with emphasis on issues related to cell and tissue transplantation such as substrate properties, angiogenesis, growth stimulation, cell differentiation, and immunoprotection. Also listed as CENG 620. Instructor(s): Mikos

BIOE 625 (S)  PHARMACEUTICAL ENGINEERING (3)
This course will examine how pharmaceutical active agents function in the body and how they are delivered to the body. Topics to be covered include the kinetics of drug absorption and tissue distribution along with the transport phenomena associated with the release bioactive agents. Focus will be placed on mathematical modeling of pharmacokinetic and diffusional processes. Instructor(s): Nichol

BIOE 690 (S)  SPECIAL TOPICS COURSE: INTRODUCTION TO BIOMECHANICS AND BIOENGINEERING (3)
Introduction to the fundamentals of Biomechanics including force analysis, mechanics of deformable bodies, stress and strain, multiaxial deformation, and viscoelasticity. Biomechanics of soft and hard tissues. Physical and chemical properties of biomaterials. Materials covered include both natural and synthetic ones intended to function in the biological environment. Instructor(s): Athanasiou, Liebschner

BIOE 695 (S)  ADVANCED MODELING OF TISSUE MICRO-MECHANICS (3)
Continuation of MECH 595/BIOE 595 with emphasis on advanced modeling the micromechanics of biological tissues. Independent study and seminar/discussion course. Data from experiments will be used to refine the predictions of mathematical models. Designed for juniors, seniors, and graduate students. Laboratory work performed at Baylor College of Medicine and Computer work at Rice University. Prerequisite(s): BIOE 595. Instructor(s): Boriek

BIOE 698 (F)  GRADUATE SEMINAR (1)

BIOE 699 (S)  GRADUATE SEMINAR (1)
Instructor(s): Drezek

(F) = Fall; (S) = Spring
BIOS (Biosciences)

The Wiess School of Natural Sciences / Department of Biochemistry and Cell Biology / Department of Ecology and Evolutionary Biology

BIOS 113 (F)   ENVIRONMENTAL CRISIS SEMINAR: WATER (1)
Water—one of the most basic and important components of the environment. But how is the water cycle changing and what are the current issues? In this semester’s course we will discuss the water from an interdisciplinary perspective, from reservoirs and flow, through life and uses, to pollution and rights. Enrollment limited to 20. Also listed as ESCI 113 and ENST 113.

BIOS 122 (S)   FUNDAMENTAL CONCEPTS IN BIOLOGY (3)
Current topics in biological research with an emphasis on human health. Topics include the Human Genome Project, transgenic plants, cancer, heart disease, viruses, and others. Papers from scientific journals covering novel techniques and advances in medicine will be discussed. Instructor(s): Bondos

BIOS 201 (F)   INTRODUCTORY BIOLOGY (3)
The first in an integrated sequence of four courses (Bios 201, 202, 301, 302). Chemistry and energetics, cell physiology, cell biology, genetics, plant physiology, and animal physiology. Instructor(s): Gustin

BIOS 202 (S)   INTRODUCTORY BIOLOGY (3)
The second in an integrated sequence of four courses (Bios 201, 202, 301, 302). Molecular genetics, DNA technology, antibiotics and antivirals, behavior, evolution, ecology, diversity, and conservation biology. Prerequisite(s): BIOS 201 or permission of instructor. Instructor(s): Gomer, Meffert

BIOS 211   INTRODUCTION TO EXPERIMENTAL BIOSCIENCES (2)
INSTRUCTOR’S SIGNATURE REQUIRED. See http://www.ruf.rice.edu/~bioslabs/bios211/ for office hours and course information. Introduction to the scientific method, principles of experimental design, selected research strategies, record keeping, and technical communication as related to biological science. Taught in the first half of each semester. Lab day choices are T, W, TH, or F. Prerequisite(s): Bios 201 or equivalent. Instructor(s): Caprette

BIOS 213   INTRO LAB MODULE IN ECOLOGY & EVOLUTIONARY BIOLOGY (1)
Experimental, laboratory, and field studies of natural history, ecology, evolution, and animal behavior. Computer simulations of population genetics. Course will begin after mid-semester break in the Fall semester and after mid-term recess in the Spring semester. Instructor(s): Sullender

BIOS 301 (F)   BIOCHEMISTRY (3)
The third in an integrated sequence of four courses (Bios 201, 202, 301, 302). Structure and function of proteins, enzymes, and nucleic acids; enzyme kinetics; glycolysis, aerobic metabolism, and energy coupling. Prerequisite(s): CHEM 211/212 and BIOS 201/202 Instructor(s): Olson, Shamoo

BIOS 302 (S)   BIOCHEMISTRY (3)
The final in an integrated sequence of four courses (Bios 201, 202, 301, 302). Introduction to metabolism, membranes, electron transport, oxidative phosphorylation, and regulation. Group A course. Prequisites: BIOS 301 or permission of instructor. Instructor(s): McNew, Rudolph

BIOS 305 (F)   WRITING AND VISUAL DESIGN IN THE BIOSCIENCES (1)
Course works with a single biosciences topic of current interest to develop skills in designing visuals (posters, report figures, PowerPoint), structuring arguments, writing about visual evidence (for example: Northern blots, graphs, photographs), and editing for style. Helps prepare students for moving from BIOS 211 to BIOS 311. No oral presentations. Offered second half of the semester. Instructor(s): Purugganan, Zeleznik

(#) = credit hours per semester
BIOS 307 (F)  GENETICS: BIOLOGICAL, CULTURE-HISTORICAL, AND ETHICAL PERSPECTIVES (3)
The course uses an interdisciplinary perspective to examine the claims and counter-claims made regarding genetics and new technologies for identifying and manipulating genetic material. The course will cover biological basics of genes, DNA, and sequencing techniques; cultural and historical aspects to genetics, including essentialism and eugenics past and present; ethical issues arising from new genetic technologies; and policy issues. Also listed as UNIV 314 and ANTH 314. Not open to freshmen. Instructor(s): McIntosh, Novotny

BIOS 309  SEMINAR IN RESEARCH METHODOLOGY (2)
A course based on laboratory research done outside the university which will use seminars, discussion and papers to develop communication skills in research. Permission of instructor to enroll. Students interested in this course should contact the department chair. Instructor(s): Staff

BIOS 310  INDEPENDENT STUDY FOR UNDERGRADUATES (3)
Program of independent study for students with previous training in the biosciences. Includes a research paper and presentation of a poster in the Undergraduate Symposium in the spring. Students are expected to spend at least three hours per week in the laboratory for each semester hour of credit. If taken for 2 or more hours, counts as one required lab course but not as a Group A or B course. Permission of Department Chair to enroll. Instructor(s): Staff

BIOS 311  ADVANCED EXPERIMENTAL BIOSCIENCES (1)
INSTRUCTOR’S SIGNATURE REQUIRED. See http://www.owlnet.rice.edu/~bios311/bios311/bios311.html for office hours and course information. Introduction to biochemical laboratory techniques with an emphasis on studies of proteins. Taught first half of the semester for 7 weeks. Enrollment limited to 24 per section. Prerequisite(s): BIOS 211 and BIOS 301 or consent of instructor. Instructor(s): Beason

BIOS 312  EXPERIMENTAL MOLECULAR BIOLOGY (1)
INSTRUCTOR’S SIGNATURE REQUIRED. See http://www.owlnet.rice.edu/~bios311/bios311/bios312/bios312.html for office hours and course information. Introduction to molecular biology techniques. Taught second half of the fall semester and first half of the spring for 3 1/2 weeks. Enrollment limited to 28 per section. Prerequisite(s): BIOS 311 or consent of instructor. Instructor(s): Beason

BIOS 313 (S)  ADVANCED EXPERIMENTAL MOLECULAR BIOLOGY (1)
INSTRUCTOR’S SIGNATURE REQUIRED. See http://www.owlnet.rice.edu/~bios311/bios311/bios313/bios313.html for office hours and course information. Introduction to microarrays. Taught second half of the semester for 3 1/2 weeks. Enrollment limited to 15 per section. Prerequisite(s): BIOS 312 or consent of instructor. Instructor(s): Beason

BIOS 314  EXPERIMENTAL CELL BIOLOGY (1)
Application of transmission electron microscopy to research in cell biology. Students will interview a faculty investigator and design and conduct an experiment involving preparation and examination of samples for the electron microscope. A written protocol will be submitted and the completed work presented in seminar form. Recommended for students interested in a research career. Starts the second week of the semester. Enrollment limited. Contact the instructor first week of classes. Prerequisite(s): BIOS 301, 311, and 341. Instructor(s): Caprette

BIOS 315 (S)  EXPERIMENTAL PHYSIOLOGY (1)
An instrumention-intensive short course in membrane electrophysiology and vertebrate nerve and muscle physiology. Research reports require interpretation of laboratory data in terms of concepts at the molecular level. Starts the second half of the semester. Enrollment limited. Prerequisite(s): BIOS 301 or equivalent. Instructor(s): Caprette

BIOS 316 (F)  LAB MODULE IN ECOLOGY (1)
Field and lab experiments in ecology. Course taught for 1/2 semester. Instructor(s): Siemann, Harcombe
BIOS 317 (S)  LAB MODULE IN BEHAVIOR (1)
Field experiments in behavior. Work in teams to solve the mystery of breeding systems in wild mockingbirds and grackles. Instructor(s): Strassmann

BIOS 318 (F)  LAB MODULE IN MICROBIOLOGY (1)
Training in the isolation, culture, observation, and assay of bacteria. Qualitative analysis of a mixed culture. Starts the second half of the semester, self-scheduled after the first four formal meetings. Requires daily attention to cultures during the week. Enrollment limited. Prerequisite(s): BIOS 211 or equivalent. Instructor(s): Caprette

BIOS 319 (S)  TROPICAL FIELD BIOLOGY (3)
The course consists of weekly meetings involving lectures and discussion of readings. Immediately following commencement, a 3-week field trip to southern Mexico will conclude the class. Class size: between 9 and 11 students. Selection of students for the course is determined through an interview with the instructor. While a background in biology is desirable (minimally including the following courses: BIOS 201/202 and 213), individuals lacking this background but having a special interest in the tropics are encouraged to enroll. Instructor(s): Sullender

BIOS 320 (S)  LAB MODULE IN TISSUE CULTURE (1)
Introduction to tissue culture techniques, including cell passage, cell attachment and proliferation assays, and a transfection assay. Taught in first and second halves of spring semester. Also listed as BIOE 342. See BIOE 342 for preregistration procedure. Prerequisite(s): BIOS 211 or CHEM 214
Instructor(s): Saterbak

BIOS 321 (F)  ANIMAL BEHAVIOR (3)
Evolutionary theory is used to evaluate behavioral adaptations of organisms to their environment. Group B course. Instructor(s): Strassmann

BIOS 322 (S)  GLOBAL ECOSYSTEM DYNAMICS (3)
A systems analysis of the earth from a biological perspective stressing biogeochemical cycles and global change. Group B course. Instructor(s): Sass

BIOS 323 (F)  CONSERVATION BIOLOGY (3)
The course is designed to give students a broad overview of conservation biology. Lectures and discussions will focus on conservation issues such as biodiversity, extinction, management, sustained yield, invasive species and preserve design. Group B course. Instructor(s): Siemann

BIOS 324 (S)  WETLAND ECOSYSTEMS (3)
A study of coastal wetland systems including floodplains, freshwater brackish and saline marshes and consideration of estuaries and riverine interaction with coastal marine waters. Group B course. Instructor(s): Fisher

BIOS 325 (S)  ECOLOGY (3)
Analysis of population dynamics, species interactions, plant and animal community organization, and ecosystem function. Group B course. Instructor(s): DeWalt

BIOS 329 (F)  ANIMAL BIOLOGY AND PHYSIOLOGY (3)
The evolution and systematics of the animal kingdom with consideration of functional anatomy, comparative physiology, behavior, medical implications and resource management. Group B course. Instructor(s): Fisher

BIOS 332 (F)  FUNDAMENTALS OF SYSTEMS PHYSIOLOGY (3)
This course will teach the fundamentals of physiology at the organism, tissue, and cellular levels. Emphasis will be on engineering aspects of physiology. This course includes several projects and written assignments. Also listed as BIOE 322. Prerequisite(s): Intro. Biology and Differential Equations. Instructor(s): West

BIOS 334 (F)  EVOLUTION (3)
Principles of biological evolution. Topics include natural selection, adaptation, molecular evolution, formation of new species, the fossil record, biogeography, and principles of classification. Group B course. Instructor(s): Queller

(#) = credit hours per semester
BIOS 336 (S) PLANT DIVERSITY (3)
The evolution and systematics of plants, with emphasis on flowering plants and biodiversity. Group B course. Instructor(s): Harcombe

BIOS 341 (F) CELL BIOLOGY (3)
Molecular mechanisms of the processes common to all cells, including exposition of structure, function, and biogenesis of all subcellular organelles. Emphasis will be on cytoplasmic events; molecular studies of transcription will be taught in Bios 344. Group A course. Prerequisite(s): BIOS 201/202. Instructor(s): McNew, Ullmann

BIOS 343 (F) DEVELOPMENT (3)
Analysis of the processes and principles of development as seen in a broad spectrum of eukaryotic organisms. Group A course. Prerequisite(s): BIOS 201/202.

BIOS 344 (S) MOLECULAR BIOLOGY & GENETICS (3)
Mendelian genetics, population genetics, mapping, gene expression and regulation, genetic engineering, DNA replication and recombination, human genetics, genetic disease and gene therapy. Group A course. Prerequisites: BIOS 201/202 and 301 or consent of instructor. Instructor(s): Stewart

BIOS 352 (S) PHYSICAL CHEMISTRY FOR THE BIOSCIENCES (3)
Study of selected aspects of physical chemistry as it relates to the biosciences. Includes thermodynamics, reaction rate theory, quantum mechanics, and atomic and molecular structure. Required for biochemistry majors and graduate students in biochemistry & cell biology. Group A course. Prerequisite(s): CHEM 211/212, PHYS 125/126, and BIOS 301 or permission of instructor. Instructor(s): MacKenzie, Olson

BIOS 390 TRANSFER CREDIT IN BIOCHEMISTRY & CELL BIOLOGY (3)
For transfer of courses which have no current equivalent in the Rice curriculum, but which can be counted as Group A Biosciences courses in satisfying requirements for the biochemistry or biology major. Group A course.

BIOS 391 TRANSFER CREDIT IN ECOLOGY & EVOLUTIONARY BIOLOGY (3)
For transfer of courses which have no current equivalent in the Rice curriculum, but which can be counted as Group B Biosciences courses in satisfying requirements for the biology major.

BIOS 401 (F) UNDERGRADUATE HONORS RESEARCH (5)
Open only to undergraduate majors who meet specific requirements and with the permission of the research supervisor and chair. Registration for Bios 401 and 402 implies a commitment to participate in research for at least 2 semesters. Prerequisite(s): BIOS 201/202, 301/302, and concurrent enrollment in BIOS 411. Instructor(s): Staff

BIOS 402 (S) UNDERGRADUATE HONORS RESEARCH (5)
See BIOS 401. Concurrent enrollment in Bios 412. Instructor(s): Staff

BIOS 411 (F) UNDERGRADUATE RESEARCH SEMINAR (1)
Discussion of current research in area under investigation. Instructor(s): Glantz

BIOS 412 (S) UNDERGRADUATE RESEARCH SEMINAR (1)
See BIOS 411. Instructor(s): Braam

BIOS 421 (F) NEUROBIOLOGY (3)

(F) = Fall; (S) = Spring
BIOS 422 (S)  ENDOCRINOLOGY (3)
Study of the molecular and cellular mechanisms of hormone synthesis and of target cell responses. Includes hormonal interactions in mammalian homeostasis. Enrollment limited to 50. Group A course. Prerequisite(s): BIOS 201, 202, 301, and 302. Instructor(s): Staff

BIOS 423 (S)  IMMUNOBIOLOGY (3)
Cellular and molecular basis of immune function in mammals. Group A course. Prerequisite(s): BIOS 201/202 and 301/302. Instructor(s): Novotny

BIOS 424 (S)  MICROBIOLOGY & BIOTECHNOLOGY (3)
Structure and functions of microorganisms with emphasis on their environmental, industrial and medical importance. Group A course. Prerequisite(s): BIOS 201/202 and 301 or consent of instructor. Instructor(s): Bennett

BIOS 425 (F)  PLANT MOLECULAR BIOLOGY (3)
Novel aspects of plant biology and development with emphasis on molecular and genetic mechanisms. Plant responses to the environment and the use of bioengineering and other means to develop new plant products will also be covered. Group A course. Prerequisite(s): BIOS 201/202 and 301 or permission of instructor. Instructor(s): Bartel, Zolman

BIOS 432 (S)  ADVANCED EVOLUTIONARY BIOLOGY (3)
Develop a critical understanding of evolutionary theory through lectures and discussion across a wide range of evolutionary topics. With the instructor’s help, students will use current papers to stimulate debate on the theories, philosophies and methods of the study of evolution. Instructor(s): Foster

BIOS 440 (F)  ENZYME MECHANISMS (3)
Enzymology is a biological extension of organic chemistry. This course will survey examples of enzyme-catalyzed reactions with emphasis on mechanisms. Enzymes that use catalytic cofactors (vitamins) will be covered, as will those that rely on amino acid side chains. By the end of the course, students should be able to deduce a reasonable mechanism for any enzyme-mediated reaction. Also listed as CHEM 440. Group A course. Prerequisite(s): CHEM 212. Not offered 2003–04.

BIOS 443 (F)  DEVELOPMENT (3)

BIOS 445 (F)  ADVANCED MOLECULAR BIOLOGY AND GENETICS (3)
Molecular and genetic aspects of the regulation of gene expression as seen in simple prokaryotic systems and the model eukaryotic systems used for studies of development. Group A course. Prerequisite(s): BIOS 201/202, 301, and 344. Instructor(s): Bartel, Stern

BIOS 481 (F)  MOLECULAR BIOPHYSICS (3)
Examination, at an intermediate level, of the interaction of light with matter. Includes UV-visible absorption, natural optical activity, fluorescence, EXAFS, EPR, NMR of biomolecules, x-ray diffraction and crystallography, neutron scattering, electron microscopy, and theoretical protein dynamics. Group A course. Prerequisite(s): BIOS 301 and 352 or permission of instructor. Instructor(s): Cates, MacKenzie, Nikonowicz

BIOS 525 (F)  PLANT MOLECULAR BIOLOGY (3)
Novel aspects of plant biology and development with emphasis on molecular and genetic mechanisms. Plant responses to the environment and the use of bioengineering and other means to develop new plant products will also be covered. Prerequisite(s): BIOS 201/202 and 301, or permission of instructor. Instructor(s): Bartel, Zolman

(#) = credit hours per semester
BIOS 530 (S)  LAB MODULE IN NMR SPECTROSCOPY & MOLECULAR MODELING (2)
The students will learn to set up, acquire, and process one-dimensional and basic two-dimensional NMR experiments. Spectral interpretation (resonance assignment and extraction of structural information) for nucleic acids and proteins using homonuclear and heteronuclear data will be performed. Molecular modeling using NMR derived structure information will also be included. This course is designed to provide an overview of the utility of NMR spectroscopy as it relates to the structure and dynamics of biologically relevant macromolecules. Enrollment limited to 12, with priority to graduate students. Prerequisite(s): BIOS 352 and 481 or permission of instructor. Instructor(s): Nikonowicz

BIOS 532 (S)  LABORATORY MODULE IN OPTICAL SPECTROSCOPY AND KINETICS (2)
Students learn the principles behind fluorescence, circular dichroism, analytical ultracentrifugation, spectroscopy and rapid kinetics by carrying out experiments with genetically engineered proteins and state-of-the-art equipment. Data will be interpreted and manipulated using curve-fitting and graphics software. The course will provide basic and experimental training in protein chemistry and biophysics. Prerequisite(s): BIOS 352 and 481 or permission of instructor. Instructor(s): Cates, Olson

BIOS 533 (S)  BIOINFORMATICS & COMPUTATIONAL BIOLOGY (2)
An introduction to the emerging field of bioinformatics. A series of lectures, combined with hands-on exercises will introduce the student to various biologically relevant databases, methods to effectively search the databases, and an overall view of the various aspects of computation biology. The topics to be discussed include sequence comparison, structure analysis, phylogenetics, database searching, microarrays and proteomics. Prerequisite(s): BIOS 301 and knowledge of computer operation or permission of instructor. Instructor(s): Cates

BIOS 535 (F)  PRACTICAL X-RAY CRYSTALLOGRAPHY (2)
This is an introduction to macromolecular crystallography with emphasis on crystallization methods, data acquisition, processing and molecular model-building. Approaches to solving structures will be discussed, as well as refinement of molecular models. Prerequisite(s): BIOS 481 (can be taken simultaneously). Instructor(s): Cates

BIOS 541 (F)  SPECIAL TOPICS IN ECOLOGY & EVOLUTIONARY BIOLOGY (3)

BIOS 542 (S)  SPEC. TOPS IN ECOLOGY & EVOLUTION BIOLOGY (3)

BIOS 543 (S)  SECONDARY METABOLISM (3)
A survey of the biosynthetic pathways leading to the major classes of natural products. Topics covered include the use of radioactive and stable isotopes, the synthesis of isotopically labeled organic compounds, mechanistic investigations of secondary metabolic enzymes, and the cloning and characterization of secondary metabolic genes—same course as CHEM 543. Suggested prerequisite(s): BIOS 440. Instructor(s): Parry

BIOS 545 (F)  ADVANCED MOLECULAR BIOLOGY AND GENETICS (3)
Molecular and genetic aspects of the regulation of gene expression as seen in simple prokaryotic systems and the model eukaryotic systems used for studies of development. Prerequisite(s): BIOS 201/202, 301, and 341 or consent of instructor. Instructor(s): Bartel, Stern,

BIOS 561 (F)  TOPICS IN EVOLUTION (2)
Review and discussion of the literature on current research in evolution. Instructor(s): Meffert, Queller, Strassmann

BIOS 562 (S)  TOPICS IN BEHAVIORAL ECOLOGY (2)
Review and discussion of the literature on current research in animal behavior. Instructor(s): Meffert, Queller, Strassmann

(F) = Fall; (S) = Spring
BIOS 563 (F)  TOPICS IN ECOLOGY (2)
Review and discussion of the literature on current research in forest and grassland ecology. Instructor(s): Siemann, Harcombe

BIOS 568 (S)  TOPICS IN BIOLOGICAL DIVERSITY (2)
Review and discussion of literature on current research in biological diversity. Instructor(s): Siemann, Harcombe

BIOS 575 (F)  INTRODUCTION TO RESEARCH (1)
Introduction of first-year graduate students to the research programs and laboratories of individual faculty members. Instructor(s): Staff

BIOS 581 (F)  GRAD SEMINAR IN BIOCHEMISTRY & CELL BIOLOGY (1)
Introduction of first-year graduate students to the research programs and laboratories of individual faculty members. Required of all biochemistry and cell biology graduate students. Instructor(s): Staff

BIOS 582 (S)  GRAD SEMINAR-BIOCHEMISTRY & CELL BIOLOGY (1)
See BIOS 581. Instructor(s): Staff

BIOS 583 (F)  MOLECULAR INTERACTIONS (3)
Review of literature on current biosciences research. Prerequisite(s): graduate status in biochemistry and cell biology. Instructor(s): Lane, Stern, Tao

BIOS 585 (F)  GRAD SEM IN ECOLOGY & EVOLUTIONARY BIOLOGY (1)
Faculty and student presentations on current research. Required of all ecology and evolutionary biology graduate students.

BIOS 586 (S)  GRAD SEM IN ECOLOGY & EVOLUTIONARY BIOLOGY (1)
Continuation of BIOS 585.

BIOS 587 (F)  GRAD SEM FOR 2ND YR GRADUATE STUDENTS IN BIOCHEM&CELL BIOL (3)
Preparation and presentation of research proposals. Instructor(s): Beckingham, Nikonowicz, MacKenzie

BIOS 588 (F)  ADVANCED CELL BIOLOGY (3)
Review of literature on current biosciences research. Instructor(s): Beckingham, Gomer

BIOS 589 (S)  COMPUTATIONAL MOLECULAR BIOPHYSICS (3)
This is a course designed for students in computationally-oriented biomedical and bioengineering majors to introduce the principles and methods used for the simulations and modeling of macromolecules of biological interest. Protein conformation and dynamics are emphasized. Empirical energy function and molecular dynamics calculations, as well as other approaches, are described. Also listed as BIOE 589. Instructor(s): Ma

BIOS 590  SPECIAL TOPICS IN BIOCHEMISTRY & CELL BIOLOGY (1)
Development of specific topic areas at the graduate level. Instructor(s): Staff

BIOS 591 (F)  GRADUATE TEACHING (3)
Supervised instruction in teaching ecology and evolutionary biology. Instructor(s): Staff

BIOS 592  SEMINAR IN COMPUTATIONAL BIOL (1)
A discussion of selected research topics in computational biology. Instructor(s): Staff

(#) = credit hours per semester
BIOS 593  SPECIAL TOPICS IN BIOCHEMISTRY & CELL BIOLOGY (1)
Discussion of selected research topics in current plant biology literature. Course may be repeated for credit. Instructor(s): Bartel

BIOS 594 (F)  THE ETHICS OF BIOSCIENCES AND BIOENGINEERING (1)
This course will consider ethical issues involving human and animal subjects, record keeping, publications, potential conflict of interest, and behavior toward colleagues, research fellows, students, and employees. Also listed as BIOE 594. Enrollment limited to 40. GRADUATE STUDENTS ONLY. Instructor(s): Novotny

BIOS 611 (F)  RESEARCH SEMINAR (3)
Discussion of individual laboratory research or current topics in particular areas. Instructor(s): Staff

BIOS 612 (S)  RESEARCH SEMINAR (3)
Continuation of BIOS 611. Instructor(s): Staff

BIOS 621 (F)  THESIS SEMINAR (1)
Instructor(s): Staff

BIOS 622 (S)  THESIS SEMINAR (1)
Instructor(s): Staff

BIOS 800  GRADUATE RESEARCH (3)
Course may be repeated for credit.

CAAM (Computational and Applied Mathematics)

The George R. Brown School of Engineering/Computational and Applied Mathematics Department

CAAM 210  INTRODUCTION TO ENGINEERING COMPUTATION (3)
Introduction to engineering and scientific computation: Engineering workstations, programming, software systems, and numerical methods. Laboratory to illustrate the application of computational and visualization methods to problem analysis. Matlab serves as the primary computational and display tool. Optional supplemental instruction is available in C and/or Fortran. Prerequisite(s): Math 101. Instructor(s): Staff

CAAM 335  MATRIX ANALYSIS (3)
Equilibria and the solution of linear and linear least squares problems. Dynamical systems and the eigenvalue problem with the Jordan form and Laplace transform via complex integration. Prerequisite(s): MATH 212 and CAAM 210. Instructor(s): Staff

CAAM 336  DIFFERENTIAL EQUATIONS IN SCIENCE AND ENGINEERING (3)
Green’s functions, exponential and series solutions, and numerical methods for initial and boundary value problems of mathematical physics. Dynamics of mass-spring systems and circuits, equilibria of solids, fluids and electromagnetic fields, heat flow. Prerequisite(s): MATH 212 and CAAM 210. Instructor(s): Staff

CAAM 353 (S)  COMPUTATIONAL NUMERICAL ANALYSIS (3)
An introductory course in numerical analysis with computer applications. Prerequisite(s): MATH 210. Instructor(s): Staff

(F) = Fall; (S) = Spring
CAAM 378 (F)  INTRODUCTION TO OPERATIONS RESEARCH AND OPTIMIZATION (3)
Formulation and solution of mathematical models in management, economics, engineering and science applications in which one seeks to minimize or maximize an objective function subject to constraints including models in linear, nonlinear and integer programming; basic solution methods for these optimization models; problem-solving using a modeling language and optimization software. Prerequisite(s): MATH 212, and any one of the following: MATH 211. Instructor(s): Staff

CAAM 401 (F)  ANALYSIS I (3)
Real numbers completeness, sequences and convergence, compactness, continuity, the derivative, the Riemann integral, fundamental theorem of calculus. Vectors spaces, dimension, linear maps, inner products and norms, operative norms. Prerequisite(s): MATH 211/212 or permission of instructor. Instructor(s): Staff

CAAM 402 (S)  ANALYSIS II (3)
Continuation of Analysis I. Vector spaces of functions, sequences and series, convergence. Continuity and differentiability of functions of several variables, the derivative as a linear map, the contraction mapping principle, inverse and implicit function theorems, fundamental theorems on differential equations, multivariable integration, Stoke's theorem and relatives. Prerequisite(s): CAAM 401. Instructor(s): Staff

CAAM 415 (S)  THEORETICAL NEUROSCIENCE (3)
This course introduces current theoretical methods used to model the properties of nerve cells and the processing of information by neuronal networks. Concrete examples that can be implemented using Matlab will be emphasized. The starting point is the passive cable properties of single neurons and the Hodgkin-Huxley model of action potential generation. Subsequently, models of synaptic transmission and active properties of dendritic trees will be considered. This will be followed by stochastic properties of single neurons and information encoding using mean and instantaneous firing rate in visual neurons. Finally, methods to analyze phase-locking and activity in populations of cells as well as learning algorithms will be considered. Prerequisite(s): MATH 211 or CAAM 335. Instructor(s): Staff

CAAM 420 (F)  COMPUTATIONAL SCIENCE I (3)
Scientific programming using high-level languages, including C, Fortran, and C++. Emphasis on use of numerical libraries. Basic techniques of project planning, source management, documentation, program construction, i/o, visualization. Object-oriented design for numerical computation. Prerequisite(s): CAAM 210; CAAM 335 or 353, or permission of instructor. Instructor(s): Staff

CAAM 436 (F)  PARTIAL DIFFERENTIAL EQUATIONS OF MATHEMATICAL PHYSICS (3)
Derivation and properties of solutions of the partial differential equations of continuum physics. Basic concepts of continuum mechanics, ideal fluids, Navier-Stokes equations, linear elasticity, acoustics, basic principles of thermodynamics, Newtonian heat flow, porous flow, Maxwell’s equations, electrical circuits. Prerequisite(s): CAAM 336 or permission of instructor. Instructor(s): Staff

CAAM 452 (S)  NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS (4)
Structure and properties of the finite element method for statistics problems in mechanics, electromagnetism, and other field theories. Finite difference methods for initial/boundary value problems of fluid flow, heat transfer, and wave motion. Prerequisite(s): CAAM 336 or permission of instructor. CAAM 436 recommended. Computer programming in Matlab is required. Not offered 2003–04.
CAAM 453 (F)  NUMERICAL ANALYSIS I (3)
Construction and analysis of numerical algorithms for root finding, interpolation and approximation of functions, quadrature, and the solution of differential equations; fundamentals of computer arithmetic; solution of linear systems, least squares problems, and eigenvalue problems via matrix factorizations; the singular value decomposition (SVD) and basic sensitivity analysis. Prerequisite(s): CAAM 335 or permission of the instructor. Computer programming in Matlab is required. Instructor(s): Staff

CAAM 454 (S)  NUMERICAL ANALYSIS II (3)
Iterative methods for linear systems of equations including Krylov subspace methods; gradient method for unconstrained optimization; Newton and Newton-like methods for nonlinear system of equations, unconstrained optimization and nonlinear least squares problems; techniques for improving the global convergence of these algorithms. Theoretical and practical considerations for these algorithms will be discussed. Prerequisite(s): CAAM 453 or permission of the instructor. Computer programming in Matlab is required. Instructor(s): Staff

CAAM 460 (F)  OPTIMIZATION THEORY (3)
Derivation and application of necessity conditions and sufficiency conditions for constrained optimization problems. Prerequisite(s): MATH 212 and CAAM 335 or MATH 355. Instructor(s): Staff

CAAM 464 (F)  NUMERICAL OPTIMIZATION (3)
Numerical algorithms for constrained optimization problems in engineering and sciences, including simplex and interior-point methods for linear programming, penalty, barrier, augmented Lagrangian and SQP methods for nonlinear programming. Prerequisite(s): CAAM 454 or permission of instructor. CAAM 460 recommended (may be taken concurrently). Instructor(s): Staff

CAAM 475 (S)  INTEGER AND COMBINATORIAL OPTIMIZATION (3)
Modeling and solving optimization problems with discrete components, graphs and networks; network flow problems; minimum spanning trees; basic polyhedral theory; the knapsack problem; the plant location problem; the set packing problem; computational complexity; branch and bound; cutting planes; Lagrangian relaxation and Bender’s decomposition. Prerequisite(s): CAAM 378 or 464 or permission of the instructor. Also listed as ECON 475. Not offered 2003–04. Instructor(s): Staff

CAAM 490 (F)  INDEPENDENT STUDY (VAR)
Instructor(s): Staff

CAAM 491 (S)  INDEPENDENT STUDY (VAR)
Instructor(s): Staff

CAAM 500  GRADUATE RESEARCH SEMINAR (1)
Presentations of ongoing projects by CAAM students and faculty. Required of all graduates. Instructor(s): Staff

CAAM 508 (S)  ORDINARY DIFFERENTIAL EQUATIONS (3)
Review of the fundamental properties of nonlinear systems, includes nonlinear ordinary differential equations (e.g., the existence and uniqueness of solution), Lyapunov stability (e.g., stability definitions, Lyapunov’s direct method, invariance theory, stability of linear systems, Lyapunov’s linearization methods, and converse theorems), and input-output stability (e.g., the small gain theorem and passivity theorem), as well as case studies showing applications to nonlinear and adaptive control and robotics. Also listed as MECH 508 and ELEC 508. Instructor(s): Staff

CAAM 520 (S)  COMPUTATIONAL SCIENCE II (3)
Vector shared-memory, and message-passing parallel computer architectures. Numerical linear algebra for these architectures. Memory hierarchy issues, analysis and enhancement of performance, and use of programming tools and environments. Portable parallel scientific programming concepts using OpenMP and MPI. Introduction to component software architectures. Parallel numerical algorithms and scientific visualization. Prerequisite(s): CAAM 420. Instructor(s): Staff

(F) = Fall; (S) = Spring
CAAM 540 (S)  APPLIED FUNCTIONAL ANALYSIS (3)
Hilbert spaces, Banach spaces, spectral theory, and weak topologies with applications to signal processing, control, and partial differential equations. Prerequisite(s): CAAM 402 or permission of instructor. Instructor(s): Staff

CAAM 551 (F)  NUMERICAL LINEAR ALGEBRA (3)
Direct methods for large, sparse linear system; regularization of ill-conditioned lest squares problems; backward error analysis of basic algorithms for linear equations and least squares, condition estimation. Preconditioned iterative methods for linear systems (CG, GMRES, BiCGstab, QMR); matrix theory including spectral decompositions, Schur form, eigenvalue perturbations, and the geometry of subspaces. Eigenvalue algorithms, Sylvester’s equation, the implicitly shifted QR algorithm, computation of the SVD, generalized eigenvalue problems. Introduction to large scale eigenvalue algorithms and multigrid. Prerequisite(s): CAAM 454 or permission of the instructor. Computer programming in Matlab and one or more of C, F77, C++, F90 is required. Instructor(s): Staff

CAAM 552 (F)  PARTIAL DIFFERENTIAL EQUATIONS (3)

CAAM 583 (F)  INTRODUCTION TO RANDOM PROCESSES AND APPLICATIONS (3)
Review of basic probability and the formulation, analysis, representation, and application of some random standard random processes. Include sequences of random variables, random vectors and estimation, basic concepts of random processes, random processes in linear systems, expansions of random processes, wiener filtering, spectral representation of random processes, and white-noise integrals. Prerequisite(s): STAT 381 (STAT 581 recommended). Also listed as ELEC 533 and STAT 583. Instructor(s): Staff

CAAM 590 (F)  INDEPENDENT STUDY (VAR)
Instructor(s): Staff

CAAM 591 (S)  INDEPENDENT STUDY (VAR)
Instructor(s): Staff

CAAM 640  OPTIMIZATION WITH SIMULATION CONSTRAINTS (3)
Nonlinear programming techniques for the case that the primary constraints are varying fidelity simulations of complex systems. Nonlinear programming approaches studied will include very large-scale trust-region sequential quadratic programming techniques. Prerequisite(s): CAAM 460 and 454 or permission of the instructor. Instructor(s): Staff

CAAM 641 (S)  TOPICS IN INVERSE PROBLEMS (3)
Theoretical, computational and practical issues for inverse problems in science and engineering. Selected topics will vary depending on instructor and student interests. May be repeated for credit. Instructor(s): Staff

CAAM 651 (S)  TOPICS IN NUMERICAL LINEAR ALGEBRA (3)
Selected topics will vary depending on instructor and student interests. Derivation and analysis of Krylov and subspace iteration methods for large eigenvalue problems (Lanczos, Arnoldi, Jacobi-Davidon algorithms); preconditioning for linear systems and eigenvalue problems (incomplete LU, domain decomposition, multigrid); convergence analysis including potential theory and pseudospectra. Applications: regularization of discrete inverse problems; dimensions reduction for large dynamical control systems; linear stability of dynamic applications involving nonnormal matrices. May be repeated for credit. Prerequisite(s): CAAM 551 or permission of instructor. Instructor(s): Staff

(#) = credit hours per semester
CAAM 652  TOPICS IN NUMERICAL DIFFERENTIAL EQUATIONS (3)
Content varies from year to year. *Instructor(s): Staff*

CAAM 654  TOPICS IN OPTIMIZATION (3)
Content varies from year to year. *Instructor(s): Staff*

CAAM 664 (F)  TOPICS IN NONLINEAR PROGRAMMING (3)
Content varies from year to year. *Instructor(s): Staff*

CAAM 685 (F)  MESO-SCALE NUMERICS SEMINAR (3)
Introduction to practice/continuum coupling numerical techniques. *Instructor(s): Staff*

CAAM 800  THESIS (VAR)
*Instructor(s): Staff*

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**CENG (Chemical Engineering)**

The George R. Brown School of Engineering / Department of Chemical Engineering

**CENG 301 (F)  CHEMICAL ENG’G FUNDAMENTALS (3)**
Use of basic mathematical concepts, physical laws, stoichiometry, and the thermodynamic properties of matter to obtain material and energy balances for steady and unsteady state systems. Required for sophomores intending to major in chemical engineering. *Instructor(s): Davis, Zygourakis*

**CENG 303 (F)  MATLAB AND MAPLE FOR CHEMICAL ENGINEERS (2)**
Teaches students how to use workstations and the computer languages MATLAB and MAPLE that are applied extensively in CENG 301 and other courses. Course is a corequisite for students enrolled in CENG 301. *Staff*

**CENG 305 (S)  COMPUTATIONAL METHODS IN CHEMICAL ENGINEERING (3)**
Introduction to modern practice and chemical engineering applications of scientific computing: linear algebra (review); computer-aided solution of systems of linear equations: (direct, iterative); evaluation of integrals; systems of nonlinear algebraic equations; systems of ordinary differential equations; one-dimensional boundary value problems; stability and accuracy of computational methods; computational software libraries. Principles illustrated through chemical engineering examples. *Instructor(s): Pasquali*

**CENG 343 (S)  CHEMICAL ENGINEERING LAB (3)**
Experiments demonstrating the principles presented in CENG 301, 302, and 390. *Instructor(s): Staff*

**CENG 390 (F)  KINETICS & REACTOR DESIGN (4)**
Principles and significance of chemical kinetics; procedures for evaluating kinetic parameters from reaction rate data; application of these methods to design and predict the performance of various types of ideal and nonideal chemical reactors. *Instructor(s): Wong*

**CENG 401 (F)  TRANSPORT PHENOMENA I (3)**
Fundamental principles of heat, mass, and momentum transport applied to the continuum; analysis of macroscopic physical systems based on the continuum equations; applications in chemical engineering practice. *Instructor(s): Miller*
CENG 402 (S) TRANSPORT PHENOMENA II (3)
Continuation of CENG 401. Instructor(s): Davis

CENG 403 (F) EQUIPMENT DESIGN (4)
Design and economic analysis of chemical process equipment. Use of computer design packages in the analysis of chemical equipment. Instructor(s): Cox

CENG 404 (S) PROCESS DESIGN (4)
Optimal design of chemical processes; industrial economic principles; special process design projects in small groups. Instructor(s): Cox

CENG 411 (S) THERMODYNAMICS I (3)
Development and application of the first and second laws of thermodynamics. Instructor(s): Staff

CENG 412 (F) THERMODYNAMICS II (3)
Advanced treatment of chemical and phase equilibria in multicomponent systems. Includes a detailed study of nonideal solutions. Instructor(s): Chapman

CENG 420 (F) BIOSYSTEMS TRANSPORT AND REACTION PROCESSES (3)
Application of the basic principles of transport and reaction to analyze momentum, heat, and mass transport, and reaction processes in the human body. Includes mathematical modeling to describe physiologic function, to understand pathological conditions, and to design bioartificial organs with emphasis on the quantification of biomedical systems in relation to underlying molecular mechanisms and cellular behavior. Also listed as BIOE 420. Instructor(s): Mikos

CENG 443 (F) CHEMICAL ENGINEERING LAB II (3)
Experiments demonstrating transport coefficient measurements, forced and free convection transfer operations, and thermodynamic principles as covered in CENG 401, 402, 411. Instructor(s): Staff

CENG 460 (S) BIOCHEMICAL ENGINEERING (3)
Design, operation, and analysis of processes in the biochemical industries. Topics include enzyme kinetics, cell growth kinetics, energetics, recombinant DNA technology, microbial, tissue and plant cell cultures, bioreactor design and operation, down stream processing. Instructor(s): San

CENG 470 (F) PROCESS DYNAMICS & CONTROL (3)
Modeling of dynamic processes. Response of uncontrolled systems. Transfer functions. Feedback controllers; response and stability of controlled systems; frequency response. Design of feedback controllers. Cascade, feed-forward and multivariable control systems. Introduction to computer control. Use of simulators to design feedback controllers. Required for B.S. majors in chemical engineering. Instructor(s): Mantzaris

CENG 500 UNDERGRADUATE RESEARCH (3)
Independent investigation of a specific topic or problem in modern chemical engineering research under the direction of a selected faculty member. Prerequisite(s): permission of the department. Course may be repeated for credit. Instructor(s): Robert

CENG 501 (F) FLUID MECHANICS AND TRANSPORT PROCESSES (3)
Advanced study in fluid mechanics and transport processes including analytical and numerical approximation methods, boundary layer theory, and potential flow theory. Instructor(s): Hirasaki

CENG 503 (S) CHEMICAL ENGINEERING PROCESSES: AIR POLLUTION CONTROL (3)
Examines sources, characterization, and effects of atmospheric pollutants O3, CO, HC, VOC, NOX, SOX, and particulates; regulatory issues and pollution standards; dispersion models and meteorology; and techniques, with emphasis on those employing catalysts, used in pollution control. Instructor(s): McKee

(#) = credit hours per semester
CENG 540  STATISTICAL MECHANICS (3)
A development of the principles of statistical mechanics with application to problems of chemical interest. Not offered 2003–04.

CENG 551 (F)  INTRODUCTION TO BIOENGINEERING (1)
A seminar course introducing current research areas in Bioengineering and Biotechnology. Taught in a tutorial manner to help acquaint students with the research activities of various laboratories at Rice and the Texas Medical Center. Instructor(s): Staff

CENG 560  INTERFACIAL PHENOMENA (3)

CENG 571 (S)  FLOW AND TRANSPORT THROUGH POROUS MEDIA I (3)
Study of the geology, chemistry, and physics of multicomponent, multiphase fluids in porous media. Includes hydrostatic and hydrodynamic properties of fluids in soils and rocks and the simulation of fundamental transport processes in one dimension. Instructor(s): Hirasaki

CENG 590 (S)  KINETICS, CATALYSIS, AND REACTOR ENGINEERING (3)
Review of kinetics and reactor design equations; heterogeneous catalysis; catalyst preparation, characterization, testing; catalytic reaction mechanisms; diffusion and reaction in catalyst pellets; conservation equations; reactor analysis. Instructor(s): Hightower

CENG 593 (F)  POLYMER SCIENCE AND ENGINEERING (3)
Basic concepts in macromolecular chemistry and their application in the synthesis and chemical modification of polymers. Instructor(s): Armeniades

CENG 594 (S)  PROPERTIES OF POLYMERS (3)
Molecular organization and physical properties of polymeric materials; elastomeric, semicrystalline, and glassy polymers; processing and technology of polymeric systems. Instructor(s): Armeniades

CENG 600  MASTER OF CHEMICAL ENGINEERING RESEARCH (3)
Independent investigation of a topic or problem in modern chemical engineering research under the direction of a selected faculty member. Instructor(s): Zygourakis

CENG 601  FLUID MECHANICS & TRANSPORT (3)
Advanced study in one of several areas of fluid mechanics or transport, including tensor analysis, continuum mechanics, rheology, and mathematical methods of special interest in fluid mechanics. Not offered 2003–04. Instructor(s): Staff

CENG 602 (S)  PHYSICO-CHEMICAL HYDRODYNAMICS (3)
Topics in hydrodynamics including areas such as waves on liquid surfaces, convection and diffusion in liquids, motion of drops and bubbles, and electrophoresis. Instructor(s): Miller

CENG 603 (F)  RHEOLOGY (3)

(F) = Fall; (S) = Spring
CENG 611 (F)  ADVANCED TOPICS-THERMODYNAMICS (3)
An advanced treatment of the thermodynamics of pure and multicomponent systems. Topics range from classical thermodynamics to a discussion of modern developments. Instructor(s): Robert

CENG 615 (S)  APPL OF MOLECULAR SIMULATION AND STATISTI-
CAL MECHANICS (3)
Introduction to molecular simulation techniques and applications of statistical mechanics-based theory to engineering problems. Projects involve topics of current research interest. Students are expected to know thermodynamics and to have had some introduction to statistical mechanics. Instructor(s): Chapman

CENG 620 (S)  TISSUE ENGINEERING (3)
This course will focus on cell–cell interactions and the role of the extracellular matrix in the structure and function of normal and pathological tissues. Includes strategies to regenerate metabolic organs and repair structural tissues, as well as cell-based therapies to deliver proteins and other therapeutic drugs, with emphasis on issues related to cell and tissue transplantation such as substrate properties, angiogenesis, growth stimulation, cell differentiation, and immunoprotection. Instructor(s): Mikos

CENG 630 (S)  CHEMICAL ENGINEERING OF NANOSTRUCTURED MATERIALS (3)
Overview of materials with structural features on the nanometer scale. Discussion of general concepts of synthesis, characterization and applications. Highlight advances found in recent literature. Instructor(s): Wong

CENG 661 (F)  GRADUATE SEMINAR (1)
Instructor(s): Staff

CENG 662 (S)  GRADUATE SEMINAR (1)
Instructor(s): Staff

CENG 671 (S)  FLOW AND TRANSPORT THROUGH POROUS MEDIA II (3)
Calculation of multicomponent-multiphase transport in one to three dimensions using finite difference methods. Includes development of multidimensional models of systems and representation and estimation of geological heterogeneity. Instructor(s): Hirasaki

CENG 672 (F)  APPLIED MATHEMATICS I (3)

CENG 692 (S)  NUMERICAL METHODS FOR DIFFERENTIAL EQUA-
TIONS IN ENGINEERING AND BIOLOGY (3)
The class focuses on the numerical analysis of various times integration techniques for ordinary differential equations, as well as spatial and temporal discretization methods for hyperbolic and parabolic partial differential equations that describe processes in engineering and biology. Homework and projects aim at the comparative evaluation of the various schemes discussed in class. Instructor(s): Mantzaris

CENG 700  M.S. RESEARCH AND THESIS (3)
Course may be repeated for credit. Instructor(s): Staff

CENG 720  SPECIAL TOPICS IN CHEMICAL ENGINEERING (3)
A course which covers various special topics in chemical engineering. Offered at irregular intervals on demand. Enrollment requires approval of the instructor. Instructor(s): Staff

CENG 760  BAYLOR/RICE MD/PHD PROGRAM
Departmental permission required. Course may be repeated for credit. Not offered 2003–04.

(#) = credit hours per semester
CENG 800  GRADUATE RESEARCH (3)
Course may be repeated for credit. *Instructor(s): Staff*

CENG 801 (S)  SPECIAL TOPICS IN CHEMICAL ENGINEERING (1)
Summer internship in an area related to thesis research or professional broadening. Permission or thesis advisor and department chair required. *Instructor(s): Staff*

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**CEVE (Civil and Environmental Engineering)**

The George R. Brown School of Engineering / Department of Civil and Environmental Engineering

CEVE 201 (F)  INTRO-ENVIRONMENTAL SYSTEMS (4)
The chemical, physical, and biological components of the natural environment as resources and their utilization and interaction in environmental control engineering and technology. Also listed as HEAL 201. Lecture (TTH 10:50 A.M.–12:05 P.M.) and laboratory (W 2–5 P.M.) are required. *Instructor(s): Ward*

CEVE 211  ENGINEERING MECHANICS (3)
Also offered as MECH 211. *Instructor(s): Staff*

CEVE 300 (S)  MECHANICS OF SOLIDS I (3)
Analysis of stress and deformation of solids with applications to beams, circular shafts, and columns. Study of engineering properties of materials. Applying equilibrium, compatibility, and force-deformation relationships to structural elements. Prerequisite(s): CEVE 211 *Instructor(s): Nagarajaiah*

CEVE 302 (S)  STRENGTH OF MATERIALS LAB (1)
Instruction in standard tension, compression, and torsion tests of ferrous and nonferrous metals. Includes experimental techniques and the behavior of structural elements. Enrollment limited. Preference given to civil engineering majors. *Instructor(s): Nagarajaiah*

CEVE 304 (S)  STRUCTURAL ANALYSIS I (3)
Analysis of statically determinate structures; stability and determinacy; influence lines and moving loads. Calculation of deflections. Introduction to analysis of indeterminate structures. *Instructor(s): Veletsos*

CEVE 305 (F)  STRUCTURAL ANALYSIS II (3)
Study of force and displacement methods used in the analysis of indeterminate structures. Includes influence lines, energy methods. Introduction to stiffness method of analysis of structures. Required for B.S.C.E. (not required for environmental engineering) *Instructor(s): Staff*

CEVE 306 (S)  STEEL DESIGN (3)
Design of steel members, connections, and assemblies. Behavior of a member as related to design. *Instructor(s): Terk*

CEVE 308 (S)  GLOBAL ENVIRON LAW & SUSTAINABLE DEV (3)
Examination of emerging trends toward sustainable development and global environmental protection. Includes international treaties on management of the oceans, global warming, ozone depletion, biodiversity and development pattern; impact of treaties such as NAFTA and GATT. *Instructor(s): Blackburn*

CEVE 322 (F)  ENGINEERING ECONOMICS FOR ENGINEERS (3)
Introduction to the evaluation of alternative investment opportunities with emphasis on engineering projects and capital infrastructure. Time value of money concepts are developed in the context of detailed project evaluation and presentations. *Instructor(s): Segner*
CEVE 363 (F)  APPLIED FLUID MECHANICS (3)
Study of fluid properties, fluid statics, and incompressible fluid steady flow. Includes energy and momentum equations with many applications, similitude and dimensional analysis, and viscous fluid flow in pipe networks. Required for B.S.C.E. Instructor(s): Liapis

CEVE 400 (F)  MECHANICS OF SOLIDS II (3)
Analysis of stress and strain in two and three dimensions. Stress-strain relations for elastic, elastic/plastic, and viscoelastic materials. Material failure criteria. Analysis of bending and torsion of cylinders, plane problems, large deflections of beam beams, curved beams, beams of elastic foundations, and plates. Solutions by analytical, numerical, and energy methods, including an introduction to the finite element method. Does not count toward graduate degree requirements in civil engineering. Instructor(s): Merwin

CEVE 401 (F)  INTRO ENVIRONMENTAL CHEMISTRY (4)
Principles and significance of measurements used to assess environmental quality. Hands-on measurements of both classical titration, and modern instrumental methods of measuring both bulk and trace level pollutant concentrations. Instructor(s): Tomson

CEVE 403 (F)  PRINCIPLES OF ENVIRONMENTAL ENGINEERING (3)
Water quality engineering, air pollution control, and solid and hazardous waste management. Instructor(s): Adamson

CEVE 406 (S)  INTRODUCTION TO ENVIRONMENTAL LAW (3)
Legal techniques used by societies to plan and regulate the use of environmental resources. Not offered in 2004. Instructor(s): Blackburn

CEVE 407 (S)  EINFORCED CONCRETE DESIGN (3)
Instruction in tests of materials and reinforced concrete members. Corequisite: CEVE 408. Instructor(s): Durrani

CEVE 408 (S)  CONCRETE LABORATORY (1)
Instruction in tests of materials and reinforced concrete members. Corequisite: CEVE 407. Instructor(s): Durrani

CEVE 411 (S)  AIR RESOURCE MANAGEMENT (3)
Introductory principles necessary for understanding air quality and the sources and control of air pollution. Instructor(s): Fraser

CEVE 412 (S)  HYDROLOGY & WATERSHED ANALYSIS (3)
Fundamentals of the hydrologic cycle, hydrograph techniques, flood routing, and open channel flow. Includes hydrologic design and local watershed application. Instructor(s): Bedient

CEVE 434 (F)  CHEMICAL TRANSPORT AND FATE IN THE ENVIRONMENT (3)
Principles of mass balance, chemical partitioning, transport, and transformation in surface waters, ground waters, and the atmosphere. Instructor(s): Staff

CEVE 443 (F)  ATMOSPHERIC SCIENCE (3)
This course emphasizes the science of the atmosphere. Subjects studied include: radiation; climate dynamics; energy balance models; structure and stability; water cloud, and precipitation physics; atmosphere dynamics; storms and special systems; and atmosphere. Instructor(s): Fraser

CEVE 451 (S)  INTRODUCTION TO TRANSPORTATION (3)
Survey of the operational characteristics of transport modes, the elements of transportation planning, and the design of stationary elements. Required for B.S.C.E. (not required for environmental engineering option). Instructor(s): Staff

(#) = credit hours per semester
CEVE 454 (F)  FINITE ELEMENT METHODS IN FLUID MECHANICS (3)
Fundamental concepts of finite element methods in fluid mechanics, including spatial discretization and numerical integration in multidimensions, time-integration, and solution of nonlinear ordinary differential equation systems. Instructor(s): Tezduyar

CEVE 470 (F)  BASIC SOIL MECHANICS (4)
Introduction to geotechnical engineering, formation of soil, properties and behavior, soil classifications, water flow through soil, consolidation and settlement, strength characteristics, soil stabilization. Instructor(s): Cibor

CEVE 479 (F)  INTRODUCTION TO PROJECT DEVELOPMENT (1)
Introduces students to the design issues and practices in civil and environmental engineering. Includes the methods, references and computer tools used in engineering design practice. Emphasis on topics that influence the design in civil engineering facilities, including existing built environment, natural environment, economic and social factors, and long expected lifespan. Instructor(s): Terk

CEVE 480 (S)  SENIOR DESIGN (TBA)
Synthesis and application of engineering knowledge of the design of projects. Instructor(s): Grounds

CEVE 490  SPECIAL STUDY AND RESEARCH (TBA)
Open to environmental science or engineering majors with permission of chairman. Written thesis required. Instructor(s): Staff

CEVE 499  SPECIAL PROBLEMS (TBA)
Study of selected topics including individual investigations, special lectures, and seminars. Offered upon mutual agreement of faculty and student. Instructor(s): Staff

CEVE 508 (S)  GLOBAL ENVIRON LAW & SUSTAINABLE DEV (3)
graduate version of CEVE 308 (one additional paper required). Instructor(s): Blackburn

CEVE 511 (S)  ATMOSPHERIC CHEMISTRY AND PHYSICS (3)
Study of the principal chemical and physical processes affecting trace gases and particles in the atmosphere. Overview of the atmospheric transport, transformation and dispersion of air pollutants on the urban, regional and global scale; atmospheric photo. Instructor(s): Fraser

CEVE 512 (S)  HYDROLOGIC DESIGN LAB (3)
Use of hydrologic models for design and analysis of water resources. Instructor(s): Bedient

CEVE 513 (F)  THEORY OF ELASTICITY (3)
Advanced topics in the linear and nonlinear theory of elasticity. Also offered as MECH 513. Not offered every year. Instructor(s): Staff

CEVE 516 (F)  PLATES AND SHELLS (3)
Introduction to theories of plates and cylindrical shells with applications to practical problem. Not offered every year. Instructor(s): Veletsos

CEVE 518 (F)  GROUNDWATER HYDROLOGY AND CONTAMINATION (3)
Contaminant transport in aquifer systems, biodegradation, reaction, numerical models, and groundwater remediation systems. Instructor(s): Bedient

CEVE 521 (F)  STRUCTURAL DYNAMICS I (3)
Dynamics of force-excited discrete linear systems with applications to design. Instructor(s): Veletsos

(F) = Fall; (S) = Spring
CEVE 522 (S)  STRUCTURAL DYNAMICS II (3)
Dynamics of force-excited continuous linear systems and ground-excited linear and yielding structures. Fundamentals of earthquake engineering Instructor(s): Veletsos

CEVE 525 (F)  STRUCTURAL DYNAMICS III (3)
Study of special topics in structural dynamics. Includes problems of wave propagation, the response of structures to waves, the dynamics of foundations, and soil-structure and fluid-structure interaction. Instructor(s): Veletsos

CEVE 526 (S)  STRUCTURAL STABILITY
General analysis of stress and strain, linear elastic, thermo-elastic stress-strain relations. Approximate solutions by energy methods and finite element method. Instructor(s): Nordgren

CEVE 527 (F)  COMPUTATIONAL METHODS IN STRUCTURAL MECHANICS (3)
Introduction to differential and integral formulations, variational principles, weighted residuals, and principle of virtual work. Simple boundary, initial, and eigenvalue problems. Finite element, boundary element, and finite difference methods for structural mechanics. Instructor(s): Nagarajaiah

CEVE 530 (F)  CONCRETE BUILDING DESIGN (3)
Design of reinforced concrete building structures and floor slab systems. Case histories will be discussed. Instructor(s): Haque

CEVE 531 (F)  BEHAVIOR OF REINFORCED CONCRETE MEMBERS (3)
Study of the moment-curvature relationship for beams and columns, biaxially loaded columns, slenderness effects, interaction diagrams, shear and torsion in members, shear wall-frame interaction, and behavior under large load reversals. Includes extensive use of microcomputers. Instructor(s): Durrani

CEVE 532 (S)  PHYSICAL-CHEMICAL PROCESSES IN ENVIRON (3)
Introduction to colloid and surface chemistry, precipitation, settling, packed bed filtration, other operations used in environmental pollution control and potable water treatment. Instructor(s): Wiesner

CEVE 534 (F)  TRANSPORT PHENOMENA & ENVIRONMENTAL MODELING (3)
Principles of fluid flow, mass transport and transformation processes in natural and engineered systems. Instructor(s): Wiesner

CEVE 536 (S)  ENVIRONMENTAL BIOTECHNOLOGY (3)
Theory and application of biochemical processes in environmental engineering. Instructor(s): Adamson

CEVE 540 (S)  STEEL BUILDING DESIGN (3)
Exploration of practical design from conceptual stage to final analysis. Includes design parameters and serviceability limitations. Prerequisite(s): CEVE 305/306, and 407. Instructor(s): Shiek

CEVE 550 (S)  ENVIRONMENTAL ORGANIC CHEMISTRY (3)
A course covering parameter estimation methods, thermodynamics, and kinetic needed to predict the fate, transport, and reactivity of organic compounds in air, water, and soils. Instructor(s): Tomson

CEVE 554 (F)  FINITE ELEMENT METHODS IN FLUID MECHANICS (3)
Graduate version of CEVE 454. Additional work required. Instructor(s):

CEVE 555 (S)  INTERNET-ENABLED ENGINEERING (1)
Introduction to the Internet and the Internet’s impact on engineering activities. This course will concentrate on issues involved in creating websites that support engineering activities. Instructor(s): Terk

(#) = credit hours per semester
CEVE 559 (S)  PROGRAMMING CONCEPTS IN COMPUTER-AIDED ENGINEERING (3)
Provides an introduction to fundamental issues in computer-aided engineering (CAE); control of the complexity of developing large-scale CAE software; decompositions and abstraction strategies used to produce modular programs. Instructor(s): Terk

CEVE 570 (S)  FOUNDATION ENGINEERING (3)
Soil exploration, bearing capacity, and settlements of foundations; soil improvement; geotechnical analysis and design of spread and special footings. Prerequisite(s): CEVE 521 Instructor(s): Cibor

CEVE 571 (S)  SOIL DYNAMICS (3)
Introduction to vibrations, wave propagation in elastic media, in situ soil properties, the behavior of soil subjected to dynamic and cyclic loading, and engineering applications. Instructor(s): Staff

CEVE 590 (S)  M.E.E. AND M.E.S. SPECIAL STUDY AND RESEARCH (TBA)
Independent investigation of a specific topic or problem in environmental engineering under the direction of a selected faculty member. Preparation of a formal report and oral presentation of results are required. Instructor(s): Staff

CEVE 601 (F)  SEMINAR (3)
Continuing seminar on environmental research. Instructor(s): Staff

CEVE 602 (S)  SEMINAR (3)
See CEVE 601. Instructor(s): Staff

CEVE 610 (S)  STRUCTURAL DYNAMIC SYSTEMS AND CONTROL (3)
Elements of linear systems and control theory, transform methods, state space methods, feedback control, and Lyapunov’s method. Analytical modeling of structures, control algorithms, and response to dynamic loading. Base isolation, smart materials and devices. Instructor(s): Nagarajaiah

CEVE 630 (S)  CHARACTERIZATION, TRANSPORT AND TREATMENT PARTICLES IN WATER (3)
Fundamentals of membrane processes, theory and methods for characterizing aquasols, colloid chemistry, particle transport in porous media and simple flows, particle aggregation, aggregate and deposit morphology, and other special topics. Instructor(s): Wiesner

CEVE 631  ENVIRONMENTAL SYSTEMS ANALYSIS (3)
Formulation of optimization models. Offered in alternate years. Instructor(s): Wiesner

CEVE 635 (F)  ADV TOPICS IN WATER CHEMISTRY (3)
Formal lecture and assigned reading in topics such as redox kinetics and thermodynamics, adsorption and desorption, and the associated mathematics. An advanced topics course. Instructor(s): Tomson

CEVE 635  ADV TOPICS IN WATER CHEMISTRY (TBA)
Advanced topics in graduate study. Instructor(s): Tomson

CEVE 636 (S)  ADV TOPICS IN WATER CHEMISTRY (TBA)
Advanced topics in graduate study. Instructor(s): Tomson

CEVE 640 (F)  ADV TOPICS IN ENVIRONMENTAL ENGINEERING SCIENCES (3)
Special topics in graduate study Instructor(s): Staff

CEVE 641 (S)  ADV TOPICS IN ENVIRONMENTAL ENGINEERING SCIENCES (TBA)
Advanced topics in graduate study. Instructor(s): Staff

(F) = Fall; (S) = Spring
CEVE 651 (F)  M.S. RESEARCH AND THESIS (TBA)
Thesis. Instructor(s): Staff

CEVE 652 (S)  M.S. RESEARCH AND THESIS (TBA)
Thesis. Instructor(s): Staff

CEVE 678 (F)  ADVANCED STOCHASTIC MECHANICS (3)
Nonlinear random vibrations, Statistical Linearization, ARMA filters modeling, Monte Carlo
Simulation, Wiener-Volterra series, time-variant structural reliability, and Stochastic Finite Ele-
ments are presented from a perspective of usefulness to aerospace. Instructor(s): Spanos

CEVE 679 (F)  APPLIED MONTE CARLO ANALYSIS (3)
Probability density and power spectrum based simulation concepts and procedures are discussed.
Scalar and vectorial simulation are addressed. Spectral decomposition and digital filter algorithms
are presented. See MECH 679. Instructor(s): Spanos

CEVE 698 (F)  SPECIAL PROBLEMS (TBA)
Study of selected topics including individual investigations under the direction of a member of the
civil engineering faculty. Offered upon mutual agreement of faculty and student. Instructor(s): Staff

CEVE 699 (S)  SPECIAL PROBLEMS (TBA)
Study of selected topics including individual investigations under the direction of a member of the
civil engineering faculty. Offered upon mutual agreement of faculty and student. Instructor(s): Staff

CEVE 800 (F)  PH.D. RESEARCH AND THESIS (TBA)
Thesis. Instructor(s): Staff

CEVE 801 (S)  PH.D. RESEARCH AND THESIS (TBA)
Thesis. Instructor(s): Staff

CHEM (Chemistry)
The Wiess School of Natural Sciences / Department of Chemistry

CHEM 121 (F)  GENERAL CHEMISTRY WITH LAB (4)
***Hour exams 8 AM TTH *** Introduction to chemical phenomena emphasizing problems and
methods in chemistry. includes a laboratory that meets once per week for 2.5 hours. Instructor(s): Colvin, Whitmire, Thoms, McHale

CHEM 122 (S)  GENERAL CHEMISTRY WITH LAB (4)
*** HOUR EXAMS 8 AM TTH *** See CHEM 121. Either CHEM 122 or 152 may be taken as
prerequisite for advanced study in chemistry, but only one of these two may be taken for credit.
Includes a laboratory that meets once per week for 2.5 hours. Instructor(s): Whitmire, Colvin,
Thoms, McHale

CHEM 151 (F)  HONORS CHEMISTRY WITH LAB (4)
An introduction to chemical phenomena emphasizing principles and theories in chemistry.
Recommended strongly for students who plan to major in chemistry or have a strong high school
background. Includes a laboratory that meets once per week for 2.5 hours. Instructor(s): Weisman,
Brooks, McHale

CHEM 152 (S)  HONORS CHEMISTRY WITH LAB (4)
See CHEM 151. Either 122 or 152 may be taken as prerequisite for advanced study in chemistry,
but only one of these two may be taken for credit. Includes a laboratory that meets once per week
for 2.5 hours. Instructor(s): Weisman, Brooks, McHale

(#) = credit hours per semester
CHEM 157 (F) LABORATORY SKILLS REVIEW (0)
A laboratory refresher course for students who received AP credit for CHEM 121 and 122. Permission of instructor required. Instructor(s): Weisman, McHale

CHEM 211 (F) ORGANIC CHEMISTRY (3)
Aliphatic and aromatic organic chemistry with emphasis on structure, bonding, and reaction mechanisms. Instructor(s): Billups, Parry

CHEM 212 (S) ORGANIC CHEMISTRY (3)
Continuation of CHEM 211 with a greater emphasis on the chemistry of various functional groups. Instructor(s): Billups, Parry

CHEM 213 (F) ORGANIC CHEMISTRY LAB (1)
Synthesis, purification, and characterization of organic compounds. Experiments related to topics covered in CHEM 211 and 212. Second semester includes identification of unknown organic compounds. (One hour lecture precedes each lab.) One lab per week. Not offered fall 2003.

CHEM 215 (S) ORGANIC CHEMISTRY LAB (1)
Synthesis, purification, and characterization of organic compounds. Experiments related to topics covered in CHEM 211, 212. Second semester includes identification of unknown organic compounds. (One hour lecture precedes each lab.) One lab per week. Instructor(s): Billups, McHale

CHEM 217 (F) ORGANIC LABORATORY FOR CHEMICAL ENGINEERS
Organic laboratory designed for chemical engineering majors. Emphasis placed on the synthesis and the characterization of organic compounds. This laboratory does not satisfy requirements for science majors or premedical students. Billups, McHale

CHEM 311 (F) PHYSICAL CHEMISTRY (3)
An introduction to the fundamental principles of physical chemistry, including quantum chemistry, chemical bonding, molecular spectroscopy, statistical thermodynamics, and kinetic theory of gases. Instructor(s): Kolomeisky

CHEM 312 (S) PHYSICAL CHEMISTRY (3)
A continuation of CHEM 311, including the principles of thermodynamics, statistical thermodynamics, kinetic theory of gases, chemical kinetics and reaction dynamics, and the structures of liquids, solids, and macromolecules. Instructor(s): Clementi, Kinsey

CHEM 351 (F) INTRODUCTORY MODULE IN EXPERIMENTAL CHEMISTRY I (1)
Experiments illustrating techniques in synthetic inorganic chemistry and instrumental methods of analysis. Required for chemistry majors. Taught in the first half of the semester. Freshman may take the course with permission from instructor. Instructor(s): Wilson

CHEM 352 (F) INTRODUCTORY MODULE IN EXPERIMENTAL CHEMISTRY II (1)
Experiments illustrating techniques in synthetic organic chemistry and instrumental methods of analysis. Required for chemistry majors. Taught in the second half of the semester. Instructor(s): Thoms

CHEM 353 (S) INTRODUCTORY MODULE IN ANALYTICAL METHODS (1)
Experiments illustrating techniques in analytical chemistry, data analysis, data precision and accuracy. Quantitative measurements will be stressed including volumetric techniques. Instructor(s): Thoms

CHEM 360 (S) INORGANIC CHEMISTRY (3)
Survey of the periodic table; atomic and molecular structure; bonding in covalent, ionic, and electron deficient systems; thermochemical principles and experimental techniques for analysis, structure determination, and synthesis. Instructor(s): Barron, Margrave

(F) = Fall; (S) = Spring
CHEM 373 (S) ADV MODULE IN FULLERENE CHEM (1)
A mixture of fullerenes is extracted, separated, and purified. Spectroscopic, kinetic, and electrochemical properties of C60 and C70 are then measured and interpreted. Offered first half of the semester. Instructor(s): Weisman

CHEM 374 (F) ADV MODULE IN SYNTHETIC CHEM (1)
Advance techniques in organic synthesis are presented. Offered the second half of the semester. Instructor(s): Parry

CHEM 375 (F) ADVANCED MODULE IN NANOCHEMISTRY (1)
Students explore synthesis and structure of nanoparticles and their physical characterization. Instructor(s): Thoms

CHEM 381 (F) ADVANCED MODULE IN PHYSICAL CHEMISTRY I (1)
Study of experimental physical chemistry. Offered in first half of semester. Some knowledge of MATLAB required. Not offered fall 2003.

CHEM 382 (F) ADVANCED MODULE IN PHYSICAL CHEMISTRY (1)
Study of experimental physical chemistry. Offered in first half of semester. Some knowledge of MATLAB required. The labs are offered M, T, W, or TH from 1–7 P.M. every other week. Instructor(s): Brooks

CHEM 383 (F) ADV MODULE IN INSTRUMENTAL ANALYSIS (1)
Principles and application of modern instrumental methods to inorganic and physical chemistry. Offered in the first half of the semester. Not offered fall 2003.

CHEM 384 (S) ADV MODULE IN INSTRUMENTAL ANALYSIS (1)
Principles and application of modern instrumental methods to inorganic and physical chemistry. Offered in the second half of the semester. Instructor(s): Thoms

CHEM 385 (F) ADVANCED MODULE IN POLYMER CHEMISTRY (1)
Students explore the synthesis and physical properties of conducting polymers. Not offered fall 2003.

CHEM 391 (F) ADVANCED MODULE IN CATALYSIS (1)

CHEM 401 (F) ADV ORGANIC CHEMISTRY (3)
The synthesis of complex organic compounds are described using the basic outline of retrosynthetic analysis. An overview of numerous classical organic ad organometallic methods is utilized. Instructor(s): Behar

CHEM 411 (S) SPECTRAL METH. IN ORGANIC CHEM (3)
Elucidation of organic structures by physical techniques. Interpretation of infrared, ultraviolet, nuclear magnetic resonance, and mass spectra. Instructor(s): Engel

CHEM 413 (F) NUCLEAR MAGNETIC RESONANCE IN CHEMISTRY (3)
This course is designed to bring the practicing scientist to a sufficient level of competence in nuclear magnetic resonance (NMR) to understand multi-dimensional NMR techniques and the current literature. The course covers the mathematical and physical basis of NMR as well as the experimental aspects, which will lead to the selection of experiments appropriate to the class participants’ research projects. Chem. 413 assumes a fundamental knowledge of 13C and 1H NMR. Instructor(s): Willcott

CHEM 414 (F) MATHEMATICAL METHODS FOR HIGH RESOLUTION NMR SPECTROSCOPY (3)
Rigorous development of the density matrix methodology for analysis of high resolution NMR Spectroscopy. Includes two and three dimensional NMR techniques for liquid phase samples. Product operator formalism gradient enhanced spectroscopy and methods for rapid analysis of NMR spectra will be presented.

(#) = credit hours per semester
CHEM 415 (F) CHEMICAL KINETICS & DYNAMICS (3)
Description and analysis of the rates of unimolecular, bimolecular and composite chemical reactions in gas and solution phases. Both macroscopic kinetics and microscopic reaction dynamics are covered. Instructor(s): Brooks, Glass

CHEM 430 (F) QUANTUM CHEMISTRY (3)
Quantum mechanical principles, atomic structure and chemical bonding. Instructor(s): Clementi

CHEM 435 (S) METHODS OF COMPUTATIONAL QUANTUM CHEMISTRY (1)
Methods of quantum chemistry will be examined with projects to explore the application of these techniques in solving questions about chemical structure, bonding and reactivity. Offered the second half of the semester. Enrollment limited to 6. Instructor(s): Scuseria

CHEM 440 (F) ENZYME MECHANISMS (3)
A survey of organic reactions catalyzed by enzymes, with an emphasis on arrow-pushing mechanisms. Both enzymes that use cofactors and those that do not will be covered. Also listed as BIOS 440. Instructor(s): Matsuda

CHEM 445 (F) PHYSICAL ORGANIC CHEM (3)
Organic reaction mechanisms, substituent and medium effects, linear free energy relations and acidity functions. Instructor(s): Engel

CHEM 491 (F) RESEARCH FOR UNDERGRADUATES (3)
Open only to chemistry majors unless approved by the department chair. Written report required. Instructor(s): Margrave

CHEM 494 (F) UNDERGRADUATE LITERATURE RESEARCH (3)
Students conduct literature research under the direction of a chemistry faculty member. The research project will culminate in a substantial written work describing the results of the project. Approval of the department chair required. Not offered 2003–04.

CHEM 495 (F) TRANSITION METAL CHEMISTRY (3)
Structure, bonding and reactivity of coordination and organometallic compounds; ligand field theory; electronic spectroscopy; magnetism; reaction mechanisms; catalysis. Instructor(s): Barron, Wilson

CHEM 515 (F) CHEMICAL KINETICS & DYNAMICS (3)
Description and analysis of the rates of unimolecular, bimolecular, and composite chemical reactions in gas and solution phases. Both macroscopic kinetics and microscopic reaction dynamics are covered. Not offered 2003–04.

CHEM 520 (S) CLASSICAL & STATISTICAL THERMODYNAMICS (3)
A review of the principles of classical thermodynamics and an introduction to the theories and methods of statistical thermodynamics with applications to problems in chemistry. Instructor(s): Kolomeisky

CHEM 530 (F) MOLECULAR QUANTUM MECHANICS I (3)
Quantum mechanical principles, atomic structure, and chemical bonding. Not offered fall 2003

CHEM 531 (S) QUANTUM MECHANICS II (3)
A development of the elements and techniques of quantum mechanics with applications to atomic and molecular systems. Instructor(s): Scuseria

CHEM 533 (F) INTRODUCTION TO NANOCHEMISTRY (3)
An introduction to the basic principles of nanoscience and nanotechnology size dependent physical properties of nanoscopic solids will be described using solid state physics and molecular orbital theory as a foundation. Wet chemical techniques that produce nanoscale materials (e.g., carbon nanotubes, semiconductor and metallic nanocrystals, dendrimers.) will be introduced in the second half of the semester. Also listed as PHYS 533. Instructor(s): Colvin

(F) = Fall; (S) = Spring
CHEM 543 (S)  SECONDARY METABOLISM (3)
A survey of the biosynthetic pathways leading to the major classes of natural products. Topics covered include the use of radioactive and stable isotopes, the synthesis of labeled organic compounds mechanistic investigations of secondary metabolic enzymes, and the cloning and characterization of secondary metabolic genes. Instructor(s): Parry

CHEM 544 (F)  ORGANIC CHEM (3) NOT OFFERED 03-04
An in-depth introduction to synthesis, characterization, and physical properties of polymers.

CHEM 547 (F)  SUPRAMOLECULAR CHEMISTRY (3)
An examination of noncovalent interactions and their impact in biology, chemistry, and engineering. Topics will include self-assembly, molecular recognition, protein folding and structure, nucleic acid structure, polymer organization, crystallization and applications of the above for the design and synthesis of nanostructured materials. Instructor(s): Hartgerink

CHEM 561 (F)  ADVANCED ORGANIC CHEM (3)
The disconnection approach to organic synthesis. Heavy emphasis on reactions, reagents, and mechanisms. Not offered fall 2003.

CHEM 562 (S)  ADVANCED ORGANIC CHEMISTRY (3)
Continues in the same vein as CHEM 561 but with emphasis on very recent advances in stereoselective synthesis. Instructor(s): Behar

CHEM 566 (F)  SURFACE PHYSICS (3)
An introduction to Surface Physics covering thermodynamics, chemical analysis, electronic structure, crystal structure, phase transitions, surface magnetism, elementary excitations, and optical properties. Includes a discussion of modern surface spectroscopies including photo-electron and scanning tunneling microscopy/spectroscopy. Also listed as PHYS 566. Not offered fall 2004.

CHEM 570 (S)  CONNECTING NANOSCIENCE TO 9TH GRADE IPC CURRICULUM (2)
Seminar with a team of university faculty to refresh and enhance high school Integrated Physics and Chemistry (IPC) teachers understanding of course material. This material will then be connected to ongoing nanotechnology research to act as a stimulating and effective context for teaching scientific concepts. Enrollment limited to 35. Instructor(s): Kulinowski

CHEM 575 (S)  PHYSICAL METHODS IN INORGANIC CHEMISTRY (3)
A survey course of research techniques used in modern inorganic chemistry. Topics covered will include X-ray diffraction, calorimetry, matrix isolation, mass spectrometry, magnetism, electrochemistry, and various spectroscopies (IR, Raman, UV-Vis, nmr, epr, XPS, EXAFS, and Mossbauer). Open to undergraduates by special permission only. Instructor(s): Whitmire

CHEM 595 (F)  SPECIAL TOPICS-INORGANIC CHEMISTRY (3)
Rotation of topics include: solid-state chemistry, organometallic chemistry, bioinorganic chemistry, and single-crystal X-ray diffraction. Open to undergraduates by special permission only. Not offered 2003–04.

CHEM 596 (F)  CHEMISTRY OF ELECTRONIC MATERIALS (3)
a review of the chemical processes involved in the manufacture of microelectronic chips, including; crystallization, purification, oxidation, thin film methods, lithography and ceramic processing. Usually alternates with CHEM 595. Open to undergraduates by special permission only. Not offered 2003–04.

CHEM 600 (F)  INORGANIC SEMINAR (1)
Selected topics in current research and literature. Intended for graduate students; undergraduate students must obtain consent of the instructor. Instructor(s): Margrave

CHEM 600 (S)  INORGANIC SEMINAR (1)
Selected topics in current research and literature. Intended for graduate students; undergraduate students must obtain consent of the instructor. Instructor(s): Barron

(#) = credit hours per semester
CHEM 601 (F) PHYSICAL SEMINAR (1)
Selected topics in current research and literature. Intended for graduate students; undergraduate students must obtain consent of instructor. Instructor(s): Kinsey

CHEM 601 (S) PHYSICAL SEMINAR (1)
Selected topics in current research and literature. Intended for graduate students; undergraduate students must obtain consent of instructor. Instructor(s): Kinsey

CHEM 602 (F) ORGANIC SEMINAR (1)
Selected topics in current research and literature. Intended for graduate students; undergraduate students must obtain consent of instructor. Instructor(s): Tour

CHEM 602 (S) ORGANIC SEMINAR (1)
Selected topics in current research and literature. Intended for graduate students; undergraduate students must obtain consent of instructor. Instructor(s): Engel

CHEM 603 (F) TECHNOLOGY MANAGEMENT FOR SCIENTISTS AND ENGINEERS (3)
This course is intended for graduate students in science and engineering who are interested in gaining an understanding of the business of technology. Particular emphasis is placed on the financial and human resources management, business strategy, patents, trademarks and licenses, as well as new business start-up and development. Not offered fall 2003.

CHEM 606 (F) EFFECTIVE PRESENTATIONS FOR CHEMISTS (1)
Students learn to plan effective technical seminars with applications to chemical conferences such as the national and regional meetings of the American Chemical Society, as well as job interview presentations. Open to undergraduates by special permission only. Not offered fall 2003.

CHEM 611 (F) HI TEMP&HI PRESS CHEM (3)
The techniques for generation and measurement of high temperature and high pressures and of the nature of phenomena under extreme conditions. Instructor(s): Margrave

CHEM 630 (F) MOLECULAR SPECTROSCOPY & GROUP THEORY (3)
The spectra of simple molecules, including microwave, infrared, visible, ultraviolet, and Raman spectra; introductory aspects of molecular symmetry and group theory; resonance spectroscopy. Instructor(s): Curl

CHEM 700 (F) TEACHING PRACTICUM (2)
Open to graduate students in chemistry and only in exceptional circumstances to undergraduates. Instructor(s): McHale

CHEM 700 (S) TEACHING PRACTICUM (2)
Open to graduate students in chemistry and only in exceptional circumstances to undergraduates. Instructor(s): McHale

CHEM 750 (F) MANAGEMENT FOR SCIENTISTS AND ENGINEERS (3)
This course is designed for science and engineering students who want to understand the management of new and/or small technology based businesses. The course is taught in modular format to give students insights into how technology oriented firms manage intellectual property, marketing, organization behavior, strategy, accounting and finance. Concepts covered will be particularly relevant to students interested in careers in technology or entrepreneurial ventures. This course is part of a two-class sequence and provides the foundation for students taking NEW VENTURE CREATION for SCIENCE and ENGINEERING which is offered in the spring. Also listed as MGMT 750 and MSCI 750. Instructor(s): Barron

(F) = Fall; (S) = Spring
CHEM 751 (F)  NEW VENTURE CREATION FOR SCIENCE AND ENGINEERING (3)
This course deals with the concepts and theories relevant to new venture creation. Our primary focus is the start-up process with particular emphasis being placed on market issues, intellectual property and entrepreneurial finance. As part of the course we will evaluate the commercial potential of a live technology drawn from the Rice engineering/science community. The concepts covered will be particularly relevant to students who are interested in careers in technology or entrepreneurial venture. The course is offered to seniors and graduate students only. Also listed as MGMT 751 and MSCI 751. Not offered fall 2003.

CHEM 800 (F)  GRADUATE RESEARCH (3)

CHIN (Chinese)

The School of Humanities / Center for the Study of Languages

CHIN 101 (F)  INTRODUCTORY CHINESE I (5)
For students with no background in Chinese. Introduction to the Pinyin writing system, and emphasis on the fundamental vocabulary and structure of Chinese required for basic conversation. Students will learn to write approximately 100 Chinese characters, and be able to perform communicative tasks appropriate to this range of characters. Elements of Chinese culture will be introduced through the language. Weekly attendance at the language laboratory and participation in a weekly tutorial are required to receive full credit. Instructor(s): Yeh

CHIN 102 (S)  INTRODUCTORY CHINESE II (5)
Continuation of Chinese 101. More attention will be paid to the Chinese writing system (Chinese characters) while conversation skills still receive priority. Weekly attendance at the language laboratory and participation in a weekly tutorial required to receive full credit. At the conclusion of 102, students will be able to write approximately 200 Chinese characters, and be able to perform communicative tasks appropriate to this range of characters. Instructor(s): Yeh

CHIN 201 (F)  ELEMENTARY CHINESE I (5)
Continuation of Chinese 102. Increasing emphasis will be paid to cultivating reading and writing skills in Chinese, as related to basic personal needs. The class is conducted primarily in Chinese. Weekly attendance at the language laboratory and participation in a weekly tutorial required to receive full credit. At the completion of 201, students will be able to write approximately 300 Chinese characters, and be able to perform communicative tasks appropriate to this range of characters. Instructor(s): McArthur

CHIN 202 (S)  ELEMENTARY CHINESE II (5)
Continuation of Chinese 201. At the completion of this course, students should be able to converse at an intermediate level, and will be able to approach native language materials with the aid of Chinese language dictionaries. The class is conducted primarily in Chinese. Weekly attendance at the language laboratory and participation in a weekly tutorial required to receive full credit. Instructor(s): Shen

CHIN 203  ACCELERATED CHINESE LANGUAGE AND CULTURE I (4)
Emphasis will be on oral skills and writing. Students will learn to write 200 characters and read 400. Supplementary reading materials such as restaurant menus, lyrics of popular songs are also included. Not offered 2003–04.

CHIN 204  ACCELERATED CHINESE LANGUAGE AND CULTURE II (4)

(#) = credit hours per semester
CHIN 211 (F)  ACCELERATED ELEMENTARY CHINESE I (4)
For students with some background in spoken Chinese but with limited writing ability. 211 introduces the Chinese writing system including the use of Chinese dictionaries, and writing skills necessary for basic personal needs. At the completion of 211, students will be able to write approximately 200 Chinese characters, and be able to perform communicative tasks appropriate to this range of characters. Reading tasks will also be geared towards this range of characters. Instructor(s): McArthur

CHIN 212 (S)  ACCELERATED ELEMENTARY CHINESE II (4)
More attention will be paid to reading narrative texts. Writing will be focused on skills necessary for basic personal needs, with some introduction to writing more advanced social correspondence. At the completion of 212, students will be able to write approximately 400 Chinese characters, and be able to perform communicative tasks appropriate to this range of characters. Instructor(s): McArthur

CHIN 301 (F)  INTERMEDIATE CHINESE I (4)
Oral skills cultivated through discussion of narrative texts. Writing skills focused on skills necessary for basic personal needs. At the completion of 301, students will be able to write approximately 550 characters and be able to perform communicative tasks appropriate to this range of characters. Instructor(s): Chen

CHIN 302 (S)  INTERMEDIATE CHINESE LANGUAGE AND CULTURE II (4)
Continuation of CHIN 301. By the end of CHIN 302, students should be able to study Chinese on an independent basis, as more native language materials will be used in this course. Students will have reading knowledge of approximately 800 Chinese characters. Instructor(s): Shen

CHIN 311 (F)  ACCELERATED INTERMEDIATE CHINESE (4)
Emphasis on reading narrative texts, and understanding authentic oral texts. Writing assignments stress skills necessary for basic personal needs and tasks necessary for writing social correspondence. At the completion of 311, students will be able to write approximately 700 Chinese characters, and be able to perform communicative tasks appropriate to this range of characters. Instructor(s): Shen

CHIN 312 (S)  TEXTS FROM POPULAR CULTURE: ADVANCED INTERMEDIATE CHINESE (3)
Presents the Chinese language through media such as film, popular songs, and short excerpts of popular fiction. Students will learn to distinguish between colloquial Chinese and the more formal language of written Chinese. Students are expected to gain in sophistication of expression in both speaking and writing. Reading/writing practice will be directed from written versions of oral texts and written texts such as plays or short-stories. Students will do regular writing assignments which reinforce reading/listening abilities. Instructor(s): McArthur

CHIN 313 (F)  ADVANCED INTERMEDIATE CHINESE: MEDIA CHINESE (3)
This course is designed to familiarize students with the language of print and broadcast media, with a focus on news media. Students will learn strategies and tactics applicable to newspaper reading, both skimming Chinese texts for basic content and reading intensively for complete comprehension. Students will also learn essential skills for understanding television, internet and radio broadcasts. Contents for discussion include sociopolitical news, economic news, cultural news, and sports news. Regular writing assignments and task-based activities help reinforce reading and listening abilities. Prerequisite(s): CHIN 302 or 311, or permission of instructor. Ability to write 700 characters assumed. Instructor(s): Shen

(F) = Fall; (S) = Spring
CHIN 314 (S) COMMERCIAL CHINESE: ADVANCED INTERMEDIATE CHINESE (3)
This course is designed for students who will use Chinese in business and professional settings. The class aims to develop students' language proficiency in business communication, as well as to focus on the current socio-economic situations of Greater China. The primary emphasis will be placed on listening comprehension, speaking fluency and reading competence. The task-based class activities provide students with the opportunities to practice Chinese and familiarize them with the proper etiquette in the business world. The key topics include the development of private enterprise, the emergence of banking reforms, the Chinese stock market, the trends in marketing, and the changing Chinese management practices, and foreign trade initiatives. Students also will learn to use a Chinese word processor to complete their assignments in this class. Prerequisite(s): CHIN 302 or 311, or permission of instructor. Ability to write approximately 700 characters assumed. Instructor(s): Yeh

CHIN 321 (F) STRUCTURE OF CHINESE: SYNTAX & SEMANTICS (3)
Examination of syntactic and semantic features of Chinese with special attention to contrastive analysis of selected topics of Chinese and English, including expressions of tense and aspect, conditional and counterfactual, word formation (morphology), the notion of syntactic category, etc. Taught in English. Also listed as LING 321. Instructor(s): Chen

CHIN 322 (S) TAIWANESE LANGUAGE & LITERATURE (3)
This course contains two parts running concurrently every week. Part One focuses on language acquisition: students learn to speak Taiwanese. Online textbook is Taiwanese on Campus, written and recorded for the Web by L. Chen. Emphasis is on daily, practical expressions. Teaching materials include Taiwanese songs. Part Two is examination of Taiwanese nativist literature with special attention to its language/cultural and political/historical background. Instructor(s): Chen

CHIN 330 (S) INTRO TRAD CHINESE POETRY (3)
The most elite literary form in classical Chinese literature, traditional poetry also enjoys large readership among common folks. This seeming contradiction emerges from its terse, single-syllabic language and rich, perceptible imagery that offer easy access to highly condensed messages. This course seeks to decode enchanting features of traditional Chinese poetry through examining the transformation of poetic genres, the interaction between poetic creation and political, social, and cultural changes, and the close association of poetry with art. Thus, this course also serves to understand Chinese culture and history through poetic perspectives. All readings in English translation. No previous knowledge of Chinese literature or language required. Also listed as ASIA 330. Instructor(s): Qian

CHIN 332 (F) CHINESE FLM&MODRN CHINESE LIT (3)
Designed to approach modern Chinese literature through visual images (Chinese films, subtitled in English), this course analyzes movie adaptations in comparison with their original texts. The approach is intended to examine how and why different time periods and different media affect the theme of a story. Discussion focuses on literary and cultural history, with attention given to narratology and movie theories as well. Topics include: China’s modernity and the formation and cinematic visualization of modern Chinese literature; self, state, and nation; sex, gender, and power; etc. All readings in English translation. Also listed as ASIA 332. Instructor(s): Qian

CHIN 335 (F) INTRO TO CLASCL CHINESE NOVELS (3)
Examination of the basic characteristics of classical Chinese novels, primarily through six important works from the 16th to 18th centuries: Water Margin, Monkey, Golden Lotus, Scholars, Romance of the Three Kingdoms, and Dream of the Red Chamber. Also listed as ASIA 335. Instructor(s): Qian

CHIN 346 HISTORY OF THE CHINESE LANGUAGE (3)
This course investigates major developments in the history of Chinese, emphasizing structural changes from Archaic to Modern Chinese. We will examine patterns of thought and cultural perceptions as reflected in vocabulary change. Introduction to sound changes in Chinese and the evolution of the writing system. Students are required to have basic knowledge of Chinese or have taken an introductory linguistics course. Not offered 2003–04.

(#) = credit hours per semester
CHIN 399 (F)  CHINESE TEACHING PRACTICUM (3)
This course gives students with advanced proficiency in Chinese the opportunity to acquire teaching experience in tutorial format. Regular meetings with supervising faculty member. Enrollment limited to 20. Instructor(s): Yeh

CHIN 411  ADVANCED CHINESE I (3)
This course aims at improving student’s reading, writing and speaking skills. Readings are authentic texts: chapters or excerpts from Dream of the Red Chamber, Soul Mountain by Gao Xingjian, works by Ba Jin, etc. Compositions and in-depth oral presentations are required. Classroom activities include access to online Chinese news and discussion. Instructor(s): Chen

CHIN 412 (S)  ADVANCED CHINESE LANGUAGE AND CULTURE II (3)
Continuation of CHIN 411. Read native Chinese language materials and develop oral and writing skills to express opinions, make comments and critique social issues. Homework includes writing collaborative scripts to perform in class. Instructor(s): Chen

CLAS (Classical Studies)

The School of Humanities / Department of Hispanic and Classical Studies

CLAS 101  FRESHMAN SEMINAR: SOCRATES: THE MAN AND HIS PHILOSOPHY (3)
Socrates is often considered the first moral philosopher. Yet he was tried for impiety, convicted, and executed by his fellow citizens. His influence on Western thought and literature has been immense, even though he left no writings of his own. In this discussion-style seminar we will consider how Socrates practiced philosophy, how Plato represented Socrates and Socratic philosophy in writing, and what effect Socrates had on Athens and his fellow Athenians. Readings will consist mainly of Plato’s Socratic dialogues, with emphasis on the Apology and Gorgias. In addition to papers, each participant will make one presentation and lead one discussion. Cross-listed as FSEM 101. Not offered 2003–04. Instructor(s): Yunis

CLAS 207  GREEK CIVILIZATION: FROM HOMER TO ALEXANDER THE GREAT (3)
Overview of the literary, artistic, and intellectual monuments of classical Greek civilization from Homer and the Bronze Age through the golden age of classical Athens to the spread of Greek culture in the Hellenistic world. Includes historical background and readings in primary sources. Also listed as HUMA 109 and HIST 207. Not offered 2003–04.

CLAS 208  ROMAN CIVILIZATION (3)
This course will consider the period in Roman history between 31 BC and 14 AD, when the emperor Augustus restored stability to the Roman world, oversaw the expansion of the empire, and rebuilt Rome as a capital city. The Age of Augustus witnessed an unparalleled flowering in the literary arts and a revolution in art and architecture whose legacy persists to this day. We will examine in detail the political events and cultural life of this vital time, paying particular attention to the continuity between the late Republic and the Augustan period, Augustus’ construction of his public identity, imperial and nonimperial patronage in poetry and the visual arts, and the role of literature, art, and architecture in the formation of Augustan ideology in Rome and in the provinces. The course offers a thorough picture of one of the most significant, yet in some ways most elusive, periods in antiquity. Also listed as HART 320. Not offered 2003–04. Instructor(s): McGill

CLAS 209 (F)  GREEK AND ROMAN DRAMA (3)
GREEK: A reading and dramatic analysis of Aeschylus’s Oresteia (three plays), Sophocles’s Oedipus the King, Oedipus at Colonus, Electra and Entigone; of Euripides’s Medea, Orestes, and Electra. LATIN: A reading and analysis of the Menaechmi and the Miles Gloriosus of Plautus, the Phormio of Terence and the Medea of Seneca. Also listed as ENGL 209. Instructor(s): Mitchell

(F) = Fall; (S) = Spring
CLAS 212  CLASSICAL CIVILIZATION: ROME (3)
Introductory survey of the various aspects of Roman civilization, including the rise of Christianity, political and social history, art and architecture, religion, philosophy, and literature. Not offered 2003–04.

CLAS 220  THE NOVEL IN CLASSICAL ANTIQUITY (3)
The course will take as its subject the ancient Greek and Roman novels, selections from which will be read in translation. As they encounter some of the more charming and curious stories in the western tradition, students will examine the origins of the novel, seek to identify first readers of the texts, consider whether the novel was a recognized and recognizable genre in antiquity, analyze the narrative techniques of the novelists, and consider how modern conceptions of the novel are applicable to ancient examples of the form. Not offered 2003–04. Instructor(s): McGill

CLAS 222  PERSPECTIVES ON GREEK TRAGEDY (3)
Introduction to Greek tragedy, with emphasis on the performance culture of democratic Athens, contemporary philosophical issues and the Greek traditions of poetry and myth. All plays in English translation. Not offered 2003–04. Instructor(s): Yunis

CLAS 225 (F)  WOMEN IN GREECE AND ROME (3)
Survey of the depiction of women in Greek and Roman mythology, literature, and art. Includes a study of the lives of Greek and Roman women as evidenced by archaeological as well as literary materials. Also listed as WGST 225. Instructor(s): Wallace

CLAS 311 (S)  TEXT AS PROPERTY, PROPERTY AS TEXT: ACROSS THE AGES (3)
Examines forms and norms of authorship and ownership from antiquity to the present. What is an author? Is a text public or private property? What are the licit/illicit forms of rewriting and appropriating a text, and how are those forms defined? This class investigates historically these and other issues. Instructor(s): McGill

CLAS 312 (F)  GREEK ART AND ARCHITECTURE (3)
A survey of the art and society of Greece from its formative periods through the Hellenistic era. Also listed as HART 312. Instructor(s): Quenemoen

CLAS 315 (S)  ROMAN ART AND ARCHITECTURE (3)
A chronological survey of Roman sculpture, painting, and architecture from its Etruscan beginnings to the late Empire. Art and architecture of Rome and the provinces considered within their larger social, political, and urban contexts. Particular attention given to patronage, the relation between Roman and Greek art, and Rome’s position as an artistic center. Instructor(s): Quenemoen

CLAS 316  DEMOCRACY & POLITICAL THEORY IN ANCIENT GREECE (3)
Democracy and political theory are two of the greatest legacies of the ancient Greeks. This course will consider how democracy first arose in Athens from its roots in the sixth century BCE until the full-fledged democracy of the fifth and fourth centuries. Democracy in Athens was a direct democracy, which is considerably different from democracy in modern western nation states. The course will consider how Athenian direct democracy functioned and what are the differences between ancient and modern democracy. Not offered 2003–04. Instructor(s): Yunis

CLAS 318  THE INVENTION OF PAGANISM IN THE ROMAN EMPIRE (3)
This interdisciplinary course examines the development of the concept of paganism during the Roman empire, during the first through seventh centuries AD. We will examine the mutually tolerant character of the many religions of the Roman world and see how the category of paganism was invented and applied by Christians to all the polytheists of the empire and beyond. Also listed as HIST 316 and RELI 316. Not offered 2003–04. Instructor(s): Maas, McGill

CLAS 322  WOMEN IN GREECE AND ROME (3)
A survey of the depiction of women in Greek and Roman mythology, literature and art together with study of the real lives of Greek and Roman women as evidenced by archaeological as well as literary materials. Not offered 2003–04. (#) = credit hours per semester
CLAS 335   MYTH AND STORYTELLING: ANCIENT, MEDIEVAL AND MODERN TRADITIONS (3)
This class will focus on myths of voyage and return-traveler’s tales. Primary texts will include examples of this type of tale as it appears in ancient, medieval, and modern storytelling traditions. The course will address questions of the following kind. How are travelers’ tales from various parts of the world and from various historical periods alike, and in what ways do they differ? Who are the typical tellers and audiences of such tales? What is involved in the act of telling such a tale, and what hangs on it? What is the purpose of such stories- how do they function both in their immediate and in their broader cultural contexts? In addition to the primary texts, secondary readings will be assigned that explore these and related questions from the disciplinary perspectives of folklore studies and anthropology, addressing such issues as tale types, storytelling, performance, and oral tradition. Not offered 2003–04. Instructor(s): Mackie

CLAS 336   THE ORIGIN OF THE LANGUAGES OF EUROPE (3)
Languages as superficially different as English, Greek, Latin, and Sanskrit in fact all developed from a single proto-language. This course will explore the following questions: What was this proto-language like? How do we know what it was like? What can we learn about its speakers on the basis of the words that have survived in the various daughter languages? Not offered 2003–04.

CLAS 337   EPIC AND NOVEL (3)
Why did novelists of the 18th, 19th, and 20th centuries allude to and imitate classical epic, and how did they transform the genre? In this course, we will read the Homeric poems and other ancient epics alongside such novels as Fielding’s Tom Jones, Eliot’s Middlemarch, and Joyce’s Ulysses. The course will address questions of the following kind: how do epic heroes differ from novelistic heroes? In what ways does the novel parody epic? How do the language and narrative style of the two genres differ? What role does the past play in either genre? In different years, this course will focus on different texts; the texts for Spring 2003 will be Iliad, the Odyssey, and George Eliot’s Middlemarch. Not offered 2003–04. Instructor(s): Mackie

CLAS 351   EPIC AND SAGA (3)
A comparison of ancient and medieval epics. All works read in translation. Not offered 2003–04. Instructor(s): Mackie

CLAS 491 (F)   SPECIAL TOPICS (3)
Independent work. Open to qualified juniors and seniors.

CLAS 492 (S)   SPECIAL TOPICS (3)
Independent work. Open to qualified juniors and seniors.

CLAS 493 (S)   SENIOR THESIS (3)
Open to classics majors in the final semester of study. Thesis, to be written on a topic of the student’s choice in consultation with a member of the faculty.

COMP (Computer Science)
The George R. Brown School of Engineering / Department of Computer Science

COMP 100   INTRODUCTION TO COMPUTING & INFORMATION SYSTEMS (3)
Introduction to computer organization, operating systems, programming languages, artificial intelligence, and programming. Not intended for science-engineering students. May not be taken for credit after any other programming course. Enrollment limited to 35.

(F) = Fall; (S) = Spring
COMP 110   COMPUTATION IN SCIENCE AND ENGINEERING (3)
The course introduces basic techniques for problem solving and visualization using computational environments such as Mathematica and Matlab. Class will consist of a mixture of traditional lectures held in classrooms and self-paced modules covering topics in science and engineering that will be completed in Symonds II. No previous experience is required or expected. Also listed as NSCI 230. Instructor(s): Goldman

COMP 210   PRINCIPLES OF COMPUTING & PROGRAMMING (4)
Programming methodology and problem solving in a functional programming language. Data abstraction, procedural abstraction, reduction rules, use of control and state. Students will learn the practical skills to write and modify programs. A student may not receive credit for COMP 211 after taking COMP 210.

COMP 211 (F)   INTRODUCTION TO PROGRAMMING (3)
For AP credit only. NOTE: Only ONE of Comp 211 or 212 may be counted for distribution.

COMP 212   INTERMEDIATE PROGRAMMING (4)
Programming methodology and problem solving in an object oriented programming language. Recursion, data structures, introduction to analysis of algorithms, sorting techniques. NOTE: Only one of 211 or 212 may be counted for distribution.

COMP 280 (S)   MATHEMATICS OF COMPUTATION (3)
Mathematical induction, recursive definitions and recurrence equations, finite state machines, computability, logic. Also listed as BIOE 280.

COMP 290 (F)   COMPUTER SCIENCE PROJECTS (3)
Theoretical and experimental investigations under staff direction.

COMP 300 (S)   ORGANIZATIONS IN THE INFORMATION AGE (3)
We will review the remarkable technology of the Information Age and examine some of its effects on businesses and institutions. Information technology is re-shaping the structure of organizations and markets and challenging business leaders to re-think the ways in which businesses will prosper in the years ahead. We will explore these challenges and also speculate about the ways in which advancing information technology might further transform organizations.

COMP 311 (F)   PROGRAMMING LANGUAGES (4)
The design, definition and abstract implementation of programming languages including methods for precisely specifying syntax and semantics. Instructor(s): Cartwright

COMP 312 (S)   PROGRAM CONSTRUCTION (4)
Introduction to methods and tools of programs by teams; pattern-based design: modules; safe programming.

COMP 314 (F)   APPLIED ALGORITHMS AND DATA STRUCTURES (4)
Design analysis of computer algorithms and data structures useful for applied problems. Laboratory assignments will use these techniques in conjunction with advanced programming methods. Also listed as ELEC 322.

COMP 320 (F)   INTRO TO COMPUTER ORGANIZATION (4)
Microprocessor architecture, including the memory hierarchy, pipelining, I/O devices, and interrupts and concurrency. Computer representation of and operations on basic data such as instructions, integers, floating point numbers, and pointers. Low-level programming in C and assembly language. Basic system software. Performance issues.

COMP 326 (S)   DIGITAL LOGIC DESIGN (3)
Gates, flip-flops, combinational and sequential switching circuits, registers, logical and arithmetic operations. Instructor(s): Jump

(#) = credit hours per semester
COMP 360 (F) COMPUTER GRAPHICS (4)
D graphics techniques including fast line and curve drawing and polygon filling. 3D graphics problems including representation of solids, shading, and hidden surface elimination. Fractals, graphics standards. Instructor(s): Goldman

COMP 390 (F) COMPUTER SCIENCE PROJECTS (3)
See COMP 290.

COMP 409 (S) LOGIC IN COMPUTER SCIENCE (3)
Set theoretical concepts. Propositional and first-order logic. Soundness and completeness, incompleteness, undecidability. Functional programming as an extension of first-order logic. Logical issues in computer science.

COMP 410 (S) SOFTWARE ENGINEERING METHODOLOGY (4)
Designing software for effective implementation and maintenance. Formal techniques for program specification and correctness proofs. Case studies examining what works, what doesn’t and why. Programming assignments will include maintenance exercises and team projects.

COMP 411 (F) ADVANCED PROGRAMMING LANGUAGES (4)
The design, definition and abstract implementation of programming languages including methods for precisely specifying syntax and semantics.

COMP 412 (F) COMPILER CONSTRUCTION (4)
Topics in the design of programming language translators, including parsing, run-time storage management, error recovery, code generation and optimization. Instructor(s): Kennedy

COMP 413 (F) DISTRIBUTED PROGRAM CONSTRUCTION (4)
This course focuses on modern principles for the construction of distributed programs, with an emphasis on design patterns, modern programming tools, and distributed object systems. The material will be applied in a substantial software design/construction project. Instructor(s): Druschel

COMP 421 (S) OPERATING SYSTEMS & CONCURRENT PROGRAMMING (4)
Introduction to the design, construction, and analysis of concurrent programs with an emphasis on operating systems, including filing systems, schedulers, and memory allocators. Specific attention is devoted to process synchronization and communication within concurrent programs. Also listed as ELEC 421.

COMP 422 (F) PARALLEL COMPUTING (4)
Need for parallel computing; Models of parallel computations; Basic algorithms on PRAM machines; Architectures of parallel computing; Mapping and scheduling in parallel computers; Program design for parallel computations. The course includes an extensive programming component.

COMP 425 (F) COMPUTER SYSTEMS ARCHITECTURE (4)
Design of advanced uniprocessor system architecture and basics of parallel architectures. Advanced pipelining, including dynamic scheduling and precise interrupt handling. Advanced techniques for exploiting instruction level parallelism, including superscalar and VLIW architectures. Case studies of several recent high-performance microprocessors. Vector processors. Memory system design—techniques to improve cache performance, virtual memory systems, main memory enhancements. I/O systems—disk arrays and graphical interfaces. An overview of parallel computers. Also listed as ELEC 425. Instructor(s): Rixner

COMP 429 (S) INTRODUCTION TO COMPUTER NETWORKS (3)
Network architectures and basic protocols. Routing and flow control. Access methods. Transmission media, error management. Network performance. The course will cover several types of networks, including CSMA/CD, token ring, and ATM. Also listed as ELEC 429.

(F) = Fall; (S) = Spring
COMP 430 (F)  INTRO TO DATABASE SYSTEMS (4)

COMP 440 (F)  ARTIFICIAL INTELLIGENCE (4)
Techniques for simulating intelligent behavior by machine, problem solving, game playing, pattern perceiving, theorem proving, semantic information processing, and automatic programming. Also listed as ELEC 440. Instructor(s): Subramanian

COMP 450 (S)  ALGORITHMIC ROBOTICS (4)
An introduction to computing object motion in application domains such as robotics, manufacturing, animation, and pharmaceutical drug design. Topics covered include motion planning in known and partially known environments, uncertainty, manipulation, and assembly planning.

COMP 460 (S)  ADVANCED COMPUTER GRAPHICS (4)
Advanced topics in computer graphics and geometric modeling, including B-spline curves and surfaces, solid modeling, radiosity, morphing, animation, simulation, subdivision, fractals, wavelets, and other selected topics as time permits. Not offered every year.

COMP 481 (S)  AUTOMATA, FORMAL LANGUAGES, AND COMPUTABILITY (3)
Finite automata, regular expressions, regular languages, pushdown automata, context-free languages, Turing machines, recursive languages, computability, and solvability.

COMP 482 (F)  DESIGN AND ANALYSIS OF ALGORITHMS (3)
Methods for designing and analyzing computer algorithms and data structures. The focus of this course will be on the theoretical and mathematical aspects of algorithms and data structures. Also listed as ELEC 420. Instructor(s): Kavraki

COMP 485 (F)  FUNDAMENTALS OF MEDICAL IMAGING I (3)
Fundamentals of various medical imaging modalities (e.g., x-ray, CT, and MRI) used to identify the anatomy of human organs, as well as other modalities (e.g., PET, SPECT, fMRI, and MEG) specifically developed to identify the function of the brain. Also listed as BIOE 485, BIOE 685, and ELEC 485. Instructor(s): Mawlawi

COMP 486 (S)  FUNDAMENTALS OF MEDICAL IMAGING II (3)
This course is directed towards graduate and senior undergraduate students interested in acquiring an in depth knowledge of Positron Emission Tomography (PET). The course will focus on PET physical principles, image formation, and processing. The course will also cover the various correction techniques used to quantify PET images as well as lay the foundations for understanding tracer kinetic modeling. A field trip to MD Anderson’s PET facility will be organized to provide the students with hands on experience of PET imaging and data analysis. The use of PET imaging in various medical applications will also be covered. Also listed as BIOE 486 and ELEC 486.

COMP 490 (F)  COMP SCIENCE PROJECTS (3)
Theoretical and experimental investigations under staff direction.

COMP 491 (F)  COMPUTER SCIENCE TEACHING (3)
A combination of in-service teaching and a seminar.

COMP 492 (F)  COMPUTER SCIENCE HONORS PROJECT (3)

COMP 502 (S)  NEURAL NETWORKS AND INFORMATION THEORY I (3)
Review of major Artificial Neural Network paradigms. Analytical discussion of supervised and unsupervised learning. Emphasis on state-of-the-art Hebbian (biologically most plausible) learning paradigms and their relation to information theoretical methods. Applications to data analysis such as pattern recognition, clustering, classification, blind source separation, nonlinear PCA, projection pursuit, independent component analysis. Also listed as ELEC 502. Enrollment limited to 20. http://www.ece.rice.edu/~erzsebet/ANNcourse.html.
(#) = credit hours per semester
COMP 511 (F)  MULTI-STAGE PROGRAMMING (4)
Multi-stage programs can generate other programs at runtime, compile them, and execute them. Such programs can be significantly faster than single-stage ones. This course introduces multi-stage languages, their applications, theory, and implementation techniques. Coursework includes reading assignments, discussions, and various kinds of programming exercises using one such language (MetaOCaml). Instructor(s): Taha

COMP 512 (F)  ADVANCED COMPILER CONSTRUCTION (4)
Advanced topics in the design and implementation of programming language translators. Data flow analysis and optimization, code generation and register allocation, attribute grammars and their evaluation, translation within programming environments, the implementation of advanced language features. Instructor(s): Cooper

COMP 515 (S)  ADVANCED COMPILATION FOR VECTOR PARALLEL PROCESSORS (4)
Advanced compilation techniques for vector and parallel computer systems, including the analysis of program dependence, program transformations to enhance parallelism, compiler management of the memory hierarchy, interprocedural data flow analysis, and parallel debugging.

COMP 520 (F)  DISTRIBUTED SYSTEMS (4)
Distributed systems: workstations, local area networks, server machines. Multiprocess structuring and interprocess communication. File access and memory management. User interfaces: window systems and command interpreters. Case studies of selected distributed systems. Emphasis on performance aspects of system software design. Instructor(s): Cox

COMP 524 (F)  MOBILE AND WIRELESS NETWORKING (3)
Study of network protocols for mobile and wireless networking, particularly at the media access control, network, and transport protocol layers. Focus is on the unique problems and challenges presented by the properties of wireless transmission and host or router mobility. Also listed as ELEC 524. Instructor(s): Johnson

COMP 525 (S)  ADVANCED MICROPROCESSOR ARCHITECTURE (4)
Exploration of the current trends and future directions of microprocessor architecture. Includes topics such as technology trends that affect microprocessor architecture, modern microprocessor design, techniques for statically and dynamically maximizing parallelism, memory system issues, and proposed future microprocessor architectures. Also listed as ELEC 525.

COMP 526 (F)  HIGH-PERFORMANCE COMPUTER ARCHITECTURE (4)
Design of high performance computer systems, including shared-memory and message-passing multiprocessors and vector systems. Hardware and software techniques to tolerate and reduce memory and communication latency. Case studies and performance simulation of high-performance systems. Also listed as ELEC 526. Instructor(s): Pai

COMP 527 (F)  COMPUTER SYSTEMS SECURITY (4)
This class will focus on computer security in real systems. We will cover theory and practice for the design of secure systems (formal modeling, hardware and compiler-enforced safety, software engineering processes, tamper-resistant and tamper-reactive hardware, firewalls, cryptography, and more). Instructor(s): Wallach

COMP 540 (S)  ADAPTIVE SYSTEMS (4)
Multi-disciplinary methods of designing and analyzing adaptive systems. Discussion of recent research in the areas of planning, scheduling and control as well as machine learning.

COMP 590 (F)  COMPUTER SCIENCE PROJECTS (3)
Advanced theoretical and experimental investigations under staff direction.

COMP 600 (F)  GRADUATE SEMINAR (1)
A discussion of selected topics in computer science.

(F) = Fall; (S) = Spring
COMP 602 (F) NEURAL NETWORKS AND INFORMATION THEORY II (3)
Advanced topics in ANN theories, with a focus on Self-Organizing Maps and unsupervised learning. The course will be a mix of lectures and seminar discussions with active student participation, based on most recent research publications. Students will have access to professional software environment to implement theories. Enrollment limited to 10. Also listed as ELEC 602

COMP 607 (F) AUTOMATED PROGRAM VERIFICATION (1)
Methods, tools and theories for the computer-aided verification of concurrent systems.

COMP 610 (F) GRADUATE SEMINAR IN PROGRAMMING LANGUAGES (1)
A discussion of programming language semantics in computer science.

COMP 612 (F) GRADUATE SEMINAR IN DISTRIBUTED COMPUTING (2)
Topics in construction of programming language translators.

COMP 613 (F) GRAD SEMINAR IN ADVANCED LANGUAGE IMPLEMENTATION (3)
Topics in advanced language implementation.

COMP 615 (F) PARALLEL PROGRAMMING SYSTEMS (2)
This course will explore topics in parallel programming environments and compilers for parallel computers.

COMP 617 (F) GRADUATE SEMINAR IN RESOURCE AWARE PROGRAMMING (RAP) LANGUAGES (3)
While high-level programming languages can be very helpful for general-purpose programming, they can be unsuitable for programming systems that interact directly with the physical world. Such systems include real-time and embedded systems. This seminar explores the design space for high-level languages that can support the more specialized task of resource-aware programming (RAP). Enrollment limited to 20.

COMP 620 (F) GRAD SEM IN DISTRIBUTED COMPUTING (1)
Content varies at discretion of instructor.

COMP 625 (F) GRADUATE SEMINAR ON COMPUTER ARCHITECTURE (3)
Subjects covering virtual memory and security structures, pipelines and vector processing, instruction set definitions, multi-threading, will be discussed. Both contemporary and Ancient systems will be analyzed.

COMP 630 (F) MULTITIER WIRELESS NETWORKS (3)
Topics in multitier wireless networks

COMP 650 (F) GRADUATE SEMINAR ON PHYSICAL COMPUTING (1)
Algorithmic issues related to physical problems of all scales, from the molecular to the astrophysical.

COMP 661 (F) GRAD SEM:GEOMETRIC COMPUTATION (3)

COMP 685 (F) FUNDAMENTALS OF MEDICAL IMAGING (3)
The course will introduce basic medical imaging modalities, such as x-ray, CT, and MRI, used to identify the anatomy of human organs, as well as other modalities, such as PET, SPECT, fMRI, and MEG, specifically developed to localize brain function. The course includes visits to clinical sites. Also listed as ELEC 685 and BIOE 685.

(#) = credit hours per semester
COMP 690 (F) RESEARCH AND THESIS (3)
COMP 800 (F) GRADUATE RESEARCH (3)

CSCI (Cognitive Sciences)

The School of Social Sciences / Cognitive Sciences Program

CSCI 390 SUPERVISED RESEARCH IN COGNITIVE SCIENCES (3)
Supervised research on topics relevant to the cognitive sciences. Limited to majors in Cognitive Sciences. Permission of instructor required.

CSCI 481 (F) HONORS PROJECT (3)
Independent directed research toward preparation of an undergraduate honors project or thesis. Approval of program director required.

CSCI 482 (S) HONORS PROJECT (3)
Independent directed research toward preparation of an undergraduate honors project or thesis. Approval of program director required.

ECON (Economics)

The School of Social Sciences / Department of Economics

ECON 211 PRINCIPLES OF ECONOMICS I (3)
Introduction to the nature of economics. Includes price systems, household decisions, cost and supply, marginal productivity and capital theory, industrial organization and control, economic efficiency, externalities, and public goods. Required for economics and mathematical economic analysis majors. May also be offered in the summer. Students (both majors and nonmajors) enrolled at Rice who wish to transfer this course from another institution must pass a departmental qualifying examination. Enrollment unlimited for section taught by professor. Enrollment limited to 25 in other sections. Instructor(s): Soligo

ECON 212 PRINCIPLES OF ECONOMICS II (3)
Includes the measurement and determination of national income; money, banking, and fiscal policy; business cycles, unemployment, and inflation; international trade and balance of payments, and other contemporary economic problems. Required for economics and mathematical economic analysis majors. Prerequisite(s): ECON 211. May also be offered in the summer. Students (majors and nonmajors) enrolled at Rice who wish to transfer this course from another institution must pass a departmental qualifying examination. Enrollment unlimited for section taught by professor. Enrollment limited to 25 in other sections. Instructor(s): (F) Sickles (S) B. Brown

ECON 355 (S) FINANCIAL MARKETS AND INSTITUTIONS (3)
Study the principles of U.S. and international equity and debt markets, and the interactions between such markets and various countries’ monetary and exchange rate policies. The role of financial markets and institutions in the allocation and transfer of credit and risk is highlighted, and various existing and suggested regulatory frameworks are discussed. Prerequisite(s): ECON 211 and 212. Instructor(s): El-Gamal

ECON 370 MICROECONOMIC THEORY (3)
Intermediate level analysis of markets, firms, households, income distribution, and general equilibrium. Required for economics and mathematical economic analysis majors. May also be offered in the summer. Instructor(s): (F) Grant, (S) J. Brown

(F) = Fall; (S) = Spring
ECON 375 (F) MACROECONOMIC THEORY (3)
Micro-foundations of macroeconomic theory. Required for mathematical economic analysis majors. Prerequisite(s): ECON 211/212, 370, and MATH 101/102, or equivalents. Instructor(s): Cordoba

ECON 382 (F) PROBABILITY & STATISTICS (3)
Study of probability theory and the central concepts and methods of statistics with applications to economics, marketing, and finance. Required for mathematical economic analysis majors; may substitute STAT 410 or 431. Also listed as STAT 310. Prerequisite(s): ECON 211 and MATH 102.

ECON 400 (S) ECONOMETRICS (3)
Survey of estimation and forecasting models. Includes multiple regression time series analysis. Prerequisite(s): ECON 382 (STAT 310) or STAT 381, and MATH 355 or CAAM 310, or permission of instructor. A good understanding of linear algebra is highly desirable. Required for mathematical economic analysis majors. Instructor(s): Chang

ECON 403 SENIOR INDEPENDENT RESEARCH (3)
Independent research project for seniors on an approved topic of their choice. Prerequisite(s): Permission of instructor.

ECON 404 SENIOR INDEPENDENT RESEARCH (3)
Independent research project for seniors on an approved topic of their choice. Prerequisite(s): Permission of instructor.

ECON 415 (S) LABOR ECONOMICS (3)
Covers a number of topics relating to labor supply, labor demand, and equilibrium in the labor market. The course presents theoretical and empirical work in each of the subject areas covered. The presentation requires that students have a firm foundation in microeconomic theory, and it requires that students be willing to improve, over the course of the semester, their ability to apply the basic tools of microeconomic analysis. Though ECON 415 requires no prior courses in statistics or econometrics, some elementary knowledge of these subjects will be necessary for an understanding of the empirical work discussed in the course. Consequently, students in this course should be prepared to study some of the empirical techniques used by labor economists. Prerequisite(s): ECON 211, 370, and MATH 101/102 (or equivalent). Instructor(s): Brown, J.

ECON 420 (F) INTERNATIONAL TRADE (3)
Study of the economic relationships between countries. Includes trade theory, tariffs and other trade restrictions, international finance, trade and development, and current policy issues. Prerequisite(s): ECON 211/212, and 370. Not offered every year.

ECON 421 (F) INTERNATIONAL FINANCE (3)
Analysis of foreign exchange and international capital markets and linkages between exchange rates, interest rates, and prices. Includes an overview of historical and institutional developments, and current policy issues. Prerequisite(s): ECON 370, 375, STAT 280 or ECON 382. Not offered every year.

ECON 435 (S) INDUSTRIAL ORGANIZATION (3)
Study of market structure, concentration, barriers to entry, and oligopoly pricing. Includes the application of micro theory to industry problems. Prerequisite(s): ECON 211, MATH 101/102 or permission of instructor. Instructor(s): Dudey

ECON 436 (F) GOVERNMENT REGULATION OF BUSINESS (3)
Analysis of governmental regulatory activities under antitrust laws and in such regulated industries as communications, energy, and transportation. Prerequisite(s): ECON 211. ECON 370 and 435 are recommended. Instructor(s): Chae

(#) = credit hours per semester
ECON 438  ECONOMICS OF THE LAW I (3)
Section 1: Exploration of the role of economics in understanding the legal system. Includes applications to contracts, property, rights, and torts and crime. Prerequisite(s): ECON 211, 370. Enrollment limited to 50. Instructor(s): Soligo.
Section 2: The course will address the role of economics in understanding the legal system, in particular, understanding how the law allocates entitlements and risk in property, tort and contract law. This course is primarily intended for students who are considering attending law school and uses instruction methods appropriate for that goal. Grading will be based substantially on a major paper, as well as, class participation. Prerequisite(s): ECON 211, 370, and permission of the instructor. Students wishing to enroll in this course should submit a one-page statements to instructor explaining their interest in the course. Enrollment limited to 25. Instructor(s): Brito

ECON 440 (S)  RISK AND UNCERTAINTY (3)
Microeconomic foundations of finance and insurance and other economic decisions involving risk and uncertainty. Prerequisite(s): MATH 212, calculus and algebra, and some familiarity with probability theory. Instructor(s): Grant

ECON 445  MANAGERIAL ECONOMICS (3)
Application of economics to decision making with the firm. Includes organization theory, cost, pricing, and problems of control. Prerequisite(s): ECON 211. ECON 212 is recommended. Not offered every year.

ECON 446  APPLIED ECONOMETRICS (3)
Applied econometrics methods; focus will be on the application of econometrics and complementary measurement methodologies to modeling, forecasting, and hypothesis testing. Applications will include firm decision-making, testing for discrimination in the workplace, competition policy, portfolio management, and macroeconomic forecasting. Prerequisite(s): ECON 211/212 and 382 or permission from instructor. Some knowledge of calculus is required. Not offered every year.

ECON 448  CORPORATION FINANCE (3)
Study of financial analysis, planning, and control in modern corporations. Includes valuation, cost and allocation of capital, and capital markets. Prerequisite(s): ECON 211 and ACCO 305. May also be offered in the summer. Instructor(s): (F) Hartley, (S) Bryant

ECON 449 (F)  BASICS OF FINANCIAL ENGINEERING (3)
The course will cover the following: mathematical background for continuous time stochastic modeling in finance and financial engineering; statistical methodologies to estimate and test the models commonly used in finance and financial engineering; and applications which will include, Black-Scholes option pricing and term structure models for interest rates. Prerequisite(s): ECON 400 or STAT 421 and 431 or equivalent; and MATH 221 and 222, or equivalencies. Instructor(s): Park

ECON 450  WORLD ECONOMIC /SOCIAL DEVELOPMENT (3)
Examines past and future development in advanced and poor countries, emphasizing resources, population, entrepreneurship, education, and planning. Prerequisite(s): ECON 211/212. Not offered every year.

ECON 451  POLITICAL ECONOMY OF LATIN AMERICA (3)
Examination of economic and political development, as well as, current policy, in contemporary Latin America. Includes a comparative analysis of selected countries, with emphasis on the interaction between public policies and economic outcomes. Prerequisite(s): ECON 211. Not offered every year

ECON 452  ISLAMIC LAW, ECONOMICS, AND FINANCE (3)
Introduction to Islamic law, Islamic legal theory and Islamic jurisprudence of financial transactions. Economic analysis of Islamic financial jurisprudence, and the growing Islamic finance industry. Not offered every year.

ECON 455 (F)  MONEY AND FINANCIAL MARKETS (3)
Micro-foundation of monetary, fiscal and financial theory. Prerequisite(s): ECON 211/212, 370, and MATH 101/102 or equivalents. Not offered every year. Instructor(s): Bryant

(F) = Fall; (S) = Spring
ECON 461  URBAN ECONOMICS (3)
Economic analysis of the development and problems of urban areas, with emphasis on current policy issues. Prerequisite(s): ECON 211 or permission of instructor. Not offered every year.

ECON 472 (S)  INTRODUCTION TO GAME THEORY (3)
Study of solution concepts for different games (e.g., strategic form game, coalition form game and extensive form game). Includes elementary application to economics and political science. Instructor(s): Chae

ECON 475  INTEGER & COMB. OPTIMIZATION (3)
Modeling and solving optimization problems with discrete components, graphs and networks; network flow problems; minimum spanning trees; basic polyhedral theory; the knapsack problem; the plant location problem; the set packing problem; computational complexity, branch and bound; cutting planes; Lagrangian relaxation and Bender’s decomposition. Also listed as CAAM 475. Prerequisite(s): CAAM 471.

ECON 477 (F)  MATHEMATICAL ECONOMICS (3)
Exploration of competitive economics from a mathematical perspective, unifying calculus, matrix algebra, and set-theoretic approaches. Concentrates on the individual optimization tools. Prerequisite(s): MATH 212 or 221, and MATH 355 or CAAM 335 or MATH 211. Instructor(s): Bogomolnaia

ECON 480 (S)  ENVIRONMENTAL ECONOMICS (3)
The economic theories of externalities and common property resources are used to analyze environmental problems. Regulation, taxes and subsidies, transferable pollution rights and legal solutions to environmental problems are evaluated. Environmental and other aspects of alternative energy sources are considered and the pricing of depletable energy resources is analyzed. Prerequisite(s): ECON 211. Not offered every year. Instructor(s): Mieszkowski

ECON 481 (F)  HEALTH ECONOMICS (3)
Study of determinants of health, including behavioral, economic and social factors and access to health care. Analysis of the medical care industry, production, cost, demand and supply factors. Effects of regulation and methods of payment. Prerequisite(s): ECON 211. Instructor(s): Mieszkowski

ECON 482  DISTRIBUTIVE JUSTICE (3)
Methodological individualism and social contract theories; private versus public contracts; division according to claims/liabilities; sharing joint costs and surplus; shapely value; managing the commons: increasing or decreasing returns; fair trade and the competitive equilibrium; fair division according to taste; cardinal welfarism; utilitarianism, equilitarianism; social choice; aggregation of performance; and voting. Prerequisite(s): ECON 211, 370 or permission from instructor. Not offered every year.

ECON 483 (F)  PUBLIC FINANCE: TAX POLICY (3)
Analysis of tax policy, primarily at the federal level; emphasizes efficiency and equity issues and evaluation of tax reform proposals. Prerequisites: ECON 211, 370. Instructor(s): Zodrow

ECON 484  PUBLIC FINANCE EXPENDITURE (3)
Public goods theory including nonrival and congestible public facilities, theory of local public goods including the economics of education. The problem of preference revelation and the fundamentals of benefit-cost analysis. Analysis of the effects of social security, old age retirement, and the role of government in financing healthcare—Medicare and Medicaid. Prerequisite(s): ECON 211. Not offered every year.

ECON 485  CONTEMPORARY ECONOMIC ISSUES (3)
Analysis of urgent and significant economic problems, with emphasis on the evaluation of policy remedies. Content will vary year to year. Not offered every year.

ECON 486 (S)  CONTEMPORARY ECONOMIC ISSUES (3)
Analysis of urgent and significant economic problems, with emphasis on the evaluation of policy remedies. Content varies from year to year. Not offered every year. Instructor(s): Medlock

(#) = credit hours per semester
ECON 495 SENIOR SEMINAR (3)
Comprehensive analysis of economic issues related to a specific topic. Content will vary year to year. Not offered every year.

ECON 496 SENIOR SEMINAR (3)
Comprehensive analysis of economic issues related to a specific topic. Content will vary year to year. Not offered every year.

ECON 501 (F) MICROECONOMIC THEORY I (5)
Theory of the firm, the theory of consumer behavior, duopoly, bilateral monopoly, imperfect competition, capital theory, and the theory of income distribution. Instructor(s): Grant

ECON 502 (F) MACROECONOMICS/MONETARY THEORY I (5)
Macroeconomic theory of output, consumption, investment, interest rates, inflation and employment. Instructor(s): Bryant

ECON 504 (F) ADVANCED ECONOMIC STATISTICS (5)
Statistical inference and the testing of hypotheses multiple and partial correlation analysis; analysis of variance and regression. Also listed as STAT 604. Instructor(s): Chang

ECON 505 (S) MACROECONOMIC/MONETARY THEORY II (5)
More detailed discussion of selective macroeconomic and monetary topics. Instructor(s): Cordoba

ECON 506 (F) TOPICS IN MACROECONOMICS (5)
Discussion of selected topics of current interest. Not offered every year. Instructor(s): Cordoba

ECON 507 (F) MATHEMATICAL ECONOMICS I (5)
Theory of household, firm; activity analysis; set theory, matrix algebra, vector calculus, metric spaces, separation theory, constrained optimization. Instructor(s): Bogomolnaia

ECON 508 (S) MICROECONOMIC THEORY II (5)
Continuation of ECON 507. Set theoretic approach to general equilibrium; aggregate linear and nonlinear production models; existence, stability, optimality. Instructor(s): Chae

ECON 509 (F) MICROECONOMICS III (5)
Social choice and preference aggregation; cardinal welfare, bargaining: axiomatic and strategic models; cooperative games: core stability and coalition formation; Shapley value, cost and surplus sharing, mechanism design: dominant strategy, strategy-proof voting, fair division, and cost sharing; implementation in nash, strong, and bayesian equilibrium. Prerequisite(s): ECON 501, 508. Instructor(s): Moulin

ECON 510 (S) ECONOMETRICS I (5)
Estimation and inference in single equation regression models, multicollinearity, autocorrelated and heteroskedastic disturbances, distributed lags, asymptotic theory, and maximum likelihood techniques. Emphasis is placed on the ability to analyze critically the literature. Also listed as STAT 610. Prerequisite(s): ECON 504. Instructor(s): Brown, B.

ECON 511 (F) ECONOMETRICS II (5)
Topics in linear and nonlinear simultaneous equations estimation, including qualitative and categorical dependent variables models and duration analysis. Applied exercises use SAS and the Wharton Quarterly Econometric Model. Also listed as STAT 611. Prerequisite(s): ECON 510. Instructor(s): Sickles

ECON 512 INTERNATIONAL TRADE THEORY (5)
Exploration of classical, neoclassical, and modern trade theory. Includes welfare aspects of trade such as the theory of commercial policy, with emphasis on applications. Not offered every year.

ECON 514 INDUSTRIAL ORGANIZATION/CONTROL (5)
Industrial markets and public policy. Not offered every year.

(F) = Fall; (S) = Spring
ECON 515      LABOR ECONOMICS (5)
Exploration of the economics of the labor market and the economic implications of trade unions, with emphasis on major public policy issues. Not offered every year.

ECON 518      INTERNATIONAL MACROECONOMICS (5)
Effects of fiscal and monetary policies on exchange rates and the current account and balance of payments. Includes exchange market efficiency, exchange rates and prices, LDC debt, and policy coordination. Not offered every year.

ECON 519      ECONOMIC GROWTH AND DEVELOPMENT (5)
Analysis of theory and policy questions relating to the level and rate of economic development. Not offered every year.

ECON 521 (S)  PUBLIC FINANCE I (5)
Theory of public goods and externalities, political mechanisms and public choice, theory of local public goods, cost-benefit analysis and project evaluation issues of income redistribution. Instructor(s): Mieszkowski

ECON 522 (F)  PUBLIC FINANCE II (5)
Study of the effects of taxation on individual and firm behavior, general equilibrium tax incidence analysis, optimal taxation theory, optimal implementation of tax reform, analysis of comprehensive income, and consumption taxes. Instructor(s): Zodrow

ECON 523      DYNAMIC OPTIMIZATION (5)
Study of dynamic optimization in discrete and continuous time. Not offered every year.

ECON 565      HEALTH ECONOMICS (5)
Study of economic aspects of health. Includes production, cost, demand and supply factors; methods of payment and effects of regulation. Not offered every year.

ECON 577      TOPICS IN ECONOMIC THEORY I (5)
Discussion of topics in advanced economic theory. Not offered every year. May repeat for credit.

ECON 578      TOPICS IN ECONOMIC THEORY II (5)
Discussion topics in advanced economic theory. Not offered every year. May repeat for credit.

ECON 579      TOPICS IN ECONOMETRICS (5)
Discussion of selected topics in advanced econometrics. Prerequisite(s): ECON 511. Not offered every year. May repeat for credit.

ECON 591      TOPICS IN POLICY/APPLIED ECONOMICS (5)
Discussion of selected topics and applied economics. Not offered every year. May repeat for credit.

ECON 592 (S)  TOPICS IN POLICY/APPLIED ECONOMICS (5)
Discussion of selected topics and applied economics. Not offered every year. May repeat for credit. Instructor(s): Brito

ECON 593 (F)  WORKSHOP IN ECONOMETRICS (5)
Seminars on advanced topics in macroeconomics, microeconomics, econometrics and applied microeconomic theory, presented through guest lectures by leading researchers. Open to graduate students only. Includes preparation of a research paper over the course of the year and its presentation in the workshop. May repeat for credit. Instructor(s): Section 1: Hartley; Section 2: Moulin; Section 3: Park; Section 4: Brown, J.

ECON 594 (S)  WORKSHOP IN ECONOMICS I (5)
Continuation of ECON 593. Instructor(s): Section 1: Hartley; Section 2: Moulin; Section 3: Park; Section 4: Brown, J.

(#) = credit hours per semester
ECON 597 (F)  READINGS IN ADVANCED TOPICS (5)
Not offered every year.

ECON 598 (F)  READINGS IN ADVANCED TOPICS (5)
Not offered every year.

ECON 800 (F)  GRADUATE RESEARCH (5)

EDUC (Education/Education Certification)

The School of Humanities / Education/Education Certification Department

EDUC 201  CONTEMPORARY ISSUES IN EDUCATION (3)
Exploration of current issues and controversies in education through research and primary experience. Requires a minimum of 14 hours of service or experience in K-12 schools, to be arranged individually. Directed to all students interested in issues of K-12 education, and recommended for those interested in entering the teacher preparation program. Instructor(s): Staff

EDUC 301 (F)  PHILOSOPHICAL, HISTORICAL, AND SOCIAL FOUNDATIONS OF EDUCATION (3)
Analysis of events and ideas that have shaped the philosophy and practice of American schools today. Requires at least 15 hours of observation in secondary schools. May be required for students earning teacher certification, but also appropriate for all students interested in the influences and stresses that have created a unique educational system in our culturally diverse country. Required in junior or senior year for certification unless EDUC 330 is substituted. Instructor(s): Radigan

EDUC 305  EDUCATIONAL PSYCHOLOGY (3)
Formerly EDUC 312. The goal of this course is to introduce students to a psychological understanding of teaching and learning through an overview of principles, issues, and related research in educational psychology. The course will examine theories of learning, complex cognitive processes, cognitive and emotional development, motivation, and the application of these constructs of effective instruction, the design of optimum learning environments, assessment of student learning, and teaching in diverse classrooms. It is a general overview of the field and requires no prior preparation. Required for certification. Instructor(s): Norcross

EDUC 310 (S)  INTRODUCTION TO SPECIAL EDUCATION (3)
Introduction to special education with emphasis on various types of students with exceptionalities, ranging from visible to invisible; gifted students; pertinent legislation in the field; social issues; and educational approaches. Instructor(s): Ashmore

EDUC 330 (F)  THE AMERICAN HIGH SCHOOL (3)
Survey of the background, purposes, and organization of modern secondary schools and their students and curricula. Includes the policy and administration of secondary schools as well as introductory educational research. 15 hours of observation in schools required. Can be substituted for EDUC 301 to satisfy certification requirements. Instructor(s): McNeil

EDUC 335 (S)  URBAN EDUCATION: ISSUES, POLICY, AND PRACTICE (3)
Major issues facing urban education, including poverty, the implications of racial and ethnic diversity for educational institutions, and strategies for improving academic achievement in urban schools. We will examine sociological, political, cultural and educational research and theory, as well as explore strategies for improvement of urban education at the classroom, school, and policy levels. Instructor(s): Coppola

(F) = Fall; (S) = Spring
EDUC 340 (S)  COMPUTERS IN EDUCATION (3)
Formerly EDUC 367. Technology is and will continue to be deeply involved in the education process. In this course, students will investigate and use computer applications to enhance classroom teaching and facilitate administrative tasks. Additionally, the Internet will be utilized as a teacher and student resource. Recommended for certification. Instructor(s): White

EDUC 410 (F)  THEORY AND METHODS: ART (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 411 (F)  THEORY AND METHODS: ENGLISH (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 412 (F)  THEORY AND METHODS: FOREIGN LANGUAGE (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 413 (F)  THEORY AND METHODS: MATHEMATICS (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 414 (F)  THEORY AND METHODS: PHYSICAL EDUCATION (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 415 (F)  THEORY AND METHODS: SCIENCE (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 416 (F)  THEORY AND METHODS: SOCIAL STUDIES (3)
Study of methods for putting theory into practice in the classroom. Includes multiple methods for educating students in our diverse society, reflection on, and practice of the skills of teaching applicable to the discipline. Required for certification. Instructor(s): Heckelman

EDUC 420 (S)  CURRICULUM DEVELOPMENT (3)
Integration of theory with practice as students observe a mentor teacher, identify issues of developing and implementing curriculum with a diverse student body, and create curriculum for the Summer School for Grades 8 through 12. Students must be admitted to the Teacher Preparation Program and committed to student teaching in Summer School. Required for certification. May be repeated for credit. Instructor(s): Heckelman

EDUC 440(SM)  SUPERVISED TEACHING: SUMMER SCHOOL (3)
Field-based practicum for secondary teachers, with accompanying seminar. May be repeated for credit. Instructor(s): Heckelman

EDUC 489 (S)  ADOLESCENT LITERATURE (3)
Cultural, literary, and developmental issues in literature written to engage middle and high school students. Instructor(s): McNeil

EDUC 491  INDEPENDENT STUDY AND RESEARCH (VAR)
Prerequisite(s): consent of instructor. Instructor(s): Staff

(#) = credit hours per semester
EDUC 501 (F) PHILOSOPHICAL, HISTORICAL, AND SOCIAL FOUNDATIONS OF EDUCATION (3)
Graduate level equivalent of EDUC 301. Instructor(s): Radigan

EDUC 505 EDUCATIONAL PSYCHOLOGY (3)
Graduate level equivalent of EDUC 305. Instructor(s): Norcross

EDUC 530 (F) THE AMERICAN HIGH SCHOOL (3)
Graduate level equivalent of EDUC 330. Instructor(s): McNeil

EDUC 540 (F) INTERNSHIP (3)
Field practice for secondary teachers, with accompanying seminar. Instructor(s): Heckelman

EDUC 591 INDEPENDENT STUDY AND RESEARCH (VAR)
Graduate equivalent of EDUC 491. Instructor(s): Staff

EDUC 596 (S) FIELD-BASED STUDIES IN TEACHING AND LEARNING (VAR)
Study of field-based ethnographic research on teaching and learning. Includes seminar, independent research projects, ethnographic research methods, and directed case studies. Open to upperclassmen and graduate students, particularly those in education, sociology, anthropology, and psychology. Enrollment limited to 15. Listed as needed. Instructor(s): McNeil

ELEC (Electrical and Computer Engineering)

The George R. Brown School of Engineering / Department of Electrical and Computer Engineering

ELEC 201 (F) INTRO TO ENGINEERING DESIGN (4)
This is a hands-on introduction to engineering design. Using skills developed in the course, teams of students will design and construct a functional robot, and program this robot to perform simple tasks. The course is completely self-contained, assumes no prerequisites, and is intended for both engineering majors and nonmajors. Instructor(s): Young

ELEC 220 (S) FUNDAMENTALS OF COMPUTER ENGINEERING (4)
An overview of fundamental topics in computer engineering, including bits, logic, state machines, instruction sets, assembly language, linkage conventions, pipeline, storage, hierarchies, interrupts, I/O, DMA, and networking. Intended for ECE/CS majors. Instructor(s): Pai

ELEC 241 (F) FUNDAMENTALS OF ELECTRICAL ENGINEERING I (4)
The creation, manipulation, transmission, and reception of information by electronic means, elementary signal theory; time-and frequency-domain analysis; sampling theorem. Digital information theory; digital transmission of analog signals; error-correcting codes. Laboratory demonstrating the principles of information management by electronic means. Instructor(s): D. Johnson

ELEC 242 (S) FUNDAMENTALS OF ELECTRICAL ENGINEERING II (4)
Formulation and solution of equations describing electric circuits and electromechanical systems. Behavior of dynamic systems in the time and frequency domains. Basic electronic devices and circuits, including diodes, transistors, optoelectronics, gates, and amplifiers. Introduction to feedback control and digital systems. Instructor(s): Wise

(F) = Fall; (S) = Spring
ELEC 243 (S) INTRODUCTION TO ELECTRONICS (4)
Introduction to analog and digital circuit analysis and design. Basic circuit elements, transistors, OP Amps, digital devices and systems. Intended for nonmajors. Instructor(s): Wilson

ELEC 261 (F) INTRODUCTION TO WAVES AND PHOTONICS (3)
Introduction to the concepts of waves and oscillatory motion, with a particular focus on electromagnetic waves and their interaction with dielectric materials, and on the use of these ideas in the fields of optical fiber communications, laser design, nonlinear optics, and Fourier optics. Instructor(s): Mittleman

ELEC 301 (F) INTRODUCTION TO SIGNALS (3)
Analytical framework for analyzing signals and systems. Time and frequency domain analysis of continuous time signals and systems, solution of differential equations, convolution, and the Laplace transform. Fourier analysis. Instructor(s): Baraniuk

ELEC 302 (S) INTRODUCTION TO SYSTEMS (3)
A study of linear dynamical systems based on state-space representation. Includes the structural properties of systems such as controllability and observability. About one third of the course is devoted to the study of linear algebraic concepts, like range, null space, eigenvalues diagonalizability. Applications to control problems.

ELEC 303 (S) SYSTEMS LAB (1)
To be taken concurrently with ELEC 302.

ELEC 305 (F) INTRODUCTION TO PHYSICAL ELECTRONICS (3)
Study of transmission lines and pulse propagation: basic semiconductor devices; waves; and lasers. Instructor(s): Wilson

ELEC 306 (S) ELECTROMAGNETIC FIELDS AND DEVICES (3)
A course to introduce students to various electrical engineering aspects and devices based on electromagnetic field theory. Includes basic concepts of waveguides, resonators, optical fibers, waveguide devices, a survey of antennas, and a discussion of radar, lidar, and remote sensing principles. Instructor(s): Tittel

ELEC 322 (S) APPLIED ALGORITHMS AND DATA (4)
See description of COMP 314.

ELEC 326 DIGITAL LOGIC DESIGN (3)
Gates, flip-flops, combinational and sequential switching circuits, registers, logical and arithmetic operations. Instructor(s): Jump

ELEC 327 (S) DIGITAL LOGIC DESIGN LAB (2)
The design, construction and test of projects built from digital integrated circuits using design techniques presented in ELEC 326.

ELEC 331 (F) APPLIED PROBABILITY (3)
See description of STAT 331.

ELEC 342 (S) ELECTRONIC CIRCUITS (4)
Models of diodes, bipolar and field effect transistors. Biasing methods, distortion analysis, two-port analysis, single-stage and multistage amplifiers, frequency domain characteristics, feedback, stability, and power amplifiers. Lab culminates in the design and testing of a low-distortion audio frequency power amplifier. Instructor(s): Massey

ELEC 361 (S) ELECTRONIC MATERIALS AND QUANTUM DEVICES (3)
This course provides the background in quantum mechanics and solid state physics necessary for further studies in device physics (ELEC 462) and quantum electronics (ELEC 463). Instructor(s): Kono

(#) = credit hours per semester
ELEC 381 (F)  COMPUTATIONAL ELECTROPHYSIOLOGY (3)
Introduction to cellular electrophysiology. Includes the development of whole-cell models for neurons and muscle (cardiac, skeletal and smooth muscle) cells, based on ion channel currents obtained from whole-cell voltage-clamp experiments. Ion balance equations are developed, as well as, those for chemical signaling agents such as second messengers. The construction of small neuron circuits is discussed. Volume conductor boundary-value problems frequently encountered in electrophysiology are posed, and solutions obtained based on adequate descriptions of the bioelectric current source and the volume conductor (surrounding tissue) medium. This course provides a basis for the interpretation of macroscopic bioelectric signals such as the electrocardiogram (ECG), electromyogram (EMG) and electroencephalogram (EEG). Also listed as BIOE 381. Instructor(s): Clark

ELEC 383 (F)  BIOMEDICAL ENGINEERING INSTRUMENTATION AND ANALYSIS (3)
This is an introductory course on fundamentals of biomedical engineering instrumentation and analysis. Topics will include measurement principles; fundamental concepts in electronics including circuit analysis, data acquisition, amplifiers, A/D converters, and electrical safety; temperature, pressure, flow, and optical sensing techniques in cardiovascular, pulmonary, and nervous systems; and measurements of molecular and cellular properties. Additionally, basic methods in statistical inference and linear regression will be covered. Also listed as BIOE 383. Instructor(s): Anvari

ELEC 391 (S)  PROFESSIONAL ISSUES IN ELECTRICAL ENGINEERING (1)
Issues related to engineering professional practice and other career choices for electrical engineering graduates. Topics will include intellectual property rights, engineering ethics, technical presentations, entrepreneurship, venture capitalism, career paths, and graduate study. Instructor(s): Jump, Sinclair, Wilson

ELEC 420 (F)  DESIGN AND ANALYSIS OF ALGORITHMS (3)
See description of COMP 482.

ELEC 421 (S)  OPERATING SYSTEMS AND CONCURRENT PROGRAMS (4)
See description of COMP 421.

ELEC 422 (F)  VLSI DESIGN I (4)
A study of VLSI technology and design. MOS devices, characteristics and fabrication. Logic design and implementation. VLSI design methodology, circuit simulation and verification. Course includes group design projects. Instructor(s): Cavallaro

ELEC 423 (S)  VLSI DESIGN II (2)
Testing and evaluation of VLSI circuits designed in VLSI Design I, ELEC 422. Efficient test methodologies. Topics in computer aided design. Instructor(s): Cavallaro

ELEC 424 (F)  HIGH-SPEED AND EMBEDDED SYSTEMS DESIGN I (4)
The specification, design, and implementation of high-speed DSP and microcontroller-based systems, taking into account cost constraints available technology, and other factors. Includes instruction on high-speed design theory, hardware/software interface, and approaches to designing practical hardware systems. Major hardware design project required. Enrollment limited to 25. Must complete ELEC 427 to receive credit for ELEC 424. Instructor(s): Frantz

ELEC 425 (F)  COMPUTER SYSTEMS ARCHITECTURE (4)
Design of advanced uniprocessor system architecture and basics of parallel architectures. Advanced pipelining, including dynamic scheduling and precise interrupt handling. Advanced techniques for exploiting instruction level parallelism, including superscalar and VLIW architectures. Case studies of several recent high-performance microprocessors. Vector processors. Memory system design—techniques to improve cache performance, virtual memory systems, main memory enhancements. I/O systems—disk arrays and graphical interfaces. An overview of parallel computers. Also listed as COMP 425. Instructor(s): Rixner

(F) = Fall; (S) = Spring
ELEC 426 (F)  DIGITAL SYSTEMS DESIGN (4)
Design elements of modern computer and microprocessor systems. Emphasis upon state machine based design and microcontrollers. Use of VHDL and graphical simulation software to model complex digital systems. Laboratory implementation of a system involving high-speed arithmetic techniques.

ELEC 427 (S)  HIGH SPEED AND EMBEDDED SYSTEMS DESIGN II (3)
PERMISSION OF INSTRUCTOR REQUIRED. Continuation of ELEC 424. Includes testing and evaluation of printed circuit boards designed in preceding course. Includes instruction on programming embedded systems in C an assembly. Revision of design projects as needed. Instructor(s): Frantz

ELEC 428 (S)  COMPUTER SYSTEMS PERFORMANCE (4)
Analytical models of computer systems. Queueing theory and Markov chains. Queueing networks. Simulation and analysis of simulation results. Operational analysis. Course will include programming projects in C or C++. Instructor(s): Sinclair

ELEC 429 (S)  INTRODUCTION TO COMPUTER NETWORKS (3)
Network architectures and basic protocols. Routing flow control. Access methods. Transmission media, error management. Network performance. The course will cover several types of networks, including CSMA/CD, token ring, and ATM. Also listed as COMP 429.

ELEC 430 (S)  COMMUNICATION THEORY AND SYSTEMS (3)
This is an undergraduate course in digital communications, which is designed to prepare students for engineering work in high-tech industries and for graduate work in communications, signal processing, and computer systems. The course covers basic concepts and useful tools for design and performance analysis of transmitters and receivers in the physical layer of a communication system. Instructor(s): Aazhang

ELEC 431 (S)  DIGITAL SIGNAL PROCESSING (3)
Analysis of discrete-time signals and systems. Includes filter design and implementation, an introduction to least squares and statistical signal processing, and applications in speech and image processing.

ELEC 432 (F)  INTRODUCTION TO TIME SERIES ANALYSIS (3)

ELEC 433 (S)  ARCHITECTURES FOR WIRELESS COMMUNICATIONS (4)
This is a seminar course in which students will embark upon a detailed study of the major functional blocks of end-to-end wireless communications systems. Students will work in groups and be required to make weekly presentations on a specific functional element. A major group hardware or software design project will be required. Enrollment limited to 15.

ELEC 434 (F)  DIGITAL SIGNAL PROCESSING LABORATORY (3)
Design and implementation of real-time digital signal processing (DSP) systems using a DSP microprocessor. Includes several structured laboratory exercises, such as sampling, digital filtering, and FFT, using both fixed-point and floating-point DSP processors. Requires and extensive DSP project of the student’s choice.

ELEC 435 (F)  ELECTROMECHANICAL DEVICES AND SYSTEMS (3)
Introduction to the physical and engineering aspects of electromechanical sensors and actuators, including underlying physical phenomena, practical devices, electrical and mechanical interfacing, and control of electromechanical systems. Also listed as MECH 435. Instructor(s): Wise

ELEC 436 (S)  FEEDBACK CONTROL OF DYNAMIC SYSTEMS (3)
Linear systems and the fundamental principles of classical feedback control, state variable analysis of linear dynamic systems, stability of linear control systems, time-domain analysis and control of linear systems, root-locus analysis and design and pole-zero synthesis, frequency domain techniques for the analysis and design of control systems. Also listed as MECH 420.

(#) = credit hours per semester
ELEC 437 (S)  MULTITIER WIRELESS NETWORKS (3)
Topics in multitier wireless networks. Lectures from a range of faculty from ECE and CS. Focused team projects. Appropriate for both undergraduate and graduate students of all levels. Instructor(s): Baraniuk

ELEC 439 (F)  DIGITAL IMAGE PROCESSING (3)
Modern techniques for image analysis, processing, and enhancement. Two dimensional system and transform theory; sampling; linear and nonlinear filtering; feature extraction; compression and coding; imaging systems. Instructor(s): Orchard

ELEC 440 (S)  ARTIFICIAL INTELLIGENCE (4)
See description of COMP 440. Instructor(s): Subramanian

ELEC 442 (F)  ADVANCED ELECTRONIC CIRCUITS (4)
An in-depth extension of material covered in ELEC 342, such as discrete, de-coupled, multistage op-amps, wideband amplifiers, principles of feedback, feed-forward, automatic gain control, active filtering, the design of data converters and analog multipliers/dividers. Prerequisite(s): ELEC 342.

ELEC 443 (S)  POWER ELECTRONIC CIRCUITS (4)
Minimization of power consumption in electronic circuits with the required system performance. Design of high-efficiency power amplifiers. Electronic circuits used in power systems, including the principles of phase-controlled rectification, high-frequency inversion, and DC-DC conversion, with emphasis on design and lab project. Instructor(s): Massey

ELEC 444 (F)  ELECTROMAGNETIC INTERFERENCE/ COMPATABILITY (4)
Fundamental EMI/EMC principles, development of regulations and requirements, nonideal and nonlinear behavior of components, radiated and conducted emissions and susceptibility, testing techniques to determine compliance, electrical/mechanical techniques to ensure compliance, modeling and electrostatic discharge. Lab is application of principles to analog and/or digital circuits. Instructor(s): Massey

ELEC 445 (S)  WIRELESS ELECTRONICS (4)
Fundamental radio frequency electronic principles; government regulations on noninterference, nonlinear and nonideal behavior of electronic components, positive and negative feedback including ac stability, basic dipole antenna theory, wireless receiver and transmitter architectures and circuits. The lab project is a portable transceiver design for maximum range while satisfying government regulations. Instructor(s): Massey

ELEC 446 (F)  MOBILE WIRELESS SERVICES PROJECT (3)
Permission of instructor required. Design and implement a wireless mobile information system utilizing PocketPC hardware, Visual Studio .NET and .NET services to run over the Rice 802.11b wireless infrastructure. Students will be provided with PocketPCs, required software and access to a .NET server. Class will be limited to a maximum of 8 people (4 on clients and 4 on services). Preferences will be given to students who have experience with Visual Studio or have taken ELEC 694. Instructor(s): Cutler

ELEC 462 (F)  SEMICONDUCTOR DEVICES (4)
Survey of physical principles and operational characteristics of semiconductor devices. Bipolar and MOS transistors. IC circuit fabrication. Instructor(s): Wilson

ELEC 463 (S)  LASERS AND PHOTONICS (3)
Introduction to the physics and technology of lasers and related devices. The course consists of lectures, homework, and student presentations on particular topics. Instructor(s): Young

(F) = Fall; (S) = Spring
ELEC 465 (S)  PHYSICAL ELECTRONICS PRACTICUM (3)
A laboratory course, with lecture, to introduce students to a variety of experimental techniques, methods, and instruments of current interest. The content will generally correspond to the ideas and concepts introduced in the Physical Electronics courses, ELEC 305, 306, 461, and 463, including: general optics; lasers and fiber optics; spectroscopy, computer control of equipment and data collection; acousto, electro, and nonlinear optics; vacuum systems, cryogenics, etc. Instructor(s): Wilson

ELEC 481 (F)  COMPUTATIONAL NEUROSCIENCE (3)
Introduction to the nervous system is given including the electrophysiology of nerve and muscle cells, synaptic transmission and sense receptors. The theory underlying Hodgkin-Huxley type models of excitable cells is discussed, and several examples of models for neurons, muscle cells, and synapses are used as case studies. Modeled neurons are interconnected using synaptic models to form functional representations of small neural networks. At all levels, comparisons are made with experimental data. Course provides an introduction to biological modeling and computation. Also listed as BIOE 481.

ELEC 482 (S)  PHYSIOLOGICAL CONTROL SYSTEMS (4)
Nervous system control of biological systems can be represented utilizing techniques common to the field of linear, nonlinear or adaptive control theory. This course begins with a review of the basic aspects of control theory, followed by detailed discussion of the structure of several biological systems including the visual, cardiovascular and pulmonary systems. Specific examples of neural control are developed for each system utilizing modeling and simulation techniques. Parameter sensitivity analysis and parameter estimation techniques are likewise brought to bear on some of these models to achieve good least-squares fits to experimental data. Instructor(s): Clark

ELEC 483 (S)  INTRO OF BIOMEDICAL INSTRUMENT MEASUREMENT TECHNIQUES (3-3-3)
Review of basic sensors and measurement principles. Includes design problems using operational amplifier circuits (e.g., instrumentation and isolation amplifiers, comparators, timer circuits). Introduction to development of virtual instruments (VIs) using LabView™. Discussion of micro- and macro-biopotential electrodes, cell cytometry, the measurement of blood pressure, blood flow, and heart sounds, temperature, and the principles of electrical safety (e.g., micro- and macro shock hazards in the clinical environment). Includes discussion of pulmonary instrumentation and medical applications of ultrasound. Two lab exercises and a term project required. Instructor(s): Clark

ELEC 485 (F)  FUNDAMENTALS OF MEDICAL IMAGING I (3)
The course will introduce basic medical imaging modalities, such as x-ray, CT, and MRI, used to identify the anatomy of human organs, as well as other modalities, such as PET, SPECT, fMRI, and MEG, specifically developed to localize brain function. The course includes visits to clinical sites. Also listed as BIOE 485 and COMP 485.

ELEC 486 (S)  FUNDAMENTALS OF MEDICAL IMAGING II (3)
This course is directed towards graduate and senior undergraduate students interested in acquiring an in depth knowledge of Positron Emission Tomography (PET). The course will focus on PET physical principles, image formation, and processing. The course will also cover the various correction techniques used to quantify PET images as well as lay the foundations for understanding tracer kinetic modeling. A field trip to MD Anderson’s PET facility will be organized to provide the students with hands on experience of PET imaging and data analysis. The use of PET imaging in various medical applications will also be covered. Also listed as BIOE 486 and COMP 486.

ELEC 490 (F)  ELEC ENGINEERING PROJECTS (VAR)
Theoretical and experimental investigations under staff direction. May be repeated for a total of 6 credit hours. Instructor(s): Staff

(#) = credit hours per semester
ELEC 491 (F)  SENIOR DESIGN PROJECT (3)
A capstone design experience in electrical and computer engineering. This course provides an opportunity for students to apply knowledge and skills acquired in previous courses to the solution of a realistic engineering problem. Teams of students will specify, design, and build a system to meet a prescribed set of requirements. The topics covered in this course will include design methodology, effective teamwork, project management, documentation, and presentation skills. Must complete ELEC 492 to receive credit for ELEC 491. Instructor(s): Wise

ELEC 492 (S)  SENIOR DESIGN PROJECTS (4)
A capstone design experience in electrical and computer engineering. This course provides an opportunity for students to apply knowledge and skills acquired in previous courses to the solution of a realistic engineering problem. Teams of students will specify, design, and build a system to meet a prescribed set of requirements. The topics covered in this course will include design methodology, effective teamwork, project management, documentation, and presentation skills. Instructor(s): Wise

ELEC 495 (S)  SENIOR SEMINARS IN ELECTRICAL ENGINEERING (1)
One-hour seminar course in which senior ECE majors will present talks of general interest in electrical engineering. Instructor(s): Johnson, Sinclair, Wilson

ELEC 498 (F)  INTRODUCTION TO ROBOTICS (3)
See description for MECH 498.

ELEC 501 (F)  APPROXIMATION OF DYNAMICAL SYSTEMS (3)
In this course, dynamical systems described by sets of linear, differential or difference equations will be considered. The goal is to approximate the behavior of such systems by that of simpler ones, the complexity being measured by the number of state variables needed to describe them. For such approximations to be useful they need to preserve certain properties of the original system and lead to a quantification of the approximation error. Most existing methods fail to satisfy these requirements. The major difficulty is that the problem is nonconvex. We will present the theory of approximation in the so-called Hankel norm, which addresses both issues. Instructor(s): Antoulas

ELEC 502 (S)  NEURAL NETWORKS AND INFORMATION THEORY I (3)
Review of major artificial neural network paradigms. Analytical discussion of supervised and unsupervised learning. Emphasis on state-of-the-art Hebbian (biologically most plausible) learning paradigms and their relation to information theoretical methods. Applications to data analysis such as pattern recognition, clustering, classification, blind source separation, nonlinear PCA, projection pursuit, independent component analysis. Also listed as COMP 502. Enrollment limited to 20. More at http://www.ece.rice.edu/~erzsebet/ANNcourse.html. Instructor(s): Merenyi

ELEC 507 (F)  NONLINEAR DYNAMIC SYSTEMS ANALYSIS (3)
Analytical methods, including singular point and phase plane analysis, describing functions, stability analysis via Lyapunov functions; digital computer simulation methods; parameter estimation and sensitivity analysis is included. An introduction to the chaotic behavior of nonlinear dynamic systems is included. Also listed as MECH 507. Instructor(s): Clark

ELEC 508 (F)  NONLINEAR SYSTEMS ANALYSIS II (3)

ELEC 519 (F)  PARALLEL ALGORITHMS AND ARCHITECTURE (3)
ELEC 520 (F) DISTRIBUTED SYSTEMS (4)
See description of COMP 520. Instructor(s): Cox, A.

ELEC 522 (S) ADV VLSI DESIGN (3)
Design and analysis of algorithm-specific VLSI processor architectures. Topics include the implementation of pipelined and systolic processor arrays. Techniques for mapping numerical algorithms onto custom processor arrays. Course includes design project using high-level VLSI synthesis tools. Instructor(s): Cavallaro

ELEC 524 (F) MOBILE AND WIRELESS NETWORKING (3)
See COMP 524. Instructor(s): D. Johnson

ELEC 525 (S) ADVANCED MICROPROCESSOR ARCHITECTURE (4)
Exploration of the current trends and future directions of microprocessor architecture. Includes topics such as technology trends that affect microprocessor architecture, modern microprocessor design, techniques for statically and dynamically maximizing parallelism, memory system issues, and proposed future microprocessor architectures. Also listed as COMP 525. Instructor(s): Rixner

ELEC 526 (F) HIGH-PERFORMANCE COMPUTER ARCHITECTURE (4)
Design of high performance computer systems, including shared-memory and message-passing multiprocessors and vector systems. Hardware and software techniques to tolerate and reduce memory and communication latency. Case studies and performance simulation of high-performance systems. Also listed as COMP 526. Instructor(s): Pai

ELEC 527 (F) ADVANCED HIGH-SPEED AND EMBEDDED SYSTEMS DESIGN (4)
Specification, design, and implementation of complex high-speed DSP and microcontroller-based systems, with an emphasis on mixed-signal and communications hardware. Includes instruction in advanced circuit design and analysis (analog, digital and mixed-signal). Emphasis on good design practices. Major hardware design project required. Enrollment limited. Instructor(s): Frantz

ELEC 529 (F) COMP NETWORKS: ARCH & PROTOCOL (3)
See description of COMP 529.

ELEC 530 (S) DETECTION THEORY (3)
Classic and modern methods of optimal decisions in communications and signal processing. Continuous- and discrete-time methods. Gaussian and non-Gaussian problems. Instructor(s): Johnson

ELEC 531 (F) STATISTICAL SIGNAL PROCESSING (3)
Analysis of discrete-time signals and systems. Design and implementation of digital filters. Efficient algorithms for the discrete Fourier transform and for convolution.

ELEC 532 (S) WAVELET AND SPECTRAL ANALYSIS (3)
Spectrum and time-frequency analysis. Wavelets and multiresolution signal and image analysis. Basis and frame signal representations. Filter banks and the discrete wavelet transform. Wavelet system design and approximation theory. Topics in wavelet and time-frequency based signal/image processing. Also listed as STAT 586. Instructor(s): Baraniuk

ELEC 533 (F) INTRODUCTION TO RANDOM PROCESSES AND APPLICATIONS (3)
Review of basic probability; Sequence of random variables; Random vectors and estimation; Basic concepts of random processes; Random processes in linear systems, expansion of random processes; Wiener filtering; Spectral representation of random processes; White-noise integrals. Also listed as CAAM 583.

(#) = credit hours per semester
ELEC 534 (F) WIRELESS COMMUNICATIONS (3)
This is a graduate course on wireless and mobile communication systems, with an emphasis on understanding the unique characteristics of these systems—their analysis and design. Topics include: cellular principles, mobile radio propagation and path loss, characterization of multipath fading channels, modulation and equalization techniques for mobile radio systems, multiple (media) access, Code Division Multiple Access (CDMA) system design, and cellular system capacity. Not offered 2003–04. Instructor(s): Aazhang

ELEC 535 (S) INFORMATION AND CODING THEORY (3)
Introduction to information theory concepts; basic theorems of channel coding and source coding with a fidelity criterion. Techniques of channel coding, parity check codes, introduction to algebraic coding theory, introduction to convolutional codes. Variable-length source coding.

ELEC 536 (S) SELECTED TOPICS IN CONTROL THEORY (3)
The course objective is to design feedback control systems that meet performance specifications in the presence of uncertainties such as disturbances, measurement noise, and unmolded plant dynamics.

ELEC 537 (F) DESIGN AND CONTROL OF COMPUTER NETWORKS (3)
Graduate-level introduction to fundamental concepts for the design and control of computer networks. Topics include resource allocation, routing, traffic modeling, congestion control, service disciplines, and multicasting. Concepts are applied to state-of-the-art systems and protocols such as current and future Internet architectures. Also listed as MECH 537. Not offered 2003–04. Instructor(s): Knightly

ELEC 538 (F) ADVANCED TOPICS IN COMPUTER NETWORKING (3)
Survey of research issues in computer networking including quality of service, wireless networking, scheduling, performance modeling, network control algorithms, and novel architectures. Not offered 2003–04. Instructor(s): Knightly

ELEC 539 (F) DIGITAL IMAGE PROCESSING (3)
Modern techniques for image analysis, processing, and enhancement: Two dimensional system and transform theory; sampling; linear and nonlinear filtering; feature extraction; compression and coding; imaging systems. Not offered 2003–04. Instructor(s): Orchard

ELEC 540 (S) SOURCE CODING AND COMPRESSION (3)
Review of information theory, scalar quantization, vector quantization, quantizer Design Algorithms, Entropy coding, transform coding, rate-distortion optimization application to image and video coding, wavelet and multi-resolution compression algorithms. Instructor(s): Orchard

ELEC 541 (F) ERROR CORRECTING CODES (3)
Introductory course on error correcting codes. Topics covered include linear block codes, convolutional codes, turbo codes and space-time codes.

ELEC 560 (S) INTEGRATED AND FIBER OPTICS (3)
A seminar course consisting of lectures, discussions of journal articles, and student presentations on topics in optical fiber propagation, including linear and nonlinear effects. Instructor(s): Halas

ELEC 561 (S) TOPICS IN SEMICONDUCTOR MANUFACTURING (3)
Advanced methods for simulation and control of the fabrication of modern integrated circuits. Quality and reliability assurance. Instructor(s): Wilson

ELEC 562 (S) SUBMICROMETER & NANOMETER DEVICE TECHNOLOGY (3)
Surveys techniques to design, fabricate, and analyze submicron and nanometer structures with emphasis on applications in microelectronics, micro photonics, information storage, and nanotechnology. Enrollment limited to 25. Instructor(s): Kelly

(F) = Fall; (S) = Spring
ELEC 563 (F)  INTRO TO SOLID STATE PHYSICS I (3)
Introduction to the fundamental concepts of crystalline solids, including the Drude theory of metals, crystal structures, Bloch’s theorem, band structure, effective mass approximation, phonons, plasmons, excitons, and polaritons. Also listed as PHYS 563. Instructor(s): Kono

ELEC 564 (S)  SOLID-STATE PHYSICS II (3)
See description of PHYS 564.

ELEC 565 (F)  TOPICS IN SEMICONDUCTOR NANOSTRUCTURES (3)
Lectures/discussions on advanced topics in semiconductor nanostructures. The topics include: the quantum hall effect; excitons and polaritons; Bose-Einstein condensation; mesoscopic phenomena; spectroscopy of wires and dots; Bloch oscillations; ultrafast/nonlinear optics; spintronics; and quantum information processing. Students read original research papers and review articles, and present seminars on assigned topics. Not offered 2003–04. Instructor(s): Kono

ELEC 566  PHYSICAL ELECTRONICS PROJECTS (3)
Includes standard experiments, development of new experiments, and special projects undertaken in collaboration with a faculty member. Permission of instructor required. Instructor(s): Staff

ELEC 568 (F)  LASER SPECTROSCOPY (3)
Introduction to the theory and practice of laser spectroscopy as applied to atomic and molecular systems. The course covers fundamentals of spectroscopy, lasers and spectroscopic light sources, high resolution and time resolved laser chemistry, environmental science and medicine. Not offered 2003–04. Instructor(s): Tittel

ELEC 569 (S)  ULTRAFAST OPTICAL PHENOMENA (3)
This course covers the generation, propagation, and measurement of short laser pulses, of duration less than one picosecond. Concepts include mode locking, the effects of dispersion, optical pulse amplification, and time-domain nonlinear optical phenomena. Intended as an introduction to ultrafast phenomena for graduate students or advanced undergraduates; a basic understanding of electromagnetic waves and of quantum mechanics is assumed. Also listed as PHYS 569. Instructor(s): Mittleman

ELEC 580 (F)  ADVANCED NEURONAL MODELING AND NETWORKS (3)
Introduction to mathematical techniques used in modeling neurons and neural systems. Includes review of membrane ion channel kinetics, the mathematical characterization of parts of the neuron (e.g., soma, axon, and dendritic tree), vertebrate and invertebrate neuron models, and models of axonal and volume conduction in the medium surrounding the axon. Emphasis on neuron models exhibiting pacing and bursting activity important in central pattern generation. Introduction to natural and artificial neural networks, as well as neuromorphic systems designed using analog CMOS technology. Guest lectures in selected application areas. Not offered 2003–04. Instructor(s): Clark

ELEC 581 (F)  CARDIOVASCULAR DYNAMICS (4)
Analysis of the properties and function of the cardiovascular system, including a detailed study of the hemodynamics; ventricular mechanics; neural regulation of blood pressure, heart rate, and myocardial contractility; conduction system defects, cardiovascular-pulmonary-renal system interactions; mechanical circulatory-assist and total replacement devices; x-ray and ultrasonic methods for cardiac imaging. Instructor(s): Clark

ELEC 590 (F)  ELECTRICAL PROJECTS (VAR)
Theoretical and experimental investigations under staff direction. May be repeated for up to a total of 6 credit hours. Course may be repeated for credit. Instructor(s): Staff

ELEC 591 (F)  FOURIER OPTICS (3)
Survey of optical diffraction and image formation using the technique of Fourier analysis. Both monochromatic and polychromatic light will be considered. Optical systems and system elements such as lenses, waveguides, gratings and interferometers are analyzed. Applications to holography, integrated optics and fiber optics are considered. Not offered 2003–04.

(#) = credit hours per semester
ELEC 599 (F)  FIRST YEAR GRAD STUDENT PROJECTS (6)
Supervised project required of all first-year graduate students in the Ph.D. program. Instructor(s): Staff

ELEC 601 (F)  RESEARCH ETHICS AND PROFESSIONALISM SEMINAR (3)
This seminar will focus on the gray issues of ethical and professional conduct all researchers will encounter in their careers. We will use case studies where appropriate to discuss issues such as confidentiality of information learned in peer review, conflict of interest, ownership of data or programs produced by one person with support from another, and when should a collaborator be a coauthor on a paper. We will discuss some academic professionalism issues like the relationships between graduate students, research staff, junior faculty, and senior faculty. Also listed as CAAM 601 and COMP 601. Not offered 2003–04.

ELEC 602 (F)  NEURAL NETWORKS AND INFORMATION THEORY II (3)
Advanced topics in ANN theories, with a focus on self-organizing maps and unsupervised learning. The course will be a mix of lectures and seminar discussions with active student participation, based on most recent research publications. Students will have access to professional software environment to implement theories. Enrollment limited to 10. Also listed as COMP 602. Not offered 2003–04. Instructor(s): Merenyi

ELEC 603 (F)  NANO-OPTICS (3)
This is a seminar-based course for seniors and graduate students where a variety of currently hot areas in subwavelength optics will be studied. The main topics include: near field optics, microscopy and sensing, single molecule spectroscopy, nanoparticles and their optical properties, and photonic crystals and arrays. Format will include a combination of lectures and student presentations. Instructor(s): Halas

ELEC 630 (S)  MULTITIER WIRELESS NETWORKS (3)
Topics in multitier wireless networks. Lectures from a range of faculty from ECE and CS. Focused team projects. Appropriate for both undergraduate and graduate students of all levels. Instructor(s): Baraniuk

ELEC 631 (S)  WAVELETS—A CONNEXIONIST APPROACH (3)
In this course, we will learn about wavelets and their applications in signal and image processing, including: filterbanks, 1-d and 2-d wavelets, nonlinear approximation, inverse problems, compression, multiscale statistical models, multifractals, and time-frequency analysis. Instead of a standard lecture format, we will emphasize communities, working groups to learn the material together. As we learn, we will build Connexions modules and courses on wavelets (see cnx.rice.edu). The course is offered for repeatable credit in alternate years. Instructor(s): Baraniuk

ELEC 632 (F)  ADVANCED TOPICS IN IMAGE AND VIDEO PROCESSING (3)
Seminar on topics of current research interest in image and video processing. Students participate in selecting and presenting papers from technical literature. Discussions aim at identifying common themes and important trends in the field. Instructor(s): Orchard

ELEC 645 (F)  THIN FILMS (3)
Deposition, characterization, and evaluation of the electronic, magnetic, and mechanical properties of thin films will be discussed. Special problems associated with the application of conventional bulk material characterization techniques to the case of thin films will be considered. The applications of thin films to devices such as transistors, integrated circuits, memory arrays, surface acoustic wave devices, optical waveguides and modulators, and microelectromechanical systems will be covered.

ELEC 685 (F)  FUNDAMENTALS OF MEDICAL IMAGING (3)
The course will introduce basic medical imaging modalities, such as x-ray, CT, and MRI, used to identify the anatomy of human organs, as well as other modalities, such as PET, SPECT, fMRI, and MEG, specifically developed to localize brain function. The course includes visits to clinical sites. Also listed as BIOE 685 and COMP 685.

(F) = Fall; (S) = Spring
ELEC 693 (F)  ADV TOPICS—COMPUTER SYSTEMS (1)
Permission of instructor required. May be repeated for credit.

ELEC 694 (F)  FUTURE PERSONAL COMPUTER TECHNOLOGIES (3)
Survey of the component and standards trends that are the basis of personal computers and digital appliances with the aim of predicting technologies, solutions, and new products five years into the future. Instructor(s): Cutler

ELEC 695 (F)  ADV TOPICS IN COMMUNICATIONS & STATISTICAL SIGNAL PROCESS’G (3)

ELEC 696 (F)  COMPUTER ARCHITECTURE SEMINAR (1)
Discussion of recent research papers in computer architecture and current computer architecture at Rice. Permission of instructor required. May be repeated for credit. Instructor(s): Pai, Rixner

ELEC 697 (F)  INTRO TO FRACTAL PROCESSES (3)
In this course we try to balance an introduction to the mathematical background of fractals and multifractals with applications of theoretical and practical importance, e.g., in Internet traffic modeling and in image processing. Thereby, we will keep things as simple as possible, making the course accessible to a wide audience.

ELEC 760 (F)  BAYLOR/RICE MD/PHD PROGRAM (3)
Departmental permission required. Instructor(s): Clark

ELEC 800 (F)  RESEARCH AND THESIS (3)
Instructor(s): Staff

ENGI (Engineering)

The George R. Brown School of Engineering

ENGI 303 (F)  ENGINEERING ECONOMICS AND MGMT (3)
Introduction to the evaluation of alternative investment opportunities with emphasis on engineering projects and capital infrastructure. Time value of money concepts are developed in the context of detailed project evaluation and presentations. In addition, concepts and applications of risk analysis and investment under uncertainty are developed. Requires oral and written presentations by students. Also listed as CEVE 322. Instructor(s): Segner

ENGI 305 (F)  NEW VENTURE COMMUNICATION, INNOVATION, DISCOVERY FOR SCIENCE AND ENGINEERING (1)
Teaches students in science or engineering the skills needed to discover, communicate, and promote products and services based on technological innovation or scientific research. Students learn to innovate a product or service with social or commercial application, write an early-stage business plan, and give a 10-minute financing presentation. Also listed as NSCI 305. Instructor(s): Ferrill

(#) = credit hours per semester
ENGL (English)

The School of Humanities / Department of English

ENGL 100 (F)  FRESHMAN ENGLISH SEMINAR (3)
The freshman English seminar is typically a theme-based course that includes analysis and discussion of literary texts in poetry, drama, prose, and fiction. Includes frequent submission of essays. Content varies from year to year and from semester to semester. Enrollment limited. Instructor(s): Staff

ENGL 103  INTRODUCTION TO ARGUMENTATION AND ACADEMIC WRITING (3)
Prepares students for writing in academic disciplines. Topics: identifying argument patterns, using on-line databases, practicing heuristic techniques, revising and editing papers with the conventions of formal written English, and using MLA and APA documentation systems. Prerequisite(s): permission of instructor. Instructor(s): Driskill, Tobin

ENGL 121  ADVANCED PLACEMENT CREDIT IN ENGLISH (3)
Course gives credit for Advanced Placement in English.

ENGL 122  ADVANCED PLACEMENT CREDIT IN ENGLISH (3)
Course indicating credit given for Advanced Placement in English.

ENGL 200  SEMINAR IN LITERATURE AND LITERARY ANALYSIS (3)
This course introduces the English major, but it is also open to nonmajors. It emphasizes the close reading of literature and critical writing about literature, as well as understanding the social, historical, and cultural contexts within which imaginative works are produced and interpreted. Enrollment limited to 15. Instructor(s): Aranda, Fultz, Morris

ENGL 201 (F)  INTRODUCTION TO CREATIVE WRITING: FICTION—WHAT WRITERS READ (3)
The course is designed to give students who want to become writers the opportunity to learn the vocabulary, lore, and tribal secrets of the writing community. Some writers are called “writers’ writers.” These are writers whose works are consistently respected, recommended, and, in fact, considered canonical. We will read works by Raymond Carver, Donald Barthelme, Lorrie Moore, Tobias Wolfe, John Cheever, Ernest Hemingway, Amy Hemp, Mary Robison, and Rick Moody. Also on the reading list will be writers writing about their craft. The class will be like a workshop. You will do writing exercises as warm-up stretches for the imagination. Instructor(s): Recknagel

ENGL 209 (S)  GREEK AND ROMAN DRAMA (3)
A reading in translation and dramatic analysis of representative plays, including works by Aeschylus, Sophocles, Euripides, Plautus, Terence, and Seneca. Also listed as LING 209 and CLAS 209. Instructor(s): Mitchell

ENGL 210 (F)  MAJOR BRITISH WRITERS: CHAUCER– 1800 (3)
Readings in major British authors of the Middle Ages, the Renaissance, and the 18th century. Instructor(s): Browning, Logan

ENGL 211 (S)  MAJOR BRITISH WRITERS: 1800–PRESENT (3)
Readings in major British authors of the 19th and 20th centuries. Instructor(s): Browning, Doody

ENGL 215 (F)  WORDS IN ENGLISH: STRUCTURE, HISTORY, USE (3)
Introduction to the study of English words, focusing on their internal structure and the nature and history of English vocabulary. Aims are to enhance knowledge of the rich lexical resources of the language and to facilitate the acquisition of scientific, technical, legal, and humanistic vocabulary. No previous linguistics background required. Also listed as LING 215. Instructor(s): Kemmer

(F) = Fall; (S) = Spring
ENGL 260 (F)  INTRODUCTION TO AMERICAN LITERATURE: THE NOVELIZING OF AMERICA (3)
This lecture course will examine the work of American novelists as self-conscious renderings of the nation that could not find reasonable expression in genres like poetry and autobiography. The expansive nature of the novel lent itself early on to capture, represent, and reify the progressive discourses of history that turned New England Puritan theocracy into a secularized form of government, known as democracy. *Instructor(s): Aranda, Comer, Staff*

ENGL 266  ETHNIC LITERATURES OF 20TH CENTURY AMERICA (3)
This course will serve as an introduction to U.S. Latino/a Literature. We will study the evolution of this literary tradition from its origins in the colonial period, its transformation during the wars of independence from Spain, its second transformation during 19th century American imperialism, and finally its coming of age under the conflicting processes of ethnicity, race, nationalism, language, gender, and citizenship during the 20th century. *Instructor(s): Aranda*

ENGL 270  ASPECTS OF MODERN LITERATURE (3)

ENGL 275 (F)  INTRODUCTION TO FILM: FILM CRITICISM (3)
This writing-intensive course will teach students to view films analytically and write film criticism. Each week, students will view a film, read some criticism of that film, and write their own view of the film. Screenings will be taken from important movements in world cinema history. Special emphasis on influential relationships between criticism and film styles. *Instructor(s): Ostherr*

ENGL 300  PRACTICES IN LITERARY STUDY: READING METHODS (3)
This course is less a methodical survey of contemporary criticism than it is a series of exercises, individual and collective, explicating some of the key concepts routinely surfacing in critical writing today. Students read some short texts in the development of contemporary theory and discuss them at length, revealing the ways that literature is always practicing the ideas which theory articulates. Required for English majors. *Instructor(s): Derrick, Dietz*

ENGL 301  CREATIVE WRITING: FICTION (3)
A course in the fundamentals of fiction writing, with an emphasis on literary Realism and the short story. The class will include a mixture of reading and writing assignments, all chosen to acquaint students with the basic principles of narrative form, design and effect from a maker’s point of view. The general goal is that each student will have produced (and revised) two short stories possessing imaginative ingenuity, structural integrity, and literary merit by the end of the semester. *Instructor(s): Cronin*

ENGL 303  DRAMATIC WRITING (3)
The emphasis, depending on individual students, will be on the writing for drama in one or several of the chief modes of the performing arts: plays, films, musicals, opera, or even dance. Prerequisite(s): permission of instructor. May be repeated for credit. Not offered in 2003–04.

ENGL 304  POETRY WRITING: POETRY (3)
Extensive reading in modern poetry as well as regular practice in the writing of various forms will be required. May be repeated for credit. *Instructor(s): Wood, Hawkins*

ENGL 305 (F)  PERSONAL ESSAY (3)
Writing and reading the personal essay and autobiography. *Instructor(s): Recknagel*

ENGL 306 (S)  EXPOSITORY PROSE (3)
The writing of nonfiction prose designed to persuasively express and support arguments or claims of a variety of kinds. Students write a sequence of short essays on subjects of their own choosing. In the process, they experience how elements like structure, voice, figurative language, and style contribute to rhetorical effectiveness. *Instructor(s): Tobin*
ENGL 307  MEDICAL/TECHNICAL COMMUNICATION (3)
A course in physician-patient communication. Also builds skills in writing and presentations to help students prepare for medical school. Not open to freshmen. Not offered in 2003–04.

ENGL 309 (F)  MYTHOLOGIES (3)
This interdisciplinary course will introduce students to a variety of world mythologies and mythmakers, from the beginnings to the modern period. Designed to explore the relationship between a culture and its myths as expressed in specific literary and religious works. Mythologies offers a means of understanding cultural differences as well as the fundamental topics of human desire and aspiration (creation and birth, the purpose of life, heroic struggle against nature and death, the hope for rebirth, etc.) Included mythologies: Babylonian, Sumerian, Hindu, Egyptian, Greek, Roman, Irish, Welsh, Old Norse, Anglo-Saxon, Finnish, Mayan, Hopi, modern (Borges, Philip Glass). Also listed as MDST 368 and WGST 368. Instructor(s): Chance

ENGL 310 (F)  DANTE IN TRANSATION (3)
A close reading of Dante’s Divine Comedy, with attention to the meaning of words, images, symbols, figures, structures, the significance of a canto within the respective cosmic hierarchy, the overall meaning of a book, and with reference to the political and religious controversies of the time in Florence, Italy, and medieval Europe and Africa. Also listed as MDST 310. Instructor(s): Chance

ENGL 311  MEDIEVAL WOMEN WRITERS (3)
This course will examine the most significant medieval European women authors from the 10th through the 17th centuries, from Italy and Germany to France, England, Austria, and Spain. Using a variety of techniques and media—feminist and gender theory, reader-response theory, staging and performance, films, recordings, slides, journal entries and personal criticism, etc.—to access their work, we will combine close reading with a focus on intersexuality. All works will be read in translation. Also listed as MDST 300 and WGST 300. Not offered 2003–04.

ENGL 312  SURVEY OF OLD ENGLISH LITERATURE (3)
Readings of poems and prose about Old English women, in translation, including The Wife’s Lament, Wulf, Eadwacer, Beowulf, Juliana, Elena, Judith, Genesis B, the Advent Lyrics on the Virgin, and materials from chronicle, myth, and legend (for example, on the Amazons, Circe, and Eurydice). Also listed as WGST 312. Not offered 2003–04.

ENGL 314  SURVEY OF MIDDLE ENGLISH LITERATURE (3)
Content varies. A survey of Middle English lyrics, romances, dream visions, debate poems, mystery plays, and other philosophical and biographical treatises from 1250–1500. Also listed as MDST 314. Not offered 2003–04.

ENGL 315  INTRODUCTION TO MEDIEVAL CULTURE (3)
Interdisciplinary course exploring the literature, art, philosophy, history, music, and science of the Middle Ages, with films by Pasolini, Bergman, Eisenstein, Annaud, Vigne, and others, and highlighted by a medieval banquet. Also listed as MDST 315. Instructor(s): Chance

ENGL 316  CHAUCER (3)
Focus will be primarily on The Canterbury Tales, this philosophical and material culture, and their dramatic and literary potential. Also listed as WGST 305 and MDST 316. Not offered 2003–04.

ENGL 317  ARTHURIAN LITERATURE (3)
A survey of the origins and development of the Arthurian legend from the earliest chronicles in the sixth century and later medieval French, Welsh, Irish, and English Arthurian poems to modern adaptations of Arthurian material, including films. Also listed as WGST 301 and MDST 317. Not offered in 2003–04.
ENGL 318 (S) J.R.R. TOLKIEN (3)
J.R.R. Tolkien, an Oxford professor and eminent medievalist now recognized as one of the greatest writers of the 20th century for his masterpiece, *Lord of the Rings* (written ca. 1930s–1950s), wrote out of what he knew about Old English, Old Norse, and Middle English literature. This course will trace the tension between the exile (*wraecca*) and the community; otherness and heroism; identity and marginalization; revenge and forgiveness. To locate *Lord of the Rings* within a broader historical and literary context, we will read *The Hobbit, The Silmarillion*, and Tolkien’s works on fantasy and mythmaking, “Mythopoia,” “Leaf by Niggle,” and “On Fairy-Stories.” Refer to course website http://www.ruf.rice.edu/~jchance/tol2000.html. Also listed as MDST 318. Enrollment limited. Instructor(s): Chance

ENGL 319 SURVEY OF BRITISH WOMEN WRITERS: 1400–1900 (3)
A survey of major British early women writers. Poems, memoirs, plays, and novels by significant women, and their film adaptations. Also listed as WGST 349. Not offered 2003–04.

ENGL 320 (S) SHAKESPEARE ON FILM (3)
In this course we will examine both the text of selected Shakespearean plays and films made from them, focusing on the difference between film and drama. What happens to a Shakespearean play when it is converted to film? How must it be changed to work successfully in this medium? Plays studied in this class vary from year to year, but they are likely to be drawn from the following list: *Richard III, Twelfth Night, Henry V, Romeo, Juliet, Othello, A Midsummer Night's Dream, Macbeth, and Hamlet.* Permission of instructor required. Enrollment limited. Instructor(s): Huston

ENGL 321 SHAKESPEARE (3)
Representative plays, including tragedies, comedies, histories, and romances. Specific content varies from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Instructor(s): Dietz, Skura

ENGL 324 (F) OLD ENGLISH (3)
This course will be a combination of Old English Grammar and readings in Old English. Also listed as LING 312 and MDST 311. Instructor(s): Mitchell

ENGL 326 EARLY MODERN LITERATURE: READING THE RENAISSANCE
In this course, loosely organized as a survey of the kinds of writing circulating among elite and popular cultures in early modern England, we will study forms as different as love poetry, medical treatises, letters, and courtly masques. The invention of the printing press, and the corresponding rise of literacy in England at this time (roughly from 1550–1660) gave people from all walks of life access to a rich variety of written artifacts—including those writings destined for the stage and the pulpit. Finally, since each of these “literary” works is also a product of England’s rapidly changing cultural landscape during the period, we’ll be able to consider the ways in which these diverse forms also reflect England’s changing social history. Instructor(s): Dietz

ENGL 328 MILTON (3)

ENGL 331 RESTORATION LITERATURE (3)
Not offered 2003–04.

ENGL 332 LITERATURE OF THE ENGLISH ENLIGHTENMENT (3)
Not offered 2003–04.

ENGL 333 SURVEY OF 18TH-CENTURY BRITISH FICTION (3)
This course explores the emergence and consolidation of the English novel and its dynamic relationship to many other 18th-century legacies; the modern individual, capitalism, civil society, the middle class, democracy, and colonialism. We will look at the novel’s thematic and formal features; its role in the production of class ideology and national identity; its attempts to define the private and public spheres; and its multiple and diverse mutations from travel adventure to domestic fiction and from pornography to the gothic. Not offered 2003–04.

(#) = credit hours per semester
ENGL 336  TOPICS IN GOTHIC LITERATURE (3)
Topics vary from year to year. Not offered 2003–04.

ENGL 339 (S)  SURVEY OF BRITISH ROMANTICS: POETRY (3)
The major writings of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats. Instructor(s): Grob

ENGL 341 (F)  SURVEY OF VICTORIAN LITERATURE: VICTORIAN PANORAMA (3)
This course ventures into the array of creative works in the nonfiction genres, exploring the riches of Victorian writing and culture through the reading of poems and prose, including travel writing, diaries, articles in the popular press, and essays on contemporary life, art, nature, and politics. Instructor(s): Logan

ENGL 342 (F)  SURVEY OF VICTORIAN FICTION: THE 19TH-CENTURY NOVEL (3)
A survey of the many genres of the 19th-century novel, this course will try to come to terms with some of the insistent questions posed by and through the fiction of the period. We will read examples of gothic, industrial, realist, romance, and sensation novels focusing in many cases on their constructions of space, history, the body, domesticity, and public life. This year, we will be especially alert to tensions between privacy and publicity, to the ability of language to represent those tensions in the public forum of the novel, and to the workings of competing marriage, work, and detective plots. Also listed as WGST 372. Instructor(s): Michie

ENGL 346 (S)  SURVEY OF 20TH-CENTURY BRITISH LITERATURE (3)
For the 2003–04 academic year, this course will explore the riches of Irish Literature. Instructor(s): Lamos

ENGL 350  SURVEY OF EUROPEAN FICTION (3)
Not offered 2003–04.

ENGL 355  MODERN SHORT FICTION (3)
A study of great works of American and European short fiction from the late 18th through the 20th century. Focus is on the particular anxieties and the particular pleasures of the modern period, with readings from Kleist, Balzac, Poe, Hawthorne, Gogol, Melville, Maupassant, LeFanu, Kafka, Faulkner, O’Connor, Calvino, and Borges. Also listed as FREN 355. Not offered 2003–04.

ENGL 358  STUDIES IN MODERNISM (3)
Topics vary from year to year. Different topics may be repeated for credit. Not offered 2003–04.

ENGL 360 (S)  AMERICAN LITERATURE: BEFORE 1860 (3)
Instructor(s): Derrick

ENGL 361 (F)  AMERICAN LITERATURE: 1860–1910 (3)
Instructor(s): Wolfe

ENGL 362 (F)  AMERICAN FICTION: 1910–1940 (3)
The first half of the 20th century was one of great social turmoil and intense artistic experimentation. We will read novels and stories by Kate Chopin, Ernest Hemingway, Jean Toomer, Scott Fitzgerald, William Faulkner, Zora Hurston, and Djuna Barnes to explore how these writers both represented their era and greatly influenced literary creativity in the second half of the century. Instructor(s): Morris

ENGL 363 (S)  AMERICAN FICTION: 1940–PRESENT (3)
Instructor(s): Doody

ENGL 364 (F)  AMERICAN POETRY: 1900–1960 (3)
Instructor(s): Wolfe

(F) = Fall; (S) = Spring
ENGL 365  AMERICAN POETRY: 1960–PRESENT (3)
Not offered 2003–04.

ENGL 366 (F)  TOPICS IN AMERICAN LITERATURE (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Comer, Levander

ENGL 367  AMERICAN ECOFEMINISM (3)
Also listed as WGST 367. Not offered 2003–04.

ENGL 368 (F)  LITERATURE AND THE ENVIRONMENT (3)
How does literature express or shape environmental values? In this class we will read American fiction and nonfiction exploring the relationship between human and nonhuman nature. Texts include classics by Thoreau, Leopold, and Abbey as well as recent nature writing and contemporary novels. We will discuss literary ideas of nature and wilderness, ecological awareness, environmental activism, sense of place, and urban nature. Students from all disciplines are encouraged to bring issues from their own majors to our green readings. Successful completion of this course fulfills the Humanities requirement for environmental studies majors. Instructor(s): Staff

ENGL 369  LITERATURE AND CULTURE OF THE AMERICAN WEST (3)
Also listed as WGST 329. Not offered 2003–04.

ENGL 370 (S)  SURVEY OF AFRICAN AMERICAN LITERATURE (3)
This course traces, through various genres and themes, African American literary history from the late 18th century to the present. The course provides an overview of representations of African American identities. We will ask how the construction of identity shapes ideas about what it means to be African American. Texts include slave narratives, fiction, poetry, drama, and film. Attention is given to theories and critiques of African American literature and culture. Also listed as WGST 390. Instructor(s): Fultz

ENGL 371  SURVEY OF CHICANO/A LITERATURE (3)
This mixed-genre course will focus on the Chicano movement, the Chicano renaissance, and their alternative literary and mythic traditions. Not offered 2003–04.

ENGL 373 (S)  SURVEY OF AMERICAN FILM AND CULTURE (3)
This course will cover the history of cinema in the U.S. from its origins to the present day. We will examine the development of narrative, the transition to synchronized sound, the classical Hollywood form and style (with detailed analysis of cinematography, editing, mise-en-scene, sound), the rise and fall of the Production Code, film genres and the star system, the emergence of television, the influence of postwar “art cinemas,” the origins of the blockbuster, and the status of Hollywood as “global cinema.” The relationship between film and culture will be explored through the economics of filmmaking, the role of regulatory institutions, and controversies surrounding the notorious Birth of a Nation, McCarthyism and the Blacklist, and representations of sex and violence on film. Also listed as HART 380. Instructor(s): Ostherr

ENGL 377 (F)  LITERATURE AND ART (3)
Vermeer, Hitchcock, Hammett, Rilke. Instructor(s): Snow

ENGL 379  THIRD WORLD LITERATURE IN ENGLISH (3)
This course primarily surveys fiction, poetry, drama, and film (in English) from areas of the world now known as Third World. The course asks students to explore, among other things, the ways in which a “people without history” use literature as a medium to represent their historical experience of colonialism to define a national agenda vis-à-vis and independently of the West and to find new relationships between text and context. Not offered 2003–04.

(#) = credit hours per semester
ENGL 380 (S)  20TH-CENTURY WOMEN WRITERS: (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also listed as WGST 327. Instructor(s): Lamos

ENGL 382  FEMINIST LITERARY THEORY (3)
Also listed as WGST 480. Not offered 2003–04.

ENGL 387  CULTURAL STUDIES (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also listed as WGST 387. Instructor(s): Levander, Ostherr

ENGL 388  MEDIA STUDIES (3)
Not offered 2003–04.

ENGL 389 (S)  GENERATION X IN LITERATURE AND CULTURE (3)
An interdisciplinary survey of Generation X in literature, music, film, and politics. Also listed as WGST 388. Instructor(s): Comer

ENGL 390 (F)  INTRODUCTION TO THEATRE (3)
A survey of the art and theory of the theatre through an examination of dramatic literature from the Greeks through the modern era. The course will also explore the craft of the theatre as it is practiced today. Also listed as THEA 303. Instructor(s): Ramont

ENGL 391  SURVEY OF CONTEMPORARY AMERICAN DRAMA (3)
Not offered 2003–04.

ENGL 394  STRUCTURE OF THE ENGLISH LANGUAGE (3)
Introduction to modern English grammar, phonology, and semantics. Also listed as LING 394. Instructor(s): Staff

ENGL 397 (S)  TOPICS IN LITERATURE (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Morris, Snow

ENGL 401  ADVANCED CREATIVE WRITING: FICTION (3)
A follow-up to English 301, English 401 will be conducted mostly as a workshop, although the course will also include some assigned writing exercises and weekly reading of published short stories to deepen students’ understanding of narrative technique. Students who are taking the course a second time will also be allowed to work in longer forms, such as the novel or novella. Regardless of their experience level, all students will be encouraged to think of their work in terms of a semester-long project to broaden their range as literary artists. Some course time will also be given to discussion of the role of research in literary writing, the business of publishing, and the effects of the literary marketplace on artistic production. May be repeated for credit. Prerequisite(s): ENGL 301. Instructor(s): Cronin

ENGL 404  ADVANCED CREATIVE WRITING: POETRY (3)
May be repeated for credit. Prerequisite(s): ENGL 304. Instructor(s): Wood

ENGL 421  17TH-CENTURY BRITISH LITERATURE STUDIES (3)
Not offered 2003–04.

ENGL 422  18TH-CENTURY BRITISH LITERATURE STUDIES (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Not offered 2003–04.

(F) = Fall; (S) = Spring
ENGL 423 19TH-CENTURY BRITISH LITERATURE STUDIES (3)
Not offered 2003–04.

ENGL 424 20TH-CENTURY BRITISH LITERATURE STUDIES (3)
Not offered 2003–04.

ENGL 432 (S) ORIGINS OF THE ENGLISH NOVEL (3)
The most important literary innovation of the 18th century was the birth of the novel. We will examine the modern social and cultural forces crucial to and inextricable from this watershed development: the emergence of liberalism, conservatism, feminism, class, secular culture, the sex/gender system, individualism, and the separation of public and private spheres. *Instructor(s): Ellenzweig*

ENGL 439 BRITISH ROMANTICS (3)
Not offered 2003–04.

ENGL 441 (S) VICTORIAN STUDIES (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also listed as WGST 405. *Instructor(s): Logan, Michie, Patten*

ENGL 461 19TH-CENTURY AMERICAN STUDIES (3)
Not offered 2003–04.

ENGL 462 20TH–21ST-CENTURY AMERICAN LITERATURE STUDIES (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as WGST 462. *Instructor(s): Lurie*

ENGL 468 LITERATURE AND THE ENVIRONMENT (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. *Instructor(s): Slappey*

ENGL 470 (F) TOPICS IN AFRICAN AMERICAN LITERATURE (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also listed as WGST 453. *Instructor(s): Fultz*

ENGL 471 (F) TOPICS IN CHICANO/A LITERATURE (3)
This course will juxtapose literature written by Mexican Americans from 1848–1950 with literature written by Mexican nationals during the same period of enormous changes. The goal here is twofold: one, to assess the common ground between these two bodies of literature, and two, to ask what role does translation play in our ability to interpret these texts? The first goal will invariably lead the class to consider the historical, cultural, and linguistic similarities between the two bodies of literature. The second goal will allow the class to measure both the effect of translating Mexican American culture into literature for an English-reading U.S. audience and the effect of translating Mexican literature into English for a Latin American readership. The literature studied in this course will be grouped under categories such as colonialism, war, immigration, the border, socialism vs. capitalism, etc. *Instructor(s): Aranda*

ENGL 472 (S) TOPICS IN NATIVE AMERICAN LITERATURE (3)
This course examines the literature of the Native American Renaissance, from N. Scott Momaday’s ground breaking Pulitzer Prize-winning novel, *House Made of Dawn* (1968), to the recent works of some emerging writers. Although our focus will be on the contemporary novel, we will also explore American Indian autobiography and other works of nonfiction. Our literary analysis will be supplemented by an awareness of the cultural and political movements important to American Indian peoples in the late 20th century. *Instructor(s): Slappey*

(##) = credit hours per semester
ENGL 475 (F) MODERN DRAMA ON FILM AND IN PERFORMANCE (3)
This course focuses on drama not only as text but also as performance. So we will read modern plays, from Enrico IV to Angels in America, and discuss them as they are often discussed in English courses, concentrating on theme, character, world, imagery, language, and dramatic action. But in addition we will also examine the “texts” as scripts, as working papers for actors and directors: in short, as source materials for performance. To this end we will also view movie versions of many of these plays, and students will act a scene in class in an effort to understand more fully the demands and possibilities of theatrical performance. Instructor(s): Huston

ENGL 481 FEMINIST LITERARY THEORY AND CRITICISM (3)
Also listed as WGST 407. Not offered 2003–04.

ENGL 484 STUDIES IN LITERARY GENRES (3)
Not offered 2003–04.

ENGL 485 STUDIES IN MODERN LITERATURE (3)
Not offered 2003–04.

ENGL 487 AREA STUDIES: GLOBAL FICTIONS (3)
This course examines narrative fictions that represent various attempts to grasp the global—as an idea, a cognitive map, a pattern of movement, a series of events, a montage of images, etc. We will read novels alongside a number of essays on literary and cultural theory, especially work that connects the role of narratives, language, and representation to broader debates about capitalism, transnational culture, immigration, slavery, revolution, and international feminism. The course will have both a broad historical and geographical reach. Not offered 2003–04.

ENGL 489 STUDIES IN FILM
Topics will vary from year to year. Instructor(s): Ostherr

ENGL 490 (F) STUDIES IN MAJOR BRITISH AUTHORS (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Patten, Snow

ENGL 491 (S) STUDIES IN MAJOR AMERICAN AUTHORS (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Staff

ENGL 493 DIRECTED READING (VAR)
Students may occasionally arrange semester-long independent study in a specific area of interest with the professor’s approval. Requirements must be discussed with the professor.

ENGL 494 SENIOR SEMINAR (3)

ENGL 495 SENIOR THESIS (3)

ENGL 497 TOPICS IN LITERATURE (3)
Topics vary from year to year. Different topics may be repeated for credit.

ENGL 498 STUDIES IN LITERARY CRITICISM (3)
Topics vary from year to year. Different topics may be repeated for credit. Not offered 2003–04.

ENGL 499 (F) STUDIES IN LITERARY THEORY (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also listed as WGST 430. Instructor(s): Lamos

(F) = Fall; (S) = Spring
ENGL 509   MASTER’S THESIS (3)

ENGL 510 (S)   PEDAGOGY (3)
For third-year students preparing to teach their own sections of Freshman English. This two-
semester course will help students put together syllabi and other teaching materials, address various
pedagogical problems, formulate their teaching philosophies and provide classroom assistance in
their independent teaching. Instructor(s): Staff

ENGL 511 (F)   PEDAGOGY (3)
Continuation of ENGL 510. Instructor(s): Staff

ENGL 514   MIDDLE ENGLISH LITERATURE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 515   CHRISTINE DE PIZAN IN 15TH-CENTURY ENGLAND (3)
Not offered 2003–04.

ENGL 516   CHAUCER (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 517   MEDIEVAL WOMEN WRITERS (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 519 (S)   16TH-CENTURY BRITISH LITERATURE (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the
Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be
repeated for credit. Instructor(s): Skura, Dietz

ENGL 520   SHAKESPEARE AND DIFFERENCE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 521   SHAKESPEARE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 522   SHAKESPEARE AND THEORY (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 523   ELIZABETHAN & JACOBEAN DRAMA (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 526   17TH-CENTURY POETRY AND PROSE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 528   MILTON (3)
Not offered 2003–04.

ENGL 531   RESTORATION LITERATURE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 532 (S)   18TH-CENTURY BRITISH LITERATURE (3)
Topics vary from year to year. For examples, refer to the ENGL listings for a given semester on the
Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be
repeated for credit. Instructor(s): Ellenzweig

ENGL 534   19TH-CENTURY BRITISH FICTION (3)
Topics vary from year to year and as needed. Not offered 2003–04.

(#) = credit hours per semester
ENGL 539 BRITISH ROMANTICS (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 541 VICTORIAN LITERATURE (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Not offered 2003–04.

ENGL 542 VICTORIAN STUDIES (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Michie

ENGL 543 (S) VICTORIAN POETRY AND PROSE (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Patten

ENGL 546 (S) 20TH-CENTURY BRITISH FICTION (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Lamos

ENGL 560 19TH-CENTURY AMERICAN LITERATURE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 561 SLAVERY AND THE SENTIMENTAL NOVEL (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 562 MODERN AMERICAN FICTION (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 563 20TH-CENTURY AMERICAN LITERATURE AND CULTURAL STUDIES (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 564 (F) FAULKNER AND CONTEMPORARY THEORY (3)
We will read closely and discuss fully four or five of Faulkner’s major novels in the context of a broad range of 20th-century interpretive strategies. The class will consider issues of narrative form, social context, gender, race, and modern and postmodern aesthetics. Instructor(s): Morris

ENGL 565 20TH-CENTURY AMERICAN POETRY (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 566 LATE 20TH-CENTURY AMERICAN LITERATURE AND CULTURE TO THE PRESENT (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 570 AFRICAN AMERICAN STUDIES (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 572 CHICANO/A STUDIES (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 575 (S) FILM AND THEORY (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Snow

(F) = Fall; (S) = Spring
ENGL 578   LITERATURE AND THE ENVIRONMENT (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 581   CULTURAL STUDIES (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 582   FEMINIST LITERARY THEORY (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 583   FEMINIST ISSUES (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 585 (F)   POSTCOLONIALISM AND AFTER (3)
Course serves both as an introduction to postcolonial theory and as a reevaluation of its political and ethical ends vis-a-vis recent debates around globalization and cosmopolitanism. How have these rubrics provided a new charge for the literary and cultural critiques of postcolonialism? We will read classic works by Said, Bhabha, Fanon, and Spivak as well as novels, films and recent work on subaltern studies, transnational feminisms, psychoanalysis, cosmopolitanism, and the political economics of globalization. Instructor(s): Joseph

ENGL 591 (F)   STUDIES IN LITERATURE AND OTHER DISCIPLINES (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Dietz

ENGL 595   STUDIES IN MAJOR BRITISH AUTHORS (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 596 (S)   STUDIES IN MAJOR AMERICAN AUTHORS (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Levander

ENGL 597   TOPICS IN LITERATURE (3)
Topics vary from year to year and as needed. Not offered 2003–04.

ENGL 599   LITERARY THEORY (3)
Topics vary from year to year and as needed. For examples, refer to the ENGL listings for a given semester on the Registrar’s webpage at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Instructor(s): Wolfe

ENGL 600   PROFESSIONAL METHODOLOGY (3)
Basic seminar for first year graduate students. An introduction to core concepts in English literary and cultural studies, significant critical and theoretical paradigms, disciplinary trends and various genres of academic writing. Instructor(s): Derrick

ENGL 601 (F)   TEACHING PRACTICUM (3)

ENGL 602 (S)
Open only to those graduate students serving as teaching assistants for courses in English or the humanities.

ENGL 605   THIRD-YEAR WRITING WORKSHOP (3)
Open to third-year students. Designed to help transform seminar papers into works of publishable quality.

ENGL 621 (F)   DIRECTED READING (3)

(#) = credit hours per semester
ENGL 622 (S)  DIRECTED READING (3)
Continuation of ENGL 621.

ENGL 703 (F)  RESEARCH LEADING TO CANDIDACY (3)
Taken after completion of departmental course requirements for the master’s or doctorate and before admission to candidacy.

ENGL 704 (S)  RESEARCH LEADING TO CANDIDACY (3)
Taken after completion of departmental course requirements for the master’s or doctorate and before admission to candidacy.

ENGL 800  PH.D. RESEARCH AND THESIS (VAR) (3)
Taken after admission to candidacy.

ENST (Environmental Studies)

The George R. Brown School of Engineering / The School of Architecture / The School of Humanities / The School of Social Sciences / The Wiess School of Natural Sciences

ENST 101 (F)  THE SUSTAINABLE ENVIRONMENT (3)
Open only to freshman. Enrollment limited to 15. Also offered as UNIV 111. Instructor(s): Isle, Sass

ENST 113 (F)  ENVIRONMENTAL CRISIS SEMINAR: WATER (1)
Water—one of the most basic and important components of the environment. But how is the water cycle changing and what are the current issues? In this semester’s course we will discuss the water from an interdisciplinary perspective, from reservoirs and flow, through life and uses, to pollution and rights. Enrollment limited to 20. Also listed as BIOS 113 and ESCI 113. Instructor(s): Dickens, Sass

ENST 200 (S)  INTRODUCTION TO THE ENVIRONMENT: ENVIRON (3)
This course is intended as an introduction to environmental studies from all divisions of the campus. The course focuses on attitudes and values relating to the environment as represented in environmental history and environmental literature. Instructor(s): Isle

ENST 303 (S)  ENVIRONMENTAL ISSUES: RICE INTO THE FUTURE (3)
This course addresses science, technology, and policy elements of environmental issues. Students use the campus and local community as a laboratory in which to do projects to reduce environmental impacts, enhance sustainability, or resolve environmental problems. Instructor(s): Harcombe

ENST 400  INDEPENDENT STUDY (3)
Prerequisite(s): Permission of the instructor. Instructor(s): Staff

ESCI (Earth Science)

The Wiess School of Natural Sciences / Department of Earth Science

ESCI 101  THE EARTH (3)
Study of nature of the earth and the processes that change it. Recommended corequisite: ESCI 105. Instructor(s): Lenardic, Gordon, Luttge

(F) = Fall; (S) = Spring
ESCI 102 (F)  EVOLUTION OF THE EARTH (3)
History of the earth and evolution of continents, ocean basins, life and climate over the past 4.6 billion years. Recommended corequisite: ESCI 105.

ESCI 103 (S)  FIELD TRIPS FOR THE EARTH (1)
Four evening lectures of one hour each prior to one long weekend and one one-day field trip. Instructor(s): Droxler

ESCI 105  INTRODUCTORY LABORATORY FOR EARTH SCIENCE (1)
Exercises on rocks, minerals, stratigraphy, paleontology, mapping and plate tectonics. Normally taken with ESCI 101 or 102. This lab is recommended before taking advanced courses in earth science. Instructor(s): Zelt

ESCI 107 (F)  OCEANS AND GLOBAL CHANGE (3)
Overview of the impact of the ocean and ocean evolution on the earth’s climate. Includes geological, physical, chemical, and biological aspects of change. Instructor(s): Droxler

ESCI 108 (S)  CRISTES OF THE EARTH (3)
Study of how geological and environmental crises have affected the earth throughout history. Includes meteorite impacts, global extinctions, volcanic eruptions, earthquakes, and the effect of humans on the environment, as well as an overview of the historical perspectives, scientific background, and development of these processes, the development of predictive scenarios, and society’s adaptations to such hazards. Offered in alternate years. Not offered 2003–04. Instructor(s): Leeman, Sawyer

ESCI 109 (S)  OCEANOGRAPHY (3)
Introduction to the oceans, with an emphasis on how the physics, chemistry, geology, and biology of the oceans are linked. Instructor(s): Dickens

ESCI 110 (F)  ENERGY, THE ENVIRONMENT AND SOCIETY (3)
Undergraduate seminar on current issues in energy used by industrial society, energy resources and their impact on the environment. Instructor(s): Levander

ESCI 113 (F)  ENVIRONMENTAL CRISIS SEMINAR: WATER (1)
Water is one of the most basic and important components of the environment. But how is the water cycle changing and what are the current issues? In this semester’s course we will discuss the water from an interdisciplinary perspective, from reservoirs and flow, through life and uses, to pollution and rights. Enrollment limited to 20. Also listed as BIOS 113 and ENST 113. Instructor(s): Dickens, Sass

ESCI 202 (S)  GEOSCIENCES IN HUMAN AFFAIRS (3)
The historical development of geosciences. Application of geophysical methods to learn about the earth’s interior and to explore for oil and other minerals. Instructor(s): Talwani

ESCI 203 (F)  INTRODUCTION TO BIOGEOCHEMISTRY (3)
The interaction between (micro) organisms, minerals, rocks, and aqueous solutions is an important new field of research that requires an interdisciplinary approach between (micro) biology, organic chemistry, and geochemistry. The course provides an introduction and insight into this exciting new field and puts an emphasis on quantitative strategies. Instructor(s): Lutte

ESCI 214 (F)  THE PLANETS (3)
The physical, chemical, and geological development of the solar system from 4.6 billion years ago until today. All planets, their major satellites, comets, and asteroids will be discussed. (For nonmajors.) Instructor(s): Herrick, Robert

(#) = credit hours per semester
ESCI 321 (F)  EARTH SYSTEM EVOLUTION AND CYCLES (4)
This course introduces the systems and processes that shape our earth’s surface including weathering, sediment transport, ocean and atmosphere circulation, accumulation of sedimentary material, and organisms, including man. A particular emphasis is placed on how biogeochemical cycles and key interactions link and change systems and processes over space and time. Enrollment limited to 40. Instructor(s): Anderson, Dickens, Droxler, Lee

ESCI 322 (S)  EARTH CHEMISTRY AND MATERIALS (4)
This course introduces rock-forming processes related to the chemical and physical differentiation of the solid Earth into its main reservoirs: continental crust, oceanic crust, mantle, and core. Beginning with the bulk earth and an overview of how it was formed, students will receive a process-oriented overview of the chemical and petrologic properties of the rocks that make up each of these reservoirs. The basic principles of igneous, metamorphic and sedimentary petrology will be presented in the context of the rock cycle, plate tectonics, as well as the origin of economically and socially important ore deposits. A laboratory and field trip, where students will see petrologic principles applied, will be required. Instructor(s): Lee

ESCI 323 (F)  EARTH STRUCTURE AND DEFORMATION (4)
Introduction to the mechanics and deformation of the earth’s crusts and lithosphere, emphasizing rock strength and rheology, earthquakes and faulting, brittle, and ductile deformation mechanisms and processes, and an introduction to tectonic systems. Lab will develop skills for recognition, interpretation, and analysis of deformation structures and processes on maps and cross-sections. Instructor(s): Gordon, Ave Lallemant, Morgan

ESCI 324 (S)  EARTH’S INTERIOR (4)
Formation of the solar system and the earth, earth differentiation and geochronology. Structural seismology and the composition of the earth’s interior. Density, the earth’s gravity field, shape, and the geoid. Heat flow and earth energetics. The core and the earth’s magnetic field. The mantle convection system giving rise to plate tectonics. The short-lived oceanic crust and the long-lived continental crust. Instructor(s): Lenardic

ESCI 326 (F)  ENVIRONMENTAL GEOLOGY (3)
Course examines interrelations between humans and the geologic environment. Emphasis on geologic processes, hazards, environmental management. Topics include: groundwater, soils, landslides, subsidence, river, coastal & lacustrine environments, earthquakes, and volcanic activity, mineral and energy resources, waste disposal. Course includes local field trips. Not offered 2003–04.

ESCI 334 (S)  GEOLOGICAL AND GEOPHYSICAL TECHNIQUES (2)
Beginning field techniques taught in seven labs and seven day field excursion during mid-term recess. Instructor(s): Morgan

ESCI 353 (S)  ENVIRONMENTAL GEOCHEMISTRY (3)
Theories and problems of chemical hazards in the environment due to natural processes, with emphasis on low-temperature aqueous systems. Instructor(s): Luttge

ESCI 403 (F)  SEMINAR: FACULTY RESEARCH (1)
Introduction to current research in earth science. Each faculty member in department participates by describing his or her research and some of the techniques involved.

ESCI 405 (F)  SEM:CURRENT RESEARCH IN EARTH SCIENCE (1)
A series of lectures on current research in various areas of earth science. Course may be repeated for credit.

ESCI 406 (S)  SEMINAR:CURRENT RESEARCH IN EARTH SCIENCE (1)
A series of lectures on current research in various areas of earth science.

(F) = Fall; (S) = Spring
ESCI 408 (F) CURRENT TOPICS IN CONTINENTAL TECTONICS (3)
In-depth investigation of selected current research problems in continental tectonics. Course content may vary from year to year depending on interest of students.

ESCI 411 (F) METAMORPHIC PETROLOGY (4)
Evaluation of sub-solidus mineral equilibria through consideration of natural assemblages, thermodynamic calculations, and experiments. Labs will stress thin section petrography.

ESCI 412 (S) ADVANCED PETROLOGY (4)
Evaluation of the evolution of igneous rocks in earth’s crust and mantle. Topics will include phase equilibria, experimental studies, and geochemistry. Labs will stress thin section petrography. Instructor(s): Leeman, Lee

ESCI 415 (S) ECONOMIC GEOLOGY-PETROLEUM (3)
A study of the geology of petroleum: origin, migration, and accumulation will be studied. Government regulation and industry economics will be examined. Not offered 2003–04. Instructor(s): Riese

ESCI 416 (F) ECONOMIC GEOLOGY MINERAL DEPOSITS (3)
An overview of metallic and nonmetallic mineral deposits, theories of their origin, and classification. The impact of government regulation, economics, production practices, and exploration will be considered. Not offered 2003–04.

ESCI 417 (S) PETROLEUM INDUSTRY ECONOMICS, MANAGEMENT (3)
Topics covered include resource size determination; geologic risk analysis; establishing minimum economic thresholds; economic chance factors; the concepts of present worth, investment efficiency, rates of return. Price forecasting, cost inflation are discussed. The limitations of discrete solutions, Monte Carlo evaluations of expected outcomes are examined. Students will spend the semester working through a case evaluation in order to see first-hand how the interplay of these various assumptions, decision analysis techniques impact investment decisions. Instructor(s): Riese

ESCI 421 (F) PALEOCEANOGRAPHY (3)
The evolution of the ocean, climate and the global carbon cycle over the last 100 million years as recorded by the biology, chemistry and composition of deep-sea sediment. Prerequisite(s): ESCI 321. Not offered 2003–04. Instructor(s): Dickens, Droxler

ESCI 423 (F) ANTARCTIC MARINE GEOLOGY (3)
The study of marine geologic principles and processes using examples from the Southern Oceans. Not offered 2003–04. Instructor(s): Anderson

ESCI 427 (S) SEQUENCE STRATIGRAPHY (3)
This course will introduce students to the concepts of sequence stratigraphy. The course is divided between clastic sequence stratigraphy using cores, well-logs, and outcrop examples and seismic sequence stratigraphy. Instructor(s): Abreu, J. Wellner, R. Wellner

ESCI 428 (F) GEOLOGIC INTERPRETATION OF REFLECTION PROFILES (4)
Practical application of the reflection seismic method used in the tectonic analysis of deformed belts and sedimentary basins. Includes case studies from around the world, with emphasis on the integration of seismic reflection data with other surface and subsurface geological/geophysical information. Basics of seismic processing are introduced only in the framework of interpretation problems. Modern hydrocarbon exploration concepts based on the structural/stratigraphic interpretation of 2D and 3D seismic reflection data are also discussed. Not offered 2003–04.

(#) = credit hours per semester
ESCI 430 (F)  TRACE-ELEMENT AND ISOTOPE GEOCHEMISTRY FOR EARTH AND ENVIRONMENTAL SCIENCE (3)
Introduction to the principles of trace-element and isotope geochemistry and their applications to high and low temperature processes in the earth. Topics to be covered are trace-element partitioning, basic quantum physics, radiogenic isotopic systems and stable isotope fractionation. Instructor(s): Dickens, Lee

ESCI 440 (F)  GEOPHYSICAL DATA ANALYSIS: DIGITAL SIGNAL PROCESSING (3)
Data sampling, aliasing, discrete Fourier transform, digital filter design techniques, z-transform, and discrete Hilbert transform will be introduced. Deconvolution, velocity filters, polarization filter, stacking, beam forming and migration techniques will be taught together with their application in geophysical studies. Instructor(s): Niu

ESCI 441 (F)  GEOPHYSICAL DATA ANALYSIS: INVERSE THEORY (3)

ESCI 442 (F)  EXPLORATION GEOPHYSICS I (4)
Study of the principles and procedures involved in geophysical exploration. Includes acquisition, processing, and interpretation of gravity, magnetic, and seismic data. Instructor(s): Talwani, Zelt

ESCI 444 (S)  EXPLORATION GEOPHYSICS II (3)
Experience with processing reflection seismic data. Includes seismic data organization, velocity analysis, stacking, filtering, deconvolution, migration, and display, using the Center for Computational Geophysics facility’s ProMax seismic processing system. Instructor(s): Danbom, Sawyer

ESCI 450 (S)  REMOTE SENSING (3)
Introduction to electromagnetic remote sensing of the earth and other planets using passive and active methods. The course includes a computer lab component involving processing and interpretation of remote sensing imagery, and an individual project. Instructor(s): Sawyer, Merenyi

ESCI 451 (F)  ANALYSIS OF ENVIRONMENTAL DATA (3)
Introduction to data display, statistical methods, system simulation, and geostatistics for environmental scientists. The course will emphasize the application of these techniques to real and simulated environmental problems. The lab will involve extensive computer use and the completion of a major individual project on a topic selected by the student. Instructor(s): Sawyer

ESCI 454 (F)  GEOGRAPHIC INFORMATION SCIENCE (2-3-3)
Introduction to geographic information systems (GIS) technology, mapping sciences, and spatial analysis. The course will include extensive computer use and the completion of a major individual project on a topic selected by the student. Not offered 2003–04. Instructors : Sawyer, Sweeney

ESCI 458 (F)  THERMODYNAMICS/KINETICS FOR GEOSCIENCES (3)
Thermodynamics and kinetics for the special needs of geo/earth scientists covering the basic concepts with respect to geochemical applications, e.g., equilibrium-nonequilibrium concepts, steady state, delta G dependence of reactions, missing models, and etc. Instructor(s): Luttge

ESCI 460 (S)  GEOLOGICAL AND GEOPHYSICAL FLUID DYNAMICS (3)
An Advanced course in the foundations of fluid mechanics and its application to earth science. Aspects of continuum mechanics, heat and mass transfer, and the rheologic behavior of materials will be covered in developing the fundamental laws that describe fluid motion. Applications will include atmospheric dynamics, mantle and lithospheric dynamics, and hydrogeology. Instructor(s): Lenardic

ESCI 461 (F)  SEISMOLOGY I (3)
Principles of elastic wave initiation, propagation, and reflection in ideal media and real rocks, with applications to exploration for hydrocarbons. Instructor(s): Niu, Zelt

(F) = Fall; (S) = Spring
ESCI 462 (F)  TECTONOPHYSICS (3)
Applications of continuum physics to the deformation, flexure, heat transfer, and gravity field of the lithosphere. Instructor(s): Gordon

ESCI 463 (F)  ADVANCED STRUCTURAL GEOLOGY I (4)
Mechanics and deformation of rocks in the brittle regime, i.e., within the earth’s shallow crust, with emphasis on large and small scale deformation structures, their origins, and their tectonic settings. Instructor(s): Ave Lallemant, Morgan

ESCI 464 (F)  GLOBAL TECTONICS (3)
Introduction to global tectonics, emphasizing the theory of plate tectonics, including geometrical aspects of plate tectonics, descriptions of the 3 traditional types of plate boundaries, instantaneous plate motions, finite plate motions, and the relation of plate tectonics to earthquakes and faulting. The course will also address true polar wander, the driving mechanism of plate tectonics, diffuse plate boundaries, plate nonrigidity, and intraplate tectonics. Instructor(s): Gordon

ESCI 466 (S)  ADVANCED STRUCTURAL GEOLOGY II (4)
Mechanics and deformation of rocks in the brittle regime, i.e., within earth’s shallow crust, with emphasis on large and small scale deformation structures, their origins, and their tectonic settings. Instructor(s): Ave Lallemant

ESCI 467 (S)  GEOMECHANICS (3)
An examination of frictional and brittle deformation processes within earth’s shallow crust, with a focus on the principles of rock and sediment mechanics from experiment and theory. Emphasis will be on geologic applications, including sediment compaction, slope failure, fault mechanics, and earthquake nucleation and rupture. Instructor(s): Morgan

ESCI 468 (S)  CLIMATE CHANGE AND HUMAN CIVILIZATION (3)
Paleoscientists have records extending through the Holocene of forcing process, such as climate, that influence humans. We examine these records and their impact on past and present society. We explore the concept of social memory, used to understand how past communities use information about climate change and past responses in long-term adaptive strategies. Also listed as ANTH 468. Instructor(s): Droxler, R. McIntosh

ESCI 471 (F)  ISO TOPE GEOLOGY (1)
An introduction to the principles, interpretation and techniques of radiogenic isotope systems. The course will focus on geochronologic applications as well as the use of isotopes in the study of petrogenesis of igneous rocks.

ESCI 475 (F)  PLIO-PLEISTOCENE CLIMATE CHANGE & HOMINID ADAPTATION (3)
Junctures in the evolution of the hominids appear to coincide with shifts in the earth’s climate record. We will explore the current status of our knowledge of global climate in the Plio-Pleistocene and of the hominid record from the end of the Miocene to the appearance of H. Sapiens. Also listed as ANTH 475. Instructor Droxler

ESCI 481 UNDERGRADUATE RESEARCH IN EARTH SCIENCE (VAR)
Advanced work adapted to the needs of the individual undergraduate student. May be repeated for credit.

ESCI 501 SPECIAL STUDIES (VAR)
Advanced work in earth science adapted to the needs of individual graduate students. May be repeated for credit.

ESCI 504 (F)  SILICICLASTIC DEPOSITIONAL SYSTEMS (3)
Study of modern and ancient sedimentary environments with emphasis on field work. Depositional models examined in relation to climatic, oceanographic, and tectonic influences. Instructor(s): Anderson

(#) = credit hours per semester
ESCI 505 (F)  APPLIED SEDIMENTOLOGY I (3)  
Field investigation of sedimentary deposits of northwestern New Mexico to provide graduate students in sedimentology with training in field methods, interpretation of sedimentary deposits, and faces mapping. *Instructor(s): Anderson*

ESCI 506 (S)  CARBONATE DEPOSITIONAL SYSTEMS (3)  
Characterization of modern and ancient, shallow and deep sedimentary environments and faces. Includes examination of different depositional models in relation both to climate and to hydrographic and geographic settings, as well as three field trips. *Instructor(s): Droxler, Dravis*

ESCI 507 (F)  APPLIED SEDIMENTOLOGY II (3)  
*Instructor(s): Anderson*

ESCI 508 (F)  SEMINAR: THE DYNAMIC EARTH I: GEOLOGY (3)  
Middle school teachers will investigate earth’s origin, and the changes in geography, oceans, atmosphere, and life through time. Classroom materials and resource lists will be provided; course content is tied to the TEKS. Field trips focus on local resources.

ESCI 511 (F)  SEM: DYNAMIC EARTH II: OCEANS & ATMOSPHERE (3)  
Middle school teachers will investigate earth’s origin, and the changes in geography, oceans, atmosphere, and life through time. Classroom materials and resource lists will be provided; course content is tied to the TEKS. Field trips focus on local resources.

ESCI 512 (F)  CARIBBEAN (3)  
*Instructor(s): Ave Lallemant*

ESCI 515 (F)  SEM: CLASSROOM EARTH: PUTTING EARTH SCIENCE INTO ACTION (3)  
Middle school teachers encounter discovery based methods for enriching the earth science classroom. Classroom materials and resource lists will be provided; course content is tied to the TEKS. Field trips focus on local resources.

ESCI 516 (S)  SEM: CARBONATES AND SEA LEVEL (3)  
*Instructor(s): Droxler*

ESCI 517 (F)  SEM: SPECIAL TOPICS IN HIGH TEMPERATURE GEOCHEMISTRY (3)  
This seminar will cover selected topics and techniques of modern igneous petrology and geochemistry. Weekly meetings will focus on discussion of journal readings and/or data sets to be analyzed. *Instructor(s): Luttge, Lee*

ESCI 518 (F)  SEM: DYNAMIC EARTH II: OCEANOGRAPHY AND METEOROLOGY (3)  
Middle school teachers will investigate earth’s origin, and the changes in geography, oceans, atmosphere, and life through time. Classroom materials and resource lists will be provided; course content is tied to the TEKS. Field trips focus on local resources.

ESCI 519  SEMINAR: SEISMOLOGY (3)  
*Instructor(s): Levander*

ESCI 521 (F)  SEMINAR: APPLIED MICROPALEONTOLOGY (3)  
The course covers the practical application of micro paleontologic data to solve geologic problems, particularly within the petroleum industry at both the exploration and development scale. Not offered 2003–04.
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor(s)</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ESCI 524 (F)</td>
<td>SEM: OUTCROP SEQUENCE STRATIGRAPHY (3)</td>
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<td>ESCI 526 (F)</td>
<td>SEM: STABLE ISOTOPE GEOCHEMISTRY (3)</td>
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<td>ESCI 527 (F)</td>
<td>PRINCIPLES &amp; PRACTICES OF PETROLEUM GEOCHEMISTRY IN EXPLORATION AND EXPLOITATION (3)</td>
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<td></td>
<td>This course focuses on the integration of organic geochemical information into the geologic framework to estimate the quantities of oil and gas available for entrapment within a basin or a series of prospects.</td>
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<tr>
<td>ESCI 529 (F)</td>
<td>SEM: TOPICS IN MARINE GEOPHYSICS (3)</td>
<td>Talwani</td>
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<tr>
<td>ESCI 531 (F)</td>
<td>SEMINAR: ADVANCED GLOBAL TECTONICS (3)</td>
<td>Gordon</td>
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<td>ESCI 533 (F)</td>
<td>SEM: GLOBAL BIOGEOCHEMICAL CYCLES (3)</td>
<td>Gordon</td>
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<td>This course presents the mass, distribution, and fluxes of elements on earth and how natural and anthropogenic forcings can perturb these cycles. Examples include the global cycles of carbon, nitrogen, sulfur, oxygen, and metals. The course will introduce numerical modeling and include an individual student project. Enrollment limited to 10. Taught alternate years. Not offered 2003–04.</td>
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<tr>
<td>ESCI 542 (F)</td>
<td>SEISMOLOGY II (3)</td>
<td>Levander</td>
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<td>ESCI 555 (F)</td>
<td>SEM: ADVANCED TOPICS IN GEOCHEMISTRY REACTION (3)</td>
<td>Luttge, Dickens</td>
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<td></td>
<td>Study of selected topics in low temperature aqueous geochemistry.</td>
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<tr>
<td>ESCI 562 (F)</td>
<td>ADVANCED TOPICS IN GEOPHYSICS-GEO-MECHANICS (3)</td>
<td>Morgan</td>
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<tr>
<td>ESCI 568 (F)</td>
<td>STRUCTURAL ANALYSIS OF DEFORMED ROCKS (4)</td>
<td>Ave Lallemant</td>
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<td></td>
<td>Study of structures, textures, and fabrics of deformed rocks. Includes strain and kinematic analysis.</td>
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<td>ESCI 579</td>
<td>PREP OF M.A. THESIS PROPOSAL (3)</td>
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<td>ESCI 589</td>
<td>PREP OF PH.D. THESIS PROPOSAL (3)</td>
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<td>ESCI 800</td>
<td>THESIS RESEARCH (VAR)</td>
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**FLAC (Foreign Languages Across the Curriculum)**

The School of Humanities

**FLAC 100 FOREIGN LANGUAGE ACROSS THE CURRICULUM (1)**
This course explores how working with primary source materials in the original language can enrich a student’s understanding of the historical experience. Listed as a component of another course. Permission of the instructor is required.

(#) = credit hours per semester
FLAC 200  FOREIGN LANGUAGE ACROSS THE CURRICULUM (1)
This course explores how working with primary source materials in the original language can enrich
a student’s understanding of the historical experience. Listed as a component of another course.
Permission of the instructor is required.

FLAC 300  FOREIGN LANGUAGE ACROSS THE CURRICULUM (1)
This course explores how working with primary source materials in the original language can enrich
a student’s understanding of the historical experience. Listed as a component of another course.
Permission of the instructor is required.

FLAC 400  FOREIGN LANGUAGE ACROSS THE CURRICULUM (1)
This course explores how working with primary source materials in the original language can enrich
a student’s understanding of the historical experience. Listed as a component of another course.
Permission of the instructor is required.

FREN (French Studies)

The School of Humanities/Department of French Studies

FREN 101  ELEMENTARY FRENCH LANGUAGE AND
CULTURE I (5)
Introductory French. Concentration on all four language skills. Supplemented by work in the
Language Resource Center. Instructor(s): Staff

FREN 102  ELEMENTARY FRENCH LANGUAGE AND
CULTURE II (5)
See FREN 101. Instructor(s): Staff

FREN 123  THE CREATIVITY OF FRANCOPHONE CINEMA:
CHALLENGING THE HOLLYWOOD EMPIRE (3)
The dynamic film production of French-speaking countries forms a unified artistic body still
unadulterated by the Hollywood canon. A fundamentally noncommercial conception of cinema
inherited from France allows Francophone directors to voice their otherwise silenced cultures. The
12 recent Francophone movies selected expose students to unconventional Western or non-
Western images. Taught in English, all films subtitled in English and screened during class. Also
listed as FSEM 120.

FREN 201  INTERMEDIATE FRENCH LANGUAGE AND
CULTURE (4)
Communication based course. Focuses on the functional use of the language through linguistic,
socio-cultural and situational contexts. Develops all four language skills (listening, speaking,
reading, writing). Instructor(s): Datta, Crull

FREN 202  INTERMEDIATE FRENCH LANGUAGE AND
CULTURE II (4)
See FREN 201. Instructor(s): Datta, Crull

FREN 203 (S)  FACETS OF THE FRANCOPHONE WORLDS (3)
An introduction to Francophone cultures worldwide, the course will deal with the history,
geography, and cultures of the French-speaking world. It will cover geographical areas on the three
continents, focusing on France, Quebec, and Africa north and south of the Sahara. Instructor(s):
Datta

(F) = Fall; (S) = Spring
FREN 214 (S)  INTERMEDIATE FRENCH FOR ENGINEERING & SCIENCES II (4)
Three week intensive course open to students enrolled in the College of Engineering. Taught in May in Grenoble, France. Proficiency-based instruction focused on further developing the four communicative skills (reading, writing, speaking, listening) using original content relevant to the engineering fields. Particular emphasis on development of technical vocabulary and cultural competence in the engineering workplace. Includes plant and company visits and cultural excursion to Paris. Additional Study Abroad program fee. Prerequisite(s): At least FREN 201 or permission of instructor. Requires separate registration with office of international programs. See http://www.ruf.rice.edu/~abroad/. Instructor(s): Crull

FREN 220  INTRODUCTION TO THE NOVEL WRITTEN IN FRENCH (3)
Taught in translation. Study of the novel from the 17th century to the present in France, Africa and the Caribbean. Includes explorations of personhood, sexuality, modern capitalism and imperialism. Texts by Mme de Lafayette, Marquis de Sade, Balzac, Flaubert, Proust, Colette, Sartre, Condé, Cheikh Hamidou Kane, Robbé-Grillet. Taught in English. Also listed as HUMA 220. Not offered 2003–04. Instructor(s): Wood

FREN 301  ADVANCED FRENCH FOR WRITTEN & ORAL COMMUNICATION (3)
This course bridges the intermediate and advanced levels by building on previously acquired skills. Students will further develop oral fluency and written proficiency through exposure to literary texts, newspaper and web articles, and videos. A class simulation project will be created in which every student has an active role to play, thereby fostering communication/negotiation, writing of a variety of texts, and enhancement of cultural awareness. This course also features an individual component through which students will be able to practice an academic field of their choice. Instructor(s): Datta

FREN 305 (S)  FRENCH FOR THE PROFESSIONS (3)
Focused on the development of language competencies (oral and written comprehension, oral and written expression) through the use of articles and audiovisual documents dealing with current issues in the areas of technology, ecology, and medicine. Introduction to the business world (resume, job interview, communication in the workplace, cross-cultural topics). Instructor(s): Datta

FREN 311 (F)  MAJOR LITERARY WORKS AND ARTIFACTS OF PRE-REVOLUTIONARY FRANCE (3)
Study of French culture, literature, and artifacts form the Middle Ages until the Revolution. Course conducted entirely in French. Prerequisite(s): FREN 202 or placement exam or AP credit or permission of instructor. Instructor(s): Shea

FREN 312  MAJOR LITERARY WORKS AND ARTIFACTS OF POST-REVOLUTIONARY FRANCE (3)
Study of 19th- and 20th-century fiction through the special lens of the Romantic imagination. Readings from Chateaubriand, Desbordes-Valmore, Claire de Duras, Musset, Hugo, Baudelaire, Flaubert, Proust, Prévert, and the new novelists. Emphasis on discussion and close textual analysis, all in French. Prerequisite(s): FREN 202 or placement exam or AP credit or permission of instructor. Instructor(s): Harter (F), Wood (S)

FREN 313 (F)  ADVANCED FRENCH FOR ENGINEERING AND SCIENCES I (3)
Strong engineering/science content-based course. Includes current scientific/technical issues, cross-cultural topics and career-related task assignments. Focus on reading, writing, speaking, and listening comprehension skills in context of French science and technology. Instructor(s): Crull

((#) = credit hours per semester)
FREN 314  **ADVANCED FRENCH FOR ENGINEERING AND SCIENCES II (3)**
Focus on technical writing and oral presentation skills such as engineering project descriptions and summaries of reports. Office communication. Designed to prepare students for internships in a French-speaking country. Not offered 2003–04.

FREN 318 (F)  **STRUCTURE OF FRENCH (3)**
The primary objective of this course is to present contemporary French as a dynamic linguistic system shaped by historical, cognitive and sociological developments. The historical section presents the diachronic evolution of French as a crucial factor in the current use of the standard and regional dialects. The linguistic section analyses the language as a system of mental representation, and presents the tools necessary to describe that system. Linguistic forms are shown to be motivated by cognitive principles, which are identified and carefully examined. The last part of the course is devoted to the socio-economic conditions which preside over language use. Beyond the specific consideration of French, this course is concerned with the historical, psychological, and sociological dimensions that enter into the description of any language. Also listed as LING 318.
Prerequisite(s): FREN 202 or placement exam or AP credit or permission of instructor. Instructor(s): Achard

FREN 319  **FRENCH AND FRANCOPHONE WOMEN WRITERS (3)**
An examination of selected French an Francophone women writers from the Middle Ages to the present. We will pay particular attention to the intersections of gender, race, ethnicity, nationality, sexuality and class as they emerge in the literary text. Not offered 2003–04.

FREN 332 (F)  **FRENCH PHONETICS (3)**
Contrastive analysis of the French sound system including such key areas as diction and articulation of French speech with emphasis on class as well as laboratory practice. Prerequisite(s): FREN 202 or placement exam or AP credit or permission of instructor. Instructor(s): Alcover

FREN 336 (F)  **WRITING FOR THE MAJOR (3)**
The course will focus on the practice of writing as a discursive discipline. It will also closely examine, from both a stylistic and rhetorical point of view, creative and critical prose by Barthes, Djebar, Sarraute, and others. Required of majors. Open to nonmajors if space is available. Prerequisite(s): FREN 311 or 312 or placement exam or AP credit or permission of instructor. Instructor(s): Aresu

FREN 340 (S)  **TOPICS IN 18TH-CENTURY FRENCH LITERATURE AND CULTURE (3)**
Topics in 18th-century French studies. Instructor(s): Shea

FREN 351  **PROVINCES OF FRANCE (3)**
Explore the development of the provinces from earliest times in order to arrive at a better understanding of France as it exists today. Not offered 2003–04.

FREN 355  **MODERN SHORT FICTION: BALZAC TO BORGES IN ENGLISH TRANSLATION (3)**
Discussion course devoted entirely to the modern American and European short story with readings from such writers as Balzac, Melville, Flaubert, Mann, Maupassant, Gogol, Chekhov, Gilman, Kafka, O’Connor, Nabokov, Carver, Cortazar, Garcia-Márquez, and Borges. Emphasis on close reading as we talk about alienation and the modern period, the ethics of telling, and about death, violence, and sexuality. Selected essays from Freud, Benjamin, Kermode, and Ortega y Gasset will complement our readings in fiction. Also listed as ENGL 355. Not offered 2003–04. Instructor(s): Harter

(F) = Fall; (S) = Spring
FREN 387  IMAGES OF CONTEMPORARY FRANCE (3)
The course will deal with the sociopolitical and intellectual history of post-war France. Based upon
texts by Borne, Edmiston, and Duménil, it will also examine various analyses of French culture by
Valéry, E. Faure, Mendras, Barthes, and Lipovetsky. The course will cover such topics as the advent
of the Fifth Republic, decolonization, May '68 and political dissent, modernization and the
postmodern condition, and France and the construction of Europe. Not offered 2003–04. Instructor(s):
Goux

FREN 401 (S)  TRANSLATION (3)
Exploration of the theory and practice of translation. Includes translation of modern texts from and
into English. Instructor(s): Robin

FREN 407 (S)  INTRODUCTION TO FRENCH FILM (3)
Introduction to film analysis and the field of cinematographic illusion through French cinema.
Instructor(s): Alcover

FREN 408  TOPICS IN FRENCH FILM (3)
This course will deal with the screen adaptations of XVIII-XXth century French novels. The
readings will include theoretical works. Not offered 2003–04. Instructor(s): Alcover

FREN 410  THE LITERARY AND HISTORICAL IMAGE OF THE
MEDIEVAL WOMAN (3)
Comparison and contrast of the presentation of the medieval woman in literature with extant
evidence of historical women from contemporary documents and records. Also listed as MDST 410

FREN 414  LITERATURE AND CULTURE OF MIDDLE AGES:
SAINTS AND SINNERS (3)
Study of medieval French works that depict saints and sinners with the goal of assessing the cultural
structure that sets the limits of these labels. Not offered 2003–04. Instructor(s): Nelson-Campbell

FREN 415  COURTLY LOVE IN MEDIEVAL FRANCE (3)
Undergraduate version of FREN 515. Not offered 2003–04. Instructor(s): Nelson-Campbell

FREN 416 (S)  LITERATURE AND CULTURE OF THE MIDDLE AGES:
KING ARTHUR (3)
Examination of the legend of King Arthur and reasons for its popularity, particularly
in literature of the French Middle Ages but also in other medieval literatures of Western Europe.
Includes discussion of the legend’s influence in diverse areas even in modern times. Prerequisite(s):
FREN 311 or placement exam. FREN 202 or placement exam or AP credit or permission of
instructor. Instructor(s): Nelson-Campbell

FREN 420  THE MOTIF OF VOYAGE IN WRITINGS FROM THE
FRENCH RENAISSANCE (3)
This course examines the written experience of travelling in the context of 16th century France. It
invites reflection on such topics as travel motivations, ethnography, exoticism and colonization. It
also explores the process of writing travel accounts (e.g., representation of the Other or disclosure
of oneself). The readings include: explorations of Canada (Cartier), the fantastic voyage (Rabelais),
and travels in the Middle East (Chesneau), in Italy (Du Bellay, Montaigne), and in Brazil (Lery).
Not offered 2003–04.

FREN 423  MODERN FRENCH PAINTERS AND THEIR WRITERS (3)
Fascinated by painting, modern and contemporary French writers have produced significant
literary commentaries that reveal affinities with painters whose artistic questioning they shared.
Those commentaries in turn enlightened their own aesthetic concerns as well as the painters’ own
creative visions. The purpose of this course is to study some of the encounters between these
painters and their writers. Among them: Picasso (commented by Apollinaire, Cocteau, Breton,
Sollers, etc.), Braque (commented by Ponge, Paulhan, Malraux, Saint John Perse), Matisse
(commented by Aragon, Pleyinet), Magritte (analyzed by Foucault, and Butor), and Rébeyrolle (by
Sartre, Foucault). Not offered 2003–04. Instructor(s): Goux

(#) = credit hours per semester
FREN 430 (F) FREE-THINKERS AND MORALISTS IN THE 17TH CENTURY (3)
Thematic approach to examining the main political, religious, philosophical, and literary discourses of the golden age of absolutism. Prerequisite(s): 311 or placement exam or AP credit or permission of instructor. Instructor(s): Robin

FREN 434 FRENCH FEMINIST THEORY (3)
The purpose of this course is to gain a broad understanding of the important problems of contemporary feminist theories in French. We will focus on the interrelated issues of gender, sexuality, race, ethics, language, and power by exploring in depth primary texts in feminist theory. Readings (in English) will include Beauvoir, Irigaray, Djebar, and Brossard. This course specifically intends to expose the fundamentals of French feminist theory as they apply to the broader spectrum of contemporary feminist thought and philosophy. Course will be offered in translation. Also listed as WGST 434. Not offered 2003–04. Instructor(s): Huffer

FREN 450 (F) TOPICS IN 19TH CENTURY LYRIC (3)
Study of the poetry and prose poetry of the 19th century from the Romantic period to the symbolist era, through such writers as Desbordes-Valmore, LaMartine, Musset, Vigny, Hugo, Nerval, Baudelaire, Verlaine, Rimbaud, and Mallarmé. Prerequisite(s): 311 or 312 or placement exam or AP credit or permission of instructor. Instructor(s): Harter

FREN 459 MASTERPIECES OF FRENCH THEATER, FROM CORNEILLE TO SARTRE (3)
The course will cover literary, aesthetic, and historical developments in French theater, from the 17th to the 20th centuries (Corneille, Racine, Moliere, Beaumarchais, Hugo, Musset, Feydeau, Rostand, Giraudoux, Anouilh, and Sartre). Not offered 2003–04. Instructor(s): Alcover

FREN 460 WOMEN AND WOMEN’S VOICES IN FRENCH LITERATURE (3)
Examination of the ways in which women have been represented in fiction, by themselves and by others, since the early modern period. Includes Mme de Lafayette, Graffigny, Baudelaire, Sand, Villiers de l’Isle-Adam, Beauvoir, Duras, and Wittig, with emphasis on the constitution of the feminine in literary texts as a cultural, historical, and social artifact. Not offered 2003–04. Instructor(s): Harter

FREN 467 (F) POSTMODERN BREAK IN FRENCH PHILOSOPHY (3)
A study of the questioning of philosophical modernity (starting with Descartes and the Enlightenment philosophers) by structuralist and poststructuralist thinkers and theorists of the postmodern condition. Among contemporary authors studied will be Lacan, Derrida, Foucault, Lyotard, and others. Prerequisite(s): 311 or 312 or placement exam or AP credit or permission of instructor. Instructor(s): Goux

FREN 473 “LA REVOLUTION TRANQUILLE”: HISTORY AND CULTURE OF MODERN QUEBEC (3)
Although focussing on the postwar period, the seminar will cover the history and culture of Quebec from the 18th century to the present. The seminar will concurrently address issues of language, cultural identity, and examine the current debate on the notion of distinct society. Seminar material will include such figures as Hemon, Carrier, Godbout, Maillet, and Hebert (literature); Pellan, Riopelle, and Borduas (art); and Jutra and Arcand (cinema). The seminar will also include a writing practicum. Not offered 2003–04. Instructor(s): Aresu

FREN 482 TRADITION AND DISSIDENCE (3)
Undergraduate version of FREN 582. Philosophical expressions and cultural constructions of dissidence from the 16th century to the present. The seminar will cover several genres and periods and will deal with such figures as Montaigne, Voltaire, Baudelaire, Rimbaud, Gauguin, Ségalen, Saint-John Perse, Borduas, Duras, Simon, Arcand, Darrieussecq, and Sansa. Not offered 2003–04. Instructor(s): Aresu

(F) = Fall; (S) = Spring
FREN 487  20TH-CENTURY NOVEL IN FRENCH (3)
This course will explore the construction of the modern self in a variety of French and Francophone novels of the 20th century. We will focus on the relationship between the self and narrative form; the role of memory; violence and representation; and the construction of gender, sexuality, nationality and race in the modern novel. Readings will include: Proust, Colette, Camus, Perec, Hebert, Duras Ben Jelloun, and Djebar. Not offered 2003–04. Instructor(s): Huffer

FREN 493 (S)  PROBLEMATICS OF FRENCH 19TH-CENTURY FICTION (3)
Transformations of the formal characteristics of fiction in France as problematic engagements with the evolution of art, capitalism, the family, the sacred, subjectivity, etc. Texts: Balzac: Le père Goriot, La fille aux yeux d’or; Stendhel: La chartreuse de Parme; Flaubert: L’Education sentimentale; Maupassant: Boule de Suif; Zola: Germinal. Prerequisite(s): 311 or 312 or permission of instructor. Instructor(s): Wood

FREN 500 (F)  THESIS RESEARCH (M.A.) (3)
Instructor(s): Staff

FREN 503 (S)  SPECIAL TOPICS (3)
Description varies each semester. Not offered 2003–04.

FREN 504  BEGINNINGS OF THE LANGUAGE & LITERATURE OF FRANCE (3)
This course includes an external history of the French language, an examination of hagiographic literature and the chanson de geste in their cultural and artistic contexts, as well as a bibliographic component to acquaint the students with library tools available for research emphasizing medieval resources but not excluding those for later periods. Students will acquire a reading knowledge of Old French. Not offered 2003–04. Instructor(s): Nelson-Campbell

FREN 510 (S)  THE LITERARY AND HISTORICAL IMAGE OF THE MEDIEVAL WOMAN (3)
Comparison and contrast of the presentation of the medieval woman in literature with extant evidence of historical women from contemporary documents and records. Instructor(s): Nelson-Campbell

FREN 515  COURTLY LOVE IN MEDIEVAL FRANCE (3)
Study of the Occitan and Old French poetry that served as the source of the kind of love that came to be called Amour courtois in the 19th century. Not offered 2003–04. Instructor(s): Nelson-Campbell

FREN 534  FRENCH FEMINIST THEORY (3)

FREN 540 (S)  THE AGE OF ENLIGHTENMENT (3)
A study of literary, philosophical, and visual works that demonstrate how the ideas of the Enlightenment and the rise of the bourgeoisie led to the French Revolution. Instructor(s): Shea

FREN 555  FROM NOSTALGIA TO HYSTERIA: BALZAC, STENDHAL, FLAUBERT, ZOLA (3)
Study of 19th-century fiction through its discourses of displacement. Not offered 2003–04. Instructor(s): Harter

FREN 559  MASTERPIECES OF FRENCH THEATER FROM CORNEILLE TO SARTRE (3)
Graduate version of FREN 459. Not offered 2003–04. Instructor(s): Alcover

(#) = credit hours per semester
FREN 561 (S) MODERN FRENCH SEXUALITIES (3)
In *The History of Sexuality* Foucault famously asserts that “modern society is perverse.” This course will explore the meanings of this assertion by examining the representation of sexuality in French novels and films from the early 20th century to the present. Primary readings will be supplemented by medical, philosophical, juridical, and psychoanalytic contributions to debates about sexuality in the modern period. Readings and films by Gide, Colette, Leduc, Duras, Breillat, Bataille, Foucault, and others. *Instructor(s): Huffer*

FREN 564 LITERATURE AND PSYCHOANALYSIS (3)
Exploration of the ways in which literature and psychoanalysis have seemed most fruitfully to inform each other. Includes readings in primary literature as well as in Freud, Lacan, Cixous, Lacoue-Labarthe, Silverman, Jameson, Felman, and Bersani. Not offered 2003–04. *Instructor(s): Harter*

FREN 566 (F) THE NARRATIVE & THE OTHER ARTS (3)
The seminar will focus on the esthetic and ideological interplay between literature and the other arts. Figures and topics will include: neoclassical poetry and painting; Diderots galen; and Gauguins Tahiti; Baudelairs art criticism; Delacroix, Chass-riau; Fromentin, Djebar, and French Orientalism; Cocteau, or the poet as film-maker; Simon and the Baroque; Robbe-Grillet, Duras, and the cinema; and Ben Jelloun and Giacometti. *Instructor(s): Aresu*

FREN 567 THE POSTMODERN BREAK IN FRENCH PHILOSOPHY (3)
Study of the questioning of philosophical modernity (starting with Descartes and the Enlightenment philosophers) by structuralist and poststructuralist thinkers and theorists of the postmodern condition. Emphasis on the conflict between humanism and anti-humanism. Includes Derrida, Foucault, Lyotard, Levinas, Castoriadis, and others. *Not offered 2003–04. Instructor(s): Goux*

FREN 568 (F) FRENCH PHILOSOPHY (3)
Survey of moral philosophy from Descartes to today, exploring the relationship between the individual and society, the problem of freedom and values, questions of universality, humanism, the important moments of the constitution and deconstitution of the subject. Includes Philosophy of Descartes, Rousseau, Condorcet, Comte, Guyau, Durkheim, Fouillée, Bergson, Alain, Camus, Sartre, Simone de Beauvoir, Lacan, Irigaray, Foucault, Levinas, and Ricoeur. *Instructor(s): Goux*

FREN 572 PROUST (3)
Extensive close textual readings and broad-ranging meditations on the meaning of “A la recherche du temps perdu” in terms of the history of artistic modernism and social modernity. Taught alternately in French and English. Not offered 2003–04. *Instructor(s): Wood*

FREN 574 CONSTRUCTING IDENTITIES IN AND OUT OF FRANCE (3)
A proseminar, the course will study the various modes of negotiation and construction of identity at work in selected francophone works (literature, essay, film, painting). The seminar will include selected essays by Borduas, Fanon, Memmi, Soyinka, and Khatibi, as well as literature, films, and painting from Kane, Kourouma, and Labou Tansi (Sub-Sahara), Conde (Carribean), Issiakhem, Cherkaoj, Mimouni, and Djebar, (Maghreb), Bouraoui (France), Jutra, Aquin, Blais, and Hebert (Quebec). The course is open to non-French majors, although a reading knowledge of French is recommended since not all reading selections may be available in translation. Not offered 2003–04. *Instructor(s): Aresu*

FREN 578 CONTEMPORARY FRENCH THOUGHT: TOWARD A SYMBOLIC ECONOMY (3)
Exploration of the idea of a symbolic economy that widens and transforms notions of production, exchange, and consumption in anthropology, semiotics, psychoanalysis, and literature. Includes Mauss and Levi-Strauss (on exchange of goods, exchange of words, and exchange of women), later developments of Bataille, Lacan, Baudrillard, Irigaray, and others, and the theory and practice of economic criticism (e.g., Balzac, Zola, Gide, and others). Not offered 2003–04. *Instructor(s): Goux*
FREN 580  GILLES DELEUZE (3)
This course provides an advanced introduction to Deleuze’s work, from the earliest writings to the final period. Emphases: Deleuze’s relation to the philosophical tradition, his differences from and similarities to other French poststructuralists, and the uses to which his work has been put by others. Taught in English. Not offered 2003–04. Instructor(s): Wood

FREN 581  CONTEMPORARY FRENCH THEORY: THE CASE OF GILLES DELEUZE (3)
Continuation of FREN 580. Not offered 2003–04. Instructor(s): Wood

FREN 582  TRADITION AND DISSIDENCE (3)
Graduate version of FREN 482. Philosophical expressions and cultural constructions of dissidence from the 16th century to the present. The seminar will cover several genres and periods and will deal with such figures as Montaigne, Voltaire, Baudelaire, Rimbaud, Gauguin, Ségalen, Saint-John Perse, Bordas, Duras, Simon, Arcand, Darrieussecq, and Sansal. Seniors must have prior approval from instructor. Not offered 2003–04. Instructor(s): Aresu

FREN 584  ESTHETIC THEORIES (3)
Exploration of such artistic and literary movements as Cubism, Dada, Surrealism, Refus Global, Lettrisme, Situationnisme, Oulipo, Tel Quel, and Les Perpendiculaires. How does one define the Avant-gardes? Course may be repeated for credit. Not offered 2003–04. Instructor(s): Goux

FREN 585 (F)  NOVEL: FROM BELLE EPOQUE TO 1950 (3)
Survey of the evolution of the novel and the vicissitudes of the modern subject and identity. Includes Proust, Gide, Malraux, Drieu la Rochelle, de Beauvoir, Sartre, Genet, Camus, and Sarraute. Instructor(s): Wood

FREN 586  AESTHETICS OF THE FRAGMENTARY (3)

FREN 587  20TH-CENTURY NOVEL IN FRENCH (3)
Graduate version of FREN 487. Not offered 2003–04. Instructor(s): Huffer

FREN 600  INDEPENDENT STUDY (VAR)
Instructor(s): Staff

FREN 610  SEMINAR: TOPICS IN LANGUAGE METHODOLOGY (3)
Exploration and analysis of a range of theories, issues and problems in foreign language instruction. Areas of inquiry include: the nature of language acquisition, pedagogical methods, instructional technologies, development of teaching materials, and testing/assessment. Required for all graduate language teaching assistants. Also listed as GERM 510. Not offered 2003–04.

FREN 611  LANGUAGE METHODOLOGY PRACTICUM (VAR)
The course, a continuation of FREN 610, allows students to gain further knowledge and expertise in aspects of language methodology by attending a series of workshops on topics such as Technology and Language Learning, Writing, and content-based instruction. Students will also complete assignments that supplement or expand on the material presented in the workshops. Also listed as GERM 611, LING 611, and SPAN 611. Not offered 2003–04.

FREN 800  THESIS RESEARCH (PH.D.) (VAR)
Instructor(s): Staff

((#) = credit hours per semester)
FSEM (Freshman Seminar)

The School of Humanities

FSEM 101 (F)  FIRST YEAR SEMINAR: SOCRATES: THE MAN AND HIS PHILOSOPHY (3)
Socrates is often considered the first moral philosopher. Yet he was tried for impiety, convicted, and executed by his fellow citizens. His influence on Western thought and literature has been immense, even though he left no writings of his own. In this discussion-style seminar we will consider how Socrates practiced philosophy, how Plato represented Socrates and Socratic philosophy in writing, and what effect Socrates had on Athens and his fellow Athenians. Readings will consist mainly of Plato’s Socratic dialogues, with emphasis on the Apology and Gorgias. In addition to papers, each participant will make one presentation and lead one discussion. Enrollment limited to 15. Also listed as CLAS 101. Not offered 2003–04.

FSEM 120  FRESHMAN SEMINAR: CREATIVITY OF FRANCOPHONE CINEMA: CHALLENGING THE HOLLYWOOD EMPIRE (3)
The dynamic film production of French-speaking countries forms a unified artistic body still unadulterated by the Hollywood canon. A fundamentally noncommercial conception of cinema inherited from France allows Francophone directors to voice their otherwise silenced cultures. The 12 recent Francophone movies selected expose students to unconventional Western or non-Western images. Taught in English, all films subtitled in English and screened during class. Also listed as FREN 123.

FSEM 121 (S)  FIRST YEAR SEMINAR: FROM KAFKA TO THE HOLOCAUST: DISCOURSE IN ALIENATION (3)
The beginnings of modernity are generally linked to the sociopolitical, economic, religious, and intellectual upheavals at the end of the 19th century. Whereas extreme reactionism to these developments led to a forced ideological stabilization, i.e. fascism, progressive literature addressed these issues from a standpoint of artistic experimentation as manifested in a discourse of alienation (expressionism, dada, Kafka). Holocaust literature reflects the ultimate clash between progressive-ness and reactionism. The primary readings will be from Wedekind, Trakl, Kaiser, Kafka, Hesse, Remarque, Brecht, Celan, Werfel. Taught in English. Enrollment limited to 15. Also listed as GERM 121. Not offered 2003–04.

FSEM 122  FRESHMAN SEMINAR: GERMAN CINEMA (3)
The course presents an overview of the history of German film from its inception in 1917, through the Weimar and Nazi periods. Then it will look at German cinematic reconceptions after 1945 until today. West and East German filmmakers have produced an impressive body of contemporary films that deal with their fascist past, their ideologically different environments and their generational identity today. We will see feature films from the New German Cinema as well as recent releases from the East German film company DEFA that produced thousands of films between 1946 and 1990, most of which have never been seen outside of the GDR. Taught in English. All films are subtitled in English. Enrollment limited to 15. Also listed as GERM 122. Not offered 2003–04.

FSEM 123 (F)  FRESHMAN SEMINAR: THROUGH TIME AND SPACE-EUROPEAN TRAVEL STORIES (3)
A travel story stands at the beginning of European Literature: Homer’s Odyssey. Since ancient times, literary travel accounts of all sorts, to all destinations, by all means and undertaken with a wide range of different purposes have kept Europeans on the move. First attracted by the exotic and the unknown in the far distance, the interest moved ever closer to the self. Travelers became more thoughtful about themselves, their feelings and perceptions. Their own ego came into focus, and the exploration of the human mind became the most exotic and intriguing journey. Inside is where the path goes, as the German Romantic poet Novalis said. Like Odysseus, he knew that all ways lead home. Reading encompasses European literature throughout the centuries, including Homer, Swift, Voltaire, Goethe, Heine, Twain, and Verne. Taught in English. Enrollment limited to 15. Also listed as GERM 123.

(F) = Fall; (S) = Spring
FSEM 124 (S)  FRESHMAN SEMINAR: CULTURE, HISTORY, AND MORALITY: INTRODUCTION TO GERMAN THOUGHT AND HISTORY

This is an introduction to the major intellectual trends and developments in Germany from 1750 to the present time and their lasting effect, even today, on the German cultural imagination. Centered on three main themes that have played a prominent role in German thought – ‘culture’, ‘history’, ‘morality’ – this course outlines the ways in which German intellectuals have dealt with these issues in a historical context marked by political, technological and scientific change. Against the background of Enlightenment monarchy, the 1848 revolutions, Bismarck, the Weimar Republic, National Socialism and post-1945 Germany, we will focus on central notions such as ‘Enlightenment’, ‘classicism’, ‘materialism’, and ‘historicism.’ Authors discussed include Kant, Hegel, Marx, Nietzsche, and Freud. No prior knowledge necessary. Taught in English. Also listed as GERM 124.

FSEM 125 (F)  FRESHMAN SEMINAR: BETWEEN RESISTANCE AND COLLABORATION: INDIVIDUALS RESPONDING TO NATIONAL SOCIALISM (3)

Through a variety of readings (fiction and nonfiction), film viewings (documentaries and feature films), and classroom discussions, this course will focus on individuals’ behavior in Nazi Germany/Austria. We will examine issues of ideology and ethics as Germans and Austrians faced them between 1933-1945. Through a critical encounter with various examples of response to totalitarianism, we will reflect on values such as courage, civil disobedience, and human rights in today’s global society. The course will be taught in English. Enrollment limited to 15. Also listed as GERM 125.

FSEM 126 (S)  FRESHMAN SEMINAR: THE LEGEND OF KING ARTHUR IN THE MIDDLE AGES

In the 1100s people began writing down stories of Arthur, Guinevere, Merlin, and the Knights of the round table using sophisticated techniques of literary composition. Today, these stories count among the great writings of Europe. This course examines the spectrum of medieval stories and histories of Arthur that arose in England, France, and Germany from the beginning to the age of printing, plus some recent revivals. Taught in English. Also listed as GERM 126.

FSEM 150  FIRST YEAR SEMINAR: LATIN AMERICAN SHORT FICTION (EMPHASIS ON BORGES AND CORTAZAR) (3)

Readings of classic works of short fiction by modern Latin American masters, with special emphasis on the stories of Jorge Luis Borges and Julio Cortazar. Close reading, interpretive essays. Taught in English. Open to first-year students only, except by permission of the instructor. Enrollment limited to 15. Also listed as SPAN 150.

FSEM 152  FRESHMAN SEMINAR: THE MODERN HISPANIC ESSAY READINGS (3)

Readings (in English translation) from major modern Spanish and Spanish-American essayists, including Miguel de Unamuno, Jose Ortega y Gasset, Maria Zambrano, Jose Marti, Jose Enrique Rodo, Alfonso Reyes, Victoria Ocampo, Gabriela Mistral, Jorge Luis Borges, and Octavio Paz. Close reading and appreciation of essays will be the focus of discussion, presentations, and short interpretive papers. Taught in English. Open to first-year students only, except by permission of the instructor. Also listed as SPAN 152.

FSEM 154 (F)  FRESHMAN SEMINAR: WE THE PEOPLE: REPRESENTATIONS OF THE POPULAR IN THE AMERICAS (3)

This course considers representations of the people from the inceptions of U.S. and Latin American independence to the present. We will look at how theorists, writers, and artists have defined the basis of democracy or other popular-based forms of government. Readings from the U.S. constitution to contemporary representations of communal power and/or collective alienation. Taught in English. Open to first-year students only, except by permission of the instructor. Also listed as SPAN 154. Enrollment limited to 15.

(#) = credit hours per semester
FSEM 160 (S) JEFFERSON AND THE REPUBLIC (3)
Examination of the most talented of the U.S. Founding Fathers and how he helped define the country’s revolutionary ideals, diplomacy, and politics, as well as its public lands, domestic architecture, religion, practice of slavery, and education. Includes readings, discussions, and essays. Also listed as HIST 160. Enrollment limited.

FSEM 161 (F) FRESHMAN SEMINAR: THE USES OF THE PAST (3)
This seminar analyzes how selected historical events are interpreted at different times and in different contexts, sources will include history books, novels, movies, court cases, and political debates. The specific events studied will vary according to student interest from ancient times to Sept. 11, with emphasis on historiographical questions such as what does it mean to tell the truth about the past? Also listed as HIST 161. Enrollment limited.

FSEM 168 (F) FRESHMAN SEMINAR: THE WORLD OF THE ARABIAN NIGHTS (3)
This course looks at the social and cultural world of the stories of the 1001 nights. We will read and discuss many of the stories, learn how these stories (which come from the Islamic world of the middle ages) became famous in Europe, and look at how the translated stories became a source for western images of the Islamic World. We will use material ranging from translations of the stories themselves and similar stories from different traditions to modern movies and television shows. Also listed as HIST 168 and MDST 168. Enrollment limited.

FSEM 176 (F) FRESHMAN SEMINAR: ROPE AND FAGGOT—TERROR & AFRICAN AMERICAN HISTORY (3)
Seminar on lynching and racial violence from the Hamburg massacre to the murder of James Byrd. Since the end of the Civil War, terror and the ways blacks responded to it have shaped nearly every aspect of African American history. Topics to include black society, politics, gender relations, and culture in relation to the evolution and present state of American democracy and the rule of law. Also listed as HIST 176. Enrollment limited to 12.

GERM (German)

The School of Humanities / Department of German and Slavic Studies

GERM 101 (F) INTRODUCTION TO GERMAN I (5)
Proficiency-based instruction employing a variety of interactional contexts (partner work, reports, interviews, dialogues, games, computer programs, videos) and developing all four communicative skills (reading, writing, speaking, listening) as well as cultural competence. Students should achieve a minimum proficiency level of Intermediate Low by the end of 102. Their learning will be enhanced by a series of materials and activities that respond to students’ technical/analytical interests. Instructor(s): Spuler, Gaug, Roddy

GERM 102 INTRODUCTION TO GERMAN II (5)
Proficiency-based instruction employing a variety of interactional contexts (partner work, reports, interviews, dialogues, games, computer programs, videos) and developing all four communicative skills (reading, writing, speaking, listening) as well as cultural competence. Students should achieve a minimum proficiency level of Intermediate Low by the end of 102. Continuation of Germ 101. Instructor(s): Spuler, Gaug, Roddy

(F) = Fall; (S) = Spring
GERM 121  FIRST YEAR SEMINAR: FROM KAFKA TO THE HOLOCAUST: DISCOURSE IN ALIENATION (3)
The beginnings of modernity are generally linked to the sociopolitical, economic, religious, and intellectual upheavals at the end of the 19th century. Whereas extreme reactionism to these developments led to a forced ideological stabilization, i.e. fascism, progressive literature addressed these issues from a standpoint of artistic experimentation as manifested in a discourse of alienation (expressionism, dada, Kafka). Holocaust literature reflects the ultimate clash between progressive-ness and reactionism. The primary readings will be from Wedekind, Trakl, Kaiser, Kafka, Hesse, Remarque, Brecht, Celan, Werfel. Taught in English. Enrollment limited to 15. Also listed as FSEM 121. Not offered 2003–04.

GERM 122  FRESHMAN SEMINAR: GERMAN CINEMA (3)
The course presents an overview of the history of German film from its inception in 1917, through the Weimar and Nazi periods. Then it will look at German cinematic reconceptions after 1945 until today. West and East German filmmakers have produced an impressive body of contemporary films that deal with their fascist past, their ideologically different environments and their generational identity today. We will see feature films from the New German Cinema as well as recent releases from the East German film company DEFA that produced thousands of films between 1946 and 1990, most of which have never been seen outside of the GDR. Taught in English. All films are subtitled in English. Enrollment limited to 15. Also listed as FSEM 122. Not offered 2003–04.

GERM 123 (F)  FRESHMAN SEMINAR: THROUGH TIME AND SPACE-EUROPEAN TRAVEL STORIES (3)
A travel story stands at the beginning of European Literature: Homer’s Odyssey. Since ancient times, literary travel accounts of all sorts, to all destinations, by all means and undertaken with a wide range of different purposes have kept Europeans on the move. First attracted by the exotic and the unknown in the far distance, the interest moved ever closer to the self. Travelers became more thoughtful about themselves, their feelings and perceptions. Their own ego came into focus, and the exploration of the human mind became the most exotic and intriguing journey. Inside is where the path goes, as the German Romantic poet Novalis said. Like Odysseus, he knew that all ways lead home. Reading encompasses European literature throughout the centuries, including Homer, Swift, Voltaire, Goethe, Heine, Twain, and Verne. Taught in English. Enrollment limited to 15. Also listed as FSEM 123. Instructor(s): Steiner

GERM 124 (S)  FRESHMAN SEMINAR: CULTURE, HISTORY, AND MORALITY: INTRODUCTION TO GERMAN THOUGHT AND HISTORY
This is an introduction to the major intellectual trends and developments in Germany from 1750 to the present time and their lasting effect, even today, on the German cultural imagination. Centered on three main themes that have played a prominent role in German thought – ‘culture’, ‘history’, ‘morality’ – this course outlines the ways in which German intellectuals have dealt with these issues in a historical context marked by political, technological and scientific change. Against the background of Enlightenment monarchy, the 1848 revolutions, Bismarck, the Weimar Republic, National Socialism and post-1945 Germany, we will focus on central notions such as ‘Enlightenment’, ‘classicism’, ‘materialism’, and ‘historicism.’ Authors discussed include Kant, Hegel, Marx, Nietzsche, and Freud. No prior knowledge necessary. Taught in English. Instructor(s): Emden

GERM 125 (F)  FRESHMAN SEMINAR: BETWEEN RESISTANCE AND COLLABORATION: INDIVIDUALS RESPONDING TO NATIONAL SOCIALISM (3)
Through a variety of readings (fiction and nonfiction), film viewings (documentaries and feature films), and classroom discussions, this course will focus on individuals’ behavior in Nazi Germany/Austria. We will examine issues of ideology and ethics as Germans and Austrians faced them between 1933-1945. Through a critical encounter with various examples of response to totalitarianism, we will reflect on values such as courage, civil disobedience, and human rights in today’s global society. Taught in English. Enrollment limited to 15. Also listed as FSEM 125. Instructor(s): Kecht

(#) = credit hours per semester
GERM 126 (S)  FRESHMAN SEMINAR: THE LEGEND OF KING ARTHUR IN THE MIDDLE AGES (3)
In the 1100s people began writing down stories of Arthur, Guinevere, Merlin, and the Knights of the Round Table using sophisticated techniques of literary composition. Today, these stories count among the great writings of Europe. This course examines the spectrum of medieval stories and histories of Arthur that arose in England, France, and Germany from the beginning to the age of printing, plus some recent revivals. Taught in English. Also listed as FSEM 126. Instructor(s): Westphal

GERM 201 INTERMEDIATE GERMAN (4)
Continued proficiency-based instruction employing a variety of interactional contexts (partner work, reports, interviews, dialogues, games, computer programs, videos, etc. and further developing all four communicative skills (reading, writing, speaking, listening) as well as cultural competence. Students should achieve a minimum proficiency level of Intermediate Mid by the end of GERM 202. Instructor(s): Spuler, Roddy

GERM 202 (S) INTERMEDIATE GERMAN II (4)
Continuation of GERM 201. Continued proficiency-based instruction employing a variety of interactional contexts (partner work, reports, interviews, dialogues, games, computer programs, videos) and further developing all four communicative skills (reading, writing, speaking, listening) as well as cultural competence. Students should achieve a minimum proficiency level of Intermediate Mid by the end of GERM 202. Instructor(s): Spuler, Roddy

GERM 214 (S) INTERMEDIATE GERMAN FOR ENGINEERING AND SCIENCES II (5)
Three-week intensive course open to students enrolled in the College of Engineering. Taught in May in Berlin, Germany. Proficiency-based instruction focused on further developing the four communicative skills (reading, writing, speaking, listening) using original content relevant to the engineering fields. Particular emphasis on development of technical vocabulary and cultural competence in the engineering workplace. Additional Study Abroad program fee. Requires separate registration with office of international programs. See http://www.ruf.rice.edu/~abroad/. Instructor(s): Roddy

GERM 303 (F) COMPOSITION AND CONVERSATION I (3)
Discussion and composition based on a variety of reading materials (videos, German newspapers, websites, short stories) and interactional contexts (partner works, reports, interviews, dialogues). Focus on cultural awareness and topics relating to contemporary German culture and politics. Special emphasis on developing writing skills and oral fluency. Prerequisite(s): GERM 202 or equivalent and permission of instructor. Taught in German. Instructor(s): Steiner

GERM 304 (S) COMPOSITION AND CONVERSATION II: LANGUAGE AND STYLE IN CULTURAL TEXTS (3)
This course will work with cultural texts in order to prepare for deeper understanding of German literary and intellectual sources. We will assess philosophical writing (Kant Nietzsche, Habermas), the styles of literary genres (prose, lyric, drama), academic criticism and feuilletonistic interpretation. Student performance is aimed to move from paraphrasing summary to analytic commentary in oral presentation and written expression. Taught in German. Instructor(s): Eifler

GERM 321 MAPPING GERMAN CULTURE: EUROPEAN WOMEN FILMMAKERS (3)
Filmmaking has celebrated its first hundred years. Women’s contributions were significant and deserve to widen the film canon for all filmgoers. The course will concentrate on films by European women directors, taking into account historical pioneering, cultural identities, aesthetic particularities, gender commitment, subject orientations and post-feminist attempts. Importance will also be given to the contexts and conditions of women’s film production. All films are subtitled in English. Taught in English with possible FLAC section. Also listed as WGST 358. Not offered 2003–04. 

(F) = Fall; (S) = Spring
GERM 322 MAPPING GERMAN CULTURE: MARX, FREUD, EINSTEIN: FOREBEARS OF MODERNITY (3)
Like no others, these three thinkers of the 19th and 20th centuries have influenced the intellectual, historical, social, and cultural development not only of Germany, but of the entire world. The course examines the works of these authors in the context of their own time as well as their continued importance in the present. Works by Brecht, Christa Wolf, Schnitzler, Kafka will also be considered. Taught in English with possible FLAC section. Not offered 2003–04.

GERM 323 MAPPING GERMAN CULTURE: CITIZENSHIP AND IMMIGRATION IN COMPARATIVE PERSPECTIVE (3)
This course offers an introduction to the relationship between citizenship and immigration from a comparative perspective. First, we examine the different aspects of the debates on citizenship and immigration. Second, we explore the relationship between immigration and the nation-state in the United States, Germany, and Great Britain. Finally, we discuss the problematic relationship between multiculturalism and national identity. Taught in English with possible FLAC section. Also listed as SOCI 393. Not offered 2003–04.

GERM 324 MAPPING GERMAN CULTURE: BERLIN: RESIDENCE, METROPOLIS, CAPITAL (3)
The course offers an introduction to German history, politics, and culture as mirrored in the history of the old and new German capital. Berlin has always been a city of contradictions: from Enlightenment to Romanticism, from imperial glamour to proletarian slums, from the Roaring Twenties to Hitler’s seizure of power. Emerging from the ruins of WWII the divided city became both the capital of Socialism and the display window of the Free World. After the fall of the wall, Berlin is still looking for its role in the center of a reshaped Europe. Readings and discussions encompass fine arts and literature from the 18th century to the present, including film. Taught in English with possible FLAC section. Not offered 2003–04.

GERM 325 (F) MAPPING GERMAN CULTURE: GERMAN NOBEL PRIZE LAUREATES (3)
The course will introduce the biography of Alfred Nobel and the reasons for establishing his famous Nobel Prize categories in his will of 1895. For the literary field he demanded “the most outstanding work in an ideal direction.” Ever since the Swedish academy awards an internationally best book award annually. The most famous German recipients among them were Günter Grass (1999), Heinrich Böll (1972), Hermann Hesse (1946) and Thomas Mann (1929). Their novel work will be analyzed as an artistic reflection of their socio-critical thoughts on the history of Germany. Film versions of prominent works and documentary biographies will be shown. Taught in English with a possible FLAC section in German. Instructor(s): Eifler

GERM 326 (F) MAPPING GERMAN CULTURE: THE GERMAN FAIRY TALE: OLD AND NEW (3)
Discussion of several prototypes from the fairy-tale collection of the Brothers Grimm and the subsequent development of the “literary” fairy tale from Goethe and the Romantics to the 20th century. Taught in English with a possible FLAC section in German. Also listed as HUMA 372. Instructor(s): Weissenberger

GERM 327 (F) MAPPING GERMAN CULTURE: WOMEN AND NATIONAL SOCIALISM (3)
Through a variety of readings (fiction and nonfiction), film viewings (documentaries and feature films), and classroom discussions, this course will introduce participants to the Nazi idea of “womanhood” and the actual roles women played during National Socialism. The spectrum ranges from various kinds of female perpetrators (e.g., convinced party members, brutal concentration camp Kapos) to Mitlaufer (fellow-travelers of the Nazi ideology), to a multiplicity of victims (because of their race, their sexual orientation, or their political or religious views), and to resistance fighters. Taught in English. For students of German (at the minimal proficiency level intermediate-mid), an additional German reading/discussion hour for credit can be arranged. Enrollment limited to 25. Also listed as WGST317. Instructor(s): Kecht

(#) = credit hours per semester
GERM 328 (F) MAPPING GERMAN CULTURE-GERMAN ADAPTATIONS: TEXT TO FILM (3)
Prominent novels of the 20th century will be studied for their aesthetic construction and socio-historic reflection and compared to their filmic adaptations. The aim of this course is to study the possibilities or impossibilities of rendition from print medium to cinematic medium. From the myriad of adaptations we will concentrate on Werner Fassbinder, Effie Briest; Thomas Mann, Tod in Venedig and Zauberberg; Franz Kafka, Das Schloss; Heinrich Mann, Der Untertan; Klaus Mann, Mephisto; Günter Grass Die Blechtrommel; H. Böll, Katharina Blum; Max Frisch, Homo Faber; Ingeborg Bachmann, Malina; Jurek Becker, Jacob der Lügner. All videos are digitized in the LRC and subtitled in English. All books are available in English. German majors read and write in German. Course taught in English with a possible FLAC section. Instructor(s): Eifler

GERM 329 (S) MAPPING GERMAN CULTURE: LITERATURE OF THE HOLOCAUST AND EXILE (3)
Most of the authors from Germany and Austria, who were persecuted and fled into exile, not only gave an account of their dramatic rescue, but also used literature to search for meaning in life that apparently had been stripped of all meaning. Among these authors are the most distinguished writers of that time, i.e., Th. and H. Mann, Brecht, Benjamin, Werfel, Doblin, J. Roth, S. Zweig, N. Sachs, Celan, Ausländer. This course is taught in English with a possible FLAC section. Instructor(s): Weissenberger

GERM 330 (F) MAPPING GERMAN CULTURE: COURTSHIP, LOVE AND MARRIAGE IN THE AGE OF CHIVALRY (3)
The literature of the High Middle Ages is the first since antiquity to probe the hazards and potentials of romance between men and women, as well as single-sex friendship and love. This course will show how the literary ideal of love emerged in a society that was torn apart by war and rivalry. The poems and stories we will read belong to the treasures of medieval literature from the German lands. Taught in English with possible FLAC section. Instructor(s): Westphal

GERM 340 (S) MAPPING GERMAN CULTURE: WALTER BENJAMIN: AESTHETICS, HISTORY, AND POLITICS (3)
Benjamin has been celebrated as a revolutionary Marxist, a theologian of Jewish Messianism, and as an essayist and literary critic. The course offers an introduction to his writings by way situating them in the historical background of the Weimar Republic and the crises of European society on the eve of WWII. Taught in English with a possible FLAC section. Instructor(s): Steiner

GERM 340 MAPPING GERMAN CULTURE: GERMAN HISTORY, 1648–1890 (3)
Survey of the Germanies from the rise of absolutist state following the Thirty Years’ War to the unification of Germany in 1871. Includes the development of the bureaucratic and military institutions of the modern state, changing conceptions of state and society, and the major social and economic changes of the period. Not offered 2003–04.

GERM 355 (F) MAPPING GERMAN CULTURE: FROM DEMOCRACY TO DICTATORSHIP: GERMAN HISTORY, 1890–1945 (3)
From 1890–1945, Germans experienced dramatic changes in their political environment. This lecture class will examine these changes, taking into account not only political history, but also attempts to come to terms with the challenges posed by organized capitalism, the rise and fall of socialism, the development of an interventionists state, cultural critique, the Nazi social revolution, and the Holocaust. Also listed as HIST 355. Instructor(s): Caldwell

(F) = Fall; (S) = Spring
GERM 356  MAPPING GERMAN CULTURE: SIAMESE TWINS: THE SELF IN MODERN SOCIETY (3)
In Robert Musil’s novel, *The Man Without Qualities*, the metaphor of the Siamese Twins figures the transition into the ‘other condition’ of existence. In this course we will inquire into the constitution of the self in modern society. How do literary texts and various scientific discourses (de-)construct the self in modern society? Taught in English. Not offered 2003–04.

GERM 357 (S)  MAPPING GERMAN CULTURE: WORLDS OF WORK IN THE AGE OF GLOBALIZATION (3)
Are the worlds of work diverging or converging in the age of globalization? Do some converge, while others diverge? What effects does the emergence of transnational labor markets have on national labor markets? Who are the losers, and who are the winners? How do these processes change our life and our society? And can we do anything about it? Taught in English. Also listed as SOCI 357. *Instructor(s): Kreutzer*

GERM 358  MAPPING GERMAN CULTURE: TOPICS IN MODERN GERMAN HISTORY (3)
Seminar on selected topics in the history of modern Germany. Also listed as HIST 459. Taught in English. Enrollment limited to 15. Not offered 2003–04.

GERM 359 (F)  MAPPING GERMAN CULTURE: INDIVIDUAL AND SOCIETY (3)
This course offers an introduction to social theory from its classical foundations to current debates. The objective of this course is to enhance theoretical and critical thinking. Discussing theoretical texts and writing short papers you will learn how to apply theoretical concepts to your personal experiences, observations, and a wide range of social issues. Taught in English. Also listed as SOCI 359. *Instructor(s): Kreutzer, Long*

GERM 360  MAPPING GERMAN CULTURE: EDUCATION AND OCCUPATION IN COMPARATIVE PERSPECTIVE (3)
This course offers an introduction to the relationship between education and occupation in a comparative perspective. We investigate the institutional pattern of this relationship in the United States, Germany, Britain, France, and Japan. As a result, we will be able to distinguish general patterns of education and occupation as well as institutional and cultural differences. Also listed as SOCI 360. Taught in English. Not offered 2003–04.

GERM 401 (F)  INDEPENDENT WORK IN GERMAN LITERATURE (3)
Qualified students work on projects of their choice under the supervision of individual Instructor(s) with approval of the undergraduate advisor. Course may be repeated for credit. *Instructor(s): Staff*

GERM 402 (S)  INDEPENDENT WORK IN GERMAN LITERATURE (3)
Qualified students work on projects of their choice under the supervision of individual Instructor(s) with approval of the undergraduate advisor. Course may be repeated for credit. *Instructor(s): Staff*

GERM 403 (F)  HONOR THESIS (3)
Independent research projects by outstanding German majors leading to a substantial honors essay, undertaken in close cooperation with a departmental faculty member. *Instructor(s): Staff*

GERM 404 (S)  HONOR THESIS (3)
Independent research projects by outstanding German majors leading to a substantial honors essay, undertaken in close cooperation with a departmental faculty member. *Instructor(s): Staff*
GERM 411 (F) GERMAN ENLIGHTENMENT TO ROMANTICISM (1700–1850) (3)
An introduction to the major social, political and cultural developments in the period that marks the emergence of a specifically German cultural identity. “Have the courage to use your own understanding,” is Kant’s famous answer to the question “What is Enlightenment?” For German intellectuals this was to define their role in European culture and to raise the problems of modernity. Ambiguous terms such as Enlightenment, Classics and Romantics hide problems and questions, which continue to demand our interest. A wide range of theoretical and poetic works by authors and poets such as Kant, Lessing, Schiller, Goethe, Eichendorff, Hoffmann and Heine. Taught in German. Instructor(s): Emden

GERM 412 (S) GERMAN REALISM TO MODERNISM (1850–PRESENT) (3)
German history and culture during the late 19th and the 20th century have been rather turbulent. From Wilhelminian empire to Weimar democracy to Hitler fascism to socialist division to German reunification to entry into the European Union. All these political changes will be commented on by cultural reflection in textual and filmic forms. The course will provide a multi-medial retrospective via literature, auto-biographies, documentaries, feature films and internet information. Literary texts will include Stifter, Fontane, Mann, Kafka, Böll, Grass, Wolf, and Maron. Taught in German. Instructor(s): Eifler

GERM 422 (F) SPECIAL TOPICS SEMINAR: GERMAN SOCIETY AND POLITICS (3)
This course offers an introduction to German society and politics from 1945 to the present. Topics of this course include the political and economic institutions, the separation of East and West Germany, the revolution of 1989 and the transformation of East Germany, the European integration, the “Berliner Republic,” as well as biographical experiences of different generations and cinematic narratives of German society. Taught in German. Also listed as SOCI 397. Instructor(s): Kreutzer

GERM 425 (S) SPECIAL TOPICS SEMINAR: VIENNA AND ITS PEOPLE (3)
In this course we will look at the people of Vienna from the Austrian Biedermeier to the post-second world war period. Our readings (fiction and nonfiction), film viewings (feature films and documentaries), and class discussions will allow us to meet the Viennese as people of all classes and ethnic and national groups, the privileged markers and receivers of high culture as well as the under-privileged who had their own culture. We will study Vienna as a city, not on the periphery of the German-speaking world, but in the very heart of the Central Europe of the past century as well as the rapidly changing Central Europe of today. Readings and materials from various disciplines (history, social sciences, philosophy, fine arts, music, and literature). Language proficiency minimally at intermediate-high. Materials, discussion, and assignments in German. Prerequisite(s): minimum proficiency of intermediate high (speaking and writing); successful completion of GERM 303 (or equivalent). Instructor(s): Kecht

GERM 426 (S) SPECIAL TOPICS SEMINAR: INTELLECTUALS, ARTISTS, AND THE GERMAN/AUSTRIAN STATE (3)
Starting with an analysis of the role of the public intellectual in the U.S. of today, this course will focus on the multiple relationships 20th century writers, filmmakers, and painters/sculptors have displayed towards the German/Austrian state in which they have lived and worked. Questions we will ask: Do artists/intellectuals carry public responsibility? Are artists/intellectuals supposed to act as a “public conscience”? Have artists/intellectuals been able to influence political decisions? Is art always political? How do states/political systems utilize art and its creators? How does censorship work? Fiction/nonfiction (political speeches, philosophical reflections, etc); documentaries and feature films; representations (CD-ROMS, etc.) of paintings and sculptures. Language proficiency minimally at intermediate-high. Materials, discussion, and assignments in German. Prerequisite(s): minimum proficiency of intermediate-high (speaking and writing); successful completion of GERM 303 (or equivalent). Instructor(s): Kecht

(F) = Fall; (S) = Spring
GREE (Greek)

The School of Humanities / Department of Classical Studies

GREE 101 (F)  INTRODUCTION TO ANCIENT GREEK I (3)
Introduction to ancient Greek, with emphasis on acquisition of reading skills. Instructor(s): Mackie

GREE 102 (S)  ELEMENTARY GREEK II (3)
Continuation of GREE 101. Instructor(s): Mackie

GREE 201 (F)  INTERMEDIATE GREEK I: PROSE (3)
Review of forms and syntax. Instructor(s): McGill

GREE 202 (S)  INTERMEDIATE GREEK II (3)
Readings from Plato, Ion. Instructor(s): Mackie

GREE 301  ADVANCED GREEK (3)
Further reading of ancient Greek texts with emphasis on the linguistic development of ancient Greek. Not offered 2003–04.

GREE 491 (F)  DIRECTED READING (3)
Independent work for qualified juniors and seniors in genres or authors not presented in other courses.

GREE 492 (S)  DIRECTED READING (3)
Independent work for qualified juniors and seniors in genres or authors not presented in other courses.

HART (History of Art and Architecture)

The School of Humanities / Department of Art History

HART 101 (F)  INTRO TO HIST OF WESTERN ART I (4)
Introduction to the History of Western Art I: Prehistoric to Gothic. A survey of painting, sculpture, and architecture from the Paleolithic period through the 15th century. An additional hour of tutorial per week will be assigned during the first week. Required of art history majors. Also listed as MDST 111.

HART 102 (S)  INTRO TO HIST OF WESTERN ART II (4)
Introduction to the History of Western Art II: Renaissance to Present. A survey of painting, sculpture, and architecture from the Renaissance through the 20th century. One additional hour of tutorial per week is assigned during the first week. Required for art history majors.

HART 103 (S)  INTRO TO HIST OF ASIAN ART (3)
Introduction to the History of Asian Art. Survey of art of Asia from the Neolithic period to the present. Instructor(s): Nakatani

HART 170 (F)  THE ARTS OF CHINA (3)
Introduction to history of the visual arts in China in the Bronze Age to the present. We will pay special attention to the artworks’ physical and social contexts (e.g., tomb, temple, court, literati’s garden and studio, city, nation-state). Topics include: funerary art and the imagination of the afterlife, art and imperial cosmology, the rise of literati aesthetics, relationship between landscape painting and calligraphy, and the emergence of propaganda and avant-garde in Modern China. Also listed as ASIA 170. Instructor(s): Nakatani

(#) = credit hours per semester
HART 204 (F)  ART AS CIVILIZATION (3)
This seminar will examine the formative role that definitions of civilization have played in shaping the West in the modern period, and it will pay particular attention to the role that art has been assigned as one of civilization’s attributes and agents. Topics will include: the museum, the discipline of art history, war spoils, and iconoclasm. Enrollment limited to 15.

HART 205 (F)  ARCHITECTURE & THE CITY I (3)
Architecture and the City I (Antiquity through the 17th Century). Through a series of case studies, this course will examine the socio-cultural consequences of exemplary buildings from antiquity through the 17th century. Also listed as ARCH 345.

HART 206 (S)  ARCHITECTURE & THE CITY II (3)
Architecture and the City II (Enlightenment through Postmodernity). Continuation of HART 205. Also listed as ARCH 346.

HART 208  SPECIAL TOPICS: MUSEUM STUDIES (3)
Special topics and new courses, not necessarily to be repeated. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Instructor(s): Manca

HART 209  INDEP STUDY: MUSEUM STUDIES (3)
Independent study, reading, or special research in art history at the introductory level. Prerequisite(s): permission of the instructor. Instructor(s): Manca

HART 218  SPECIAL TOPICS: ANCIENT ART (3)
Special topics and new courses in ancient art, not necessarily repeated. May be used in awarding transfer credit. Instructor(s): Quenemoen

HART 219  INDEP STUDY: ANCIENT ART (3)
Special topics, independent study, and new courses in ancient art, not necessarily repeated. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Instructor(s): Quenemoen

HART 228  SPECIAL TOPICS: CHRISTIAN & ISLAMIC ART (3)
Special Topics in Early Christian, Byzantine, and Islamic Art. Special topics, independent study, and new courses in early Christian, Byzantine, and Islamic art, not necessarily repeated. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Instructor(s): Hamadeh

HART 229  INDEP STUDY: CHRISTIAN & ISLAMIC ART (3)
Independent Study in Early Christian, Byzantine, and Islamic Art. Special topics, independent study, and new courses in early Christian, Byzantine, and Islamic art, not necessarily repeated. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Instructor(s): Hamadeh

HART 238  SPECIAL TOPICS: MEDIEVAL ART (3)
Special Topics in Medieval Art. Special topics, independent study, and new courses in Medieval art, not necessarily repeated. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Instructor(s): Neagley

HART 239  INDEP STUDY: MEDIEVAL ART (3)
Independent Study in Medieval Art. Independent study, reading, or special research in art history. Instructor(s): Neagley

HART 240  ART IN CONTEXT (3)
Art in Context: Late Medieval and Renaissance Culture. This course will be concerned with the art, architecture, and history of the late Middle Ages and Renaissance. We will employ historical texts, literature, and illustrations of works of art, showing how historical documents and sources can illuminate the cultural context of art and architecture. Also listed as HUMA 108 and MDST 108. Instructor(s): Neagley

(F) = Fall; (S) = Spring
HART 248  SPECIAL TOPIC: RENAISSANCE & BAROQUE (3)
Special Topics in Renaissance and Baroque Art. Independent study, reading, or special research in art history. Instructor(s): Manca

HART 249  INDEP STUDY: RENAISSANCE & BAROQUE (3)
Independent Study in Renaissance and Baroque Art. Independent study, reading, or special research in art history. Instructor(s): Manca

HART 258  SPECIAL TOPIC: 19TH–20TH CENTURY ART (3)
Special Topics in 19th and 20th Century Art. Independent study, reading, or special research in art history.

HART 259  INDEP STUDY: 19TH–20TH-CENTURY ART (3)
Independent Study in 19th and 20th Century Art. Independent study, reading, or special research in art history.

HART 268  SPECIAL TOPIC: AMERICAN ART (3)
Special Topics in American Art. Independent study, reading, or special research in art history. Instructor(s): Brennan

HART 269  INDEP STUDY: AMERICAN ART (3)
Independent Study in American Art. Independent study, reading, or special research in art history. Instructor(s): Brennan

HART 278  SPECIAL TOPIC: NON-WESTERN ART (3)
Special Topics in Non-Western Art. Special topics and new courses in non-Western art, not necessarily repeated. May be used in awarding transfer credit.

HART 279  INDEP STUDY: NON-WESTERN ART (3)
Independent Study in Non-Western Art. Independent study, reading, or special research in non-Western art.

HART 280  HISTORY & AESTHETICS OF FILM (4)
History and Aesthetics of Film. Introduction to the art and aesthetics of film as an artifact produced within certain social contexts. Includes style, narration, mise-en-scene, editing, sound, and ideology in classical Hollywood cinema, as well as in independent, alternative, nonfiction, and Third World cinemas. Enrollment limited to 30. Instructor(s): Dove

HART 281  HISTORY & AESTHETICS OF TV (4)
History and Aesthetics of Television. Overview of the history of American television and video, with emphasis on milestone genres, programs, and videos in the context of socioeconomic and political events and contemporary discourse. Includes mainstream TV and newer forms such as cable TB, video art, and ethnic TV. Instructor(s): Naficy

HART 288  SPECIAL TOPIC: FILM & MEDIA (3)
Special Topics in Film and Media Studies. Special topics and new course in film and media studies, not necessarily repeated. May be used in awarding transfer credit. Instructor(s): Naficy

HART 289  INDEP STUDY: FILM & MEDIA (3)
Independent Study in Film and Media Studies. Independent study, reading, or special research in film and media studies. Instructor(s): Naficy

HART 298  SPECIAL TOPIC: THEORY & CRIT (3)
Special Topics in Art Theory and Criticism. Independent study, reading, or special research in art history.

HART 299  INDEP STUDY: THEORY & CRIT (3)
Independent Study in Art Theory and Criticism. Independent study, reading, or special research in art history.

(#) = credit hours per semester
HART 300 (F)  MUSEUM INTERN PROGRAM I (3)
The aim of this course is to provide select students a practicum in museum work accompanied by an introduction to a history of museums, including the varieties of museums, their role in society and significant issues in museums today. Instructor(s): Manca

HART 301 (S)  MUSEUM INTERN PROGRAM II (3)
The aim of this course is to provide select students a practicum in museum work accompanied by an introduction to a history of museums, including the varieties of museums, their role in society and significant issues in museums today. Instructor(s): Manca

HART 310 (S)  THE FIRST CIVILIZATIONS (3)
The early development of civilizations from the Palaeolithic age to the first Bronze Age urbanizations in Mesopotamia, Egypt, Indus Valley, and China. Slide illustrated lectures will focus on archaeology, history of religion, and history of art. Attention to contemporary cultural politics. Instructor(s): McEvilley

HART 312  GREEK ART & ARCHAEOLOGY (3)
This course will present the art and architecture of Greece, Asia Minor, and Southern Italy (Magna Graecia) from the Bronze Age through the Hellenistic period (ca 2000-30 B.C.). It will consider development of the classical orders in architecture, innovations with painting and sculpture, and the cultural and political significance of art in ancient Greek society. Instructor(s): Quenemoen

HART 313 (S)  DISCOVERY OF THE MIND (3)
The transition from the Bronze Age to the Iron Age. From myth to philosophy. First expressions of subjectivism and relativism. Primarily ancient near Eastern and Greek materials. Emphasis will be on art, philosophy, literature, and religion. Instructor(s): McEvilley

HART 315 (F)  ROMAN ART & ARCHITECTURE (3)
A chronological survey of Roman sculpture, painting, an architecture from its Etruscan beginnings to the late Empire. Art and architecture of Rome and the provinces considered within their larger social, political, and urban contexts. Particular attention given to patronage, the relation between Roman and Greek art, and Rome’s position as an artistic center. Also listed as AMC 315. Instructor(s): Quenemoen

HART 323 (S)  VIS CULTURE OF ISLAMIC WORLD I (3)
Visual Culture of the Islamic World (mid-13th to late 19th century). An introductory survey of the architecture, ceramics, textiles, arts of the book, and mural painting from Egypt to India and Central Asia, beginning in the wake of the Mongol conquests and ending with the Ottoman empire. Focusing on court patronage and production, the course examines key buildings and objects through their aesthetic, cultural, religious, and political contexts. Methodological concerns of the field are addressed through an exploration of such themes as iconoclasm, word and image, and cross-cultural influences. Enrollment limited to 20. Instructor(s): Hamadeh

HART 325 (F)  VIS CULTURE OF THE ISLAMIC WORLD II (3)
Visual Culture of the Islamic World (7th Century to Mid-13th Century). An introduction to the arts and architecture of the Islamic world from the rise of Islam to the Mongol invasions. Explore the development of a visual tradition through its continuities, regional variations, exchanges, and intertextualities. This course examines key religious and secular institutions and art forms through their aesthetic and historical contexts. Instructor(s): Hamadeh

HART 330 (S)  EARLY MEDIEVAL ART (4)
Early Medieval Art from the 5th Century to the Romanesque Period. Study of medieval art, with emphasis in part one on the art and architecture produced in Europe during the Dark Ages (e.g., the work of the Visigoths, Celts, Anglo-Saxons, Merovingians, Carolingians, and Ottonians) and in part 2 on the major revival of art and architecture in the Medieval monasteries of the Romanesque period. Also listed as MDST 330. Instructor(s): Neagley

(F) = Fall; (S) = Spring
HART 331 (S)  GOTHIC ART & ARCHITECTURE (4)
Gothic Art and Architecture in Northern Europe, 1140–1300: The Age of Cathedrals. Examination of the full array of sacred art and architecture produced in the early and high gothic periods in northern Europe. Includes cathedral architecture, sculpture, stained glass, manuscripts, and metalwork studies in relationship to the expansion of royal and Episcopal power. Also listed as MDST 331. Instructor(s): Neagley

HART 332 (S)  LATE GOTHIC ART & ARCHITECTURE (3)
Late Gothic Art and Architecture in Northern Europe, 1300–1500. Examination of art and architecture produced in the late gothic period within three distinct settings—the court, the city, and the church. Includes private, public, and religious life as expressed in the objects, architecture, and decoration of the castle and palace, the house, the city hall and hospital, and the chapel and parish church. Also listed as MDST 332. Instructor(s): Neagley

HART 340 (F)  NORTHERN RENAISSANCE ART (3)
Study of art in northern Europe from Jan van Eyck to Peter Bruegel. Instructor(s): Manca

HART 341 (F)  EARLY RENAISSANCE ART IN ITALY (3)
Early Renaissance Art in Italy. Study of Italian art and architecture from Giotto to Botticelli, with emphasis on painting and sculpture in the 15th century. Instructor(s): Manca

HART 342 (S)  HIGH RENAISSANCE & MANNERISM IN ITALY (3)
The High Renaissance and Mannerism in Italy. Study of the High Renaissance, with emphasis on its leading masters (e.g., Leonardo, Raphael, Bramante, Michelangelo, and Titian). Includes a study of mannerism, the stylish art produced after the first quarter of the 16th century. Instructor(s): Manca

HART 343 (F)  MASTERS OF THE BAROQUE ERA (3)
Study of the works of the greatest painters and sculptors in Europe during the Baroque period. Includes Rembrandt, Rubens, Caravaggio, Poussin Claude, and Velazquez. Instructor(s): Manca

HART 347  18TH CENTURY IN EUROPE (3)
18th-Century Art in Europe. Study of the art and architecture of the Age of Enlightenment. Includes Rococo, Neoclassicism, and early Romanticism. Instructor(s): Di Palma

HART 350 (F)  19TH CENTURY IN EUROPE (3)
19th-Century Art in Europe. Exploration of major developments in painting and sculpture from late 18th century neoclassicism and romanticism through realism, impressionism, and post-impressionism. Include architecture, photography, and decorative arts. Instructor(s): Di Palma

HART 354 (S)  TRANSITION: MODERN–POSTMODERN (3)
The Transition from Modernism to Postmodernism. A study of film as an integrated part of visual culture in general. In addition, this course will integrate the arts in general within a mat of cultural wholeness including history, philosophy, post-colonial studies, Marxism, and psychoanalytic theory, with less explicit attention to post-modern issues in literacy criticism. Instructor(s): McEvilley

HART 355  MODERN–POSTMODERN ART CRIT (4)
Modern to Postmodern Art Criticism. The study of the history, function, and philosophical foundations of modern and postmodern art criticism. The relationship of artists to critic, the place of the artist/ critic, and the institutional role of critics will be examined.

(#) = credit hours per semester
HART 360  AMER ARCH & DEC ARTS BEFORE 1900 (3)
American Architecture and Decorative Arts before 1900. Major topics will include the furniture styles of early America, the architecture of colonial cities, the life, thought, and architectural ideas of Thomas Jefferson, urban design and building projects in Washington, D.C., and other U.S. cities, and domestic life and interior design in 19th-century America. Instructor(s): Manca

HART 361 (F)  AMER PAINT & SCULP BEFORE 1900 (3)
American Painting and Sculpture Before 1900. The course will cover such topics as portraiture in colonial America, the neoclassical movements in American sculpture, the landscape painting of the Hudson River School, and the art of Winslow Homer and John Singer Sergeant. We will study the relationship between American philosophy (especially transcendentalism) and painting. Includes European and Latin American art as relevant. Instructor(s): Manca

HART 364 (F)  STU IN AMER ART: COL ERA–1920 (3)
Studies in American Art from the Colonial Era to 1920. This course will examine a range of topics in U.S. art from the colonial era to the World War II. Some themes to be addressed will include representations of landscape and their relation to American culture nationalism; social realism vs. modernist abstract images; and representations of general subjectivity in American visual culture. Enrollment limited to 40. Instructor(s): Brennan

HART 365 (F)  GENDER, SUBJ, & HISTORY OF PHOTO (3)
Gender, Subjectivity, and the History of Photography. This course will examine a range of subjects within the history, theory, and criticism of photography, including the relationship between commodification, eroticism, and the objectification of the body; and the intersecting issues of mechanical reproduction, authorship, and authenticity in modern and postmodern discourses. Also listed as WGST 365. Instructor(s): Brennan

HART 366 (S)  STU IN AMER ART: 1920S–PRESENT (3)
Studies in American Art: From the 1920s to the 1960s. This course will examine a range of topics in American and European art from the 1920s to the 1960s. Our subjects will include the machine aesthetic, cultural nationalism, social realist and regionalist practice, the New York School, and Pop art. Intense methodological reading will accompany visual analysis. Enrollment limited to 40. Instructor(s): Brennan

HART 367 (F)  STU IN MOD ART: 1960S–PRESENT (3)
Studies in Modern Art from the 1960s to the Present. This course will examine a range of topics in American and European art from the 1960s to the present. Our subjects will include Pop Art, Brutalism, Deconstruction, Postmodernism, Minimalism, and art in the digital age. Instructor(s): Brennan

HART 369 (F)  SEM ON BEAUTY & FRAG IN MOD ART (3)
Seminar on Beauty and Fragmentation in Modern Art. This course will examine literal and symbolic representations of the body in modern American and European art. Topics addressed will include conceptions on beauty versus subjective fragmentation; the performance nature of social identity; and art history’s long-standing preoccupation with the sensuous equivalency of flesh and paint. Also listed as WGST 369. Instructor(s): Brennan

HART 371 (S)  TRADITIONAL CHINESE PAINTING (3)
The Brush and Stroke in Traditional Chinese Painting. Traditional Chinese painting was the art of the movements of the brush. This course examines the brushwork from several perspectives; as performance; as expression of the artist’s moral character; and as a system of codes and gestures borrowed from the art of calligraphy. We consider how historically shifting understanding of the brushwork served to express diverse aesthetic, social, and cultural concerns: the cosmological and political significance of writing; the function of pictorial expression; the distinction between professional and literati painters; and the notion of the pictorial canon. Also listed as ASIA 371. Instructor(s): Nakatani

(F) = Fall; (S) = Spring
HART 373 (F)  METHOD SEM: WORD & IMAGE (3)
Methodology Seminar: Word and Image. Art history is the craft of putting images into words. This course explores the question of how words and images intersect in the visual arts. Readings of some key texts on the subject will be followed by a series of case studies concerning specific artistic genres and issues. Topics include narrative in painting; the frame and the caption; character and face in portraiture; the word as image in calligraphy; and sound and image in film. Through its readings and cases, the course will provide students a focused introduction to art historical theories and methods. Instructor(s): Nakatani

HART 375 (F)  LATIN AMER ART: INDEP–PRESENT (3)
Latin American Art: Independence to the Present. This course studies the work of leading visual artists working in Latin America during the 19th and 20th centuries. The range and diversity of Latin American art will be emphasized and work in a variety of media will be explored, including mural painting, easel painting, architecture, prints, sculpture, photography, film, installations, and conceptual art. The work will be discussed in terms of contextual historical, political, social, and cultural developments. Instructor(s): Deffebach

HART 380 (F)  INTRO TO AMER FILM & CULTURE (3)
Introduction to American Film and Culture: Postwar American Media and Culture. This course will examine a variety of claims about the relationship between cultural change and the proliferation of mass-mediated images and sounds in a postwar United States. Historical analysis will be focused through a range of topics, including shifts in production, distribution, and exhibition of films and television programs; the status of television in social movements such as the Civil Rights struggle and Vietnam war protests; suburbanization and the expansion of consumer culture during the postwar economics boom; and the role of entertainment/information technologies in the global culture industries that are said to exemplify postmodernity. Also listed as ENGL 358. Instructor(s): Ostherr

HART 381 (F)  GRAPHING, COUNTING, FILMING (3)
Graphing, Counting, Filming: Representation in Science and Anthropology. Cinema originated in the inscription of physiology on film; this was quickly followed by biology, and ethnology done by cinematography. This course examines the historical, critical and methodological relations between film as a medium or method of visual investigation and cinema as a site of cultural analysis. Also listed as ANTH 318. Instructor(s): Landecker

HART 382 (S)  MODALITIES OF CINEMA (4)
In each class a lecture will introduce the day’s film, the film will then be watched, followed by a discussion. Much of the material of film history will be presented, but in a deliberately jumbled way. Each film will be a major classic of a movement or genre, but they will be viewed out of historic order with the intention of highlighting certain themes and features. Enrollment limited to 30. Instructor(s): McEvilley

HART 387 (S)  RACE, GENDER, & REPRESENTATION (3)
Cultural Studies: Race, Gender, and the Politics of Representation. Examines the use of audiovisual media in the production and contestation of racial and gender identities in mainstream and oppositional forms of culture in the U.S. and abroad. Considers theories of representation, subjectivity, and the politics and economics of mass media, experimental art forms, community-based activist video, and independent film production. Also listed as ENGL 387. Instructor(s): Ostherr

HART 390  THEORETICAL PERSPECTIVES (3)
Theoretical Perspectives on the Visual Arts. Exploration of overlapping themes central in the history of art, using texts from Plato to post-modernism. Includes the use of biography, style, connoisseurship, quality, the social basis of art, theories of change in the arts, psychology, iconography, and the modernist canon and post-modern challenges to that canon, as well as race, gender, class, authorship, and audience.

(#) = credit hours per semester
HART 391 (S)  PRODUCING FEMINIST KNOWLEDGE (3)
Producing Feminist Knowledge: Methodology and Visual Culture. In this course we will examine various methodologies used by feminist scholars in the Social Sciences and the Humanities. Particular attention will be devoted to the practical application of feminist methodologies in visual culture and the history of art, as well as to the interdisciplinary feminist inquiries in science, ethnography, and epistemology. Also listed as WGST 391. Enrollment limited to 10. Instructor(s): Brennan, Shehabuddin

HART 392 (S)  CONCEPTUAL ART & ARCHITECTURE (3)
The first part of the course will examine the conceptual art practices that began in the 1960s, including Bochner, Kosuth, art and language, LeWitt, Haacke, Kelly, and Smithson. The second part of the course will focus on the question of what constitutes a conceptual architecture by interrogating a series of potential practices including: Super Studio, Anchigram, Eisenman, Libeskind, Shinohara, Hejduf, Tschumi, and others. Also listed as ARCH 384. Instructor(s): Last

HART 400 (F)  BAYOU BEND INTERNSHIP I (3)
Internship at Bayou Bend, the American Decorative Arts Center of the Museum of Fine Arts, Houston. Must be a Jameson Fellowship recipient to enroll. Instructor(s): Manca

HART 401 (S)  BAYOU BEND INTERNSHIP II (3)
Internship at Bayou Bend and The American Decorative Arts Center of the Museum of Fine Arts, Houston. Must be a Jameson Fellowship recipient to enroll. Instructor(s): Manca

HART 406  CULTURE OF MUSEUMS (3)
This course will explore the museum as a central institution of Western culture since the 18th century. Topics include the politics of collecting and display, the representation of national past and ethnic other in museums as sites of knowledge and classification of objects. Also listed as FREN 406 and HIST 470.

HART 407 (F)  SENIOR THESIS (3)
Completion of a thesis under the direction of a member of the faculty. Open to senior art majors only. Prerequisite(s): permission of the instructor.

HART 408  SPECIAL TOPIC: MUSEUM STUDIES (3)
Special Topics in Museum Studies. Special topics and new courses in art history, not necessarily repeated. May be used in awarding transfer credit. Instructor(s): Manca

HART 409  INDEP STUDY: MUSEUM STUDIES (3)
Independent Study in Museum Studies. Independent study, reading, or special research in art history. Instructor(s): Manca

HART 417 (S)  BURIED CITIES (3)
Buried Cities: The Art and Architecture of Akrotiri, Pompeii, and Herculaneum. An examination of classical antiquity’s best preserved cities thanks to volcanic eruptions: the Bronze Age site of Akrotiri and the Roman towns of Pompeii and Herculaneum. Art and architecture will be examined within their larger social and urban contexts. Methodological and ethical issues surrounding the excavation and preservation of these sites will also be considered. Instructor(s): Quenemoen

HART 418  SPECIAL TOPIC: ANCIENT ART (3)
Special Topics in Ancient Art. Independent study, reading, or special research in art history. Instructor(s): Quenemoen

HART 419  INDEP STUDY: ANCIENT ART (3)
Independent Study in Ancient Art. Independent study, reading, or special work in ancient art history. Instructor(s): Quenemoen

(F) = Fall; (S) = Spring
HART 420 (S)  ARTISTIC ENCOUNTERS (3)
Artistic Encounters: Europe and the Islamic World in the Early Modern and Modern Periods. This seminar aims to assess the mutual impact of the visual cultures of Europe and the Islamic world through history. Focusing on 15th-19th-century material including architecture, painting, photography, textiles, and sartorial fashion, it examines channels of interaction, forms of influence, and modes of representation in aesthetic, cultural, philosophical, and political terms, and in light of concurrent theoretical debates. Instructor(s): Hamadeh

HART 428  SPECIAL TOPIC: CHRISTIAN & ISLAMIC ART (3)
Special Topics in Early Christian, Byzantine, and Islamic Art. Independent study, reading, or special research in art history. Instructor(s): Hamadeh

HART 429  INDEP STUDY: CHRISTIAN & ISLAMIC ART (3)
Independent Study in Early Christian, Byzantine, and Islamic Art. Independent study, reading, or special research in art history. Instructor(s): Hamadeh

HART 430  THE GOTHIC PORTAL (3)
Seminar on the form and meaning of sculptural programs attached to French gothic cathedrals such as Chartres, Reims, and Amiens. Includes issues of iconography, style, and production, as well as more recent concerns of narrative, reception, and audience, all within the context of Medieval church doctrine and political and social life. Also listed as MDST 430. Instructor(s): Neagley

HART 438  SPECIAL TOPIC: MEDIEVAL ART (3)
Independent study, reading, or special research in Medieval art history. Instructor(s): Neagley

HART 439  INDEP STUDY: MEDIEVAL ART (4)
Independent study, reading, or special research in Medieval art. Prerequisite(s): permission of instructor. Also listed as MDST 439. Instructor(s): Neagley

HART 440 (S)  JAN VAN EYCK (3)
Jan Van Eyck: Problems of Interpretation. Seminar and in-depth research on the art and historiography of the early Netherlandish painter Jan van Eyck. Also listed as MDST 440. Instructor(s): Neagley

HART 444 (F)  LEONARDO & MICHELANGELO (3)
Study of the art and thought of the two geniuses of the Italian Renaissance. Instructor(s): Manca

HART 448  SPECIAL TOPIC: RENAISSANCE & BAROQUE ART (3)
Special Topics in Renaissance and Baroque Art. Special topics and new courses in Renaissance and Baroque art, not necessarily repeated. May be used in awarding transfer credit. Instructor(s): Manca

HART 449  INDEP STUDY: RENAISSANCE & BAROQUE ART (3)
Independent Study in Renaissance and Baroque Art. Independent study, reading, or special research in Renaissance and Baroque art. Instructor(s): Manca

HART 450  ART, SOCIETY, & POLITICS (3)
Art, Society, and Politics Between World War I and II. A study of art between World Wars I and II that is produced or used in the service of established governments and cultural values or, to the contrary, stands in protest against them. Emphasis on conditions in France, the Soviet Union, and Germany during the Weimar Republic and the Third Reich. Some consideration of examples in Mexico and the U.S.

HART 451 (S)  FOUR MODERN MASTERS (3)
Exploration of the art, life, context, and criticism of Picasso, Duchamp, Ernst, and Mondrian.

HART 458  SPECIAL TOPIC: 19TH- & 20TH-CENTURY ART (3)
Special Topics in 19th- and 20th-Century Art. Special topics and new courses in 19th and 20th century art. May be used in awarding transfer credit. Prerequisite permission of the instructor.

(#) = credit hours per semester
HART 459 INDEPENDENT STUDY: 19TH- & 20TH-CENTURY ART (3)
Independent Study in 19th and 20th Century Art. Independent study, reading, or special research in modern Art History. May be used in awarding transfer credit.

HART 468 SPECIAL TOPIC: AMERICAN ART (3)
Special Topics in American Art. Independent study, reading, or special research in art history. Instructor(s): Brennan

HART 469 INDEPENDENT STUDY: AMERICAN ART (3)
Independent Study in American Art. Independent study, reading, or special research in American art. Instructor(s): Brennan

HART 470 (S) VISUAL CULTURE IN CHINA (3)
Visual Culture in Revolutionary and Postrevolutionary China (ca. 1949–Present). Exploration of the deployment of socialist, critical, and avant-garde art in modern Chinese visual culture. The course will cover a wide range of materials from painting and installation art to propaganda posters and film. Issues addressed will include: the notion of the avant-garde (social and aesthetic), the structure of authoritarian art, art as a social movement, and the paradox of counter-discourse. The course will maintain a global and comparative frame of analysis, drawing on scholarship on Soviet and Nazi Germany visual cultures. Also listed as ASIA 470. Enrollment limited to 15. Instructor(s): Nakatani

HART 472 (S) JAPANESE ANIMATION (3)
Japanese Animation: Narrative, History and Society. Since the 1980s, animation has become a major force in Japanese popular culture, serving as a medium to address the diverse concerns of a high-tech media-focused society. This seminar explores the social, historical, and aesthetic significance of Japanese animation. Topics include gender and sexuality, ecological consciousness and religious animation, folklore and history, viewership and fandom, the centrality of the fantastic and the grotesque, visions of a media- and technology-saturated society, and the prevalence of apocalyptic motifs and conspiracy theory. Also listed as HIST 472 and ASIA 472. Instructor(s): Nakatani

HART 477 (S) RACE, CLASS, & GENDER IN MEX ART (3)
Race, Class, and Gender in Mexican Art. The seminar will study representations of race, class, and gender in Mexican art from the 16th century to the present. The course will begin with the traumatic encounter of the Spanish and Mesoamerican cultures. Primary emphasis will be on 20th century art, especially on images created after the Mexican Revolution of 1910–20. Also listed as WGST 477. Enrollment limited to 15. Instructor(s): Deffebach

HART 478 SPECIAL TOPIC: NON-WESTERN ART (3)
Special Topics in Non-Western Art. Independent study, reading, or special research in art history.

HART 479 INDEPENDENT STUDY: NON-WESTERN ART (3)
Independent Study in Non-Western Art. Independent study, reading, or special research in non-Western art.

HART 480 (S) SEMINAR ON FILM AUTHORSHIP (3)
Seminars on Film Authorship: Scorsese, Penn, Kubrick. Focuses on issues of authorship in film and television. Presents a structuralist and post-structuralist reading of the films of Stanley Kubrick, Martin Scorsese, and Arthur Penn. Their films will be seen in the context of the social issues of the 1960s through the 1990s. Enrollment limited to 15. Instructor(s): Naficy

HART 482 (F) SEMINAR ON NON-WESTERN CINEMA (4)
Seminars on Non-Western Cinema: Third World Cinema. Study of significant national cinemas, film movements, and filmmakers of the Third World from Africa to Latin America and from the Middle East to China. Includes colonial and postcolonial discourses. Enrollment limited. Also listed as ANTH 382. Instructor(s): Naficy

(F) = Fall; (S) = Spring
HART 483 (S)  DOCUMENTARY & ETHNOGRAPHIC FILM (4)
Seminar on Documentary and Ethnographic Film. Overview of the history of documentary and ethnographic cinema from a worldwide perspective. Includes both canonical and alternative films and film movements with emphasis on the shifting and overlapping boundaries of fiction and nonfiction genres. Enrollment limited. Also listed as ANTH 483. Instructor(s): Naficy

HART 484 (S)  EXILE AND DIASPORA CINEMA (4)
Culture, Media, Society: Exile and Diaspora Cinema. This course theorizes and analyzes the politics and aesthetics of the films and videos that displaced filmmakers of the world have produced since the 1960s-films that form a new accent in the language of cinema. Also listed as ANTH 484. Instructor(s): Naficy

HART 485 (F)  GENDER & HOLLYWOOD IN THE 1950S (4)
Gender and Hollywood Cinema in the 1950s. This course examines representations of gendered subjectivity in Hollywood cinema during the 1950s. Some of the topics to be addressed include the uneasy relationship between normative domesticity and heterosexual masculinity, and issues of voyeurism, eroticism, the ongoing conflict between liberated individualism and social conformity in corporate culture and bourgeois society. Enrollment limited to 15. Also offered WGST 458. Instructor(s): Brennan

HART 486 (S)  THE BODY IN VISUAL CULTURE (3)
Disease and Difference: The Body in Visual Culture. This course examines the history of visual representations of disease in photography, cinema, and digital media. We will consider how nationally, racially, and sexually marked bodies constitute an iconography of social and organic contamination. Topics include early cinema, colonialism, photography, eugenics, immigration, science fiction, and Internet viruses. Also listed as WGST 448 and ENGL 458. Instructor(s): Ostherr

HART 488  SPECIAL TOPIC: FILM & MEDIA (3)
Special Topics in Film and Media Studies. Special topics and new courses in film and media studies, not necessarily repeated. May be used in awarding transfer credit. Instructor(s): Naficy

HART 489  INDEP STUDY: FILM & MEDIA (3)
Independent Study in Film and Media Studies. Independent study, reading, or special research in film and media studies. Instructor(s): Naficy

HART 490 (S)  ART & THE MIND (3)
Exploration of topics in art history, criticism, aesthetics, philosophy, and the psychology of art. Previous art history courses desirable, but not required. Instructor(s): McEvilley

HART 491 (S)  UNDERSTANDING POSTMODERNISM (3)
A study of broad cultural change that is still unresolved, and still controversial. Attention will be paid to postmodern issues in history, philosophy, postcolonial studies. Marxism, feminism, and psychoanalytic theory, with less explicit attention to postmodern issues in literary criticism. The visual arts, including film, will be presented not in isolation but in a matrix of cultural wholeness. Lectures, discussion, slide and film showings. Enrollment limited to 12. Instructor(s): McEvilley

HART 492 (F)  CONCEPTUAL ART & ARCHITECTURE (3)
The first part of the course will examine the conceptual art practices that began in the 1960s, including Bochner, Kosuth, art and language, LeWitt, Haacke, Kelly, and Smithson. The second part of the course will focus on the question of what constitutes a conceptual architecture by interrogating a series of potential practices including: Super Studio, Anchigram, Eisenman, Libeskind, Shinohara, Hejduk, Tschumi, and others. Also listed as ARCH 384. Instructor(s): Last

HART 494  ART & THE WORLD’S RELIGIONS (3)
Art is presented as a way of thinking about reality. Slide-illustrated lectures will involve visual formulations of: origination, history destiny, society, the individual, sexuality, gender, power, and the end of the world. Enrollment limited to 35. Instructor(s): McEvilley

(#) = credit hours per semester
HART 498   **SPECIAL TOPIC: THEORY & CRITICISM (3)**
Independent study, reading, or special research in art history.

HART 499   **INDEP STUDY: THEORY & CRITICISM (3)**
Independent study, reading, or special research in art history, theory, themes, and criticism.

HART 500 (F)   **INTERNSHIP PROGRAM I (3)**
Graduate level course that will provide select students a practicum in museum work accompanied by an introduction to a history of museums, including varieties of museums, their role in society, and significant issues in museums today. *Instructor(s): Manca*

HART 501 (S)   **INTERNSHIP PROGRAM II (3)**
Graduate level course that will provide select students a practicum in museum work accompanied by an introduction to a history of museums, including the varieties of museums, their role in society, and significant issues in museums today. *Prerequisite(s): permission of instructor. Instructor(s): Manca*

HART 505 (F)   **ARCHITECTURE & SOCIETY I (3)**
Architecture and Society I (Antiquity through 17th Century). Graduate version of HART 205. Also listed as ARCH 645.

HART 506 (S)   **ARCHITECTURE & SOCIETY II (3)**
Architecture and Society II (Enlightenment through Postmodernity). Graduate version of HART 206. Also listed as ARCH 686.

HART 677 (S)   **RACE, CLASS, GNDR MEX ART (3)**
Race, Class, and Gender in Mexican Art. The seminar will study representations of race, class, and gender in Mexican art from the 16th century to the present. The course will begin with the traumatic encounter of the Spanish and Mesoamerican cultures. Primary emphasis will be on 20th-century art, especially on images created after the Mexican Revolution of 1910-20. Also listed as WGST 487. Enrollment limited to 15. *Instructor(s): Deffebach*

HART 682 (F)   **NON-WESTERN CINEMA (3)**
Seminar on Non-Western Cinema: Third World Cinema. Graduate version of HART 482. Also listed as ANTH 682. *Prerequisite(s): permission of the instructor. Instructor(s): Naficy*

HART 683   **DOCUMENTARY & ETHNOGRAPHIC FILM**
Seminar on Documentary and Ethnographic Film. Graduate version of HART 483. Also listed as ANTH 683. *Prerequisite(s): permission of the instructor. Instructor(s): Naficy*

HART 684 (S)   **EXILE & DIASPORA CINEMA (4)**
Culture, Media, Society: Exile and Diaspora Cinema. This course theorizes and analyzes the politics and aesthetics of the films and videos that displaced filmmakers of the world have produced since the 1960s-films that form a new accent in the language of cinema. Also listed as ANTH 684. *Instructor(s): Naficy*

HART 689   **INDEP STUDY: FILM & MEDIA (3)**
Independent Study in Film and Media Studies. Independent study, reading, or special research in film and media studies on the graduate level. *Instructor(s): Naficy*

**HEAL (Health Sciences)**

The School of Humanities / Department of Kinesiology

HEAL 103   **NUTRITION (3)**
Concepts underlying the science of nutrition: food composition, calories and needs for energy, special nutrients, and nutritional deficiencies. Enrollment limited to 50. *Instructor(s): Anding*

(F) = Fall; (S) = Spring
COURSES OF INSTRUCTION

HEAL 119 (F)  CONCEPTS OF HEALTH SCIENCE (3)
Designed to acquaint prospective health educators with the structure and function of health in our society. Enrollment limited to 50. Instructor(s): Adam

HEAL 132 (S)  MEDICAL TERMINOLOGY (1)
This course introduces the student interested in medical and health professions to a large vocabulary of medical language which develops skills in understanding and remembering new words. It describes word origins, basic terms in anatomy and terms pertaining to each body system as well as pharmacology and medical equipment, and many frequently used medical terms, abbreviations and symbols. Instructor(s): Bordelon

HEAL 201 (F)  INTRO-ENVIRONMENTAL SYSTEMS (3)
The chemical, physical, and biological components of the environment as natural resources and the effects of pollution on their maintenance and utilization. Also listed as ENVI 201. Lecture (TTH 10:50 A.M.–12:05 P.M.) and laboratory (W 2–5 P.M.) are required. Instructor(s): Ward

HEAL 206 (S)  FIRST AID/EMERGENCY CARE CPR (1)
American Red Cross certification program for emergency care procedures for illness, traumatic injuries, and cardiopulmonary resuscitation. Advanced permission of department required. Also listed as KINE 206. Enrollment limited to 25. Instructor(s): Vandenberg

HEAL 212 (S)  CONSUMER HEALTH AND THE MEDIA (3)
Study of factual information and guidelines that enable consumers to act intelligently in selecting health products and services, with emphasis on the economic aspects of health. Instructor(s): Iammarino

HEAL 222 (F)  PRINCIPLES OF PUBLIC AND COMMUNITY HEALTH (3)
Principles of Public and Community Health examines aspects of the community that relate to health including identification and analysis of community health programs; organizational pattern and functions of voluntary and governmental health agencies; organizing the community for health action; and coordination of community health programs. Instructor(s): Lanier

HEAL 308 (S)  EMT BASIC: INTRODUCTION TO EMERGENCY CARE I (3)
Emergency medical technician course designed to develop the knowledge and skills necessary to recognize the symptoms of various illnesses and injuries as well as the competency in the appropriate treatment for these conditions in the pre-hospital environment. Enrollment limited to 10. Instructor(s): Melville

HEAL 310 (F)  EMT INTERMEDIATE: INTRODUCTION TO EMERGENCY CARE II (3)
Designed to expand upon the EMT basic introductory course. Enrollment limited to 20. Instructor(s): Melville

HEAL 313 (F)  FOUNDATIONS OF HEALTH PROMOTIONAL EDUCATION (3)
Foundations of Health Promotion/Health Education is designed to introduce students to the discipline of health education and the practice of health promotion. The course explores critical issues in the field of health promotion, accountability and professional preparation, professional ethics, credentialing and the changing technology in the field. Instructor(s): Iammarino

HEAL 350  UNDERSTANDING CANCER (3)
Examination of cancer from a biological, psychological and sociological perspective with emphasis on cancer epidemiology, prevention, and early detection. Not offered 2003–04.

(#) = credit hours per semester
HEAL 360 VIOLENCE IN AMERICA: A PUBLIC HEALTH PERSPECTIVE (3)
This course presents an overview of issues concerning violence using a public health perspective. Information will be presented and discussed concerning several domains pertinent to violence. This will include definitions of violence, theoretical perspectives used to examine violence, the prevalence of violence, risk factors and outcomes associated with violence, and medical, community, and legal responses to violence. The forms of violence that are considered include (1) family violence (victimization of children), (2) relationship violence (courtship violence, intimate partner violence, psychological abuse, date and marital rape), community violence (prostitution, pornography, trafficking in women), and (3) workplace harassment. The course content addresses questions such as: How often do these forms of violence occur? Are certain people more vulnerable? Why does it happen? What is the impact on society? How do cultural issues shape response to violence? How does the community respond to the consequences of violence? How effective is prevention education in reducing violence? The course format includes formal lectures, affective learning through film, structured class discussion and problem solving of controversial issues. Instructor(s): Lanier

HEAL 379 INTERNSHIP IN HEALTH SCIENCES (3)
Internship experience for upper-level students in health sciences track. Instructor(s): Iammarino

HEAL 407 (F) EPIDEMIOLOGY (3)
Study of communicable, noncommunicable, and behavioral diseases with emphasis on the disease process and basic epidemiologic methods. Enrollment limited to 25. Instructor(s): Iammarino

HEAL 410 (F) PROG DEV IN HEAL EDUC (3)
Content and methods in teaching health education; program materials and curriculum construction in secondary school health education programs. Required for Teaching Certification in Health.

HEAL 422 (S) THEORIES AND MODELS OF HEALTH BEHAVIOR (3)
Theories and Models of Health Behavior is designed for the student interested in public and community health or health psychology. This course examines the current theories and models of health behavior and their application to the field of health promotion/education. Prerequisite(s): junior and senior students. Instructor(s): Lanier

HEAL 460 (S) PLANNING AND EVALUATION OF HEALTH PROMOTION AND EDUCATION (3)
Planning and Evaluation of Health Promotion provides the student with the technical skills for planning and evaluation of health promotion, health education, and disease prevention programs including both qualitative and quantitative methods of evaluation. Instructor(s): Lanier

HEAL 495 INDEPENDENT STUDIES (3)
For junior and senior students only. Permission of advising and Program Development Committee. Instructor(s): Disch

HEAL 496 INDEPENDENT STUDY (3)
For junior and senior students only. Instructor(s): Disch

HEAL 498 DISPARITIES IN HEALTH IN AMERICA: WORKING TOWARD SOCIAL JUSTICE (3)
Disparities in Health in America is a speaker’s series seminar that examines the social and societal factors that are fundamental in creating disparities in health. The course will focus on the formulation of public policy objectives to reduce and ultimately eliminate health disparities.

HEAL 499 TEACHING PRACTICUM (3)
Teaching experience for upper level students who have excelled in one area of health sciences. Instructor(s): Etnyre

(F) = Fall; (S) = Spring
HEBR (Hebrew)

The School of Humanities / Center for the Study of Languages

HEBR 101 (F)  INTRODUCTION TO MODERN HEBREW LANGUAGE AND CULTURE I (5)
No prior knowledge of Hebrew is assumed. The course covers elementary reading, writing and conversation. A major portion of instruction is in Hebrew. Additionally, aspects of the Israeli culture, tradition will be introduced. Instructor(s): BarOn

HEBR 102 (S)  BEGINNING MODERN HEBREW II (3)
A continuation of Hebrew 101. Vocabulary, grammar and conversational skills develop through daily student participation in Hebrew language dialogues and presentations. Students will attain fluency in reading unpointed texts. Supplementary reading from biblical and modern texts. Instructor(s): BarOn

HEBR 111  VIRTUAL HEBREW (1)
The web-based program consists of interactive, multi-media electronic lessons teaching the students, at their own time and pace, first the Hebrew alphabet and then reading through selected verses from the Bible. This individualized tutor-type teaching program gradually builds reading and writing skills using English transliterations and translation, sound, animation, comprehension games; embedded note pad to practice the handwriting of Hebrew letters; homework and questions answered within twenty-four hours. Not offered 2003–04.

HEBR 125 (F)  INTRO TO BIBLICAL HEBREW I (3)
An introduction to Biblical Hebrew (two semesters) with emphasis on grammar and vocabulary. Also listed as RELI 125. Instructor(s): Henze

HEBR 126 (S)  INTRO TO BIBLICAL HEBREW II (3)
Continuation of HEBR 125. We will finish the grammar in the second half of this semester and then read selections from the Hebrew Bible. Also listed as RELI 125. Instructor(s): Henze

HEBR 128 (S)  INTERMEDIATE BIBLICAL HEBREW (HEBREW IV) (3)
Continuation of HEBR 127 (HEBR 127 is not a prerequisite). Also listed as RELI 128. Instructor(s): Henze

HEBR 201  INTERMEDIATE MODERN HEBREW LANGUAGE AND CULTURE I (4)

HEBR 202  INTERMEDIATE MODERN HEBREW (3)

HEBR 398  INDEPENDENT STUDIES (3)

HEBR 411  INTRO TO CLASSICAL HEBREW I (3)
A one-year (two semesters) introduction to Hebrew. The emphasis is on Biblical Hebrew (basic grammar and vocabulary), with occasional exercises in modern Hebrew (reading, speaking, and writing skills). Not offered 2003–04.

(#) = credit hours per semester
HEBR 412  INTRO TO CLASSICAL HEBREW II (3)
A one-year (two semesters) introduction to Hebrew. The emphasis is on Biblical Hebrew (basic grammar and vocabulary), with occasional exercises in modern Hebrew (reading, speaking, and writing skills). Not offered 2003–04.

HIND 101 (F)  ELEMENTARY HINDI I (5)
An in-depth introduction to modern Hindi including the Devanagari script. In an intellectually challenging environment, through a combination of graded texts, written assignments, audio-visual material and computer-based exercises, this course provides cultural insights and increases proficiency in understanding, speaking, reading and writing Hindi. Emphasis is on spontaneous self-expression in the language. No prior background in Hindi assumed. Instructor(s): Shah

HIND 102 (S)  ELEMENTARY HINDI II (5)
This course is a continuation of Hindi 101. With material especially designed for this course, one has plenty of opportunity to play with and explore the language and its parent culture. In an intellectually challenging environment, through a combination of graded texts, written assignments, audio-visual material including contemporary Hindi films and songs, and computer based assignments, this course increases proficiency in understanding, speaking, reading, and writing Hindi. Emphasis is placed on spontaneous self-expression in the language. Instructor(s): Shah

HIND 201 (F)  INTERMEDIATE/ADVANCED HIND II (5)
Through extensive use of cultural documents including feature films, radio broadcasts, as well as graded literary and nonliterary texts, this course continues to build students’ proficiency in understanding, speaking, reading and writing Hindi. Provides a space for meaningful interaction with authentic materials and their related cultures. Furthers the student’s appreciation of cultural nuances. Emphasis is placed on spontaneous self-expression in the language. Instructor(s): Shah

HIND 202 (S)  INTERMEDIATE HINDI II (5)
Through extensive use of cultural documents including feature films, radio broadcasts, and newspaper articles, this course continues to build students’ proficiency in understanding, speaking, reading and writing Hindi. The introduction of various Hindi Literary traditions, provides a space for meaningful interaction with authentic materials and furthers the student’s appreciation of cultural nuances. Prepares the student for further academic and nonacademic use of Hindi. Emphasis is placed on spontaneous self expression in the language. Instructor(s): Shah

HIND 335 (F)  SOUTH ASIAN LITERATURE, POETRY, AND POPULAR CULTURE (3)
Consolidates and builds on the intermediate/advanced level course HIND 202. Focuses of the course will vary each year depending on both the needs and interests of the students in the class, as well as contemporary issues. Readings range from classical, to modern 20th-century literature and poetry. Various art forms, including theater and film, will be thematically related to the readings. Prerequisite(s): Hind 202 or permission of instructor. Instructor(s): Shah

HIND 398  HINDI TEACHING PRACTICUM (3)
Students will work with instructor closely to acquire teaching skills in tutoring in Hindi. Near Native proficiency is required. Not offered 2003–04.

HIND 399 (F)  HINDI TEACHING PRACTICUM (3)
Students will work with instructor closely to acquire teaching skills in tutoring in Hindi. Near Native proficiency is required. Instructor(s): Shah

(F) = Fall; (S) = Spring
HIST (History)

The School of Humanities

HIST 101  EUROPE’S 500 YRS, 1450–1815 (3)
Comprehensive exploration of how the world was thoroughly reshaped by the European experience. Recommended for freshmen and sophomores. Offered with additional work as HIST 301. Not offered 2003–04. Instructor(s): Staff

HIST 102 (S)  EUROPE’S 500 YRS, 1815–PRESENT (3)
Continuation of HIST 101. May take course separately. Offered with additional work as HIST 302. Instructor(s): Cohen

HIST 105  U.S. HISTORY I (3)
General survey of American history from colonial times to Reconstruction. This course is used to recognize Advanced Placement examination/credit.

HIST 106  U.S. HISTORY II (3)
General survey of American history from Reconstruction to the 20th century. This course is used to recognize Advanced Placement examination/credit.

HIST 113 (S)  GOD, TIME, AND HISTORY (3)
How is the passage of time given meaning, and what role—if any—is assigned to divinity in shaping the direction of events? Course explores various forms of recording and interpreting events, drawing from ancient Mesopotamia, Israel, and the Greco-Roman world—the cultures in which modern ideas of history began. Also listed as RELI 123 and HUMA 113. Enrollment limited. Instructor(s): Maas, Henze

HIST 117 (F)  THE UNITED STATES, 1776–1877 (3)
Survey of American social, political, and economic history from the early republic through the Civil War and Reconstruction, with emphasis on industrialization and the history of labor, women’s history, and race relations. Offered with additional work as HIST 317. Instructor(s): Baker

HIST 118 (S)  THE UNITED STATES, 1877–PRESENT (3)
A continuation of HIST 117 (though 117 is not a prerequisite) from the Reconstruction to the present. Offered with additional work as HIST 318. Instructor(s): Baker

HIST 151  1ST SEMINAR: THE HERO AND HIS COMPANION (3)
The Hero and his Companion from Gilgamesh to Sam Spade. How does presentation of heroic action illustrate the basic values of a society? Through consideration as historical sources of several ancient texts, modern mystery stories, and two western movies, we will see the development of a style of community service that links heroism with alienation. The extent to which women participate will be traced. Enrollment limited. Not offered 2003–04. Instructor(s): Maas

HIST 160 (S)  1ST SEMINAR: JEFFERSON AND THE REPUBLIC (3)
Jefferson and the Origins of the Republic. Examination of the most talented of the U.S. Founding Fathers and how he helped define the country’s revolutionary ideals, diplomacy, and politics, as well as its public lands, domestic architecture, religion, practice of slavery, and education. Includes readings, discussions, and essays. Also listed as FSEM160. Enrollment limited. Instructor(s): Gruber

HIST 161 (F)  1ST SEMINAR: THE USES OF THE PAST (3)
This seminar analyzes how selected historical events are interpreted at different times and in different contexts, sources will include history books, novels, movies, court cases, and political debates. The specific events studied will vary according to student interest from ancient times to Sept. 11, with emphasis on historiographical questions such as “what does it mean to tell the truth about the past?” Also listed as FSEM 161. Enrollment limited. Instructor(s): Quillen

(#) = credit hours per semester
HIST 166 1ST SEMINAR: THE CLASSIC OF CHANGES (3)
The Classic of Changes in Asian and World Culture. Over the past two millennia or so, the Yijing (I-Ching: Classic of Changes) has been, with the notable exception of the Bible, the most widely read and extensively analyzed book in all of world literature. This course will examine its development from an occult prognostication text in China to influential “classic” in Japan, Korea, Annam (Vietnam), Tibet, and eventually the West with an eye to analyzing its trans-cultural spread and enduring influence. Enrollment limited. Not offered 2003–04. Instructor(s): Smith

HIST 168 (S) 1ST SEMINAR: THE WORLD OF THE ARABIAN NIGHTS (3)
This course looks at the social and cultural world of the stories of the 1001 nights. We will read and discuss many of the stories, learn how these stories (which come from the Islamic world of the middle ages) became famous in Europe, and look at how the translated stories became a source for western images of the Islamic World. We will use material ranging from translations of the stories themselves and similar stories from different traditions to modern movies and television shows. Also listed as FSEM 168. Enrollment limited. Instructor(s): Sanders

HIST 176 (S) 1ST SEMINAR: TERROR AND AFRICAN AMERICAN HISTORY (3)
Rope and Faggot: Terror and African American History from the Hamburg Massacre to the Murder of James Byrd. From the early 1880s to 1968, nearly 5,000 African Americans died at the hands of lynch mobs. Since the end of the Civil War, terror and the ways blacks responded to it have shaped nearly every aspect of African American history. This seminar examines black society, politics, gender relations, and culture in order to come to terms with the evolution and present state of American democracy and the rule of law. Also listed as FSEM 176. Enrollment limited. Instructor(s): Byrd

HIST 188 (F) THE ATLANTIC WORLD (3)
The Atlantic World: Origins to the Age of Revolution. Survey of social, political, economic, and intellectual ligatures which bound the particular histories of Africa, Europe, and the Americas one to the other, until by the late 18th century the Atlantic basin constituted a world unto itself. Offered with additional work as HIST 388. Instructor(s): Byrd

HIST 200 ORIGINS OF WESTERN CIVILIZATIONS (3)
How were the great empires of the ancient Near Eastern and Mediterranean worlds organized? This introductory course will explore the development of imperial systems from the Bronze Age to the Roman Empire and pay special attention to how subject peoples participated in the imperial systems of multi-ethnic states. Aspects of the art, law, economics, religions, and literature of the empires of the Hittites, Assyrians, Persians, Greeks and Romans will be examined. Consideration will be given to the strengths and weaknesses of these empires along with discussions of their contributions to the modern world. Not offered 2003–04. Instructor(s): Maas

HIST 202 INTRO TO MEDIEVAL CIVILIZATION I (3)
Introduction to Medieval Civilization: The Early Middle Ages. European culture of the “Dark Ages,” from the fall of Rome to the end of the Viking invasions. Includes the use of historical, literary, artistic, and archaeological sources to trace changes in European material, spiritual, and cultural life between 300 and 1000 A.D. Offered with additional work as HIST 325. Also listed as HUMA 103 and MDST 202. Not offered 2003–04. Instructor(s): Staff

HIST 203 (F) INTRO TO MEDIEVAL CIVILIZATION II (3)
Introduction to Medieval Civilization: The High Middle Ages. Continuation of HIST 202 (not a prerequisite). Includes European culture from the year 1000 to the discovery of the Americas, which encompasses the Crusades, the “discovery of the individual,” chivalry and chivalric literature, the Black Death, and the beginnings of the Age of Exploration, using pictorial and architectural as well as literary and historical sources. Offered with additional work as HIST 326. Also listed as MDST 203. Instructor(s): Decker

(F) = Fall; (S) = Spring
HIST 206 (F)  INTRO TO ASIAN CIVILIZATIONS (3)
Introduction to the great cultural traditions of Asia, past and present, with emphasis on evolving religious and philosophical traditions, artistic and literary achievements, and patterns of political, social, and economic change. Also listed as ASAI 211. Enrollment limited. Instructor(s): Thal, Klein, Shehabuddin

HIST 207  GREEK CIVILIZATION (3)
Greek Civilization: From Homer to Alexander the Great. The artistic, political, scientific, and religious achievements of Greek civilization imprinted themselves on the Western world in such a way that all of Western history, literature, art and thought up to the present has been fundamentally influenced by Greeks. This course will survey the Greek achievement from Homer through the birth of democracy in Athens to the spread of Greek civilization by the conquests of Alexander the Great. No prerequisites. Also listed as CLAS 207 and HUMA 109. Not offered 2003–04. Instructor(s): Staff

HIST 210 (S)  TECHNOLOGY, CULTURE, AND COGNITION (3)
An examination of the history of information technologies perceived as media transfers from oral to written, to print, and to electronic communication, and as multiple media interfaces. In that context, the course explores the categorization and organization of knowledge. The construction of self, national identities, education, authority, censorship, etc. Also listed as LING 210, UNIV 210, and ANTH 210. Instructor(s): Kelber, Henry

HIST 211 (F)  AMERICAN THOUGHT AND SOCIETY I (3)
Survey of 17th and 18th century American history, with emphasis on intellectual and social developments underlying the surface of events. Offered with additional work as HIST 311. Instructor(s): Haskell

HIST 212 (S)  AMERICAN THOUGHT AND SOCIETY II (3)
Continuation of HIST 211. Includes 19th- and 20th-century American history. May take HIST 211 and HIST 212 separately. Offered with additional work as HIST 312. Instructor(s): Haskell

HIST 214  CARIBBEAN NATION BUILDING (3)
This course will focus on the slow, steady process through which nation states emerged in the Caribbean from the 18th century to the present, as well as the difficulties they face amidst increasing globalization. Offered with additional work as HIST 314. Not offered 2003–04. Instructor(s): Cox

HIST 215  BLACKS IN THE AMERICAS (3)
This comparative survey of black people in the Americas for 1619 to the present examines the Atlantic slave trade, the movement toward slave emancipation in various countries, and 19th century black self-help efforts. The course also concentrates on economic conditions for blacks at the turn of the 20th century. Offered with additional work as HIST 315. Not offered 2003–04. Instructor(s): Cox

HIST 219  PATTERNS OF THE CHINESE PAST (3)
This course will examine certain broad patterns of historical change in China from the Shang dynasty (c. 1800 B.C. to 1100 B.C.) to the 20th century. An emphasis will be placed not only on major political, social, economic, intellectual and cultural transformations, but also on a number of important individuals whose lives seem in some way to exemplify these changes or to reflect the debates and conflicts surrounding them. Not offered 2003–04. Instructor(s): Smith

HIST 220 (S)  CONTEMPORARY CHINA (3)
This introductory course is designed to encourage creative ways of thinking about “Cultural China”—a broad-ranging concept that includes the Peoples’ Republic of China, the newly established Special Administrative Region (SAR) of Hong Kong, the Republic of China on Taiwan, and overseas Chinese communities throughout the world. Offered with additional work as HIST 310. Instructor(s): Smith, Lewis

(#) = credit hours per semester
HIST 221  JAPAN IN THE WORLD UNTIL 1800 (3)
Premodern Japan has often been portrayed as a “closed country,” unique in its glorious isolation.
In this survey, we will examine the cultural, social, and economic development of Japan within a
regional and world context, focusing on such issues as the origins of the Japanese people; the
contentious relations between Korea and Japan; the importance of Japan in European expansion;
and the relations of Japan to a vibrant intellectual and cultural world in East Asia. Offered with
additional work as HIST 421. Not offered 2003–04. Instructor(s): Thal

HIST 222 (S)  JAPAN IN THE WORLD SINCE 1800 (3)
During the last 200 years, Japan has found itself precariously balanced between East and West, the
developing economies of Asia and the “modern” worlds of Europe and the United States. This
survey will examine the modern history of Japan in the context of its relations with the rest of the
world, focusing on the “opening” of Japan; patterns of democracy; imperialism and war; interna-
tional trade; and cultural globalization. Offered with additional work as HIST 422. Instructor(s):
Thal

HIST 228 (F)  MODERN LATIN AMERICA (3)
Discussions of Latin America usually fall back upon facile generalizations that emphasize recent
changes to explain “current events.” This lecture course will examine in detail the creation of
modern Latin America. We will concentrate on the struggles over land and labor, the creation of
nation-states and the conflicts within those states over issues of citizenship and social justice. The
course will also address the contentious role the United States has played in the region. Instructor(s):
Wolfe

HIST 231 (F)  AFRICA TO 1884 (3)
Survey of the changing historiography of Africa. Includes the emergence of the Bantu, early
Christianity and Islam, trans-Saharan trade, the medieval Sudanic empires, statelessness and state
formation, Portugal in Africa, the slave trade, South Africa to 1867, the Mfecane, the Sudanic
jihadis, long-distance trade, and African-European relations in the 19th century. Instructor(s):
Odhiambo

HIST 232 (S)  THE MAKING OF MODERN AFRICA (3)
Survey of the transformation of Africa from the late 19th century to the present. Includes Europe
and Africa in the 19th century (e.g., the partition of Africa and the colonial state), economic change
in the 20th century (e.g., plantation and peasant agriculture, mining and industrialization, wage and
migrant labor, African capitalism, rural differentiation, and the roots of hunger and poverty), social
change in the 20th century (e.g., ethnic identity, emergence of the elites, and changes in cultural
policies regarding language, leisure, the roles of women, religion, law and order, medicine and
healing, and urbanization), political developments (e.g., ethnic unions, political parties, and
decolonization), and Africa since independence. Instructor(s): Odhiambo

HIST 235 (F)  THE WORLD AND THE WEST (3)
This course aims first to provide an introduction to the last 500 years of world history, focusing on
those processes that define the modern period, including industrialization, democratization,
colonialism, and the emergence of new forms of cultural production. Second, we explore how and
why such processes have come to divide the modern world into a West and a non-West. Offered
with additional work as HIST 365. Also listed as HUMA 235. Instructor(s): Makdisi, Quillen

HIST 241  U.S. WOMEN’S HISTORY I (3)
U.S. Women’s History: Colonial Beginnings to the Civil War. This survey of American women’s
history examines the lives of elite, working, black, Indian, and white women, and traces changes in
women’s legal, political, and economic status from the mid-17th century through the Civil War.
Readings emphasize women’s engagement with Revolutionary politics, slavery, divorce law,
temperance agitation, and the origins of American feminism. Offered with additional work as HIST
391. Also listed as WGST 234. Not offered 2003–04. Instructor(s): Sneider

(F) = Fall; (S) = Spring
HIST 242  U.S. WOMEN'S HISTORY II (3)
U.S. Women's History: Civil War to the Present. Continuation of HIST 241. This survey of American women's history examines the ways that diverse groups of women—including black, Asian American, Chicana, native American and white women of the elite, middle, and working classes—have experienced, forged, and clashed in the related projects of defining American culture, democracy, and freedom. Readings emphasize women's engagement in organized struggles for economic, political, and social justice including suffrage, anti-lynching, welfare, birth control, and the modern civil rights and feminist movements. Offered with additional work as HIST 392. Also listed as WGST 235. Not offered 2003–04. Instructor(s): Sneider

HIST 250 (S)  TRADITIONAL CHINESE CULTURE (3)
Introduction to the language, philosophy, religion, art, literature, and social customs of China. Offered with additional work as HIST 450. Instructor(s): Smith

HIST 256  EUROPEAN POLITICS AND SOCIETY, 1890–1945 (3)
Examination of European history in the age of total war. Includes imperialism and the development of the welfare state, institutional responses to the demands of total warfare, the crisis of liberal constitutionalism, the Russian Revolution, and the rise of fascism. Not offered 2003–04. Instructor(s): Caldwell

HIST 257  JEWS AND CHRISTIANS IN MEDIEVAL EUROPE (3)
Though Jewish and Christian history are often treated as separate fields, over the course of their long co-existence the two communities profoundly affected each other. Their histories are intimately related. This course will study these relations focusing on Jewish communities within the context of Christian Europe. Topics will include settlement and demography, economical situation, legal status, hostility against Jews, Jewish-Christian contacts and images about another, Jewish family and the position of women, communal organizations, social diversity and community life, intellectual and spiritual achievements. Offered with additional work as HIST 357. Also listed as MDST 257. Not offered 2003–04. Instructor(s): Haverkamp

HIST 268 (S)  FORCED MIGRATION (3)
Forced Migration in Global Perspective. Convict transportation existed as a global phenomenon from the early modern era and was embedded in the first wave of European imperialism. This survey course explores penal transportation within the broader context of forced migration, examining the complexities of early colonial settlements in the Americas, Africa, Asia, and Australia. Instructor(s): Ward

HIST 269 (S)  WORLD HISTORY THROUGH GAMES (3)
Survey of world history using computer games from 1300 B.C. to the present, emphasis will be placed upon human interaction with geology, environment and diseases. Enrollment limited. Instructor(s): Seed

HIST 270 (S)  SOUTH AFRICA AND INDONESIA (3)
South Africa and Indonesia: Empire to Nation. Survey examining the histories of modern South Africa and Indonesia from the earliest indigenous societies to the present. Both countries were brought into the imperial domain of the Dutch Indian Ocean Empire. In the 19th century, South Africa was part of the British Empire, while Indonesia remained under Dutch control; by the 20th century both experienced the rise of strong nationalist movements and the eventual dramatic transition to democracy. Instructor(s): Ward

HIST 274  JEWISH HISTORY, 1500–1948 (3)
Medieval and Modern Jewish History, 1500–1948. History of the Jews’ expulsion from Spain to the establishment of the state of Israel. Life in western and eastern Europe as well as in Islamic countries seen from the perspective of settlement, assimilation, and the particularities of the Jewish historical experience. Offered with additional work as HIST 374. Not offered 2003–04. Instructor(s): Haverkamp

(#) = credit hours per semester
HIST 277  OTTOMAN EMPIRE, 1453–1918 (3)
History of the Ottoman Empire: 1453–1918. This course surveys the political, social, economic, and cultural history of the Ottoman Empire. Offered with additional work as HIST 377. Not offered 2003–04. Instructor(s): Makdisi

HIST 278 (S)  MODERN ARAB HISTORY (3)
The history and culture of the Arab world as it has developed from World War I to the present. Themes covered are nationalism, colonialism and Orientalism, as they have been understood and discussed in the contemporary Arab world through debates about the question of Palestine, the status of women and the rise of modern Islamic politics. Offered with additional work as HIST 378. Instructor(s): Makdisi

HIST 279  THE CARIBBEAN: AGE OF REVOLUTION (3)
The Caribbean in the Age of Revolution, 1770–1820. An examination and analysis of Caribbean societies as they sought to adjust to forces unleashed by the American and French Revolutions and amidst mounting antislavery sentiment in the western world. Offered with additional work as HIST 379. Not offered 2003–04. Instructor(s): Cox

HIST 281 (F)  PRE-MODERN MIDDLE EAST HISTORY (3)
The Middle East from the Prophet Muhammad to Muhammad Ali. An introduction to the history of the Middle East, from the rise of Islam to the beginning of the 19th century. Topics include the Islamic conquests and the classical Islamic state, Arabization, Jewish and Christian communities, the impact of the Turkic peoples, and the Ottoman Empire, with an emphasis on the long-term social, cultural, and political trends that shaped the history of the region in the pre-modern period. Also listed as MDST 281. Instructor(s): Sanders

HIST 283  WOMEN IN THE MODERN ISLAMIC WORLD (3)
This course introduces students to the history of women in the Islamic world. Topics include women and law, family relations, work, women as political actors in Islamic history, the harem as a social and political institution, women as property owners, veiling, and modern feminist movements throughout the Islamic world. Also listed as WGST 283. Not offered 2003–04. Instructor(s): Sanders

HIST 286 (F)  THE REFORMATION AND ITS RESULTS (3)
Theology and church-state issues from the 16th century Reformation to the 17th century; medieval background; Luther and Calvin, the Catholic Reformation; religious wars, Protestant Orthodoxy; Pietist spirituality; Puritanism; and calls for toleration. Also listed as RELI 286. Instructor(s): Stroup

HIST 289  GREEK AND LATIN READINGS (1)
Independent reading in selected Greek and Latin texts. Taken in conjunction with an undergraduate history course. Offered by permission of instructor only. Instructor(s): Maas

HIST 293 (S)  WAR—MACHIAVELLI TO NAPOLEON (3)
The Art of War from Machiavelli to Napoleon. Study of the theory and practice of warfare from the 15th century to the early 19th century. Includes Machiavelli, Saxe, and Napoleon. Offered with additional work as HIST 393. Instructor(s): Gruber

HIST 294  WAR IN THE MODERN WORLD (3)
Study of the theory, practice, and experience of war in the 19th and 20th centuries. Includes Clausewitz, Remarque, and Fuchida. Offered with additional work as HIST 394. Not offered 2003–04. Instructor(s): Gruber

HIST 295 (S)  THE AMERICAN SOUTH (3)
Survey of the history of the American South from the development of Native American cultures to the present. Includes social, cultural, and intellectual history, with emphasis on slavery and the plantation economy, the rise of southern distinctiveness, the Civil War and Reconstruction, sharecropping, political reform, the civil rights movement, the rise of the Sunbelt, southern religion, music, and literature, and the future of southern regionalism. Offered with additional work as HIST 395. Instructor(s): Boles

(F) = Fall; (S) = Spring
HIST 300 (F) INDEPENDENT STUDY (VAR)
Independent study under the supervision of a history faculty member. Hours are variable. Prerequisite(s): permission of instructor. Instructor(s): Staff

HIST 301 EUROPE’S 500 YRS, 1450–1815 (3)
Enriched version of HIST 101. May not receive credit for both HIST 101 and 301. Recommended for junior and seniors. Not offered 2003–04. Instructor(s): Staff

HIST 302 (S) EUROPE’S 500 YRS, 1815–PRESENT (3)
Enriched version of HIST 102. May not receive credit for both HIST 102 and 302. Recommended for juniors and seniors. Instructor(s): Cohen

HIST 303 (F) UNDERGRADUATE INDEPENDENT READING (3)
Independent reading under the supervision of a history faculty member. Open to a limited number of advanced students with special permission. Instructor(s): Staff

HIST 304 (S) UNDERGRADUATE INDEPENDENT READING (3)
Independent reading under the supervision of a history faculty member. Open to a limited number of advanced students with special permission. Instructor(s): Staff

HIST 305 (S) RUSSIAN HISTORY (3)
Survey of Russian history from earliest times to present. Instructor(s): Stokes

HIST 307 IMPERIAL ROME (3)
Imperial Rome from Caesar to Diocletian. Examination of how Rome acquired, maintained, and understood her empire. Includes the development of a political, social, and ideological system reaching from Scotland to Mesopotamia during the three centuries of Rome’s greatest power. Not offered 2003–04. Instructor(s): Maas

HIST 308 THE WORLD OF LATE ANTIQUITY (3)
Study of the social, religious, and political history of the Roman world from Diocletian to the rise of Islam, with emphasis on the breaking of the unity of the Mediterranean world and the formation of Byzantine society in the Greek East. Also listed as MDST 308. Not offered 2003–04. Instructor(s): Maas

HIST 310 (S) CONTEMPORARY CHINA (3)
An enriched version of HIST 220. Students may not receive credit for both HIST 220 and HIST 310. Instructor(s): Smith, Lewis

HIST 311 (F) AMERICAN THOUGHT AND SOCIETY I (3)
Enriched version of HIST 211. Students may not receive credit for both HIST 211 and 311. Instructor(s): Haskell

HIST 312 (S) AMERICAN THOUGHT AND SOCIETY II (3)
An enriched version of HIST 212. Students may not receive credit for both HIST 212 and 312. Instructor(s): Haskell

HIST 313 MODERN MEXICO (3)
Mexico is run today by politicians who see themselves as the heirs to the 1910–1917 revolution. Yet their authoritarian government rules Mexico in nearly the same way as did the dictatorships they ousted. This lecture and discussion course will examine the roots of the Mexican Revolution, the development of the coalitions of peasants, workers, and middle-class politicians that participated in the conflict, and the slow institutionalization that followed. Not offered 2003–04. Instructor(s): Wolfe

HIST 314 CARIBBEAN NATION BUILDING (3)
Enriched version of HIST 214. May not receive credit for both HIST 214. Not offered 2003–04. Instructor(s): Cox

(#) = credit hours per semester
HIST 315  BLACKS IN THE AMERICAS (3)
Enriched version of HIST 215. May not receive credit for both HIST 215 and HIST 315. Not offered 2003–04. Instructor(s): Byrd, Cox

HIST 316  THE INVENTION OF PAGANISM (3)
The Invention of Paganism in the Roman Empire. This interdisciplinary course examines the development of the concept of “paganism” during the Roman Empire, the 1st through 7th centuries A.D. We will examine the mutually tolerant character of the many religions of the Roman world and see how the category of paganism was invented and applied by Christians to all the polytheists of the empire and beyond. Also listed as CLAS 318 and RELI 316. Not offered 2003–04. Instructor(s): Maas, McGill

HIST 317 (F)  THE UNITED STATES, 1776–1877 (3)
Enriched version of HIST 117. May not receive credit for both HIST 117 and HIST 317. Instructor(s): Baker

HIST 318 (S)  THE UNITED STATES, 1877–PRESENT (3)
Enriched version of HIST 118. Students may not receive credit for both HIST 118 and 318. Instructor(s): Baker

HIST 323  EMPIRE & COMMUNITIES IN THE MIDDLE AGES
Enriched version of HIST 223. May not receive credit for both HIST 223 and HIST 323. Also listed as MDST 323. Instructor(s): Haverkamp

HIST 325 (F)  INTRO TO MEDIEVAL CIVILIZATION I (3)
Enriched version of HIST 202. May not receive credit for both HIST 202 and HIST 325. Also listed as MDST 325. Not offered 2003–04. Instructor(s): Staff

HIST 326 (F)  INTRO TO MEDIEVAL CIVILIZATION II (3)
An enriched version of HIST 203. Students may not receive credit for both 203 and 326. Also listed as MDST 326. Instructor(s): Decker

HIST 328  LATIN AMERICAN GENDERS (3)
Although Latin America is a collection of extraordinarily diverse cultures, ranging from modern urban societies to Indian peasant villages, many people assume the region shares a simple and easily identifiable set of gender relations. Male dominance is supposedly demonstrated by the wide embrace of “machismo.” A close historical examination of Latin America however, reveals a far more complicated and nuanced set of relations between the sexes. Also listed as WGST 328. Not offered 2003–04. Instructor(s): Wolfe

HIST 330 (S)  ORIGINS OF AFRO-AMERICA (3)
Survey of major issues and events in the formation of modern Afro-America from the 15th to late 18th century. Instructor(s): Byrd

HIST 335  CARIBBEAN HISTORY TO 1838 (3)
Study of Caribbean history from the arrival of the Europeans to the abolition of slavery in the British West Indies in 1838, with emphasis on the social and economic history of the region. Includes the question of why slavery and the plantation system both emerged and fell. Not offered 2003–04. Instructor(s): Cox

HIST 336 (S)  CARIBBEAN HISTORY, 1838–PRESENT (3)
Study of the social, economic, and political history of the Caribbean people from the abolition of slavery to the emergence of independent nations in the modern era. Instructor(s): Cox

HIST 338 (F)  HUMANIST TRADITION AND ITS CRITICS (3)
Exploration of aspects of Western humanist and anti-humanist traditions from the early modern period to the present, with emphasis on how writers within each tradition understood fundamental terms like human nature, self, community, morality, and freedom. Includes literary, theological, and philosophical texts, as well as contemporary critical theory. Must see instructor before pre-registration. Not offered 2003–04. Instructor(s): Quillen

(F) = Fall; (S) = Spring
HIST 340  VICTORIAN INTELLECTUALS (3)
Study of the upheaval in late 19th-century social thought and culture caused in part by Darwin’s theory of evolution, with emphasis on American readings, using English and continental writers for comparison. May include Spencer, Veblen, Henry Adams, William James, Dewey, Matthew Arnold, and Nietzsche. Not offered 2003–04. Instructor(s): Haskell

HIST 341  PRE-MODERN CHINA (3)
Survey of Chinese history from antiquity to c.1800, highlighting salient aspects of China’s heritage. Not offered 2003–04. Instructor(s): Smith

HIST 342  MODERN CHINA (3)
Continuation of HIST 341. Includes China’s revolutionary transformation in the 19th and 20th centuries, from the Ch’ing dynasty to the People’s Republic. May take HIST 341 and 342 separately. Not offered 2003–04. Instructor(s): Smith

HIST 345  HUMANISM AND EXPANSION (3)
Renaissance Europe: Humanism and Expansion. Exploration of major cultural developments in Western Europe from the rise of Italian humanism in the 14th century to European conquest and expansion in the 16th century. Also listed as MDST 345. Not offered 2003–04. Instructor(s): Quillen

HIST 347  20TH-CENTURY U.S. LABOR HISTORY (3)
U.S. Labor History: 20th Century Representations. This lecture/discussion course considers the last century of American labor history through a close analysis of journalism, fiction, and film. Topics will include: industrialization, immigration, gender, industrial unionism, race relations, syndicalist, socialist and communist organizing, agrarian labor, and de-industrialization. Reading will be supplemented by required evening film showings. Enrollment limited. Not offered 2003–04. Instructor(s): Lichtenstein

HIST 348  THE NEW DEAL AND W.W. II (3)
U.S. History: The New Deal and World War II. Several themes will be emphasized in this course: the political economy of the depression and the development of a government response; the growth of the labor movement; the cultural and political ferment of the era; regionalism; and the wartime home front experience of women, racial minorities, and the working class. Enrollment limited. Not offered 2003–04. Instructor(s): Lichtenstein

HIST 349 (F)  WOMEN AND GENDER IN 19TH-CENTURY EUROPE (3)
Examination of the political and cultural discussions concerning the so-called “Woman Question” in 19th-century Europe. Includes the role of public and private legal rights in republicanism and the early feminist movement, the reformulation of notions of gender equality in the context of 19th-century socialist movements, and the challenges to gender identity posed by cultural modernism at the end of the century. Also listed as WGST 420. Instructor(s): Wildenthal

HIST 350  AMERICA, 1900–1940 (3)
Survey of major economic, social, and political developments in the United States from 1900 to 1940. Not offered 2003–04. Instructor(s): Matusow

HIST 351  AMERICA SINCE 1945 (3)
Survey of major economic, social and political developments in the United States since 1945. Enrollment limited. Not offered 2003–04. Instructor(s): Matusow

HIST 354  GERMAN HISTORY, 1648–1890 (3)
Survey of the “Germanies” from the rise of the absolutist state following the Thirty Years’ War to the unification of Germany in 1871. Includes the development of the bureaucratic and military institutions of the modern state, changing conceptions of state and society, and the major social and economic changes of the period. Also listed as GERM 354. Not offered 2003–04. Instructor(s): Caldwell

(#) = credit hours per semester
HIST 355 (F) GERMAN HISTORY, 1890–1945 (3)
From Democracy to Dictatorship: German History 1890–1945. From 1890–1945, Germans experienced dramatic changes in their political environment. This lecture class will examine these changes, taking into account not only political history, but also attempts to come to terms with the challenges posed by organized capitalism, the rise and fall of socialism, the development of an interventionist state, cultural critique and political culture, the Nazi social revolution, and the Holocaust. Also listed as GERM 355. Instructor(s): Caldwell

HIST 357 JEWIS AND CHRISTIANS IN MEDIEVAL EUROPE (3)
Enriched version of HIST 257. May not receive credit for both HIST 257 and HIST 357. Also listed as MDST 357. Not offered 2003–04. Instructor(s): Haverkamp

HIST 358 (S) EUROPEAN INTELLECTUAL HISTORY (3)
European Intellectual History from Augustine to Descartes. This course will survey key developments in Western thought (political theory, literature, philosophy, theology, and art) from the consolidation and institutionalization of Christian doctrine in the fourth and fifth centuries through the beginnings of the “Scientific Revolution” in the 17th century. Also listed as MDST 358. Instructor(s): Quillen

HIST 361 HISTORY OF BRITAIN, 1509–1815 (3)
History of Britain from Henry VIII to the Industrial Revolution. Examination of the personalities and forces that changed England from a backwater of Europe into, by 1815, the United Kingdom and the British Empire, the leading nation, and empire, in the world. About equal amounts of lecture and discussion. Not offered 2003–04. Instructor(s): Wiener

HIST 362 HISTORY OF BRITAIN, 1815–PRESENT (3)
Britain from the Industrial Revolution to Tony Blair. Exploration of Britain’s take-off into the Industrial Revolution, the flourishing of the Empire, and the adjustment to the end of Empire and the diminishment of world political and economic stature from the First World War to Tony Blair’s “New Britain.” Includes the use of novels and films to examine these transformations. Instructor(s): Wiener

HIST 363 SEXUALITY IN EARLY MODERN EUROPE (3)
Exploration of the relationship between ideas about gender and the social, political, and legal institutions in Europe from c. 1350 to 1800. Includes the structure and role of the family, gender roles in religious institutions, and the regulation of sexuality. Also listed as WGST 338. Not offered 2003–04. Instructor(s): Quillen

HIST 365 (F) THE WORLD AND THE WEST (3)
Enriched version of HIST 235. Students may not receive credit for both HIST 235 and HIST 365. Instructor(s): Makdisi, Quillen

HIST 366 MODERN BRAZIL (3)
Lecture and discussion course that examines Brazil’s history, from its peaceful independence declaration in 1822 to its present struggles to create a democratic society in the aftermath of a twenty-year military dictatorship. Close attention will be paid to Brazil’s legacy as the world’s largest slave-holding society in the 19th century, its struggle to conquer its huge territory, and the interaction of those factors in shaping its national identity. Not offered 2003–04. Instructor(s): Wolfe

HIST 369 (F) FILM, LITERATURE AND THE JAPANESE PAST (3)
Every day, we retell our past to find meaning in our present. Since 1945, authors and film directors in Japan have made sense of the horrors of war, the challenges of rapid economic growth, and the crisis of affluence through artistic reinterpretations of historical themes. In this course we will examine both the historical allusions and the uses to which they have been put in 20th-century Japanese film and literature. Also listed as ASIA 369. Enrollment limited. Instructor(s): Thal

(F) = Fall; (S) = Spring
HIST 370  EUROPEAN INTELLECTUAL HISTORY (3)
European Intellectual History: Bacon to Hegel. Survey of major thinkers and intellectual movements from the scientific revolution to the French Revolution. Includes the use of primary and secondary sources to establish the main contours of philosophical, political, and cultural expression and to relate them to their historical context. Not offered 2003–04. Instructor(s): Zammito

HIST 371 (F)  HISTORY OF MODERN FRANCE (3)
Survey of the history of France. Instructor(s): Cohen

HIST 372  MODERN FRANCE, 1815–1995 (3)
Study of the emergence of modern France. Includes the impacts of war, industrialization, imperialism, and cultural mastery. Not offered 2003–04. Instructor(s): Cohen

HIST 374  JEWISH HISTORY, 1500–1948 (3)
Enriched version of HIST 274. Students may not receive credit for both HIST 274 and HIST 374. Not offered 2003–04. Instructor(s): Haverkamp

HIST 375  EUROPEAN ROMANTICISM, 1750–1850 (3)
Investigation of the emergence, triumph, and defeat of Romanticism as a major cultural force in European history, with emphasis on national and epochal diversity within Romanticism in Britain, Germany, and France. Includes Rousseau, Goethe, Schiller, Schlegel, Shelley, Wordsworth, Coleridge, Byron, Stendhal, Hugo, and Baudelaire, as well as music and art. Not offered 2003–04. Instructor(s): Zammito

HIST 377  OTTOMAN EMPIRE, 1453–1918 (3)
Enriched version of HIST 277. May not receive credit for both HIST 277 and HIST 377. Not offered 2003–04. Instructor(s): Makdisi

HIST 378 (S)  MODERN ARAB HISTORY (3)
Enriched version of HIST 278. May not receive credit for both HIST 278 and 378. Instructor(s): Makdisi

HIST 379  THE CARIBBEAN: AGE OF REVOLUTION (3)
An enriched version of HIST 279. Students may not receive credit for both HIST 279 and 379. Not offered 2003–04. Instructor(s): Cox

HIST 380  HISTORY OF THE ENVIRONMENT FROM THE NEOLITHIC TO THE RENAISSANCE
This course will explore the environmental impact on human settlement patterns and social development from the Neolithic (ca. 8,000 B.C.E.) to 1500 C.D. The geographical focus centers on southern Eurasia (central Asia), Europe, and North Africa. Themes to be covered include human reaction to general climatic/geographic conditions, reaction to severe environmental displacement, and current theories of links between specific environmental and historical events. Instructor(s): Decker

HIST 382 (S)  CLASSICAL ISLAMIC CULTURES (3)
An introduction to the culture and religions of the Islamic world from the 9th through the 14th centuries. Topics include law and theology, philosophy, ritual, science and medicine, classical Arabic literatures, the impact of Arabo-Islamic culture on Jewish and Christian cultures of the Islamic world. Also listed as MDST 382. Instructor(s): Sanders

HIST 384  THE CRUSADES (3)
The Crusades: Holy War in Medieval Christendom and Islam. Examination of the Crusades (11th to 15th centuries) from the point of view of both Christian Europe and the Islamic Near East. Includes the political and military history of the Crusades, as well as the social, cultural and religious transformations that caused, and were wrought by, these conflicts. Also listed as MDST 384. Not offered 2003–04. Instructor(s): Sanders

(#) = credit hours per semester
HIST 385  CHRISTIANS AND JEWS IN MEDIEVAL ISLAM (3)
Christians and Jews in the Medieval Islamic World. Examination of Christian and Jewish communities in the Islamic world from the rise of Islam to the Ottoman Empire. Includes the legal status of dhimmis’ (protected peoples), social and economic life, communal organization, interplay of religious laws, and political authority in these communities, as well as discussion of their modern historiography, a comparative study of Jewish communities in Christendom and Islam, and discussion of Muslim communities living under Christian rule in the Middle Ages. Also listed as MDST 385. Not offered 2003–04. Instructor(s): Haverkamp

HIST 386 (F)  RECENT U.S. FOREIGN POLICY (3)
This course will examine American policy during the climatic years of the Cold War. Topics will include détente under Nixon and Carter, confrontation under Reagan, the “new thinking” of Gorbachev, regional conflicts, and the fall of the Soviet Union. Enrollment limited. Instructor(s): Matusow

HIST 387  LIFE ON THE NILE (3)
Life on the Nile: Egyptian Politics, Culture, and Society, Medieval to Modern Times. Examination of Egyptian history from the Arab conquest in 641 to the 20th century, with emphasis on major themes in Egypt’s political, social, and cultural life, on historical continuities and discontinuities, and on problems of historical interpretation. Also listed as MDST 387. Not offered 2003–04. Instructor(s): Sanders

HIST 388 (F)  THE ATLANTIC WORLD (3)
Enriched version of HIST 188. Students may not receive credit for both HIST 188 and HIST 388. Instructor(s): Byrd

HIST 391  U.S. WOMEN’S HISTORY I (3)
Enriched version of HIST 241. Students may not receive credit for both HIST 241 and HIST 391. Also listed as WGST 381. Not offered 2003–04. Instructor(s): Sneider

HIST 392  U.S. WOMEN’S HISTORY II (3)
Enriched version of HIST 242. Students may not receive credit for both HIST 242 and HIST 392. Also listed as WGST 382. Not offered 2003–04. Instructor(s): Sneider

HIST 393 (S)  WAR—MACHIAVELLI TO NAPOLEON (3)
Enriched version of HIST 293. May not receive credit for both HIST 293 and HIST 393. Instructor(s): Gruber

HIST 394  WAR IN THE MODERN WORLD (3)
Enriched version of HIST 294. Students may not receive credit for both 294 and HIST 394. Not offered 2003–04. Instructor(s): Gruber

HIST 395 (S)  THE AMERICAN SOUTH (3)
An enriched version of HIST 295. May not receive credit for both HIST 295 and 395. Instructor(s): Boles

HIST 403 (F)  HONORS THESIS (3)
Restricted to students who have been admitted to the honors program; consent of the director of the honors program is required. Students must take both HIST 403 and 404 to gain credit. Instructor(s): Maas

HIST 404 (S)  HONORS THESIS (3)
Continuation of HIST 403, which is prerequisite for enrollment. Completion of this course is required to obtain credit for HIST 403. Instructor(s): Maas

HIST 409 (F)  HISTORY OF EAST AFRICA (3)
Survey of East African cultures, societies, economies, and politics from earliest times to the present. Includes the peoples and languages of East Africa, migrations and settlement, state formation, long-distance trade and expansions in scale, imperialism and colonial conquest, colonial transformations of African societies, nationalism, and independence. Instructor(s): Odhiambo

(F) = Fall; (S) = Spring
HIST 410 (S)  KENYA IN MODERN HISTORY (3)
Study of Kenya’s transformation from tribal societies to a modern state. Includes a survey of migrations and settlement, the emergence of pre-colonial societies, their underlying cultural unities, and pre-capitalist socio-economic formations, as well as the British conquest, the colonial state and economy, changes (e.g., educational, religious, social, and cultural), traditions of resistance and collaboration, the invention of tribes, politics (e.g., clan, district, and territorial), Mau Mau, de-colonization and constitutional changes, the post-colonial state, and Kenya toward the end of the 20th century. Instructor(s): Odhiambo

HIST 415 (F)  THE RISE AND FALL OF THE BRITISH EMPIRE (3)
Seminar course that teaches how the largest empire in world history came into existence, the impact it had on people and states worldwide, and its decline and fall. Course work will consist of reading, viewing, and evaluating films, and, most important, preparing and summarizing in class a research paper on a topic of choice. Prerequisite(s): some background in either British history or one of the areas impacted by the British desirable. Enrollment limited. Instructor(s): Wiener

HIST 416 (F)  BLACKS IN REAGAN’S AMERICA (3)
Seminar in Contemporary African American History: Blacks in Reagan’s America. A reading- and writing-intensive seminar focusing on selected issues in black culture, politics, and community in the United States since the climax of the civil rights movement. Contents vary. Enrollment limited. Instructor(s): Byrd

HIST 421  JAPAN IN THE WORLD UNTIL 1800 (3)
Enriched version of HIST 221. May not receive credit for both HIST 221 and 421. Not offered 2003–04. Instructor(s): Thal

HIST 422 (S)  JAPAN IN THE WORLD SINCE 1800 (3)
Enriched version of HIST 222. May not receive credit for both HIST 222 and 422. Instructor(s): Thal

HIST 424 (F)  NAVIGATION AND CARTOGRAPHY (3)
Navigation and cartography changed more rapidly in the period from 1400 to 1600 than in any other period prior to the 20th century. Topics covered include the history of projections, origin of latitude and longitude scales, compass roses, ship design and related subjects. A list of the subjects covered appears at http://www.rice.edu/latitude. Enrollment limited. Instructor(s): Seed

HIST 426  SLAVERY AND RACE RELATIONS (3)
Comparative Slavery and Race Relations in America. A comparative analysis of slavery and race relations in the U.S., the Caribbean, and Latin America, chiefly to the late 19th century. Includes the relative harshness or mildness of the institution of slavery in various systems, opportunities for advancement for former slaves, and the resultant nature of race relations. Enrollment limited. Not offered 2003–04. Instructor(s): Cox

HIST 427  THE CIVIL RIGHTS MOVEMENT (3)
History of the Civil Rights Movement, 1954–Present. Examination of the modern civil rights movement, with emphasis on the goals and strategies of major spokespersons and leaders, as well as the achievements of the campaign. Includes the extent of its success or failure and whether or not an “unfinished” agenda needs to be completed. Enrollment limited. Instructor(s): Cox

HIST 428  COMPARATIVE LABOR HISTORY (3)
Comparative Labor History of the Americas. The history of work and politics among free wage laborers in the Americas in the 19th and 20th centuries. We will read studies of workers’ experiences during the process of industrialization and urbanization as well as analyses of the creation of unions and progressive political movements. One goal will be to integrate the study of class, gender, and race as we consider workers’ lives in their homes, neighborhoods, at work, and in politics. We will compare the experiences of Latin America with those of the United States, but no prior background in Latin American history is required. Enrollment limited. Not offered 2003–04. Instructor(s): Wolfe

(#) = credit hours per semester
HIST 429  TECHNOLOGIES OF NATIONALISM (3)
The rise of the modern nation-state and the development of nationalism throughout the globe took place in an era of scientific and technological innovation. In this seminar we will analyze, through a series of case studies from around the world, the close relationship between nationalism and technology. Topics will include the advent of the railroad, urban reform and renewal, auto mobility, air travel and warfare, the space race, and the information technology revolution. Enrollment limited. Not offered 2003–04. Instructor(s): Wolfe

HIST 430 (F)  WORLD HISTORY THROUGH FOOD (3)
Food is a great constant in human history, but its materials, methods of preparation, and ingredients are not. This seminar covers the basics of cooking from the Bronze Age to the present emphasizing the reception and transmission of ingredients, and the labor of preparation. Enrollment limited. Instructor(s): Seed

HIST 432 (S)  ISLAM IN SOUTH ASIA (3)
Seminar on the history and politics of Islam and Muslims in the South Asian subcontinent. Topics will include emergence of Indian Muslim society; Muslim responses to colonialism and the movement for Pakistan; and the role of Islam in politics in contemporary India, Pakistan, and Bangladesh. Particular emphasis on how elites as well as ordinary individuals, men as well as women, have contributed to the history and politics of the region. Requires no prior knowledge of Islam or South Asia. Also listed as ASIA 432 and WGST 432. Enrollment limited. Instructor(s): Shehabuddin

HIST 433  THE ARAB–ISRAELI CONFLICT (3)
This seminar traces the history and politics of the Arab–Israeli conflict. It delves into both Palestinian and Israeli understandings of the past and present using books, documentaries, and films. The course seeks to understand how and at what costs Israeli and Palestinian nationalisms have been constructed and analyzes U.S. involvement in the conflict. Enrollment limited. Not offered 2003–04. Instructor(s): Makdisi

HIST 434 (F)  ISLAM AND THE WEST (3)
Beginning with the Crusades and continuing through the Ottoman period, and ending in the modern era this seminar will investigate how identities are formed and reshaped through contact with other cultures, specifically how the ideas of the West and Islam were developed in association with one another. Rather than treating them as stable categories, we will seek to understand how traditions are invented by tracing the relationship between civilization and despotism, freedom and tyranny, religious tolerance and holy war. Enrollment limited. Not offered 2003–04. Instructor(s): Makdisi

HIST 435  MIDDLE EAST COLONIALISM AND NATIONALISM (3)
Colonialism and Nationalism in the Middle East. This seminar focuses on themes of colonialism and nationalism in the modern Middle East. Beginning with Napoleon’s invasion of Egypt in 1798, the course delves into specific case studies of European and Middle Eastern encounters and their representations that span both the 19th and 20th centuries. Enrollment limited. Not offered 2003–04. Instructor(s): Makdisi

HIST 436 (F)  AMERICA AND THE MIDDLE EAST (3)

HIST 438 (F)  MEDIEVAL ISLAM WOMEN AND GENDER (3)
Women and Gender in the Medieval Islamic Societies. Examination of some features of the legal position and social realities of men and women in the Islamic world, with emphasis on how boundaries of gender have traditionally been drawn. Includes the family and sexual ethics, the harem, polygyny, divorce, and eunuchs (who played an important role in both the military and in certain religious institutions). Also listed as MDST 438 and WGST 455. Enrollment limited. Instructor(s): Sanders

(F) = Fall; (S) = Spring
HIST 439  COMPARATIVE SLAVERY (3)
Comparative Slavery from Antiquity to the Present: Africa, Asia, and Europe. This course introduces students to the debates on the history of slavery in human society. It will examine case studies in Africa, Asia and Europe and compare the changing nature of slavery over time. The focus will be on a number of comparative themes including: slavery and the state; slavery and gender; slave trades; and slave resistance. Enrollment limited. Not offered 2003–04. Instructor(s): Ward

HIST 444  MEMORY AND COMMEMORATION (3)
Memory and Commemoration in the Middle Ages. Memory and commemoration are in general terms described as intentions, attitudes, acts, and media that should prevent oblivion of individuals and communities (beyond death). In this way, they determine thought, emotions, and actions in fundamental ways. They possess universal dimensions which go back to antiquity and are influential up to the present. Today, they are often driven out either into the atomistic sphere of individual remembrance, into the institutional realm of politics, or into the secluded world of museums. However, this suppression enhances their importance for our life. Also listed as MDST 444. Not offered 2003–04. Instructor(s): Haverkamp

HIST 445 (S)  PERCEPTIONS OF THE OTHER (3)
Jews and Christians: Perceptions of the Other. This course will study how Jews and Christians imagined the other in the Middle Ages and how these perceptions persisted and changed during the modern times. Topic of discussion: just as the Jewish position towards Christianity was influenced by Christian attitudes towards Jews, we must assume that the Christian stance was influenced by Jewish attitudes towards Christianity. Also listed as MDST 465. Enrollment limited. Instructor(s): Haverkamp

HIST 446  COMMUNITIES IN THE MIDDLE AGES (3)
Jewish and Christian Communities in the Middle Ages. New forms of communal organizations developed in medieval Christian Europe that were different from the patterns of Jewish self-government in Babylon, Israel, and Islamic countries. This course will discuss characteristics of Jewish communal organizations, their parallel features and their connections with Christian communal organizations, and their relationship to the rising modern states. Also listed as MDST 446. Enrollment limited. Not offered 2003–04. Instructor(s): Haverkamp

HIST 447 (F)  THE AGE OF THE CRUSADES (3)
Beginning in the late 11th century, crusades were launched against Muslims in the Near East and Spain, Jews in central Europe, pagans in Eastern Europe and the Baltic countries, Mongols, heretics, schisms and schismatics such as the Greek or Russian orthodox, and political enemies in general. Concepts of “holy and just war” emerged among the opponents, and new expression of religious beliefs entailed the encounter with foreign and strange worlds, opening up possibilities for trade and the economy. This seminar course will discuss characteristics of the crusades and explore to what extent and in what ways fundamentalism created globalization in medieval Europe. Discussions will include primary and secondary sources. Also listed as MDST 447. Enrollment limited. Not offered 2003–04. Instructor(s): Haverkamp

HIST 448  CREATING MODERN JAPAN (3)
Creating Modern Japan: The Meiji Restoration. The Meiji Restoration is often considered the founding event of modern Japan, similar in stature to the French and American Revolutions. This seminar examines the political, social, and cultural creation of modern Japan by investigating why the Meiji Restoration occurred and how the changes of the late 19th century shaped modern Japan. Enrollment limited. Not offered 2003–04. Instructor(s): Thal

HIST 450 (S)  TRADITIONAL CHINESE CULTURE (3)
An enriched version of HIST 250. Students may not receive credit for both HIST 250 and 450. Instructor(s): Smith

HIST 451 (S)  PHILOSOPHIES AND THEOLOGIES OF HISTORY (3)
Modern thought on meaning, direction of history; roots in eschatology, Augustine; flowering in progress, historicism: Hegel, Ranke, Burckhardt, Nietzsche, Troeltsch, Spengler, Heidegger, Toynbee; cultural echo (de Chirico, Proust, Mann, Robbe-Grillet, Bunuel, Bergman, Fellini). Also listed as RELI 451. Instructor(s): Stroup

(#) = credit hours per semester
HIST 452  THE U.S. AND SOUTH AFRICA (3)
Comparative History: The U.S. and South Africa. This seminar compares and contrasts the history of two modern societies based on the foundation of racial division and exploitation. We will examine the historical evolution of white racism in both nations, compare the systems of segregation and apartheid, and look at the comparative history of the civil rights and anti-apartheid movements. Enrollment limited. Not offered 2003–04. Instructor(s): Lichtenstein

HIST 455 (F)  HISTORY OF HUMAN RIGHTS (3)
Human rights organizations are gaining an unprecedented amount of attention and credibility among people and governments. While universal human rights may seem timeless, they have a long and checkered political and philosophical history. This seminar will explore that history through anthropology and legal philosophy as well as through historical case studies of individual states and human rights organizations. Students will undertake independent research on an issue, location, and period of their choosing. Enrollment limited. Instructor(s): Wildenthal

HIST 458  POSTWAR GERMANY (3)
Social and Political Thought in Postwar Germany. This seminar investigates the reconstruction of German social and political thinking between 1945 and 1989. Among the topics are: “end of history” in functionalist sociology (Schelsky, Gehlen); Ernst Bloch’s reformulation of Marxism; literary representations of the Nazi past (Grass); and the state socialist present (Heiner Mueller); reconsideration of the public sphere (Kluge, Negt, Haug); Christa Wolf’s feminist critique; and Niklas Luhmann’s systems theory. Not offered 2003–04. Instructor(s): Caldwell

HIST 459 (S)  TOPICS IN MODERN GERMAN HISTORY (3)
Seminar on selected topics in the history of Germany. Contents vary from year to year. Fall 2003: Nazism. Also listed as GERM 358. Enrollment limited. Instructor(s): Wildenthal

HIST 460  ADVANCED SEMINAR IN ANCIENT HISTORY (3)
Seminar on selected topics in ancient history. Contents vary. Prerequisite(s) of instructor. Enrollment limited. Not offered 2003–04. Instructor(s): Maas

HIST 462  NEWTON AND THE 18TH CENTURY (3)
Newton was the indispensable starting point for 18th-century thought from the physical sciences to medicine and the so-called “human sciences.” In this course we will consider Newton himself and then the complex legacy of his thought in 18th-century thinkers including Leibniz, Boerhaave, Voltaire, Hume, Haller, Kant, Priestley, Blake, and Goethe. Enrollment limited. Not offered 2003–04. Instructor(s): Zammito

HIST 463  BRITISH HISTORY: CRIME AND PUNISHMENT (3)
Crime and Punishment in British History. Examination of how the British over the past 400 years developed one of the world’s most orderly and peacable societies, the price paid for that achievement, and how it gave way to the present “law and order crisis” not dissimilar to the American crisis. Includes a comparison of the British criminal justice history with that of continental Europe and the U.S. Substantial amount of writing and discussion required. Not offered 2003–04. Instructor(s): Wiener

HIST 464 (F)  SEMINAR POST-1945 U.S. HISTORY (3)
Research seminar on selected topics. Contents vary. Enrollment limited. Instructor(s): Matusow

HIST 465  COLONIAL AMERICA (3)

HIST 466  THE AMERICAN REVOLUTION, 1754–1789 (3)
Study of the origins and implications of the American Revolution, with emphasis on constitutional, social, and political developments. Enrollment limited. Not offered 2003–04. Instructor(s): Gruber

(F) = Fall; (S) = Spring
HIST 468 SEX, POLITICS AND POVERTY (3)
Women and the U.S. Welfare State: Sexual Politics and American Poverty. This seminar in the history of women and welfare focuses our attention on women’s contributions to the growth of the welfare state and investigates how welfare has been shaped by understandings of gender, race, and class. Comparing American programs for social provision to similar programs developed in other countries, and tracking the growth of the American welfare state through women’s efforts to address the problems of poverty and need in a variety of different contexts, the course will link women’s history to the history of the state. Also listed as WGST 468. Enrollment limited. Not offered 2003–04. Instructor(s): Sneider

HIST 469 (S) INTER-AMERICAN RELATIONS (3)
This seminar explores the long and contentious relationships between the United States and the Latin American nations. Focus will be placed on events from the late 19th and 20th centuries: analyzing the Spanish-American war, upheaval in Central America in the 1920s, the place of Cuba within the growing informal U.S. empire, trade relations with the South American nations, the impact of the Cold War on the hemisphere, the role of the CIA in destabilizing and overthrowing popularly elected governments, and other topics as seen through the lenses of political, economic, social, and cultural history. Enrollment limited. Instructor(s): Wolfe

HIST 471 TOPICS IN MODERN FRENCH HISTORY (3)

HIST 472 (S) JAPANESE ANIMATION (3)
Japanese Animation: Narrative, History and Society. Since the 1980s, animation has become a major force in Japanese popular culture, serving as a medium to address the diverse concerns of a high-tech media-focused society. This seminar explores the social, historical, and aesthetic significance of Japanese animation. Topics include gender and sexuality, ecological consciousness and religious animation, folklore and history, viewership and fandom, the centrality of the fantastic and the grotesque, visions of a media- and technology-saturated society, and the prevalence of apocalyptic motifs and conspiracy theory. Also listed as HART 472 and ASIA 472. Enrollment limited. Instructor(s): Thal, Nakatani

HIST 473 TOPICS IN EUROPEAN INTELLECTUAL HISTORY (3)
Research seminar on selected themes and figures in modern European intellectual history. Topics vary. Enrollment limited. Not offered 2003–04. Instructor(s): Zammito

HIST 477 (F) THE HISTORY OF HUMAN RIGHTS (3)
An in-depth examination of the intellectual and historical origins of the discourse of human rights. We will begin with the birth of the concept of natural right, review major criticisms in this concept, and then study the way this idea was institutionalized in the course of the French and American Revolutions as well as the American case. After examining recent controversies surrounding feminism and the rights of man, we will conclude by focusing on the way new discourse of human rights emerged out of the ashes of WWII to play a major role in the legitimization of right and left-wing dictatorships in the 1980s and 1990s. Instructor(s): Wildenthal

HIST 482 (S) 20TH-CENTURY U.S. CULTURAL HISTORY (3)
Through analysis of various expressive forms, this course traces the history and theory of culture. Emphasis is on formative ideas, technologies, and economic forces. Topics vary and may include: creation of cultural hierarchy (high and popular culture); advent and significance of mass culture; development of consumer culture; folk, elite, and radical traditions. Enrollment limited. Instructor(s): Baker

HIST 483 (S) THE MODERN CITY (3)
Over the past two centuries, cities have transformed human consciousness, culture, and society in profound ways, giving rise to “modern life.” This seminar examines the history and sociology of the modern city in the U.S. The focus will be on understanding the processes shaping urban development and their larger significance. Topics will include the city as experience and perspective, the city as social form, and the uses of space to solve social problems. Enrollment limited. Instructor(s): Baker

(#) = credit hours per semester
HIST 488  TOPICS IN MEDIEVAL HISTORY (3)
Research seminar on selected issues, subject or themes in medieval history. Topics vary. Also listed as MDST 488. Enrollment limited. Not offered 2003–04. Instructor(s): Haverkamp

HIST 489  MIGRATIONS AND DIASPORAS (3)
Migrations and Diasporas in The Indian Ocean World. The Indian Ocean World presents an enormously varied arena of cultural exchange and interaction spanning coastal regions of Africa, the Middle East, South and Southeast Asia and Australia. This seminar introduces students to this fascinating region by examining societies and empires shaped by voyages of exploration, religious pilgrimages, trading diasporas and forced migration. Also listed as ASIA 489. Enrollment limited. Not offered 2003–04. Instructor(s): Ward

HIST 490  THE MEXICAN REVOLUTION (3)
The Mexican Revolution: Interpretations. Mexico experienced the first great social and political revolution of the 20th century. The 1910–1920 conflict involved mobilized peasants and workers. It at first divided and later helped to unify national elites. Throughout the Revolution, the United States lurked as a behind the scenes player and potential ally or enemy. The Catholic Church, likewise, played a complex role in the unfolding conflict. This reading seminar will examine the Revolution from a wide variety of vantage points to address key questions regarding social upheaval, the struggle for popular democracy and state making. All assigned readings available in English. Students who choose to read the sources in Spanish are encouraged. Enrollment limited. Not offered 2003–04. Instructor(s): Wolfe

HIST 492  MODERNITY AND RELIGION (3)
The role of religion and faith in the modern world has often been problematic. Considered antithetical to such hallmarks of European and American modernity as science, capitalism, and separation of church and state, religious beliefs and practices have nevertheless occupied a vibrant place in modern intellectual, social, and political history. In this seminar, we will analyze the role of religion in the 20th century through case studies from around the world. Topics vary. Also listed as RELI 492. Enrollment limited. Not offered 2003–04. Instructor(s): Thal

HIST 496  THE HAITIAN REVOLUTION (3)
A Turbulent Time: The World of the Haitian Revolution. An examination of the impact of the powerful forces unleashed by the Haitian Revolution on societies in the Caribbean, the U.S., and Latin America in the late 18th and early 19th centuries. Enrollment limited. Not offered 2003–04. Instructor(s): Cox

HIST 498  PROJECTS IN AFRO-AMERICAN HISTORY (3)
Intensive research seminar in which participants propose and execute a collaborative project in Afro-American history. The work of the seminar will culminate with a substantive piece of public history (a group publication, exhibit, broadcast, or electronic document, for example). For further information, or to suggest a possible project, contact the instructor. Repeatable for credit. Enrollment limited. Instructor(s): Byrd

HIST 501 (F)  MASTER’S RESEARCH (4)
Research for master’s thesis. Must take both HIST 501 and 502 to receive credit. Instructor(s): Staff

HIST 502 (S)  MASTER’S RESEARCH (4)
Continuation of HIST 501. Must complete both HIST 501 and 502 to receive credit. Instructor(s): Staff

HIST 503 (F)  GRADUATE TOPICS (4)
Instructor(s): Staff

HIST 504 (S)  GRADUATE TOPICS (4)
Instructor(s): Staff

HIST 511 (F)  DIR RDG: AMERICAN HISTORY I (4)
Instructor(s): Staff

(F) = Fall; (S) = Spring
HIST 512 (S)  DIR RDG: AMERICAN HISTORY I (4)
Instructor(s): Staff

HIST 513 (F)  DIR RDG: AMERICAN HISTORY II (4)
Instructor(s): Staff

HIST 514 (S)  DIR RDG: AMERICAN HISTORY II (4)
Instructor(s): Staff

HIST 515 (F)  DIR RDG: MILITARY HISTORY I (4)
Instructor(s): Gruber

HIST 516 (S)  DIR RDG: MILITARY HISTORY II (4)
Instructor(s): Gruber

HIST 517 (F)  DIR RDG: SCI & TECHNOLOGY (4)
Instructor(s): Staff

HIST 518 (S)  DIR RDG: SCI & TECHNOLOGY (4)
Instructor(s): Staff

HIST 521 (F)  DIR RDG: MEDIEVAL HISTORY (4)
Instructor(s): Staff

HIST 522 (S)  DIR RDG: MEDIEVAL HISTORY (4)
Instructor(s): Staff

HIST 525 (F)  DIR RDG: AFRICAN HISTORY (4)
Instructor(s): Staff

HIST 526 (S)  DIR RDG: AFRICAN HISTORY (4)
Instructor(s): Staff

HIST 527 (F)  DIR RDG: NON-WESTERN HISTORY I (4)
Instructor(s): Staff

HIST 528 (S)  DIR RDG: NON-WESTERN HISTORY II (4)
Instructor(s): Staff

HIST 529 (F)  DIR RDG: MODERN EURO HISTORY I (4)
For graduate students only. Instructor(s): Staff

HIST 530 (S)  DIR RDG: MODERN EURO HISTORY I (4)
Instructor(s): Staff

HIST 531 (F)  DIR RDG: MODERN EURO HISTORY II (4)
Instructor(s): Staff

HIST 532 (S)  DIR RDG: MODERN EURO HISTORY II (4)
Instructor(s): Staff

HIST 534 (F)  CIVILIZING MISSIONS (4)
Graduate course on the development of “civilizing mission”: empires, nations, and religions have legitimized territorial and spiritual conquest and validated the suppression of subject customs, cultures, and religions. We will explore how civilizing missions became an integral part of imperial, religious, and national ideologies. Readings to include (in translation) modern historical, geographical, legal, ethnographic, religious, and literary texts. Instructor(s): Makdisi
HIST 541  HISTORY OF THE MODERN SOUTH (4)
Graduate Research Seminar in the History of the Modern South. Seminar designed to introduce graduate students to historiographic background, sources, and methods for conducting primary research in post-1865 southern U.S. history. Topics will include, but not be limited to: labor, politics, and civil rights. Research paper required. Not offered 2003–04. Instructor(s): Lichtenstein

HIST 543 (S)  TOPICS IN MODERN EUROPEAN HISTORY (4)
Graduate Topics in Modern European History. Graduate research seminar on selected themes in modern European history. Topics vary. Spring 2004: “From Feuerbach to Nietzsche: Ethics and Politics after Religion.” Course will combine close reading of several noted German thinkers of the second half of the 19th century with reading on the political and cultural context of Germany in the era of revolution and unification. Figures to be considered include Feuerbach, Marx, Schopenhauer, Moleschott, M. Reichardt-Stromberg, Lorenz von Stein, Wagner, Nietzsche, and Stoecker. Instructor(s): Caldwell

HIST 548  MARX (4)
This course provides an introduction to key concepts of Marxist theory, including alienation, production, reification, and revolution, through close reading of original sources. The course further traces the dissemination of these concepts into literary theory, cultural studies, and the social sciences. A series of short secondary readings identify the impact and continuing charge provided by Marxist theory for addressing aporias of representation, theories of subjectivity, new political movements, trans-nationality, and post-industrial capitalism. Not offered 2003–04. Instructor(s): Caldwell

HIST 550 (S)  MAIN ISSUES IN CARIBBEAN HISTORY (4)
Examination of the major local and international forces and ideas that have shaped the course of the history of the Caribbean. Instructor(s): Cox

HIST 551  READINGS U.S. WOMEN’S HISTORY (4)
Graduate readings seminar in U.S. women’s history. Contents vary. Not offered 2003–04. Instructor(s): Sneider

HIST 555  SOURCES OF MEDIEVAL HISTORY (4)
This graduate seminar will introduce participants to the typology of the sources of medieval history and to the auxiliary sciences of history. Not offered 2003–04. Instructor(s): Haverkamp

HIST 556 (S)  RENAISSANCE ITALY (4)
This course provides an intensive overview of the Italian Renaissance with an introduction to the kinds of sources available and ancillary disciplines like philology, codicology, literary criticism, and art history. Topics will vary. Students may write a paper that uses early modern European sources or a paper that addresses a major historiographical issue. Open to undergraduates with permission of the instructor. Instructor(s): Quillen

HIST 561  TOPICS IN EUROPEAN INTELLECTUAL HISTORY (4)
Graduate Topics in European Intellectual History. Graduate research seminar on selected themes in European intellectual history. Contents vary. Not offered 2003–04. Instructor(s): Zammito

HIST 564  EARLY AMERICA I: 1607–1800 (4)
Graduate Reading Seminar in Early America I: 1607–1800. Study of major works on the English colonies of North America, as well as topics of particular interest to individual students. Not offered 2003–04. Instructor(s): Gruber

HIST 565  EARLY AMERICA II: 1607–1800 (4)
Graduate Reading Seminar in Early America II: 1607–1800. Continuation of HIST 564. Not offered 2003–04. Instructor(s): Gruber

HIST 566 (F)  WAR AND REVOLUTION (4)
The emphasis in this graduate seminar will be on the Anglo-American world of the 17th and 18th centuries, but students may choose topics that go beyond the immediate focus of the course. Instructor(s): Gruber

(F) = Fall; (S) = Spring
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Instructor(s)</th>
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<tr>
<td>HIST 568 (S)</td>
<td>POST-1945 U.S. HISTORY (4)</td>
<td>Graduate Reading Seminar in Post-1945 U.S. History. Readings seminar for graduate students on post-1945 United States history. Topics vary.</td>
<td>Matusow</td>
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<tr>
<td>HIST 571 (F)</td>
<td>TOPICS IN MODERN FRENCH HISTORY (4)</td>
<td>Graduate Topics in Modern French History. Reading seminar for graduate students in modern French history. Topics vary.</td>
<td>Cohen</td>
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<tr>
<td>HIST 575 (F)</td>
<td>INTRO TO DOCTORAL STUDIES (4)</td>
<td>Introduction to a range of methodological and theoretical approaches to historical research, as well as to important current debates about the nature of historical investigation and interpretation.</td>
<td>Wiener</td>
</tr>
<tr>
<td>HIST 576</td>
<td>TOPICS IN U.S. WOMEN’S HISTORY (4)</td>
<td>Graduate research seminar in U.S. women’s history designed to introduce students to a growing body of literature on women and gender that is changing the way historians understand American history more broadly. By considering a variety of new scholarship participants are introduced to the major questions that have engaged feminist historians for decades, as well as new questions that are just now beginning to shape the field. Not offered 2003–04.</td>
<td>Sneider</td>
</tr>
<tr>
<td>HIST 578 (S)</td>
<td>TOPICS IN SOUTHERN HISTORY (4)</td>
<td>Graduate Topics in Southern History. This graduate reading seminar will entail in-depth examination of the historiography of particular issues in the history of the American South. Topics will vary.</td>
<td>Lichtenstein</td>
</tr>
<tr>
<td>HIST 582</td>
<td>BRITISH AND IMPERIAL HISTORY (4)</td>
<td>Reading Seminar in British and Imperial History. Open to all graduate students. Required for graduate students in British history. Not offered 2003–04.</td>
<td>Wiener</td>
</tr>
<tr>
<td>HIST 583</td>
<td>SOUTHERN HISTORY (4)</td>
<td>Seminar on religion and slavery in the Old South. Not offered 2003–04.</td>
<td>Boles</td>
</tr>
<tr>
<td>HIST 584</td>
<td>BRITISH HISTORY (4)</td>
<td>Research Seminar in British History. Open to all graduate students. Required for graduate students in British history. Not offered 2003–04.</td>
<td>Wiener</td>
</tr>
<tr>
<td>HIST 585</td>
<td>TOPICS IN COMPARATIVE HISTORY (4)</td>
<td>Graduate topics seminar in comparative history. Contents vary. Not offered 2003–04.</td>
<td>Staff</td>
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<tr>
<td>HIST 587 (F)</td>
<td>TOPICS IN U.S. INTELLECTUAL HISTORY (4)</td>
<td>Topics in U.S. Intellectual/Cultural History. Intensive examination of the literature of intellectual and cultural history, with emphasis on 19th century America.</td>
<td>Haskell</td>
</tr>
<tr>
<td>HIST 590 (S)</td>
<td>INTRO TO WORLD HISTORY (4)</td>
<td>Graduate reading seminar in world history.</td>
<td>Stokes</td>
</tr>
<tr>
<td>HIST 591</td>
<td>GRADUATE READING (1)</td>
<td>Graduate reading in conjunction with another course.</td>
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<tr>
<td>HIST 592</td>
<td>GRADUATE READING (1)</td>
<td>Graduate reading in conjunction with another course.</td>
<td>Staff</td>
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(#) = credit hours per semester
HIST 593     GRADUATE READING (1)
Graduate reading in conjunction with another course. *Instructor(s): Staff*

HIST 595 (F)     THE AMERICAN SOUTH (4)
Graduate Reading Seminar in the American South. Seminar on major scholarly literature of southern history. Includes readings, discussions, and a major paper on a historiographical topic decided in consultation with the instructor. *Instructor(s): Boles*

HIST 800 (F)     PH.D. RESEARCH (4)
Research for doctoral dissertation. *Instructor(s): Staff*

**HONS (Honors Courses)**

HONS 470 (F)     RICE UNDERGRADUATE SCHOLARS PROGRAM (RUSP) (3)
The RUSP program is designed for students in any department who may be considering graduate school and/or careers in research or scholarship. The course centers on individual research projects that are supervised by a faculty member, who is identified by the student. This faculty member meets regularly with the student and serves as a mentor. Modest funds are available to support costs of the research projects. Weekly class meetings feature presentations on topics related to research and scholarship. In addition, each student gives an oral presentation on his/her project’s discipline. Enrollment by permission of course faculty, based on applications submitted in the previous spring term. *Instructor(s): Johnson, Kinsey, Pomerantz*

HONS 471 (F)     RICE UNDERGRADUATE SCHOLARS PROGRAM (RUSP) (1)
Continuation of HONS 470. Credit variable (generally 3-6 hours, depending on the scope of the research project). Participants continue the research projects and interactions with faculty mentors. Weekly class meetings again feature presentations and discussion of research related topics. At the end of the term, each student gives an oral presentation and submits a final paper in the style of a journal article in his/her research area. Enrollment by permission of course faculty. *Instructor(s): Johnson, Kinsey, Pomerantz*

**HUMA (Humanities)**

The School of Humanities

HUMA 101 (F)     FROM ANCIENT GREECE TO MEDIEVAL ISLAM: INTRODUCTION TO WESTERN LITERATURE, HISTORY & PHILOSOPHY (3)
Study of the foundational intellectual and artistic texts of the western tradition from Ancient Greece to Medieval Islam. Consideration of texts and images over time and in their historical development as we reflect on who we are and how we got here. Readings from Homer, Plato, the Hebrew Bible, the New Testament, Thucydides, Vergil, Augustine, and the Qu’ran.

HUMA 102 (S)     FROM RENAISSANCE TO EINSTEIN: INTRODUCTION TO WESTERN LITERATURE, HISTORY AND PHILOSOPHY (3)
Study of the foundational intellectual and artistic texts of the western tradition from the Renaissance to Einstein. Consideration of texts and images over time and in their historical development as we reflect on who are and how we got here. Readings from Machiavelli, Shakespeare, Kant, Flaubert, Nietzsche, Freud, Bauvoir, Einstein, Levi, Kuhn, Borges, and King, and images from such artists as Michelangelo, Goya, and Picasso.

(F) = Fall; (S) = Spring
HUMA 103 (F)  INTRO TO MEDIEVAL CIVILIZATION THE HIGH MIDDLE AGES (3)
Introduction to European culture of the Dark Ages, from the fall of Rome to the end of the Viking invasions. Includes the use of historical, literary, artistic and archaeological sources to trace changes in European material, spiritual, and cultural life between 300 and 1000 AD. Also listed as HIST 202 and MDST 202. Not offered 2003–04.

HUMA 107 (F)  BIBLE IN WESTERN TRADITION (3)
Explores multiple roles the Bible has played in Western culture. Emphasis will be on the Bible as catalyst in media history, as generator of the artistic imagination, as catalyst of ideas, and as shaper of religious and political history. Also listed as RELI 200.

HUMA 108 (F)  ART IN CONTEXT: LATE MEDIEVAL AND RENAISSANCE CULTURE (3)
This course will be concerned with Art, Architecture, and History of the late middle-ages and Renaissance. We will employ historical texts, literature, and illustrations of works of art, showing how historical documents and sources can illuminate the culture context of art and architecture. Also listed as HART 420 and MDST 108.

HUMA 109 (F)  GREEK CIVILIZATION: FROM HOMER TO ALEXANDER THE GREAT (3)
The artistic, political, scientific, and religious achievements of Greek civilization imprinted themselves on the Western world in such a way that all of Western history, literature, art and thought up to the present has been fundamentally influenced by the Greeks. This course will survey the Greek achievement from Homer through the birth of democracy in Athens to the spread of Greek civilization by the conquests of Alexander the Great. No prerequisites. Also listed as CLAS 207 and HIST 207. Not offered 2003–04.

HUMA 113 (S)  GOD, TIME AND HISTORY (3)
How is the passage of time given meaning, and what role—if any—is assigned to divinity in shaping the direction of events? Course explores various forms of recording and interpreting events, drawing from ancient Mesopotamia, Israel, and the Greco-Roman world. Also listed as HIST 113 and RELI 123.

HUMA 115 (S)  PHILOSOPHERS LOOK AT RELIGION (3)
Inquiry into the ways which selected Western and Asian philosophers have interpreted God, reality, the moral life and religious experience. Plato, Augustine, Hume, and Kant will be compared with thinkers of the Vedic, Jain, Saikhya, and Buddhist traditions. Also listed as RELI 293.

HUMA 201  PUBLIC SPEAKING (3)
An introduction to the process of public speaking through the presentation of four or more in-class speeches. Enrollment limited to 16. Permission of instructor is required.

HUMA 202  RHETORICAL CRITICISM (3)
This course will emphasize study of historical and contemporary speech texts and other forms of public communication. Students study and apply traditional methods of rhetorical criticism in order to understand the construction of public communication. Enrollment limited.

HUMA 210  FORENSICS PRACTICUM (1)
This course will focus on junior varsity intercollegiate speech and debate competition. Students will be required to prepare speeches and debate material for local, regional and possibly national competitions. Participation in intercollegiate competition is mandatory. May be repeated a maximum of 3 times.

(#) = credit hours per semester
HUMA 212  CAREER AND LIFE OPTIONS (1)
This class is intended for freshmen and sophomores who are exploring careers and academic majors (juniors and seniors are also welcome to enroll). In the class, students will learn about career options that match their interests, personality, and values; become more familiar with the world of work and various career options; understand the connections between careers and major choice; learn about services that will enhance their marketability and academic experiences (internships, study abroad programs, scholarships/grants); and develop an action plan to reach their goals. This class is ideally suited for students who have no idea what they want to do after they graduate.

HUMA 235 (F)  THE WORLD AND THE WEST (3)
This course aims first to provide an introduction to the last 500 years of world history, focusing on those processes that define the modern period, including industrialization, democratization, colonialism, and the emergence of new forms of cultural production. Second, we explore how and why such processes have come to divide the modern world into a West and non-West. Also listed as HIST 235.

HUMA 295  CURRENT ISSUES IN THE WORKPLACE (3)
This class is the companion course for the Joint Venture Liberal Arts Internship Program. It is intended to provide liberal arts majors an overview to the various career options available to them and introduce issues that are shaping the world of work. Each week, guest speakers will discuss different career alternatives, including banking, law, writing and journalism, nonprofit management, and education. Additionally, students read current business articles to examine trends that are redefining how work is performed. All students enrolled in HUMA 295 must complete an approved internship. For more information, read about the Joint Venture Liberal Arts Internship Program. This class is taught during both the fall and spring semester; Joint Venture Internships are available during fall, spring, and summer.

HUMA 302 (F)  THEORIES OF RHETORICAL COMMUNICATION (3)
This course will survey major theorists of speech and public communication ranging from classical to contemporary thinkers. Emphasis will be on understanding speech and public communication from consumer and scholarly perspectives. Enrollment limited.

HUMA 305 (F)  ADVANCED PUBLIC SPEAKING (3)
Designed for students with at least two prior years of instruction or public speaking experience. Will address the ancient origins of speech theory and will require students to apply contemporary speech theory in the presentation of four in-class speeches. Permission of the instructor.

HUMA 308 (S)  BUSINESS AND PROFESSIONAL SPEAKING (3)
Practical application of communication theory with emphasis on oral presentations, interviewing and small group dynamics.

HUMA 309 (F)  ARGUMENTATION & DEBATE (3)
Designed to help students develop their research and analytical abilities through the research, analysis and presentation of arguments on questions of fact, value and policy. Debate assignments will explore current issues of the day.

HUMA 310  ADVANCED FORENSICS PRACTICUM (1)
This course will focus on varsity intercollegiate speech and debate competition. Students will be required to prepare speeches and debate material for local, regional, and possibly national competitions. Participation in intercollegiate competition is mandatory. May be repeated a maximum of 3 times.

HUMA 311  LEADERSHIP COMMUNICATION (3)
This course will examine the relationship between leadership and communication within organization. Enrollment limited to 20.

(F) = Fall; (S) = Spring
HUMA 325 (S)  PERSONAL ESSAY WORKSHOP (3)
This course combines the writing of personal essays in a workshop format with a study of the history of the genre.

HUMA 372 (F)  MAPPING GERMAN CULTURE: THE GERMAN FAIRY TALE: OLD AND NEW (3)
Discussion of several prototypes from the fairy-tale collection of the Brothers Grimm and the subsequent development of the literary fairy tale from Goethe and the Romantics to the 20th century. Also listed as GERM 326.

HUMA 381  DOSTOEVSKY (3)
Study of the major works of Dostoevsky. Novels discussed include The Brothers Karamazov; Crime, Punishment; The Idiot; The Possessed; Notes from the Dead House, Notes from the Underground. Taught in English. Also listed as RUSS 352. Not offered 2003–04.

HUMA 382 (F)  TOLSTOY (3)
Study of major works of Tolstoy. Novels and stories discussed include War, Peace; Anna Karenina; The Kreutzer Sonata; Family Happiness; The Cossacks; The Devil; The Death of Ivan Ilych; Father Sergius; The Confessions, Hadji Murad. Taught in English. Also listed as RUSS 351.

ITAL (Italian Language and Culture)

The School of Humanities / Center for the Study of Languages

ITAL 101 (F)  ELEMENTARY ITALIAN I (5)
This course is designed for students with little or no knowledge of Italian. We will concentrate on all language skills and provide basic elements of Italian civilization and an overview of current events and ideas. Classwork will be supplemented by regular attendance of language laboratory. We’ll discover Italy in all its aspects: culture, art, music, cinema, fashion, food. Instructor(s): Surliuga, Riga

ITAL 102 (S)  ELEMENTARY ITALIAN LANGUAGE AND CULTURE II (5)
Continuation of ITAL 101. Includes several modern films and Puccini’s Gianni Schicchi. Instructor(s): Surliuga, Riga

ITAL 201 (F)  INTERMEDIATE ITALIAN I (3)
A review and consolidation of the structure of contemporary Italian. Literary and cultural readings serve as a basis for the class discussion and conversation. Oral reports and compositions will help to increase fluency and naturalness. This course also includes videos, films and original readings. Instructor(s): Surliuga

ITAL 202 (S)  INTERMEDIATE ITALIAN FOR WRITTEN & ORAL COMMUNICATION (4)
Continuation of ITAL 201. Active practice of contemporary Italian; literary and cultural readings serve as a basis for class discussion and composition; includes several Italian Cinema masterpieces and Opera excerpts. Instructor(s): Surliuga

ITAL 301 (F)  ADVANCED ITALIAN I (4)
Active practice of composition, oral analysis and discussion based upon the reading of texts and viewing of films on selected issues and problems in modern Italian society. Instructor(s): Surliuga

(#) = credit hours per semester
ITAL 302 ADVANCED ITALIAN FOR WRITTEN & ORAL COMMUNICATION (3)
Active practice of composition, oral analysis and discussion based upon the reading of texts and viewing of films on selected issues and problems in modern Italian society. The course includes short stories by Pirandello, Giovani Verga, Cesare Pavese, Italo Calvino, and Dino Buzzati, as well as a novel from the contemporary period. Not offered 2003–04.

ITAL 399 TEATRO ITALIANO: DA MACHIAVELLI A FO (4)
This class will focus on the development of La burla in Italian Theater from the Renaissance to contemporary theater. Readings include Machiavelli’s Mandragola, Goldoni’s Bugiardo, and Pirandello’s Six Characters in Search of an Author. Not offered 2003–04.

JAPA (Japanese)
The School of Humanities / Center for the Study of Languages

JAPA 101 (F) INTRODUCTION TO JAPANESE LANGUAGE AND CULTURE I (5)
Elementary Japanese emphasizes the learning of basic grammatical structures and vocabulary of modern Japanese to develop oral competence at the novice level. This goal is achieved primarily through aural-oral activities and task-oriented instruction. Students are expected to achieve the level of proficiency necessary to complete uncomplicated communicative tasks. Participation in weekly-tutorial session is required. Instructor(s): Sato

JAPA 102 (S) INTRODUCTION TO JAPANESE LANGUAGE AND CULTURE II (5)
Continuation of JAPA 101. Instructor(s): Sato

JAPA 201 (F) INTERMEDIATE JAPANESE LANGUAGE AND CULTURE I (5)
Further practice in conversation, grammar, reading and composition. Class will be conducted exclusively in Japanese. Will allow students to achieve a variety of uncomplicated communicative tasks. More emphasis on kanji practice with the Japanese writing system. Participation in weekly tutorial-session is required. Instructor(s): Sato

JAPA 202 (S) INTERMEDIATE JAPANESE LANGUAGE AND CULTURE II (5)
Continuation of JAPA 201. Instructor(s): Sato

JAPA 301 (F) ADVANCED JAPANESE READING AND COMPOSITION I (3)
Classes will be conducted in Japanese. Texts include a variety of subjects and topics including web-based texts created and developed by the instructor to sustain students well-developed abilities and skills in Japanese. Reserved films and videos are included in the course as part of the text. Instructor(s): Sato

JAPA 302 (S) ADVANCED JAPANESE READING AND COMPOSITION II (3)
Continuation of JAPA 301. Classes will be conducted in Japanese. Instructor(s): Sato

JAPA 398 (F) JAPANESE TEACHING PRACTICUM (3)
This course gives students with advanced proficiency in Japanese the opportunity to acquire teaching experience in tutorial format. Includes regular meetings with supervising faculty member. Instructor(s): Sato

(F) = Fall; (S) = Spring
JAPA 399 (S)  JAPANESE TEACHING PRACTICUM (3)
This course gives students with advanced proficiency in Japanese the opportunity to acquire teaching experience in tutorial format. Includes regular meetings with supervising faculty member. Instructor(s): Sato

JAPA 498 (F)  INDEPENDENT STUDY (3)
Permission of instructor. Instructor(s): Sato

JAPA 499 (S)  INDEPENDENT STUDY (1)
Permission of instructor. Instructor(s): Sato

KINE (Kinesiology)

The School of Humanities / Department of Kinesiology

KINE 100 (S)  WRITING FOR PROFESSIONAL COMMUNICATION (3)
An intensive study of how to write prose for effective and successful professional communication. Enrollment limited to 15. Instructor(s): Dixon

KINE 120  FOUNDATIONS OF KINESIOLOGY (3)
An introduction to studies in the areas of human movement: anatomy and physiology, physiology of exercise, motor behavior, biomechanics, sport history, sport psychology and sports management. Instructor(s): Disch (fall), Emyre (spring)

KINE 204 (F)  PSYCHOLOGICAL FOUNDATIONS (3)

KINE 205  SOCIOLOGY OF SPORT (3)
A study of the development of contemporary sport and its inter-relationships with existing social institutions. Emphasis will be on argument preparation and debate. Enrollment limited to 25. Instructor(s): Eliot

KINE 206 (S)  FIRST AID/EMERGENCY CARE/CPR (1)
The American Red Cross certification program for emergency care procedures for illness, traumatic injuries, and cardiopulmonary resuscitation. Enrollment limited to 25. Also listed as HEAL 206. Instructor(s): Vandenberg

KINE 250 (F)  HUMAN ANATOMY (3)

KINE 260 (F)  INTRO TO SPORT MANAGEMENT (3)
Management theory and practice related to the sports industry. Enrollment limited to 50. Instructor(s): Dixon

KINE 300  HUMAN ANATOMY (3)
Introduction to human anatomy including concepts of function. Enrollment limited to 50. Instructor(s): Gibson

KINE 301 (F)  HUMAN PHYSIOLOGY (3)
This course will address the fundamental principles of human physiology at the cell, tissue, organ, organ system, and organism levels. Emphasis will be placed on mechanisms of function and homeostasis as achieved through the coordinated function of homeostatic control systems. Enrollment limited to 30. Instructor(s): Gibson

(#) = credit hours per semester
KINE 302 (S)  BIOMECHANICS (3)  
This course examines human movement by integrating anatomy with mechanics. Substantial emphasis will be placed on musculoskeletal anatomy and levers. Movement tasks will include normal ambulation rehabilitative movements, as well as advanced sport and exercise skills. Instructor(s): Weyand

KINE 304 (F)  FIRST AID/EMERGENCY CARE/CPR (1)  
Also listed as HEAL304. Not offered 2003–04.

KINE 310 (S)  PERFORMANCE PSYCHOLOGY (3)  
Applied study of how the mind influences performance in sport, medicine, business, music and the arts. Nonkinesiology majors are strongly encouraged to enroll as excellence will be discussed from the perspective of many disciplines and careers. Instructor(s): Eliot

KINE 311 (F)  MOTOR LEARNING (3)  
Physiological, neurological, and psychological factors affecting voluntary skill acquisition and development. Instructor(s): Etnyre

KINE 319 (F)  MEASUREMENT AND STATISTICS (3)  
Introduction to basic statistics, and elementary measurement theory with application to kinesiology. Enrollment limited to 40. Instructor(s): Disch

KINE 320  HUMAN ANATOMY LAB (1)  
Laboratory course in which the structure and function of the musculoskeletal, neuromuscular, pulmonary, and cardiovascular systems are studied using dissected human cadavers. Study of the pro-sections and interactive computer instructional methodology are used for learning and understanding human anatomy in a gross anatomy laboratory at Texas Woman’s University in the Texas Medical Center. Hands-on examination of human anatomy in this course provides supplemental practical experience for lectures in the KINE 350, Human Anatomy. Prerequisite: KINE 300 or permission of the instructor. Instructor(s): Morris

KINE 321 (S)  EXERCISE PHYSIOLOGY (3)  
This course examines the acute and chronic effects of exercise on physiological function. Topics include nutrition, energy transfer, fatigue, metabolism, disease, aging, preventative medicine, genetics, elite performance, ergogenic aids, exercise testing, and specificity of training. Instructor(s): Gibson

KINE 323 (S)  EXERCISE PHYSIOLOGY LABORATORY (1)  
This course introduces a wide variety of physiological and health-related testing with an emphasis on research techniques in exercise physiology. Experiences include examination of diet, general fitness, mechanisms of fatigue, graded exercise stress testing, oxygen utilization, movement efficiency, body composition, myocardial work, and spectrophotometric analysis. Instructor(s): Gibson, Weyand

KINE 325 (F)  MOTOR LEARNING LAB (1)  
Laboratory experiences in the physiological, neurological and psychological factors of human movement. Instructor(s): Etnyre

KINE 326 (F)  TRAINING ROOM PROCEDURES (1)  

KINE 338 (F)  DANCE TECHNIQUE/IMPROVISATION (1)  
Modern dance techniques and improvisation. May be taken in lieu of LPAP 103 and 104. Not offered 2003–04.

KINE 341 (F)  SPORTS MEDICINE & TRAINING (3)  

(F) = Fall; (S) = Spring
KINE 360 (F)  SPORT FINANCE (3)
Acquisition and expenditure of financial resources for sports enterprise, from private and public sources.

KINE 362 (F)  SPORT MARKETING AND PROMOTION (3)
The role of communication media from print to broadcast in the business of sport, sales, marketing, and promotion will be considered at the amateur, collegiate, and professional sports levels, as well as in fitness, apparel, and commercial sport industry. For junior and senior students only. Instructor(s): Pogge, Lafleur

KINE 364 (F)  SPORTS LAW & LABOR RELATIONS (3)
Study of legal principles, antitrust regulation, and labor law in the sport industry. Contracts, monopolies, business structure, and negotiation will be included. For junior and senior students only. Instructor(s): Dixon

KINE 366 (F)  EVENT AND FACILITY MANAGEMENT (3)
Practical application of the principles and theory related to planning, organization, and execution of sport and entertainment events. Fund raising and charity management will be considered, as will the management of small and large scale facilities and event venues. At the conclusion of this course, students will be prepared to design, run, and evaluate events and event management teams. Not offered 2003–04.

KINE 375  SPORTS MEDICINE INTERNSHIP (3)
Internship experience for senior students in sports medicine track. Instructor(s): Gibson

KINE 376  SPORT MANAGEMENT INTERNSHIP I (3)
Internship experience for upper level students in sport management. Instructor(s): Haptonstall

KINE 377  SPORT MANAGEMENT INTERNSHIP II (3)
Continued internship experience for senior students in sports management. Instructor(s): Haptonstall

KINE 405 (F)  QUALITATIVE RESEARCH AND ANALYSIS (4)
An advanced research class focusing on qualitative inquiry and field investigation methodologies. Students will learn how to process human language, behavior, and interaction as research data. Special emphasis will be placed on establishing trustworthiness of interview, observation, and historical data sets, as well as the reliability and validity of qualitative analysis methods. Enrollment limited to 30. Not offered 2003–04.

KINE 410 (F)  CASE STUDIES IN PERFORMANCE ENHANCEMENT (3)
An advanced, multidisciplinary consideration of how humans pursue excellence. Class work will center around problem solving using a case study methodology. Enrollment limited to 35. Instructor(s): Eliot

KINE 412 (S)  MOTOR CONTROL (3)
Exploration of the neurophysiological, behavioral, and biomechanical aspects of human movement and development. Instructor(s): Etnyre

KINE 421 (F)  ADVANCED TOPICS IN EXERCISE PHYSIOLOGY (3)
The primary goal of this course is to integrate advanced topics in exercise physiology/biochemistry with preventative medicine by addressing current health-related concerns in the United States and elsewhere. A significant part of the class will focus on research articles and your ability to read critically. Enrollment limited to 20. Instructor(s): Weyand

KINE 440 (S)  RESEARCH METHODS (3)
Designed to introduce students to research methods and topics appropriate for experimental research, historical research, social science research, marketing and legal research. Instructor(s): Disch

(#) = credit hours per semester
KINE 441 (F) MUSCLE PHYSIOLOGY AND PLASTICITY (3)
This course will specifically address cardiac and skeletal muscle physiology and plasticity when introduced to various stimuli. These stimuli include exercise, aging, injury, altitude, microgravity, heat, and pharmacological agents. An emphasis will be placed on practical application to health, disease, and performance enhancement. Enrollment limited to 10. Not offered 2003–04.

KINE 460 (S) ADVANCED SPORT MANAGEMENT (3)
An advanced study of research and policy in sport management. Emphasis will be developing a solid working knowledge of the current literature that guides academic and governing leaders in sport management. Instructor(s): Dixon

KINE 462 (F) BUSINESS AND SPORT ETHICS (3)
This course will take an intensive look at ethical business practices, particularly as they apply to sports, entertainment, and human performance industries. Case studies of unethical business strategies will be considered with an emphasis on how to correct or prevent such strategies. Over the semester, students will compile a contemporary, rigorous set of standards for business in the 21st century. Enrollment limited to 30. Not offered 2003–04.

KINE 466 (S) MEDIA RELATIONS AND PR (3)
An applied study of media in business and sport with emphasis on press conferencing, new releases, media-athlete relations, print journalism, television contracts, and public relations. Junior and senior students only. Instructor(s): Pogge, Lafleur

KINE 490 (F) SEMINAR IN SPORTS MEDICINE (3)
Considers issues related to athletic injury including mechanisms, assessment, management, and rehabilitation. Enrollment limited to 15. Not offered 2003–04.

KINE 495 INDEPENDENT STUDY (3)
For junior and senior students only. Instructor(s): Disch

KINE 496 INDEPENDENT STUDY (3)
See KINE 495. Instructor(s): Disch

KINE 498 SPECIAL TOPICS (3)

KINE 499 TEACHING PRACTICUM (3)
Teaching experience for upper level students who have excelled in one area of kinesiology. Instructor(s): Etnyre

KORE (Korean)

The School of Humanities / Center for the Study of Languages

KORE 101 (F) INTRODUCTION TO KOREAN LANGUAGE AND CULTURE I (5)
Introduction to Korean language and culture. Acquisition of the fundamentals of the four language skills. Instructor(s): Lee

KORE 102 (S) INTRODUCTION TO KOREAN LANGUAGE AND CULTURE (5)
Continuation of Korean 101. Instructor(s): Lee

KORE 201 (F) INTERMEDIATE KOREAN LANGUAGE AND CULTURE I (4)
Continuation of the development of speaking, listening, reading, and writing skills. Instructor(s): Lee

(F) = Fall; (S) = Spring
KORE 202 (F)  INTERMEDIATE KOREAN II (4)
Development of intermediate language skills, conversation, and composition. Instructor(s): Lee

KORE 301  ADVANCED KOREAN LANGUAGE AND CULTURE I (3)
Open to students who have completed KORE 201 and 202. Relatively good listening and reading skills required. Not offered 2003–04.

KORE 302  ADVANCED KOREAN LANGUAGE AND CULTURE II (3)
Continuation of KORE 301. Not offered 2003–04.

KORE 344  KOREAN LITERATURE AND CULTURE (3)
Exploration of selections from modern Korean literature and watching Korean films. Includes background survey of Korean history, philosophy, and religion. All texts and films in English translation. No previous knowledge of Korean required. Also listed as ASIA 344 and HUMA 344. Not offered 2003–04.

KORE 345  ORGN & DEVL KOREAN & LANG IN EASIA (3)
This course focuses on the origin of Korean and related languages. It explores the way the Korean language evolved and interacted with other East Asian languages, including Chinese and Japanese. The socio-linguistic aspect of these languages will be studied, including the difference in male and female language usage and the honorific systems. Also listed as ASIA 345 and LING 345. Not offered 2003–04.

KORE 346 (F)  KOREAN CULTURE AND HISTORY (3)
This course will introduce students to the important elements of Korean history and culture through a reading of modern Korean literature. The class will concentrate on the period from the early 20th century to the present. Special attention will be given to topics such as Korean religion, family life, and literature. Films will be used in conjunction with lectures and class discussions to provide students with a better understanding of the basic elements of Koran society. Also listed as ASIA 346. All readings in English translation. Instructor(s): Lee

KORE 398  KOREAN TEACHING PRACTICUM (3)
Students are going to work with instructor closely to acquire teaching skills in tutoring in Korean. Near native proficiency is required.

KORE 399  KOREAN TEACHING PRACTICUM (3)
Students are going to work with instructor closely to acquire teaching skills in tutoring in Korean. Near native proficiency is required.

LATI (Latin)

The School of Humanities / Department of Classical Studies

LATI 101 (F)  ELEMENTARY LATIN I (3)
Study of the fundamentals of Latin grammar with emphasis on acquisition of reading skill. Also listed as MDST 101. Instructor(s): Wallace

LATI 102 (S)  ELEMENTARY LATIN II (3)
Continuation of LATI 101. Also listed as MDST 102. Instructor(s): McGill

LATI 201 (F)  INTERMEDIATE LATIN I PROSE (3)
Review of grammar and readings in Latin prose. Also listed as MDST 211. Instructor(s): Wallace

LATI 202 (S)  INTERMEDIATE LATIN II (3)
Reading in Vergil’s Aeneid. Also listed as MDST 212. Instructor(s): Wallace

(#) = credit hours per semester
LATI 301  ADVANCED LATIN: LITERATURE OF EXILE IN THE ROMAN TRADITION (3)
The course will focus upon Latin works on exile in both prose and poetry. Authors will include Virgil, Ovid, Cicero, Seneca, and lesser known figures from late antiquity. Among the topics that we will explore are the actual circumstances of exile in ancient Rome, the development and nature of the consolatory tradition in exile literature, the relation of exile poetry and elegy, Roman encounters with conceptions of foreigners, and the ways in which exile shaped Roman notions of cultural and individual identity. Not offered 2003–04.

LATI 302  ADVANCED LATIN: ROMAN EPIC (3)
The course will take as its subject epic poetry in the Roman tradition. We will read early fragments of epic verse and selections from Virgil’s Aeneid, Ovid’s Metamorphoses, Lucan’s Bellum Civile, Statius’ Thebaid, and the Biblical epics of late antiquity. Topics of interest will include the nature of the epic genre, the development of Roman epic and its relation to the Greek tradition, the styles (including meter) of the individual epic poets, imitation in the epic texts, and the Christianization of Classical epic poetry. Not offered 2003–04. Instructor(s): McGill

LATI 303 (S)  ADVANCED LATIN: CICERO AND CATULLUS (3)
We will read Plautus, Casina and Terence, Adelphoe. We will consider the background of Greek comedy and the contemporary social situation in Rome. Instructor(s): Wallace

LATI 310  ADVANCED LATIN: VIRGIL (3)

LATI 311 (F)  LATIN PASTORAL POETRY (3)
Survey of Latin pastoral, with it’s idyllic country sides, singing shepherds, and lovely laments. Readings drawn from Virgil’s Eclogues, Calpernius, Sirulus, Nemesians, Einsiedel, Eclogues and early Christian pastoral. Principal focus will be stylistic and thematic aspects of individual poems. Late history of pastoral, particularly in English tradition, will also be examined. Instructor(s): McGill

LATI 312  ADVANCED LATIN: OVID (3)
Survey of Ovid’s elegiac and epic poetry with emphasis on the Metamorphoses. Not offered 2003–04. Instructor(s): Wallace

LATI 313  ADVANCED LATIN: LITERATURE AND SOCIETY IN THE LATIN REPUBLIC AND CATULLUS (3)
We will read Cicero’s Pro Caelio and several of Catullus’ longer poems as a vehicle for understanding politics and culture in the late Roman Republic. Not offered 2003–04. Instructor(s): Yunis

LATI 491 (F)  DIRECTED READING (3)
Independent work for qualified juniors and seniors in genres or authors not presented in other upper level courses.

LATI 492 (S)  DIRECTED READING (3)
Independent work for qualified juniors and seniors in genres or authors not presented in other upper level courses.

LATI 493 (S)  COMPREHENSIVE EXAMINATION (3)
Reading courses taken by all classics and Latin majors in the spring semester of their senior year in preparation for the comprehensive examination given the last week of the semester. Open to classics and Latin majors only.

(F) = Fall; (S) = Spring
LING (Linguistics)

The School of Humanities

LING 110 LANGUAGE OF THE WORLD (3)
Survey of the world’s languages; what are they, how are they? With emphasis on their diversity. Selected languages will be examined in more detail. Not offered 2003–04.

LING 200 INTRODUCTION TO THE SCIENTIFIC STUDY OF LANGUAGE (3)
Introduction to concepts and terminology in the scientific study of language. Includes sound systems (phonology), construction of words (morphology), organization of words in the sentence (syntax), meaning (semantics), and information flow (pragmatics), as well as a survey of interdisciplinary uses of linguistics such as historical linguistics (archaeology), dialectology (sociology), and language acquisition (psychology, cognitive sciences, and language teaching). Also listed as ANTH 200. Instructor(s): Englebretson, Mauk

LING 205 (S) LANGUAGE & SOCIETY (3)
This course treats language as a social phenomenon to show how language, personal identity and institutions of social control inter-relate. The course focuses on linguistic interaction in daily life and how gender, ethnic, class, activity and geographic variation affect language use. Instructor(s): Niedzielski

LING 210 (S) TECHNOLOGY, CULTURE, AND COGNITION (3)
An examination of the history of information technologies perceived as media transfers from oral to written, to print, and to electronic communication, and as multiple media interfaces. In that context, the course explores the categorization and organization of knowledge. The construction of self, national identities, education, authority, censorship, etc. Also listed as HIST 210, UNIV 210, and ANTH 210. Instructor(s): Kelber, Henry

LING 215 (F) WORDS IN ENGLISH: STRUCTURE, HISTORY, USE (3)
Introduction to the study of English words, focusing on their internal structure and the nature and history of English vocabulary. Aims are to enhance knowledge of the rich lexical resources of the language and to facilitate the acquisition of scientific, technical, legal, and humanistic vocabulary. No previous linguistics background required. Also listed as ENGL 215. Instructor(s): Kemmer

LING 300 (S) LINGUISTIC ANALYSIS (3)
A hands-on, data-oriented approach to how different languages construct words and sentences. Students will develop skills in linguistic problem solving and the foundations for pursuing grammatical description. Topics: word classes, morphology, tense-aspect-modality, clause structure, word order, grammatical relations, existentials/possessives/locatives, voice/valence, questions, negation, relative clauses, complements causatives. Also listed as ANTH 300. Prerequisite(s): LING 200. Instructor(s): Englebretson

LING 301 (S) PHONETICS (3)
Introductory study of sound as it relates to speech and sound systems in the world’s languages. Speech sounds are examined in terms of production mechanisms (articulatory phonetics), propagation mechanisms (acoustic phonetics), and perception mechanisms (auditory phonetics). Includes a basic introduction to Digital Signal Processing. Prerequisite(s): LING 200 or permission of instructor. Instructor(s): Mauk

LING 305 HISTORICAL LINGUISTICS (3)
Exploration of the nature of language change in its phonological, morphological, syntactic, semantic, and socio-cultural aspects, using the perspective of language acquisition. Includes techniques of internal and comparative reconstruction of proto-languages. Also listed as ANTH 305. Not offered 2003–04.
LING 306 (S) LANGUAGE, THOUGHT, AND MIND (3)
Study of language as a cognitive system. Linguistic data as evidence for the cognitive structures and processes that enable people to learn and use language; how linguistic structure influences concept formation and patterns of thinking. Also listed as LING 506. Prerequisite LING 200 or 300 or permission of the instructor. Instructor(s): Lamb, Achard

LING 309 PSYCHOLOGY OF LANGUAGE (3)
Study of human and other animal communication. Also listed as PSYC 309. Not offered 2003–04. Instructor(s): Martin

LING 311 (F) PHONOLOGY (3)
Introduction to sound patterns in the languages of the world and to interpretation of these patterns in four theoretical traditions: distribution of holistic segments (Phonemic Theory), process-oriented feature models (Generative and Autosegmental models), constraint-based models (Optimality Theory), and cognitive approaches (Natural Generative Phonology and Cognitive Phonology). Also listed as ANTH 323. Prerequisite(s): LING 200 or 300 or permission of the instructor. Instructor(s): Coelho

LING 312 (F) OLD ENGLISH (3)
This course is a combination of Old English grammar and readings in old English. Also listed as ENGL 324 and MDST 311. Instructor(s): Mitchell

LING 313 LANGUAGE AND CULTURE (3)
Investigation of the relation between language and thought, language and worldview, and language and logic. Also listed as ANTH 313. Prerequisite(s): permission of the instructor. Not offered 2003–04. Instructor(s): Tyler

LING 314 SECOND LANGUAGE ACQUISITION (3)
Review and analysis of major theoretical approaches to second language acquisition among adults. Major topics covered are: linguistic, cognitive and socio-cultural factors in language development, in structured and nonstructured settings, research methodologies, development stages of acquisition. Major emphasis on morphosyntactic development, but attention to phonetics and lexicon too. Enrollment limited to 20. Also listed as SPAN 414. Not offered 2003–04. Instructor(s): Salaberry

LING 315 (S) SEMANTICS: INTRO TO THE STUDY MEANING (3)
Introduction to basic approaches to the study of meaning in linguistics and related fields. Includes the cognitive representation of meaning, lexical categorization, conceptual structures, metaphor/metonymy, meaning change, pragmatic inference, and the relation of language and mind. Also listed as PSYC 315. Instructor(s): Kemmer

LING 317 (S) LANGUAGE AND COMPUTERS (3)
Introduction to the relation of computers and natural language. Includes exercises in programming computers to exhibit language-like behavior and using computers to analyze language, as well as an overview of different aspects of computational linguistics (e.g., speech recognition, syntactic parsing, semantic representation, and neural net models) and of the use of corpora and concordance programs to discover syntactic and semantic patterns of English. No programming experience required. Instructor(s): Barlow

LING 318 (F) STRUCTURE OF FRENCH (3)
The primary objective of this course is to present contemporary French as a dynamic linguistic system shaped by historical, cognitive and sociological developments. The historical section presents the diachronic evolution of French as a crucial factor in the current use of the standard and regional dialects. The linguistic section analyses the language as a system of mental representation, and presents the tools necessary to describe that system. Linguistic forms are shown to be motivated by cognitive principles, which are identified and carefully examined. The last part of the course is devoted to the socio-economic conditions which preside over language use. Beyond the specific consideration of French, this course is concerned with the historical, psychological, and sociological dimensions that enter into the description of any language. Also listed as FREN 318. Instructor(s): Achard

(F) = Fall; (S) = Spring
LING 320 (S) ORIGINS AND EVOLUTION OF HUMAN LANGUAGE (3)
How did Human Language arise, and what role did language play in the evolution of our species? This course introduces the basic sources or evidence (e.g., fossil remains, comparative primatology, neonatal development) for knowledge of human linguistic prehistory, including the spread of modern humans and human language throughout the world. Instructor(s): Kemmer

LING 321 (F) STRUCTURE OF CHINESE: SYNTAX & SEMANTICS (3)
Examination of syntactic and semantic features of Chinese with special attention to contrastive analysis of selected topics of Chinese and English, including expressions of tense and aspect, conditional and counterfactual, word formation (morphology), the notion of syntactic category, etc. Taught in English. Also listed as CHIN 321. Enrollment limited to 20. Instructor(s): Chen

LING 330 (F) CORPUS LINGUISTICS (3)
Investigation of the nature of linguistic representations from corpus-based analyses as compared to more traditional methodologies. Includes the collection of individual text data (or the exploration of existing text sources), the use of various text analysis programs (e.g., concordance software), and the production of lexical, syntactic, semantic, discourse, or cultural analyses of selected texts, using computer-based methods. Also listed as LING 530. Instructor(s): Barlow

LING 340 (F) THEORY & METHODS OF TEACHING ESL (3)
Introduction to the theory and practice of teaching a second language. Includes the process of language learning viewed from social, psychological, and linguistic perspectives, as well as commonly used teaching methods, such as the audiolingual method, situational language teaching, the natural approach, and TPR, among others. Required for linguistics majors in second language acquisition concentration. Instructor(s): Barlow

LING 345 LINGUISTIC STRUCTURE OF KOREAN (3)
The course focuses on the origin of Korean and related languages. It is an exploration of the way the Korean language evolved and interacted with the other East Asian languages, including Chinese and Japanese. It will also explore how the Korean alphabet was invented as well as examining sociolinguistic aspects of Korean and other East Asian languages. This will include, for example, the difference in male and female language usage and honorific systems. This class will be conducted in English. No previous knowledge of Korean is required. Also listed as ASIA 345. Not offered 2003–04.

LING 346 HISTORY OF THE CHINESE LANGUAGE (3)
This course investigates major developments in the history of Chinese, emphasizing structural changes from Archaic to Modern Chinese. We will examine patterns of thought and cultural perceptions as reflected in vocabulary change. Introduction to sound changes in Chinese and the evolution of the writing system. Students are required to have basic knowledge of Chinese or have taken an introductory linguistics course. Also listed as CHIN 346. Not offered 2003–04. Instructor(s): Chen

LING 351 (F) INTRO TO SANSKRIT I (3)
Also listed as SANS 301. Instructor(s): Mitchell

LING 352 (S) INTRO TO SANSKRIT II (3)
This course is a continuation of Ling 351, Sans 301 and aims at developing vocabulary and grammatical skills through reading poetic texts. Instructor(s): Mitchell

LING 353 PHILOSOPHY OF LANGUAGE (3)

(#) = credit hours per semester
LING 373  THE LINGUISTIC TURN: LANGUAGE, NARRATION & MODERNITY (3)
This course will look at the role of narration in the construction of some of the basic forms of modernity and post-modernity, ranging from nationalism to performative approaches to identity. The first half of the course will introduce the basic linguistic tools necessary to analyze a variety of cultural materials, and the second half will be devoted to analyzing specific texts and student presentations. The course does not presuppose any technical training in linguistics or literary analysis. Also listed as ANTH 373. Not offered 2003–04. Instructor(s): Lee

LING 394 (F)  STRUCTURE OF THE ENGLISH LANGUAGE (3)
Introduction to modern English grammar, phonology, and semantics. Required for linguistics majors in second language acquisition concentration. Also listed as ENGL 394. Instructor(s): Mauk

LING 395 (S)  HISTORY OF THE ENGLISH LANGUAGE (3)
Survey of 6,000 years of language history. Includes the phonological, morphological, syntactic, and semantic history of the English language from its Indo-European origins, through the Anglo-Saxon and Middle English periods, and up to the present day. Instructor(s): Mitchell

LING 402  SYNTAX AND SEMANTICS (3)
Study of semantic categories and their formal expression in morphological, syntactic, and lexical units and patterns. Also listed as ANTH 402. Not offered 2003–04.

LING 403  HISTORY OF LINGUISTIC THEORY (3)

LING 404 (S)  RESEARCH METHODOLOGY & LINGUISTIC THEORIES (3)
Research methodology and linguistic theories compares and explores the nature of data, argumentation, goals, and assumptions of current theoretical approaches to language and linguistics. Centers on the discussion of general readings and source articles from cognitive, generative, typological, discourse-functional, and sociolinguistic orientations. Emphasizes critical thinking and awareness of the potential benefits and drawbacks of each approach. Prerequisite(s): LING 300 or permission of instructor. Instructor(s): Englebretson

LING 405  TOPICS IN LANGUAGE CHANGE (3)
Survey of the current research on the nature of diachronic processes and their implications for linguistic theory. May include diachronic typology, issues in genetic classification, grammaticalization, syntactic change, and analogical change. Content varies from year to year. Prerequisite(s): LING 305 or equivalent. Not offered 2003–04. Instructor(s): Kemmer

LING 406  COGNITIVE STUDIES IN ANTHROPOLOGY AND LINGUISTICS (3)
Relations between thought, language, and culture. Special emphasis given to natural systems of classification and their underlying logical principles. Also listed as ANTH 406. Not offered 2003–04. Instructor(s): Tyler

LING 407 (F)  FIELD TECHNIQUES AND ANALYSIS (3)
Techniques and practice in the observation, analysis, and recording of a human language. Enrollment limited. LING 300, 301, and 402 recommended. Prerequisite(s): permission of instructor. Also listed as ANTH 407. Instructor(s): Shibatani

LING 408 (S)  FIELD TECHNIQUES & ANALYSIS (3)
Continuation of Ling 407. Also listed as ANTH 408. Instructor(s): Shibatani

LING 409 (F)  SPECIAL TOPICS (3)
Topic for 2003: Linguistics of Signed Languages. Instructor(s): Mauk

(F) = Fall; (S) = Spring
LING 410 (S)  RHETORIC (3)
Overview of classical series of rhetoric and followed by more intensive discussions both of contemporary theories and applications in a wide variety of disciplines. Also listed as ANTH 412. **Instructor(s): Tyler**

LING 411 (S)  NEUROLINGUISTICS: (3)
Study of language and the brain. Includes the organization of the brain (e.g., the localization of speech, language, and memory functions), hemispheric dominance, and the pathologies of speech and language associated with brain damage. Also listed as ANTH 411. **Instructor(s): Lamb**

LING 412  LANGUAGE & INTELLIGENCE (3)

LING 413 (S)  APPROACHES TO SYNTAX (3)
Examination of syntactic analysis from a variety of perspectives. Syntax is the core of generative approaches to linguistics, including not only Chomskyan grammar, but also other generative theories such as HPSG, LFG, and Construction Grammar. In addition, there are a variety of nongenerative, functional approaches to syntactic description, including Cognitive Grammar. In this course, we examine the fundamental ideas underlying syntactic analysis and survey different theoretical approaches, both generative and functional, to the subject. **Instructor(s): Barlow**

LING 414  HERMENEUTICS & LINGUISTIC ANTHROPOLOGY (3)
Application of linguistic theory and method in the analysis of cultural materials. Includes discourse analysis and the structure and interpretation of texts and conversation. Also listed as ANTH 414. **Instructor(s): Tyler**

LING 415 (S)  SOCIOLINGUISTICS (3)
Topic: Issues of language and gender, race and class. The course will begin with an overview of contemporary sociolinguistic theory and methodologies. We will then examine the linguistic consequences to speakers of their membership in groups defined in terms of gender, race, and class. **Instructor(s): Niedzielski**

LING 416 (F)  LANGUAGE UNIVERSALS & TYPOLOGY (3)
Investigation of what human languages have in common and a range of ways in which they can differ. Includes marking patterns in particular linguistic domains (e.g., case marking, animacy, and passives) and theoretical and methodological issues. **Instructor(s): Kemmer**

LING 417  COMPUTER-ASSISTED LANGUAGE INSTRUCTION (3)
Exploration of the theory and practice of using computers and other technologies in the language classroom. Includes language software, authoring systems, hypertext, e-mail, video, videodisc, and CD-ROM, as well as a survey of the ways that technology can be used in language teaching and various aspects of courseware development. Required for linguistics majors in second language acquisition concentration. Not offered 2003–04. **Instructor(s): Barlow**

LING 418 (F)  THE ACQUISITION OF L2 SPANISH (3)
This course reviews the available research on the acquisition of the phonology, vocabulary, morphosyntax and discursive-pragmatic features of Spanish as a second language. Aims to provide students with a thorough understanding of second language acquisition processes that are specific to Spanish but generalizable to other languages as well. Also listed as SPAN 382. Prerequisite(s): third-year Spanish or permission of instructor. **Instructor(s): Salaberry**

LING 419  BILINGUALISM (3)
This course analyzes bilingualism from a variety of perspectives including cognitive, linguistic, and socio-cultural viewpoints. Topics to be covered including conceptual representations of the lexicon, sentence parsing, levels of activation of bilingual modes, lexical, phonological, syntactic and pragmatic interference, code-switching, cultural identity, bilingual education, language and thought, etc. Also listed as SPAN 440. Not offered 2003–04.

(#) = credit hours per semester
LING 420  COGNITION AND L2 ACQUISITION (3)
This course provides an in-depth analysis of general cognitive processes in second language development and cognitive-based theories of second language acquisition. Some of the issues to be discussed in detail are perception, attention, memory, automaticity, restructuring, sentence processing, learnability theories, language and intelligence, critical periods for language acquisition, etc. Not offered 2003–04. Instructor(s): Salaberry

LING 421 (F)  SOCIOLINGUISTICS OF SPANISH (3)
Analysis of the modern varieties of Spanish covering phonetics, vocabulary, morphosyntax, and pragmatics. The course requires the completion of a research project with an empirical database. Prerequisite(s): Third-year Spanish or permission of the instructor. Also listed as SPAN 350. Instructor(s): Salaberry

LING 422  THE DEVELOPMENT OF TENSE AND ASPECT IN SECOND LANGUAGE LEARNING (3)
The course will focus on morphosyntactic analysis of tense-aspect systems, development of inflectional morphology among first and second language learners, sequence and rate of development of aspectual contrasts, potential effect of natural and academic learning settings, and the potential impact of pedagogical manipulations on the development of tense-aspect markers. Also listed as SPAN 412/512. Not offered 2003–04. Instructor(s): Salaberry

LING 423  LINGUISTIC STRUCTURE OF SPAN (3)
Synchronic study of modern Spanish phonology and syntax, including peninsular and Hispanic-American variants. Also listed as SPAN 424. Not offered 2003–04. Instructor(s): Salaberry

LING 424  THE EVOLUTION OF SPANISH (3)
This course provides an introduction to (1) major historical changes that led to the evolution of Proto-Romance (Vulgar Latin) to the Castillian dialect of Spanish (espanol or castellano), and (2) current developments and expected changes in the future of the various representatives of former Castillian dialect. Prerequisite(s): Third-year Spanish or permission of instructor. Also listed as SPAN 380. Not offered 2003–04. Instructor(s): Salaberry

LING 433  LINGUISTIC STRUCTURE OF GERMAN (3)
Synchronic study of modern German phonology, syntax, and semantics, including aspects of discourse structure. Also listed as GERM 433. Not offered 2003–04.

LING 434  HISTORY OF THE GERMAN LANGUAGE (3)
Aspects of the history of German phonology, syntax, and semantics (with related systems) from its Proto-Indo-European origins to the present. Also listed as GERM 434. Not offered 2003–04.

LING 435  TOPICS IN GERMANIC LINGUISTICS (3)
Topic: Old Icelandic.

LING 437  A HISTORY OF LINGUISTICS (3)
Survey of linguistic theories from the book of Genesis, the Pre-Socratics, Plato, Aristotle, the Alexandrians, the Stoics, the Modistae, the German Romantics, the Neo-Grammarians down to de Saussure Not offered 2003–04. Instructor(s): Mitchell

LING 451  ADVANCED SANSKRIT I (3)
Review of the nominal declensions and the classes of verbs to be followed by a series of readings from Lanman. Special attention will be given to the study of compounds and to Sanskrit verse forms. Also listed as SANS 401. Not offered 2003–04. Instructor(s): Mitchell

LING 452  ADVANCED SANSKRIT II (3)
Continuation of Ling 451. Also listed as SANS 402. Not offered 2003–04. Instructor(s): Mitchell

(F) = Fall; (S) = Spring
LING 480 INDEPENDENT STUDY (3)
LING 481 INDEPENDENT STUDY (3)
LING 482 HONORS PROJECT (3)
Independent directed research toward preparation of an undergraduate honors project or thesis. Prerequisite(s): permission of instructor. Instructor(s): Staff
LING 490 DISCOURSE ANALYSIS (3)
An overview of features and organization of language-in-use. Examination of the macro-structure of different genres of discourse, the interplay between language and social/cultural interaction, and the role of discourse and communication in motivating and shaping grammatical form. Prerequisite(s): LING 300 or permission of instructor. Not offered 2003–04. Instructor(s): Englebretson
LING 500 (S) LINGUISTIC ANALYSIS (3)
Graduate version of LING 300. Instructor(s): Englebretson
LING 501 (S) PHONETICS (3)
Graduate version of LING 301. Instructor(s): Mauk
LING 502 SYNTAX AND SEMANTICS (3)
LING 503 MODERN LINGUISTIC THEORY (3)
LING 505 HISTORICAL LINGUISTICS (3)
Graduate version of LING 305. Not offered 2003–04.
LING 506 (S) LANGUAGE, THOUGHT AND THE MIND (3)
Graduate version of LING 306. Instructor(s): Lamb, Achard
LING 507 (F) FIELD TECHNIQUES AND ANALYSIS (3)
Graduate version of LING 407. Instructor(s): Shibatani
LING 508 (S) FIELD TECHNIQUES AND ANALYSIS (3)
Continuation of LING 507. Instructor(s): Shibatani
LING 511 (F) PHONOLOGY (3)
Graduate version of LING 311. Instructor(s): Coelho
LING 513 LANGUAGE AND CULTURE (3)
Investigates the relation between language and thought, language and worldview, and language and logic. Also listed as ANTH 513. Not offered 2003–04.
LING 515 (S) SEMANTICS: INTRO TO THE STUDY OF MEANING (3)
Graduate version of LING 315. Instructor(s): Kemmer
LING 516 THE EVOLUTION OF SPANISH (3)
Graduate version of LING 424. Not offered 2003–04. Instructor(s): Salaberry
LING 517 (S) LANGUAGE AND COMPUTERS (3)
Graduate version of LING 317. Instructor(s): Barlow
LING 530 (F) CORPUS LINGUISTICS (3)
Graduate version of LING 330. Instructor(s): Barlow

(#) = credit hours per semester
LING 540 (F) THEORY AND METHODS OF TEACHING ESL & FOREIGN LANG (3)
Graduate version of LING 340. Instructor(s): Barlow

LING 550 DEPARTMENTAL COLLOQUIUM (1)
Faculty, graduate students, and invited guests meet weekly to present reports on current research or to discuss current issues in linguistics. Instructor(s): Englebretson

LING 551 SEM IN LINGUISTIC THEORY (3)
Topics vary from year to year. Not offered 2003–04.

LING 552 (S) SEMINAR IN SYNTAX & SEMANTICS (3)
Topic: Textual analysis. Instructor(s): Coelho

LING 553 SEMINAR LINGUISTIC STRUCTURE (3)
Topics vary from year to year. Not offered 2003–04.

LING 554 SEMINAR IN SEMANTIC THEORY (3)
Topics vary from year to year. Not offered 2003–04.

LING 556 SEMINAR IN LANGUAGE VARIATION (3)
Topics vary from year to year. Not offered 2003–04.

LING 557 (F) SEMINAR IN DISCOURSE (3)
Topic: Stance taking in discourse. Instructor(s): Englebretson

LING 581 GRADUATE RESEARCH (3)
LING 582 GRADUATE RESEARCH (3)
LING 583 GRADUATE RESEARCH (3)
LING 584 GRADUATE RESEARCH (3)
LING 585 GRADUATE RESEARCH (3)
LING 586 GRADUATE RESEARCH (3)
LING 587 GRADUATE RESEARCH (3)
LING 588 GRADUATE RESEARCH (3)
LING 590 TEACHING LINGUISTICS (3)
Course may be repeated for credit. Instructor(s): Staff

LING 591 TEACHING LINGUISTICS (3)
Course may be repeated for credit. Instructor(s): Staff

LING 610 SEMINAR: TOPICS IN LANGUAGE METHODOLOGY (3)
Exploration and analysis of a range of theories, issues and problems in foreign language instruction. Areas of inquiry include: the nature of language acquisition, pedagogical methods, instructional technologies, development of teaching materials, and testing/assessment. Required for all graduate language teaching assistants. Also listed as FREN 610, GERM 510, and SPAN 610. Not offered 2003–04.

(F) = Fall; (S) = Spring
LING 611  LANGUAGE METHODOLOGY PRACTICUM (1-0-1)
The course, a continuation of FREN 610, allows students to gain further knowledge and expertise in aspects of Language Methodology by attending a series of workshops on topics such as Technology and Language Learning, Writing, and content-based instruction. Students will also complete assignments that supplement or expand on the material presented in the workshops. Also listed as GERM 611, FREN 611, and SPAN 611. Not offered 2003–04.

LING 800  DISSERTATION RESEARCH (3)

LPAP (Lifetime Physical Activity Program)

Student Affairs

LPAP 101  LIFETIME PHYSICAL ACTIVITY (0)
Skill development, knowledge of rules and strategy, concepts of conditioning, and participation in one or two physical activities. Required for baccalaureate degree. Normally, it is expected that the requirement for LPAP 101 and 102 be completed during the freshman year.

LPAP 102  LIFETIME PHYSICAL ACTIVITY (0)
Skill development, knowledge of rules and strategy, concepts of conditioning, and participation in one or two physical activities. Required for baccalaureate degree.

LPAP 103  INTERMEDIATE INSTRUCTION IN LIFETIME PHYSICAL ACTIVITY (1)
Open to all students on space available basis with priority to KINE major students.

LPAP 104  INTERMEDIATE INSTRUCTION IN LIFETIME PHYSICAL ACTIVITY (1)
Open to all students on space availability basis with priority to KINE major students.

LPAP 105  INTERMEDIATE INSTRUCTION IN LIFETIME PHYSICAL ACTIVITY (1)
Open to all students on space availability basis with priority to KINE major students.

LPAP 106  INTERMEDIATE INSTRUCTION IN LIFETIME PHYSICAL ACTIVITY (1)
Open to all students on space availability basis with priority to KINE major students.

MANA (Managerial Studies)

The School of Social Sciences

MANA 404 (F)  MANAGEMENT COMMUNICATIONS IN A CONSULTING SIMULATION (3)
Section 001- As the capstone course of the MANA major, teaches managerial communications with a focus on business strategy and communication problems; includes writing proposals, reports, and business strategy presentations. Enrollment limited to 30. Students must have completed 8 of the required courses for the MANA major. Draws on information learned in these required courses. For MANA majors only. Instructor(s): Ferrill. Section 002 – (Offered only in spring semester.) As the capstone course for the MANA major, teaches managerial communications with a focus on entrepreneurship as well as management; includes writing a business plan, a marketing strategy, and a financing presentation. Enrollment limited to 15. Students must have completed 8 of the required courses for the MANA major. Draws on information learned in these required courses. For MANA majors only. Instructor(s): Ferrill

(#) = credit hours per semester
MANA 497 (F)  INDEPENDENT STUDY (3)
Independent study on an approved project under faculty supervision.

MANA 498 (S)  INDEPENDENT STUDY (3)
Independent study on an approved project under faculty supervision.

MATH (Mathematics)

The Wiess School of Natural Sciences

MATH 101  SINGLE VARIABLE CALCULUS I (3)
Differentiation, extrema, Newton’s method, integration, fundamental theorem of calculus, area, volume, natural logarithm, exponential. May substitute MATH 111 and 112 or take MATH 101 after completing MATH 111.

MATH 102  SINGLE VARIABLE CALCULUS II (3)
Continuation of MATH 101. Includes further techniques of integration, arc length, surface area, Simpson’s rule, and L’Hôpital’s rule, as well as infinite sequences and series, tests for convergence, power series, radius of convergence, polar coordinates, parametric equations, and arc length. Section 3 enrollment limited to 25.

MATH 111 (F)  FUNDAMENTAL THEOREM OF CALCULUS (3)

MATH 112 (F)  CALCULUS AND ITS APPLICATIONS (3)
See MATH 111.

MATH 211  ORDINARY DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA (3)
Study of ordinary differential equations (e.g., solutions to separable and linear first-order equations and to higher-order linear equations with constant coefficients, the properties of solutions to differential equations, and numerical solution methods) and linear algebra (e.g., vector spaces and solutions to algebraic linear equations, dimension, eigenvalues, and eigenvectors of a matrix), as well as the application of linear algebra to first-order systems of differential equations and the qualitative theory of nonlinear systems and phase portraits. Use of the computers in Owlnet as part of each homework assignment required. Section 003 enrollment limited to 25.

MATH 212 (F)  MULTIVARIABLE CALCULUS (3)
Study of gradient, divergence, and curl, Lagrange multipliers, multiple integrals, and spherical coordinates, as well as line integrals, conservative vector fields, Green’s theorem, Stokes’ theorem, and Gauss’s theorem. May substitute MATH 221 and 222.

MATH 221 (F)  HONORS CALCULUS III (3)
This course and MATH 222 include the material of MATH 212 and more. Topology of R^n, calculus for functions of several variables, linear and multilinear algebra, theory of determinants, inner product spaces, exterior differential calculus, integration on manifolds.

MATH 222 (S)  HONORS CALCULUS IV (3)
See MATH 221.

MATH 321 (F)  INTRODUCTION TO ANALYSIS I (3)
A thorough treatment of basic methods of analysis such as metric spaces, compactness, sequences and series of functions. Also further topics in analysis, such as Hilbert spaces, Fourier series, Sturm-Liouville theory.

MATH 322 (S)  INTRODUCTION TO ANALYSIS II (3)
See MATH 321. Includes proofs of the basic results for multivariable calculus (MATH 321 provides proofs for single-variable calculus).

(F) = Fall; (S) = Spring
MATH 355 (F)  LINEAR ALGEBRA (3)
Linear transformations and matrices, solution of linear equations, eigenvalues and eigenvectors, quadratic forms, rational canonical form, Jordan canonical form.

MATH 356 (S)  ABSTRACT ALGEBRA (3)
Groups: normal subgroups, factor groups, Abelian groups. Rings: ideals, Euclidean rings, and unique factorization. Fields: algebraic extensions, finite fields. Students may not take this course and MATH 463.

MATH 357 (F)  NUMBER THEORY (3)
Properties of numbers depending mainly on the notion of divisibility. Continued fractions. Offered alternate years.

MATH 358 (F)  GEOMETRY (3)
Topics chosen from Euclidean, spherical, hyperbolic, and projective geometry, with emphasis on the similarities and differences found in various geometries. Isometries and other transformations are studied and used throughout. The history of the development of geometric ideas is discussed. This course is strongly recommended for prospective high school teachers.

MATH 359 (S)  TOPICS IN COMBINATORICS (3)
Study of combinatorics and discrete mathematics. Topics that may be covered include graph theory, Ramsey theory, finite geometries, combinatorial enumeration, combinatorial games.

MATH 361 (F)  INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS (3)

MATH 362 (S)  COMPLEX ANALYSIS (3)
Study of the Cauchy integral theorem, Taylor series, residues, as well as the evaluation of integrals by means of residues, conformal mapping, and application to two-dimensional fluid flow. May not receive credit for this course and MATH 427.

MATH 360  UNDERGRADUATE COLLOQUIUM (1)
Lectures by undergraduate on mathematical topics not usually covered in other courses. Presentation of one lecture and attendance at all sessions required.

MATH 363 (F)  DIFFERENTIAL GEOMETRY (3)
Study of the differential geometry of curves and surfaces in R3. Includes an introduction to the concept of curvature and thorough treatment of the Gauss-Bonnet theorem.

MATH 364 (S)  DIFFERENTIAL GEOMETRY (3)
Introduction to Riemannian geometry. Content varies from year to year.

MATH 365 (S)  PARTIAL DIFFERENTIAL EQUATIONS (3)

MATH 366 (S)  TOPICS IN REAL ANALYSIS (3)
Content varies from year to year. May include Fourier series, harmonic analysis, probability theory, advanced topics in measure theory, ergodic theory, and elliptic integrals.

(#) = credit hours per semester
MATH 427 (S)  COMPLEX ANALYSIS (3)
Study of the Cauchy-Riemann equation, power series, Cauchy’s integral formula, residue calculus, and conformal mappings. Emphasis on the theory.

MATH 428 (F)  TOPICS IN COMPLEX ANALYSIS (3)
Special topics include Riemann mapping theorem, Runge’s Theorem, elliptic function theory, prime number theorem, Riemann surfaces, et al.

MATH 443 (F)  GENERAL TOPOLOGY (3)
Study of basic point set topology. Includes a treatment of cardinality and well ordering, as well as metrization.

MATH 444 (F)  GEOMETRIC TOPOLOGY (3)

MATH 445 (S)  ALGEBRAIC TOPOLOGY (3)
Introduction to the theory of homology. Includes simplicial complexes, cell complexes and cellular homology and cohomology, as well as manifolds, and Poincare Duality.

MATH 463 (F)  ALGEBRA I (3)

MATH 464 (S)  ALGEBRA II (3)
See MATH 463.

MATH 465  TOPICS IN ALGEBRA (3)
Content varies from year to year.

MATH 468 (F)  POTPOURRI (3)
This course deals with miscellaneous special topics not covered in other courses.

MATH 490  SUPERVISED READING (3)

MATH 501 (F)  TOPICS IN DIFF GEOMETRY (3)
Topic to be announced.

MATH 502 (S)  TOPICS IN DIFFERENTIAL GEOMETRY (3)
The Atiyah-Singer theorem, secondary invariants, and related topics.

MATH 521 (F)  ADVANCED TOPICS IN REAL ANALYSIS (3)
Topic to be announced.

MATH 522 (S)  TOPICS IN REAL ANALYSIS (3)
Topic to be announced.

MATH 523 (F)  FUNCTIONAL ANALYSIS (3)
Topic to be announced.

MATH 527  ERGODIC THEORY & TOP DYNAMICS (3)
Topic to be announced.

MATH 541 (F)  TOPICS IN TOPOLOGY (3)
Topic to be announced.

MATH 542 (S)  TOPICS IN ADVANCED TOPOLOGY (3)
Topic to be announced.

(F) = Fall; (S) = Spring
MATH 590  CURRENT MATHEMATICS SEMINAR (1)
Lectures on topics of recent research in mathematics delivered by mathematics graduate students and faculty.

MATH 591  GRADUATE TEACHING SEMINAR (1)
Discussion on teaching issues and practice lectures by participants as preparation for classroom teaching of mathematics.

MATH 800  THESIS AND RESEARCH (3)

MDST (Medieval Studies)

The School of Humanities/Program in Medieval Studies

MDST 101 (F)  ELEMENTARY LATIN I (3)
Study of the fundamentals of Latin grammar with emphasis on acquisition of reading skill. Also offered as LATI 101. Instructor(s): Wallace

MDST 102 (S)  ELEMENTARY LATIN II (3)
Continuation of LATI 101. Also offered as LATI 102. Instructor(s): McGill

MDST 108  ART IN CONTEXT (3)
Art in Context: Late Medieval and Renaissance Culture. This course will be concerned with the art, architecture, and history of the late Middle Ages and Renaissance. We will employ historical texts, literature, and illustrations of works of art, showing how historical documents and sources can illuminate the cultural context of art and architecture. Also offered as HUMA 108 and HART 240. Instructor(s): Neagley

MDST 111 (F)  INTRO TO HIST OF WESTERN ART I (3)
Introduction to the History of Western Art I: Prehistoric to Gothic. A survey of painting, sculpture, and architecture from the Paleolithic period through the 15th century. An additional hour of tutorial per week will be assigned during the first week. Required of art history majors. Also offered as HART 101. Instructor(s): Staff

MDST 201 (F)  HISTORY OF PHILOSOPHY I (3)
Survey of the major philosophers and philosophical systems of ancient Greece, from Parmenides to the Stoics. Also offered as PHIL 201. Instructor(s): Moran

MDST 202  INTRO TO MEDIEVAL CIVILIZATION I (3)
Introduction to Medieval Civilization I: The Early Middle Ages. European culture of the “Dark Ages,” from the fall of Rome to the end of the Viking invasions. Includes the use of historical, literary, artistic, and archaeological sources to trace changes in European material, spiritual, and cultural life between 300 and 1000 A.D. Offered with additional work as MDST 325. Also offered as HIST 202 and HUMA 103. Not offered 2003–04. Instructor(s): Staff

MDST 203 (F)  INTRO TO MEDIEVAL CIVILIZATION II (3)
Introduction to Medieval Civilization II: The High Middle Ages. Continuation of MDST 202 (not a prerequisite). Includes European culture from the year 1000 to the discovery of the Americas, which encompasses the Crusades, the “discovery of the individual,” chivalry and chivalric literature, the Black Death, and the beginnings of the Age of Exploration, using pictorial and architectural as well as literary and historical sources. Offered with additional work as MDST 326. Also offered as HIST 203. Instructor(s): Decker

MDST 211 (F)  INTERMEDIATE LATIN I: PROSE (3)
Review of grammar and readings in Latin prose. Also offered as LATI 201. Instructor(s): Wallace

(#) = credit hours per semester
MDST 212 (S)  INTERMEDIATE LATIN II (3)
Reading in Vergil’s Aeneid. Also offered as LATI 202. Instructor(s): Wallace

MDST 222 (S)  MEDIEVAL & RENAISSANCE ERAS (3)
Introduction to the study of Western music history, with emphasis on music before 1600. Score reading ability required. Also offered as MUSI 222. Prerequisite(s): MUSI 211 or MUSI 317 or permission of instructor. Instructor(s): Meconi

MDST 238  SPECIAL TOPICS: MEDIEVAL ART (3)
Special Topics in Medieval Art. Special topics, independent study, and new courses in medieval art, not necessarily repeated. May be used in awarding transfer credit. Prerequisite(s): permission of the instructor. Also offered as HART 238. Instructor(s): Neagley

MDST 239  INDEP STUDY: MEDIEVAL ART (3)
Independent Study in Medieval Art. Independent study, reading, or special research in art history. Prerequisite(s): permission of instructor. Also offered as HART 239. Instructor(s): Neagley

MDST 257  JEWS & CHRISTIANS IN MED EUROPE (3)
Jews and Christians in Medieval Europe. Though Jewish and Christian history are often treated as separate fields, over the course of their long co-existence the two communities profoundly affected each other. Their histories are intimately related. This course will study these relations focusing on Jewish communities within the context of Christian Europe. Topics will include settlement and demography, economical situation, legal status, hostility against Jews, Jewish-Christian contacts and images about another, Jewish family and the position of women, communal organizations, social diversity and community life, intellectual and spiritual achievements. Offered with additional work as MDST 357. Also offered as HIST 257. Not offered 2003–04. Instructor(s): Haverkamp

MDST 281 (F)  PRE-MODERN MIDDLE EAST HISTORY (3)
The Middle East from the Prophet Muhammad to Muhammad Ali. An introduction to the history of the Middle East, from the rise of Islam to the beginning of the 19th century. Topics include the Islamic conquests and the classical Islamic state, Arabization, Jewish and Christian communities, the impact of the Turkic peoples, and the Ottoman Empire, with an emphasis on the long-term social, cultural, and political trends that shaped the history of the region in the pre-modern period. Also offered as HIST 281. Instructor(s): Sanders

MDST 300  MEDIEVAL WOMEN WRITERS (3)
This course will examine the most significant medieval European women authors from the 10th through the 17th centuries, from Italy and Germany to France, England, Austria, and Spain. Using a variety of techniques and media—feminist and gender theory, reader-response theory, staging and performance, films, recordings, slides, journal entries and personal criticism, etc.—to access their work, we will combine close reading with a focus on intersexuality. All works will be read in translation. Also offered as ENGL 311 and WGST 300. Not offered 2003–04. Instructor(s): Chance

MDST 301 (S)  ANCIENT & MEDIEVAL PHILOSOPHY (3)
Topics in the history of philosophy from the 4th century B.C. through the 14th. Course may be repeated for credit. Also offered as PHIL 301. Instructor(s): Morrison

MDST 303 (F)  UNDERGRADUATE INDEPENDENT READING (3)
Independent reading under the supervision of a history faculty member. Open to a limited number of advanced students with special permission. Also offered as HIST 303. Instructor(s): Staff

MDST 304 (S)  UNDERGRADUATE INDEPENDENT READING (3)
Independent reading under the supervision of a history faculty member. Open to a limited number of advanced students with special permission. Also offered as HIST 304. Instructor(s): Staff

(F) = Fall; (S) = Spring
MDST 308  THE WORLD OF LATE ANTIQUITY (3)
Study of the social, religious, and political history of the Roman world from Diocletian to the rise of Islam, with emphasis on the breaking of the unity of the Mediterranean world and the formation of Byzantine society in the Greek East. Also offered as HIST 308. Not offered 2003–04. 
Instructor(s): Maas

MDST 310  DANTE IN TRANSLATION (3)
A close reading of Dante’s Divine Comedy, with attention to the meaning of words, images, symbols, figures, structures, the significance of a canto within the respective cosmic hierarchy, the overall meaning of a book, and with reference to the political and religious controversies of the time in Florence, Italy, and medieval Europe and Africa. Also offered as ENGL 310. Instructor(s): Chance

MDST 311  OLD ENGLISH (3)
This course will be a combination of Old English Grammar and readings in Old English. Also offered as ENGL 324 and LING 312. Instructor(s): Mitchell

MDST 312  SURVEY OF OLD ENGL LIT (3)
Survey of Old English Literature: Gender and Power in Old English. Readings of poems and prose about Old English women, in translation, including The Wife’s Lament, Wulf and Eadwacer, Beowulf, Juliana, Elena, Judith, Genesis B, the Advent Lyrics on the Virgin, and materials from chronicle, myth, and legend (for example, on the Amazons, Circe, and Eurydice). Also offered as ENGL 312 and WGST 312. Not offered 2003–04. Instructor(s): Chance

MDST 314  SURVEY OF MIDDLE ENGL LIT (3)
Survey of Middle English Literature. Content varies. A survey of Middle English lyrics, romances, dream visions, debate poems, mystery plays, and other philosophical and biographical treatises from 1250-1500. Also offered as ENGL 314. Not offered 2003–04. Instructor(s): Chance

MDST 315  INTRO TO MEDIEVAL CULTURE (3)
Introduction to Medieval Culture. Interdisciplinary course exploring the literature, art, philosophy, history, music, and science of the Middle Ages, with films by Pasolini, Bergman, Eisenstein, Annaud, Vigne, and others, and highlighted by a medieval banquet. Also offered as ENGL 315. Instructor(s): Chance

MDST 316  CHAUCER (3)
Focus will be primarily on The Canterbury Tales, this philosophical and material culture, and their dramatic and literary potential. Also offered as ENGL 316 and WGST 305. Not offered 2003–04. Instructor(s): Chance

MDST 317  ARTHURIAN LITERATURE (3)
A survey of the origins and development of the Arthurian legend from the earliest chronicles in the sixth century and later medieval French, Welsh, Irish, and English Arthurian poems to modern adaptations of Arthurian material, including films. Also offered as ENGL 317 and WGST 301. Not offered in 2003–04. Instructor(s): Chance

MDST 318  J.R.R. TOLKIEN (3)
J.R.R. Tolkien, an Oxford professor and eminent medievalist now recognized as one of the greatest writers of the 20th century for his masterpiece, Lord of the Rings (written ca. 1930s–1950s), wrote out of what he knew about Old English, Old Norse, and Middle English literature. This course will trace the tension between the exile (wraecca) and the community; otherness and heroism; identity and marginalization; revenge and forgiveness. To locate Lord of the Rings within a broader historical and literary context, we will read The Hobbit, The Silmarillion, and Tolkien’s works on fantasy and mythmaking, “Mythopoeia,” “Leaf by Niggle,” and “On Fairy-Stories.” Also offered as ENGL 318. Enrollment limited. Instructor(s): Chance

MDST 321 (F) DIR RDG: MEDIEVAL HISTORY (4)
Also offered as HIST 521. Instructor(s): Staff

(#) = credit hours per semester
MDST 322 (S)  DIR RDG: MEDIEVAL HISTORY (4)
Also offered as HIST 522. Instructor(s): Staff

MDST 325 (F)  INTRO TO MEDIEVAL CIVILIZATION I (3)
Enriched version of MDST 202. May not receive credit for both MDST 202 and MDST 325. Also offered as HIST 325. Not offered 2003–04. Instructor(s): Staff

MDST 326 (F)  INTRO TO MEDIEVAL CIVILIZATION II (3)
An enriched version of MDST 203. Students may not receive credit for both MDST 203 and MDST 326. Also offered as HIST 326. Instructor(s): Decker

MDST 330 (S)  EARLY MEDIEVAL ART (3)
Early Medieval Art from the 5th Century to the Romanesque Period. Study of medieval art, with emphasis in part one on the art and architecture produced in Europe during the Dark Ages (e.g., the work of the Visigoths, Celts, Anglo-Saxons, Merovingians, Carolingians, and Ottonians) and in part 2 on the major revival of art and architecture in the Medieval monasteries of the Romanesque period. Also offered as HART 330. Instructor(s): Neagley

MDST 331 (S)  GOTHIC ART & ARCHITECTURE (3)
Gothic Art and Architecture in Northern Europe, 1140–1300: The Age of Cathedrals. Examination of the full array of sacred art and architecture produced in the early and high gothic periods in northern Europe. Includes cathedral architecture, sculpture, stained glass, manuscripts, and metalwork studies in relationship to the expansion of royal and Episcopal power. Also offered as HART 331. Instructor(s): Neagley

MDST 332 (S)  LATE GOTHIC ART & ARCHITECTURE (3)
Late Gothic Art and Architecture in Northern Europe, 1300–1500. Examination of art and architecture produced in the late gothic period within three distinct settings—the court, the city, and the church. Includes private, public, and religious life as expressed in the objects, architecture, and decoration of the castle and palace, the house, the city hall and hospital, and the chapel and parish church. Also offered as HART 332. Instructor(s): Neagley

MDST 345  HUMANISM & EXPANSION (3)
Renaissance Europe: Humanism and Expansion. Exploration of major cultural developments in Western Europe from the rise of Italian humanism in the 14th century to European conquest and expansion in the 16th century. Also offered as HIST 345. Not offered 2003–04. Instructor(s): Quillen

MDST 357  JEWS & CHRISTIANS IN MED EUROPE (3)
Jews and Christians in Medieval Europe. Enriched version of MDST 257. May not receive credit for both MDST 257 and MDST 357. Also offered as HIST 357. Not offered 2003–04. Instructor(s): Haverkamp

MDST 358 (S)  EUROPEAN INTELLECTUAL HISTORY (3)
European Intellectual History from Augustine to Descartes. This course will survey key developments in Western thought (political theory, literature, philosophy, theology, and art) from the consolidation and institutionalization of Christian doctrine in the fourth and fifth centuries through the beginnings of the “Scientific Revolution” in the 17th century. Also offered as HIST 358. Instructor(s): Quillen

MDST 368  MYTHOLOGIES (3)
This interdisciplinary course will introduce students to a variety of world mythologies and mythmakers, from the beginnings to the modern period. Designed to explore the relationship between a culture and its myths as expressed in specific literary and religious works, Offers a means of understanding cultural differences as well as the fundamental topics of human desire and aspiration (creation and birth, the purpose of life, heroic struggle against nature and death, the hope for rebirth, etc.) Included mythologies: Babylonian, Sumerian, Hindu, Egyptian, Greek, Roman, Irish, Welsh, Old Norse, Anglo-Saxon, Finnish, Mayan, Hopi, modern (Borges, Philip Glass). Also offered as ENGL 309 and WGST 368. Instructor(s): Chance

(F) = Fall; (S) = Spring
MDST 382 (S)  CLASSICAL ISLAMIC CULTURES (3)
An introduction to the culture and religions of the Islamic world from the 9th through the 14th centuries. Topics include law and theology, philosophy, ritual, science and medicine, classical Arabic literatures, the impact of Arabo-Islamic culture on Jewish and Christian cultures of the Islamic world. Also offered as HIST 382. Instructor(s): Sanders

MDST 384  THE CRUSADES (3)
The Crusades: Holy War in Medieval Christendom and Islam. Examination of the Crusades (11th to 15th centuries) from the point of view of both Christian Europe and the Islamic Near East. Includes the political and military history of the Crusades, as well as the social, cultural and religious transformations that caused, and were wrought by, these conflicts. Also offered as HIST 384. Not offered 2003–04. Instructor(s): Sanders

MDST 385  CHRISTIANS & JEWS IN MED ISLAM (3)
Christians and Jews in the Medieval Islamic World. Examination of Christian and Jewish communities in the Islamic world from the rise of Islam to the Ottoman Empire. Includes the legal status of ‘dhimmis’ (protected peoples), social and economic life, communal organization, interplay of religious laws, and political authority in these communities, as well as discussion of their modern historiography, a comparative study of Jewish communities in Christendom and Islam, and discussion of Muslim communities living under Christian rule in the Middle Ages. Also offered as HIST 385. Not offered 2003–04. Instructor(s): Haverkamp

MDST 387  LIFE ON THE NILE (3)
Life on the Nile: Egyptian Politics, Culture, and Society, Medieval to Modern Times. Examination of Egyptian history from the Arab conquest in 641 to the 20th century, with emphasis on major themes in Egypt’s political, social, and cultural life, on historical continuities and discontinuities, and on problems of historical interpretation. Also offered as HIST 387. Not offered 2003–04. Instructor(s): Sanders

MDST 406  CHRISTINE DE PIZAN (3)
Christine De Pizan in 15th-Century England. The Franco-Italian woman poet Christine de Pizan was translated into English during the 15th century along with other poems dealing with the subject of female experience and the female hero, such as Jean d’Arras’s “Melusene” and Boccaccio’s “Concerning Famous Women.” This seminar will examine these and other English poems about women as early as Chaucer’s “Legend of Good Women” and as late as the “Assembly of Ladies,” “Floure and the Leafe,” “The Assembly of Gods,” and Thomas Hoccleve’s “Letter of Cupid.” Also offered as ENGL 415 and WGST 406. Refer to course website at http://www.ruf.rice.edu/~jchance/christin.html. Not offered 2003–04. Instructor(s): Chance

MDST 410  LIT & HIST IMAGE OF MEDIEVAL WOMAN (3)
The Literary and Historical Image Of The Medieval Woman. Comparison and contrast of the presentation of the medieval woman in literature with extant evidence of historical women from contemporary documents and records. Also offered as FREN 410 and WGST 410. Not offered 2003–04. Instructor(s): Nelson-Campbell

MDST 414  LIT & CUL OF MID AGES: SAINTS & SINNERS (3)
Literature and Culture of the Middle Ages: Saints and Sinners. Study of medieval French works that depict saints and sinners with the goal of assessing the cultural structure that sets the limits of these labels. Also offered as FREN 414. Not offered 2003–04. Instructor(s): Nelson-Campbell

MDST 425  COURTLY LOVE IN MEDIEVAL FRANCE (3)
Undergraduate version of FREN 515. Study of the Occitan and Old French poetry that served as the source of the kind of love that came to be called “amour courtois” in the 19th century. Also offered as FREN 415. Not offered 2003–04. Instructor(s): Nelson-Campbell

MDST 429 (F)  MUSIC OF THE MIDDLE AGES (3)
A study of the major musical styles and composers of western art music before 1400 and their historical, cultural, and sociological contexts. Also offered as MUSI 429. Instructor(s): Meconi

(#) = credit hours per semester
MDST 430  THE GOTHIC PORTAL (3)
Seminar on the form and meaning of sculptural programs attached to French gothic cathedrals such as Chartres, Reims, and Amiens. Includes issues of iconography, style, and production, as well as more recent concerns of narrative, reception, and audience, all within the context of medieval church doctrine and political and social life. Also offered as HART 430. Instructor(s): Neagley

MDST 438 (F)  MEDIEVAL ISLAM WOMEN & GENDER (3)
Women & Gender in Medieval Islamic Societies. Examination of some features of the legal position and social realities of men and women in the Islamic world, with emphasis on how boundaries of gender have traditionally been drawn. Includes the family and sexual ethics, the harem, polygamy, divorce, and eunuchs (who played an important role in both the military and in certain religious institutions). Also offered as HIST 438 and WGST 455. Enrollment limited. Instructor(s): Sanders

MDST 440 (S)  JAN VAN EYCK (3)
Jan Van Eyck: Problems of Interpretation. Seminar and in-depth research on the art and historiography of the early Netherlandish painter Jan van Eyck. Also offered as HART 440. Instructor(s): Neagley

MDST 441 (F)  HILDEGARD OF BINGEN (3)
The course examines the life and works of 12th-century polymath Hildegard of Bingen, including her achievements in music, poetry, religious thought, medicine, natural science, and linguistics. Enrollment limited to 15. Also offered as MUSI 724 and WGST 441. Instructor(s): Meconi

MDST 444  MEMORY & COMMEMORATION (3)
Memory and Commemoration in the Middle Ages. Memory and commemoration are in general terms described as intentions, attitudes, acts, and media that should prevent oblivion of individuals and communities (beyond death). In this way, they determine thought, emotions, and actions in fundamental ways. They possess universal dimensions which go back to antiquity and are influential up to the present. Today, they are often driven out either into the atomistic sphere of individual remembrance, into the institutional realm of politics, or into the secluded world of museums. However, this suppression enhances their importance for our life. Also offered as HIST 444. Not offered 2003–04. Instructor(s): Haverkamp

MDST 446  COMMUNITIES IN THE MIDDLE AGES (3)
Jewish and Christian Communities in the Middle Ages. New forms of communal organizations developed in medieval Christian Europe that were different from the patterns of Jewish self-government in Babylon, Israel, and Islamic countries. This course will discuss characteristics of Jewish communal organizations, their parallel features and their connections with Christian communal organizations, and their relationship to the rising modern states. Also offered as HIST 446. Enrollment limited. Not offered 2003–04. Instructor(s): Haverkamp

MDST 447 (F)  THE AGE OF THE CRUSADES (3)
Beginning in the late 11th century, crusades were launched against Muslims in the Near East and Spain, Jews in central Europe, pagans in Eastern Europe and the Baltic countries, Mongols, heretics, schisms such as the Greek or Russian orthodox, and political enemies in general. Concepts of “holy and just war emerged among the opponents, and new expression so religious beliefs entailed the encounter with foreign and strange worlds, opening up possibilities for trade and the economy. This seminar course will discuss characteristics of the crusades and explore to what extent and in what ways fundamentalism created globalization in medieval Europe. Discussions will include primary and secondary sources. Also offered as HIST 447. Enrollment limited. Not offered 2003–04. Instructor(s): Haverkamp

MDST 455  SOURCES OF MEDIEVAL HISTORY (4)
This graduate seminar will introduce participants to the typology of the sources of medieval history and to the auxiliary sciences of history. Also offered as HIST 555. Not offered 2003–04. Instructor(s): Haverkamp

(F) = Fall; (S) = Spring
MDST 456  COLLEGIUM (1)
Performance of music up to the early 17th century. Permission of instructor. Note: Does not count as chamber music. Prerequisite(s): permission of instructor. Also offered as MUSI 436. Instructor(s): Meconi

MDST 458  SPECIAL TOPIC: MEDIEVAL ART (3)
Independent study, reading, or special research in medieval art history. Prerequisite(s): permission of instructor. Also offered as HART 438. Instructor(s): Neagley

MDST 459  INDEP STUDY: MEDIEVAL ART (3)
Independent study, reading, or special research in medieval art. Prerequisite(s): permission of instructor. Also offered as HART 439. Instructor(s): Neagley

MDST 465 (S)  PERCEPTIONS OF THE OTHER (3)
Jews and Christians: Perceptions of the Other. This course will study how Jews and Christians imagined the other in the Middle Ages and how these perceptions persisted and changed during the modern times. Topic of discussion: just as the Jewish position towards Christianity was influenced by Christian attitudes towards Jews, we must assume that the Christian stance was influenced by Jewish attitudes towards Christianity. Also offered as HIST 445. Enrollment limited. Instructor(s): Haverkamp

MDST 481 (S)  SEMINAR IN ANCIENT & MEDIEVAL PHILOSOPHY (3)
Also offered as PHIL 501. Instructor(s): Morrison

MDST 486 (F)  ILLUMINATED MANUSCRIPTS (3)
The study of illuminated music manuscripts from the Middle Ages through the mid-16th century, with discussion of changes in production, design, decoration, and function throughout this period. Nonmusic manuscripts will also be examined in order to place music collections in the context of contemporary manuscript culture. Enrollment limited to 12. Also offered as MUSI 726. Not offered 2003–04. Instructor(s): Meconi

MECH (Mechanical Engineering)

The George R. Brown School of Engineering/Department of Mechanical Engineering and Materials Science

MECH 200 (S)  CLASSICAL THERMODYNAMICS (3)
Explication of the fundamental laws of classical thermodynamics and deductions from them. Includes applications with particular attention to pure substances. Required for mechanical engineering majors. Prerequisite(s): PHYS 101 and 102. Instructor(s): Chapman

MECH 211  ENGINEERING MECHANICS (3)
The study equilibrium of static systems, the dynamics of a particle and particle systems, and rigid-body dynamics. Includes elements of vibrational analysis. Required for mechanical engineering and materials science and engineering majors. Also listed as CEVE 211. Prerequisite(s): PHYS 101 and MATH 101/102. Instructor(s): Staff

MECH 308  SENIOR DESIGN JUNIOR OBSERVERS (VAR)
Instructor(s): Staff

(#) = credit hours per semester
MECH 311 (S) MECHANICS OF DEFORMABLE SOLIDS (3)
Analysis of stress and the deformation of solids with applications to beams, circular shafts, and columns. Required for mechanical engineering majors. Prerequisite(s): MECH 211. Instructor(s): Staff

MECH 331 (S) JUNIOR LABORATORY I (1)
Instruction in static and impact testing of engineering materials. Includes beam deflection and shear center experiments, as well as the application and testing of strain gauges. Required for mechanical engineering majors in B.S. program. Instructor(s): Staff

MECH 332 (S) JUNIOR LABORATORY II (1)
Instruction in fluid mechanics and thermodynamics. Students work in groups and perform classic experiments in fluid flow with emphasis on boundary-layer theory, flow separation, laminar to turbulent transition, and Bernoulli equation. This laboratory course provides experimental support to MECH 372. Required course for mechanical engineering majors in B.S. program. Lab schedules will be determined at Preregistration. Additional sign-up in the MEMS office for course sections. Instructor(s): McStravick

MECH 340 INDUSTRIAL PROCESS LAB (1)
Practical experience in, and observation of, selected industrial processes. Must sign up in department office for sections. Open only to mechanical engineering majors. Required for mechanical engineering majors in B.S. program. Instructor(s): Gesenhues

MECH 343 (F) MODELING OF DYNAMICS SYSTEMS (4)
Energy-based modeling of dynamic systems including particle and rigid body Lagrangian dynamics. Incorporates Bong Graph techniques for energy-based lumped-parameter systems. Includes modeling and simulation of mechanical, electrical, hydraulic, magnetic, and thermal energy systems with emphasis on multi-domain interaction. Instructor(s): O’Malley, Ghorbel

MECH 371 (F) FLUID MECHANICS I (3)
Introduction to fluid statics and dynamics. Includes the development of the fundamental equations of fluid mechanics and their application to problems of engineering interest. Required for mechanical engineering majors in B.S. program. Prerequisite(s): MECH 200 and 211 and MATH 212. Instructor(s): Meade

MECH 372 (S) FLUID MECHANICS II (3)
Continuation of MECH 371. The fundamental principles of fluid mechanics are applied to the study of: potential flow, laminar and turbulent pipe and boundary-layer flow, flow separation, airfoil theory, compressible flow, and turbomachinery. Required for mechanical engineering majors in B.S. program. Prerequisite(s): MECH 371. Instructor(s): Meade

MECH 373 (S) ACOUSTICS (3)
Basics of technical acoustics, including generation, propagation, reception and reproduction of sound, speech and hearing, musical and architectural acoustics, and noise control. Offered alternate years. Instructor(s): Carroll

MECH 380 (F) INTRO TO MECHANICAL EFFECTS IN TISSUES (3)
Development of a general background in physiology and in advanced mechanics for applications in medicine. Includes bone mechanics in remodeling, cartilage and ligament mechanics, and muscle mechanics, as well as an on paper design project on a subject selected by students. Prerequisite(s): MECH 211 and 311 or CEVE 300. Instructor(s): Staff

(F) = Fall; (S) = Spring
MECH 383 (F)  INTRODUCTION TO BIOMEDICAL INSTRUMENTATION AND MEASUREMENT TECHNIQUES (3)
Review of basic sensors, measurement principles and analog electronics using operational amplifiers. Includes design problems using operational amplifier circuits (e.g., instrumentation and isolation amplifiers, comparators, timer circuits). Introduction to development of virtual instruments (VIs) using LabView. Discussion of micro and macro-biopotential electrodes, cell cytometry, the measurement of blood pressure, blood flow, and heart sounds, temperature, and the principles of electrical safety (e.g., micro and macro-shock hazards in the clinical environment). Includes discussion of pulmonary instrumentation and medical applications of ultrasound. Two lab exercises and a term project required. Prerequisite(s): ELEC 381 or consent of instructors.

MECH 401 (F)  MECHANICAL DESIGN APPLICATIONS (3)
Applications of the principles of mechanical design to the analysis and design of machine elements. Required for mechanical engineering majors in B.S. program. Prerequisite(s): MECH 311 or CEVE 300. Instructor(s): Staff

MECH 403 (F)  COMPUTER AIDED DESIGN (3)
Investigation of the integration of the computer into the area of design. Includes such subjects as optimization, simulation, finite elements, and expert systems. Required for mechanical engineering majors in B.S. program. Prerequisite(s): CAAM 211. Instructor(s): Akin

MECH 404 (F)  SENIOR DESIGN PROJECT (4)
Project-based course with group or independent design project relating to mechanical engineering topics. Required for mechanical engineering majors in B.S. program. May substitute MECH 407/408. Instructor(s): McStravick

MECH 407 (F)  MECHANICAL DESIGN PROJECT I (4)
An interdisciplinary capstone design experience in mechanical engineering. This course provides an opportunity for students to apply knowledge and skills acquired in previous courses to the solution of a realistic engineering problem. Teams of students will specify, design, and build a system to meet a prescribed set of requirements. The topics covered in this course will include design methodology, effective teamwork, project management, documentation, and presentation skills. Must complete MECH 408 to receive credit for MECH 407. Cross-listed with ELEC 491 and 492. Instructor(s): Staff

MECH 408 (S)  MECHANICAL DESIGN PROJECT II (3)
An interdisciplinary capstone design experience in mechanical engineering. This course provides an opportunity for students to apply knowledge and skills acquired in previous courses to the solution of a realistic engineering problem. Teams of students will specify, design, and build a system to meet a prescribed set of requirements. The topics covered in this course will include design methodology, effective teamwork, project management, documentation, and presentation skills. Must complete MECH 408 to receive credit for MECH 407. Cross-listed with ELEC 491 and 492. Instructor(s): Staff

MECH 411 (F)  ANALYTICAL DYNAMICS (3)
Application of energy methods in the study of particle and rigid-body dynamics, electric circuits, electromechanical systems, and continuous dynamic systems. Required for mechanical engineering majors. Prerequisite(s): MECH 211. Instructor(s): Ghorbel

MECH 412 (S)  VIBRATIONS (3)
Analysis of discrete and continuous linear vibrating systems, with emphasis on multi-degree-of-freedom systems. Includes approximate methods. Required for mechanical engineering majors in B.S. program. Prerequisite(s): MECH 411. Instructor(s): Spanos

MECH 417 (S)  FINITE ELEMENT ANALYSIS (3)
An introduction to finite element analysis by Galerkin’s method and the method of least squares as applied to both ordinary and partial differential equations common in engineering applications. Element interpolations, numerical integration, computational considerations for efficient solution and post-processing methods. Application of educational and commercial codes to heat transfer and stress analysis. Prerequisite(s): MATH 212, CAAM 210 or 211. Also listed as CAAM 417 and CEVE 417. Instructor(s): Akin

(#) = credit hours per semester
MECH 420 (F) FEEDBACK CONTROL OF DYNAMIC SYSTEMS (3)
Linear systems and the fundamental principles of classical feedback control, state variable analysis of linear dynamic systems, stability of linear control systems, time-domain analysis and control of linear systems, root-locus analysis and design and pole-zero synthesis, frequency domain techniques for the analysis and design of control systems. Also listed as ELEC 436. Instructor(s): Ghorbel

MECH 431 (F) SENIOR LABORATORY I (1)
Laboratory instruction in heat transfer, thermodynamics, and engine cycles. Students work in small groups doing experiments with emphasis on applied thermodynamics and vibration analysis. Required for mechanical engineering majors in B.S. program. Students must sign up at MEMS office for sections. Instructor(s): McStravick

MECH 435 (F) ELECTROMECHANICAL DEVICES & SYSTEMS (3)
Introduction to the physical and engineering aspects of electromechanical sensors and actuators. Includes underlying physical phenomena, practical devices, electrical and mechanical interfacing, and control of electromechanical systems. Prerequisite(s): ELEC 241, 242, or 243. Also listed as ELEC 435. Instructor(s): Wise

MECH 454 (F) FINITE ELEMENT OF METHODS IN FLUID MECHANICS (3)
Fundamental concepts of finite element methods in fluid mechanics, including spatial discretization and numerical integration in multidimensions, time-integration, and solution of nonlinear ordinary differential equation systems. Advanced numerical stabilization techniques designed for fluid mechanics problems. Strategies for solution of complex, real-world problems. Topics in large-scale computing, parallel processing, and visualization. Prerequisite(s): MECH 371 or permission of instructor. Also listed as CEVE 454, and BIOE 454. Instructor(s): Tezduyar

MECH 471 (F) APPLICATIONS OF THERMODYNAMICS (3)
Applications of thermodynamics to various systems of interest in mechanical engineering, with emphasis on energy conversion, refrigeration, and psychrometrics. Required for mechanical engineering majors in B.S. program. Prerequisite(s): MECH 200. Instructor(s): Chapman

MECH 472 (F) THERMAL SYSTEMS DESIGN (3)
Design and synthesis of systems based on applications of thermodynamics, fluid mechanics, heat transfer, economics, and optimization theories. Prerequisite(s): MECH 200, 371, 372, 471, and 481. Instructor(s): Meade

MECH 481 (S) HEAT TRANSFER (3)
Study of the general principles of heat transfer by conduction, convection, and radiation. Includes their application to problems of engineering practice. Required for mechanical engineering majors. Instructor(s): Bayazitoglu

MECH 482 (F) INTERMEDIATE HEAT TRANSFER (3)
Continuation of MECH 481. Includes applications to various problems in mechanical engineering. Prerequisite(s): MECH 481. Instructor(s): Bayazitoglu

MECH 483 (S) INTRO OF BIOMEDICAL INSTRUMENTATION AND MEASUREMENT TECHNIQUES (3)
Review of basic sensors and measurement principles. Includes design problems using operational amplifier circuits (e.g., instrumentation and isolation amplifiers, comparators, timer circuits). Introduction to development of virtual instruments (VIs) using LabView. Discussion of micro- and macro-biopotential electrodes, cell cytometry, the measurement of blood pressure, blood flow, and heart sounds, temperature, and the principles of electrical safety (e.g., micro- and macro-shock hazards in the clinical environment). Includes discussion of pulmonary instrumentation and medical applications of ultrasound. Two lab exercises and a term project required. Prerequisite(s): ELEC 481 or permission of instructor. Also listed as ELEC 483 and BIOE 483. Instructor(s): Clark, Ghorbel

(F) = Fall; (S) = Spring
MECH 485 (S)  BIOMECHANICS OF HUMAN MOVEMENT (3)
Application of basic mechanics to the study of human movement. Includes joint mechanics and locomotion analysis, Lagrange and Newton-Euler methods, and basic feedback control, signal analysis, and data acquisition techniques. Prerequisite(s): MECH 211. Instructor(s): Staff

MECH 488 (S)  DESIGN OF MECHATRONIC SYSTEMS (3)
Analog electronic design for purposes of controlling electromechanical systems, including electro-mechanical sensors and actuators, analog electronic desing of filters, state space and classical controllers, and transistor-based servo amplifiers and high voltage amplifiers. Implementation of digital controllers. Significant laboratory component with design and fabrication of circuits to control electromechanical systems. Prerequisite(s): MECH 343, ELEC 241. Corequisite: MECH 420. Instructor(s): O’Malley

MECH 496 (F)  ROBOTICS LABORATORY (1)
Lab for computer vision experiments, the programming of a mobile robot and industrial type PUMA robot, and operation of a Computer Numerical Control (CNC) mill and industrial-size CNC lathe, as well as projects. Also listed as ELEC 496. Corequisite: MECH 498. Also listed as ELEC 498. Instructor(s): Staff

MECH 498 (F)  INTRODUCTION TO ROBOTICS (3)
Introduction to the kinematics, dynamics, and control of robot manipulators and to applications of artificial intelligence and computer vision in robotics. Also listed as ELEC 498 and COMP 498. Instructor(s): O’Malley

MECH 501 (F)  ANALYTICAL DYNAMICS (3)
Graduate version of MECH 411. Term project required. Instructor(s): Ghorbel

MECH 502 (S)  VIBRATIONS (3)
Graduate level version of MECH 412. Term project is required. Offered concurrently with MECH 412. Instructor(s): Spanos

MECH 503 (F)  COMPUTER-AIDED DESIGN (3)
Graduate version of MECH 403. Additional work required. Prerequisite(s): CAAM 211. Instructor(s): Akin

MECH 507 (F)  NONLINEAR DYNAMICS SYSTEMS ANALYSIS I (3)
Introduction to analytical methods describing functions (e.g., singular point and phase plane analysis) and to stability analysis via Lyapunov functions, digital computer simulation methods, parameter estimation, and sensitivity analysis. Includes an introduction to the chaotic behavior of nonlinear dynamic systems. Also listed as ELEC 507. Instructor(s): Clark

MECH 508 (S)  NONLINEAR SYSTEMS ANALYSIS II (3)

MECH 509 (S)  DYNAMIC ANALYSIS OF OFFSHORE STRUCTURES (3)
Description of loads on offshore structures on both a deterministic and probabilistic basis. Includes methods for calculating structural response, using examples of drill strings, marine risers, and fixed and compliant structures. Also offered as CEVE 509. Not offered every year. Instructor(s): Spanos

MECH 510 (S)  ELASTODYNAMICS (3)
Propagation of waves in linearly-elastic strings, fluids, and solids. Surface waves, wave reflection and refraction at interfaces. Wave propagation in waveguides. Steady-state and transient half-space problems. Scattering of waves by cracks. Instructor(s): Staff

(#) = credit hours per semester
MECH 511 (S)  CONTINUUM MECHANICS I (3)
Exploration of concepts and general principles common to all branches of solid and fluid mechanics. Includes non-Newtonian fluid mechanics and nonlinear elasticity. Instructor(s): Staff

MECH 513 (F)  THEORY OF ELASTICITY (3)
Advanced topics in the linear and nonlinear theory of elasticity. Also listed as CEVE 513. Instructor(s): Staff

MECH 514 (S)  NONLINEAR ELASTICITY (3)
Development of the theory of finite elastic deformation and motion. Some exact solutions and methods of approximation. Instructor(s): Carroll

MECH 515 (S)  STRUCTURAL PLASTICITY, FATIGUE, AND FRACTURE (3)
Investigation of problems in limit analysis and design, the plastic behavior of structures, the flexure and torsion of prismatic members, fatigue failure, and the brittle fracture of structural components. Also offered as CEVE 515. Not offered every year. Instructor(s): Staff

MECH 516 (S)  THEORY OF PLASTICITY (3)
Mathematical theory of plasticity. Thermodynamics of irreversible processes as applied to plasticity. Elasto-plastic boundary value problems. Slip-line theory. General principles. Single crystal plasticity. Dislocation dynamic-based plasticity. Prerequisite(s): MECH 511 or MECH 513 or permission of the instructor. Instructor(s): Landis

MECH 517 (S)  FINITE ELEMENT METHODS (3)
Graduate version of MECH 417. An introduction to Galerkin’s method and the method of least squares applied to partial differential equations. Computational considerations for efficient interpolation, numerical integration, solution and post-processing methods. Error estimation and adaptive finite element analysis. Requires programming for a student project and a supporting literature survey. Prerequisites: graduate student status. Instructor(s): Akin

MECH 518 (S)  THEORETICAL FRACTURE MECHANICS (3)
Topics on the theory of linear and nonlinear fracture machines. Energetics of fracture, the J-integral, stress and strain fields near crack tips, R-curve behavior. Also listed as MSCI 609. Instructor(s): Landis

MECH 523 (S)  PROBABILISTIC STRUCTURAL DYNAMICS (3)
Introduction to probability theory and random processes. Includes the dynamic analysis of linear and nonlinear structural systems subjected to stationary and nonstationary random excitations, reliability studies related to first excursion and fatigue failures, and applications to earthquake engineering, offshore engineering, and wind engineering. Prerequisite(s): MECH 412 or CEVE 521 and basic knowledge of probability theory. Also offered as CEVE 523. Not offered 2003–04. Instructor(s): Staff

MECH 524 (S)  ENGINEERING MATHEMATICAL AND NUMERICAL METHODS (3)
Correspondence between quadratic minimization problems and linear equation systems for discrete and continuous physical systems, calculus of variations, elements of solid and fluid mechanics, Green’s functions, conformal mapping, elements of approximation theory and convergence analysis of finite element methods. Instructor(s): Staff

MECH 527 (F)  COMPUTATIONAL METHODS IN STRUCTURAL MECHANICS (3)
Introduction to differential and integral formulations, variational principles, weighted residuals, and principle of virtual work. Simple boundary, initial, and eigenvalue problems. Finite element, boundary element, and finite difference methods for structural mechanics. Study of nonlinearities. Computational methods for geometric and material nonlinear analysis. Applications to static and dynamic problems. Programming and use of computer software. Also listed as CEVE 527. Instructor(s): Nagarajaiah

(F) = Fall; (S) = Spring
MECH 537 (F) DESIGN AND CONTROL OF COMPUTER NETWORKS (3)
Graduate-level introduction to fundamental concepts for the design and control of computer networks. Topics include resource allocation, routing, traffic modeling, congestion control, service disciplines, and multicasting. Concepts are applied to state-of-the-art systems and protocols such as current and future Internet architectures. Also listed as ELEC 537. Instructor(s): Staff

MECH 538 (F) EXPERT SYSTEMS: ROBOTICS (3)
Introduction to expert systems and fuzzy logic control. Includes robotics and automation. Instructor(s): Staff

MECH 554 (F) FINITE ELEMENT METHODS IN FLUID MECHANICS (3)
Graduate version of MECH 454. Additional work required. Prerequisite(s): MECH 371 and MECH 517 or permission of instructor. Also listed as CEVE 554 and BIOE 554. Instructor(s): Tezduyar

MECH 563 (F) ENGI APPROACH TO MATH PROGRAM (3)
Study of the minimization of functions of variables that are either unconstrained, subject to equality constraints, subject to inequality constraints, or subject to both equality and inequality constraints. Includes analytical and computational methods. Also listed as CAAM 563. Instructor(s): Miele

MECH 564 (S) ENGI APPROACH TO OPTIMAL CONTROL (3)
Study of optimal control theory and calculus of variations. Includes minimization of functionals depending on variables subject to differential constraints, non-differential constraints, initial constraints, and final constraints, as well as analytical and computational methods. Instructor(s): Miele

MECH 573 (S) ADVANCED FLUID MECHANICS I (3)
Examination of conservation equations for viscous compressible fluids. Includes applications to viscous and inviscid flows, as well as simple flows of non-Newtonian fluids. Enrollment limited. Instructor(s): Staff

MECH 574 (S) ADVANCED FLUID MECHNICS II (3)
Continuation of MECH 573. Advanced topics in fluid mechanics. Possible topics include: vortex dynamics, aeroacoustics, fluid stability theory, receptivity theory. Prerequisite(s): MECH 573. Not offered in 2003–04. Instructor(s): Staff

MECH 580 (S) MECHANICAL MODELLING & ANALYSIS OF PHYSIOLOGICAL & BIOLOGICAL SYSTEMS (3)
A survey of existing Mathematical models for physiological systems will be presented. Bone Remodeling around Orthopedic devices, Circulatory Mechanics. Models for Immune Response, Reaction-Diffusion Systems, and others will be discussed. Instructor(s): Staff

MECH 582 (S) CONVECTIVE HEAT TRANSFER (3)
Rigorous study of the transfer of heat by free and forced convection. Not offered every year. Instructor(s): Bayazitoglu

MECH 583 (F) RADIATIVE HEAT TRANSFER I (3)
This course will analyze the radiative heat transfer phenomena. After introduction, radiative exchange between surfaces in an enclosure without a radiatively participating medium will be analyzed. Then the radiative transfer equation through an absorbing, emitting and scattering medium (or participating medium) will be developed. The radiative properties of gases and particulates will be discussed. Instructor(s): Bayazitoglu

MECH 585 (S) BIOMECHANICS OF HUMAN MOVEMENT (3)
Graduate version of MECH 485. Term project required. Instructor(s): Staff

MECH 588 (S) DESIGN OF MECHATRONIC SYSTEMS (3)
Graduate version of MECH 488. Prerequisite(s): MECH 343, MECH 420, ELEC 241. Offered alternate years. Instructor(s): O'Malley

(#) = credit hours per semester
MECH 591 (F) GAS DYNAMICS (3)
Study of the fundamentals of compressible, one-dimensional gas flows with area change, normal shocks, friction, and heat addition. Includes oblique shocks, Prandtl-Meyer flows expansions, and numerical techniques. Prerequisite(s): MECH 371. Instructor(s): Meade

MECH 593 MECHANICAL ENGINEERING PROBLEMS (3)
An approved investigation or design project under the direction of a member of the Staff. Open only to mechanical engineering majors. Instructor(s): Staff

MECH 594 (F) AN INTRODUCTION TO AERODYNAMICS (3)
Development of theories for the prediction of aerodynamic forces and moments acting on airfoils, wings, and bodies. Includes their design applications. Not offered every year. Instructor(s): Staff

MECH 595 (F) MODELING TISSUE MECHANICS (3)
Independent study and seminar course which focuses on modeling the mechanical properties of biological tissues. Data from experiments will be used to refine the predictions of nonlinear mathematical computer models. Aimed at juniors, seniors, and graduate students. Laboratory work performed at Baylor College of Medicine, computer work at Rice University. Instructor(s): Boriek

MECH 598 (S) INTRODUCTION TO ROBOTICS
Graduate version of MECH 498. Also listed as ELEC 598 and COMP 598. Instructor(s): O’Malley

MECH 601 SPECIAL TOPICS (VAR)
Instructor(s): Staff

MECH 602 SPECIAL TOPICS (VAR)
Instructor(s): Staff

MECH 603 SPECIAL TOPICS (VAR)
Instructor(s): Staff

MECH 604 SPECIAL TOPICS (VAR)
Instructor(s): Staff

MECH 605 SPECIAL TOPICS (VAR)
Instructor(s): Staff

MECH 606 GRADUATE SEMINAR (1)
Instructor(s): Tezduyar

MECH 607 (F) MODELING OF TISSUE MECHANICS (3)
The course will cover muscle mechanics from the organ level to the structural protein level. Instructor(s): Boriek

MECH 610 (S) STRUCTURAL DYNAMIC SYSTEMS AND CONTROL (3)
Elements of linear systems and control theory, transform methods, state space methods, feedback control, and Lyapunov’s method. Analytical modeling of structures, control algorithms, and response to dynamic loading. Base isolation, passive energy dissipation, smart materials and devices, active, hybrid and semi-active structural control applications monitoring, and case studies. Prerequisite(s): CEVE 521 or MECH 502, and CEVE 527. Also listed as CEVE 610. Instructor(s): Nagarajaiah

MECH 611 (F) INDEPENDENT STUDY (VAR)

MECH 612 (S) INDEPENDENT STUDY (VAR)

(F) = Fall; (S) = Spring
MECH 621  M.M.E. RESEARCH PROJECT I (3)
This is the first part of the M.M.E. research project course. The faculty advisor, taking into account the background and research interests of the student as well as the research interests of the faculty advisor, will determine the contents. Course requirements will include a final report. Instructor(s): Staff

MECH 622  M.M.E. RESEARCH PROJECT II (3)
This is the second part of the M.M.E. research project and continuation of MECH 621. Course requirements will include a final report. Instructor(s): Staff

MECH 675 (F)  TURBULENCE: THEORY AND MODELING (3)
Presentation of the theory and modeling of turbulence including: vortex stretching, energy cascade, Reynolds stresses, law of the wall, Fourier analysis, and statistical methods. The properties of homogeneous turbulence, boundary layers, and free shear layers will be examined using computational and experimental databases. A hierarchy of turbulence models will be presented, including: algebraic, one-equation, two-equation, and Reynolds stress closures, and Large Eddy Simulation. Not offered in 2003–04. Instructor(s): Staff

MECH 678 (F)  ADVANCED STOCHASTIC MECHANICS (3)
Nonlinear random vibrations, statistical linearization, ARMA filters modeling, Monte Carlo simulation, Wiener-Volterra series, time-variant structural reliability, and stochastic finite elements are presented from a perspective of usefulness to aerospace, civil, marine, and mechanical applications. Also listed as CEVE 678. Instructor(s): Spanos

MECH 679 (F)  APPLIED MONTE CARLO ANALYSIS (3)
Probability density and power spectrum based simulation concepts and procedures are discussed. Scalar and vectorial simulations are addressed. Spectral decomposition and digital filter algorithms are presented. Applications from aerospace, earthquake, marine, and wind engineering, and from other applied science disciplines are included. Also listed as CEVE 679. Instructor(s): Spanos

MECH 684 (S)  RADIATIVE HEAT TRANSFER II (3)
Study of radiative transfer in the presence of absorbing, emitting, and scattering media. Includes combined radiation, conduction, and convection, as well as heat transfer in furnaces, fire propagation, and air pollution problems. Not offered every year. Instructor(s): Bayazitoglu

MECH 695 (S)  ADVANCED MODELING OF TISSUE MECHANICS (3)
Continuation of MECH 595/BIOE 595 with emphasis on advanced modeling the micromechanics of biological tissues. Independent study and seminar/discussion course. Data from experiments will be used to refine the predictions of mathematical models. Designed for juniors, seniors, and graduate students. Laboratory work performed at Baylor College of Medicine and computer work at Rice University. Instructor(s): Boriek

MECH 699 (S)  ADVANCED ROBOTICS LABORATORY (1)
Instructor(s): Staff

MECH 800  RESEARCH AND THESIS (3)

MGMT (Management)

The Jesse H. Jones Graduate School of Management

MGMT 501 (F)  FINANCIAL ACCOUNTING (2)
Introduction to the preparation, analysis, and use of corporate financial reports. Covers the basic techniques of financial reporting and analysis from the perspective of managers as well as external users of information such as investors. Required for M.B.A. Instructor(s): Widener

(#) = credit hours per semester
MGMT 502 (S)  COST MANAGEMENT (1)
Introduction to the use of financial and cost information by managers in budgeting, resource allocation, pricing, quality control, and other contexts to help managers set goals and monitor and evaluate performance. Required for M.B.A. Instructor(s): S. Anderson

MGMT 503 (S)  MANAGEMENT CONTROL (1)
This course builds on earlier courses on cost management and corporate strategy and focuses on the management control systems that can be used for the effective implementation of strategy. Included topics are the balanced scorecard, stretch budgets, performance evaluation and incentives, organizational and operational controls, and the development of metrics to motivate and evaluate performance. Instructor(s): Epstein

MGMT 507 (S)  LEADERSHIP (1)
Explores different perspectives on leadership and management. Considers how leadership and management complement each other and what constitutes effective leadership in business situations. Required for M.B.A. Instructor(s): B. Smith

MGMT 508 (S)  POWER, INFLUENCE & POLITICS (1)
Development of action-oriented skills in organizational politics, personal influence, and impression management, grounded in an integration of intellectual understanding of relevant theories and cases with experiential exercises. Required for M.B.A. Instructor(s): Windsor

MGMT 509 (S)  NEGOTIATION (1)
Development of analytical and behavioral skills for effective negotiation, including topics such as diagnosing conflict, decision making, adversarial versus cooperative strategies, ethical and cultural factors, and third-party intervention. Required for M.B.A. Instructor(s): Kehoe

MGMT 510 (F)  ORGANIZATIONAL BEHAVIOR (1)
Study of the many factors, which influence how individuals, groups, and teams behave and function in complex organizations and how they can be effectively managed. Required for M.B.A. Instructor(s): George

MGMT 511 (S)  ORGANIZATIONAL THEORY AND CHANGE MANAGEMENT (1)
Emphasizes understanding what constitutes effective organizational designs; considers both the macro designing of change initiatives and the micro execution of those initiatives. Required for M.B.A. Instructor(s): Weigelt

MGMT 530 (F)  INFORMATION TECHNOLOGY (1)
Overview of information technology and its applications in organizations, with emphasis on effectively managing the use of information technology. Required for M.B.A. Instructor(s): Gorry

MGMT 540 (F)  MANAGERIAL ECONOMICS (1)
We study production and pricing decisions under different assumptions about firm market power. Emphasis is placed on understanding the relevant costs in firm decision-making. Examples are used from marketing and accounting areas. Required for M.B.A. Instructor(s): Stephanadis

MGMT 541 (S)  ECONOMIC ENVIRONMENT OF BUSINESS (1)
Examination of the global economic environment that serves as a backdrop for business decision making, with emphasis on the key macroeconomic policy goals and tools and how they affect exchange rates, interest rates, business cycles, and long-term economic growth. Required for M.B.A. Instructor(s): Stephanadis

MGMT 543 (F)  FINANCE (3)
Introduction to the theory and practice of corporate finance, with emphasis on topics such as valuation, capital budgeting, risk and return, and capital structure. Required for M.B.A. Instructor(s): Grullon

(F) = Fall; (S) = Spring
MGMT 560 (F) BUSINESS ETHICS (1)
An exploration of the ethical and legal bases of managerial decision making and the social dimension of the business firm. Required for M.B.A. Instructor(s): Cording

MGMT 561 (F) BUSINESS-GOVERNMENT RELATIONS (1)
Study of how public policy influences the private competitive environment of the firm. Examines the major political institutions and actors—Congress, the President, interest groups, the media, and administrative agencies—that shape U.S. public policy. Students analyze business political strategies and formulate several of their own. Required for M.B.A. Instructor(s): Schuler

MGMT 565 (F) GLOBALIZATION OF BUSINESS (1)
Examination of the increasing importance of trade and globalization to U.S. business. Course first focuses on the industrial winners and losers of free trade and protectionism, and then examines the institutions governing trade between the U.S. and its industrial competitors. Finally, the course examines the main challenges for foreign investment in important markets, such as Japan and China. Required for M.B.A. Instructor(s): Schuler

MGMT 570 (F) COMPETITIVE STRATEGY (3)
Systematic examination of models and techniques used to analyze a competitive situation within an industry from a strategic perspective. Examines the roles of key players in competitive situations and the fundamentals of analytical and fact-oriented strategic reasoning. Examples of applied competitive and industry analysis are emphasized. Required for M.B.A. Instructor(s): Matusik

MGMT 574 (S) OPERATIONS MANAGEMENT (1)
Introduction to the principles of production management and process improvement. Required for M.B.A. Instructor(s): Roman

MGMT 574 (S) OPERATIONS MANAGEMENT (1)
Introduction to the principles of production management and process improvement. Required for M.B.A. Instructor(s): Roman

MGMT 580 (F) MARKETING (3)
Introduction to the key concepts underlying the function of marketing and its interaction with other functions in a business enterprise. Explores marketing’s role in defining, creating, and communicating value to customers. Primarily case-based with capstone simulation exercise, providing a foundation for advanced course work in marketing. Required for M.B.A. Instructor(s): Zhu, Robinson

MGMT 595 (F) DATA ANALYSIS (2)
The ever-increasing capacity of computers to analyze data and the explosion of the amount of data available have resulted in an increased role for data analysis as an aid to business decision-making. This course exposes the student to the most important ideas and methods relevant for data analysis in a business context. Emphasizing practical applications to real problems, the course covers the following topics: sampling, descriptive statistics, probability distributions, and regression analysis. Required for M.B.A. Instructor(s): Borle

MGMT 596 (F) LEADERSHIP COMMUNICATIONS (2)
Introduction to the strategy and practice of management communication. Assignments are based on core courses integrated across the curriculum. Includes individual communication skills assessment and development and team-based oral and written communication instruction. Required for M.B.A. Instructor(s): Barrett, Peters, Wiley

MGMT 598 (F) ACTION LEARNING PROJECT I (2)
ALP I focuses completely on the group project, including interacting with the faculty and corporate liaison to refine the scope and proposal, developing data gathering methods (surveys, interviews, research, etc.), completing research, beginning analysis, conducting progress reviews, and adjusting the project as necessary to ensure satisfactory completion of the project in ALP II. Required for M.B.A. Instructor(s): ALP Faculty

MGMT 599 (S) ACTION LEARNING PROJECT II (4)
Group project in which students, under the guidance of faculty and a corporate liaison, study the scope of improvements needed, examine a company’s processes, and then provide written recommendations and present findings to senior management. Required for M.B.A. Instructor(s): ALP Faculty

(#) = credit hours per semester
MGMT 601 (F)  **FINANCIAL STATEMENT ANALYSIS (3)**
*Instructor(s): Dharan, Rountree*

MGMT 602 (S)  **STRATEGIC COST MANAGEMENT (1)**
Using the value chain as the organizing framework, this class explores how firms design business processes and management information systems to achieve strategic advantage through a competitive cost structure. Competitive cost structures are increasingly obtained, not through technical efficiencies of a single firm, but through innovative collaboration among firms—what has been termed the extended enterprise. Thus more than half of the course considers strategic cost management at the boundaries of the firm—where the firm interacts with suppliers, strategic alliance partners, customers and society.  
*Instructor(s): S. Anderson*

MGMT 603 (F)  **FEDERAL TAXATION (3)**
Survey of the basic federal tax law concepts of business income and deductions, proceeding to tax aspects of different forms of business organizations, emphasizing corporations. Includes sections of tax planning for mergers and acquisitions, compensation planning, and international tax effects. Introduces tax research.  
*Instructor(s): Viebig, Westheimer*

MGMT 604 (F)  **CORPORATE FINANCIAL REPORTING (3)**

MGMT 605 (F)  **STRATEGIC PERFORMANCE MANAGEMENT (2)**
Employment of a systems approach to illustrate the linkages between an organization’s strategy and performance measurement. Uses cases and computer simulations to depict the design and operation of balanced performance-measurement systems. Topics include casual loop analysis, process redesign, and balanced scorecard. Not offered every year. Not offered 2003–04.

MGMT 606 (S)  **FINANCIAL REPORTING & ANALYSIS (2)**
Course covers aspects of interest to corporate finance officers and financial statement readers on a number of critical financial reporting issues, including those related to merchandise inventories, fixed and intangible assets, liabilities, shareholders’ equity, business combinations, consolidated financial statements and segment reporting, and the effects of changing prices on net income and rate of return. The strategic role of the newly restructured International Accounting Standards Board, especially as viewed by the Securities and Exchange Commission and the European Commission, will be explored. Students will be apprised of the sweeping and fundamental changes that are occurring today in the milieu of international financial reporting.  
*Instructor(s): Nelson*

MGMT 613 (S)  **MANAGING FOR CREATIVITY (1)**
Study of the nature of creativity, creative thinking skills and ways to encourage, promote, and effectively manage creativity and innovation in complex organizations.  
*Instructor(s): Zhu*

MGMT 617 (S)  **MANAGERIAL DECISION MAKING (3)**
Examination of current advances in managerial decision-making theories, processes and practices. Advances featured in the 2003 course include: problem finding and solving; enhancing decision-making creativity; avoiding cognitive decision traps; using the major decision-making approaches (decision analysis, logical incrementalism, and intuition); understanding team, inclusive, participative, and distributed decision making; and implementing decisions effectively.  
*Instructor(s): Taylor*

MGMT 620 (F)  **THE NEW ENTERPRISE (2)**
Evaluating opportunities and developing a business concept; analyzing new ventures; pricing, selling, and cost control; attracting stakeholders and bootstrap finance; the legal form of business and taxation; financing, deal structure and venture capital; harvesting value. Emphasis on case method. (NOTE: MGMT 620 and MGMT 621 provide much of the same content and may not both be taken for credit.)  
*Instructor(s): Napier, Finger*
MGMT 621 (F) THE NEW ENTERPRISE AND BUSINESS PLAN DEVELOPMENT (3)
Evaluating opportunities and developing a business concept; analyzing new ventures; pricing, selling, and cost control; attracting stakeholders and bootstrap finance; the legal form of business and taxation; financing, deal structure and venture capital; harvesting value; developing a business plan. (NOTE: MGMT 620 and MGMT 621 provide much of the same content and may not both be taken for credit.) Instructor(s): Napier, Crist

MGMT 624 (S) REAL ESTATE (3)
Identification and analysis of real estate investment and development opportunities. Instructor(s): Finger

MGMT 625 (S) CREATIVE ENTREPRENEURSHIP (2)
This seminar is designed for those who may wish to form their own business. It takes the prospective entrepreneur from the conception stage through the opening of the doors on the first day of business. Students will form teams to make final presentations of their business plans. The winning team of the final presentation will be eligible to participate in the Southwest Business Plan Competition held each spring at Rice University. Numerous invited speakers. Instructor(s): Murphree

MGMT 626 (S) VENTURE CAPITAL (2)
Overview of the venture capital industry; the organization and operation of venture capital funds; investment methodology; monitoring and portfolio liquidation; leveraged investing; and specialized investments. Prerequisite(s): MGMT 620 or MGMT 621. Instructor(s): Banks, Gill, Marathi

MGMT 627 ENTERPRISE EXCHANGE (2)
The needs approach to buying and selling businesses; enterprise valuation; deal and contract structuring; mergers and acquisitions; leveraged buyouts; consolidating fragmented industries. Instructor(s): Williams

MGMT 628 (F) OPPORTUNITY, IDENTIFICATION, AND ANALYSIS (2)
Opportunity Identification and Analysis teaches students to recognize attractive opportunities. The most attractive opportunities can generate large cash flows with a minimum of investment; the least attractive ideas have little chance for significant profits but soak up large amounts of time and money. Students will learn to apply skills learned in Finance, Accounting, Marketing and Strategy to a series of real world case dilemmas. Not offered 2003–04.

MGMT 630 (F) SYSTEMS ANALYSIS AND DESIGN (1)
History and evolution of software systems analysis and design; the major approaches to systems development, including structured analysis, data-driven analysis, and object-oriented analysis and design techniques; and examination of traditional life-cycle methodologies and newer interactive approaches to systems development. Not offered 2003–04.

MGMT 637 (S) STRATEGIC USE OF INFORMATION TECHNOLOGY (2)
Examination of the strategic use of information technology to provide a competitive advantage. Exploration of business models, case studies, IT trends and hot topics. Instructor(s): Baker

MGMT 640 (S) SEMINAR IN INVESTMENTS AND PORTFOLIO ANALYSIS I (1)
This course, conducted in seminar format, will review recent advances in financial theory and research concerning asset pricing and portfolio management. The course will focus on both classic as well as new, cutting-edge issues in both investment and corporate finance. Instructor(s): Foote

MGMT 641 (F) SEMINAR IN INVESTMENTS AND PORTFOLIO ANALYSIS II (1)
This continues the study of financial theory and research concerning asset pricing and portfolio management that was initially started in MGMT 640. The course focuses on classic issues in investment finance as well as new and exciting issues at the cutting edge of finance. The course is conducted in an interactive, seminar-like format and is a corequisite of students taking MGMT 643. Instructor(s): Foote

(#) = credit hours per semester
MGMT 642 (F)  FUTURES AND OPTIONS I (1)
An introduction to forward, futures, option, and swap contracts, including the basic valuation principles, the use of these contracts for hedging financial risk, and an analysis of option-like investment decisions. Recommended for finance students. Instructor(s): Fleming

MGMT 643 (F)  PORTFOLIO MANAGEMENT I (3)
Exploration of professional money management by students managing an actual portfolio (the M.A. Wright Investment Fund). Includes all aspects of asset management and performance measurement with emphasis on the class’s effort to evaluate securities and arrive at actual buy/sell decisions. Students are expected to continue to MGMT 644 and must also be enrolled in MGMT 641. Enrollment limited (individual applications reviewed by instructor). Instructor(s): Foote

MGMT 644 (S)  PORTFOLIO MANAGEMENT II (3)
Continuation of MGMT 643: Exploration of professional money management by students managing an actual portfolio (the M.A. Wright Investment Fund). Includes all aspects of asset management and performance measurement with emphasis on the class’s effort to evaluate securities and arrive at actual buy/sell decisions. Enrollment limited. Instructor(s): Foote

MGMT 645 (F)  INVESTMENTS (2)
Review of classic investment theory, with emphasis on measuring and managing investment risk and return. Includes the development of modern portfolio theory and asset pricing models, an introduction to option and futures contracts, market efficiency, and stock valuation. Recommended for most finance students. Instructor(s): Xing

MGMT 647 (F)  CORPORATE FINANCE (2)
Examination of corporate investment and financing, with emphasis on valuation methods and how financial policy impacts corporate value. Includes the implications of agency costs, asymmetric information and signaling, taxes, mergers and acquisitions, corporate restructuring, real and embedded options, and financial risk management. Recommended for finance students. Instructor(s): Moeller

MGMT 648 (S)  APPLIED FINANCE (2)
Study of the theory and practice of the fundamental principles in finance emphasizing hands-on experience with a wide range of corporate finance and investments applications. The course provides extensive opportunity to implement finance theory at a practical level and to develop advanced analytical spreadsheet expertise. Instructor(s): Weston

MGMT 650 (S)  FUTURES AND OPTIONS II (3)
In-depth analysis of the theory and practice of derivative securities. Develops a general set of valuation, hedging, and risk management techniques which are then applied to the equity, interest rate, currency, and commodity markets. Instructor(s): Fleming

MGMT 651 (S)  FIXED INCOME MANAGEMENT (3)
Study of fixed income securities and markets in the U.S. and abroad, with an emphasis on the term structure of interest rates and the pricing of fixed income securities, derivatives, and portfolios. Include Treasury, Corporate Debt, and Mortgage-Backed Securities. Instructor(s): Wang

MGMT 652 (S)  MERGERS & ACQUISITIONS (2)
The course examines the merger and acquisition process from the perspectives of buyers and sellers. Attention is paid to the internal (make) versus external (buy) growth opportunities and their value consequences. The course also analyzes the M&A transaction process through the study of cases. An additional focus will be in the interaction of strategic planning, value planning, financial strategies, and investment decisions. Instructor(s): Atherton

(F) = Fall; (S) = Spring
MGMT 653 (S) PRIVATE EQUITY (1)
This course provides an overview of the private equity process. Private equity is a rapidly growing segment of the capital markets that funds; mature and growing companies during the pre-public growth phase. Many of these companies are sold to strategic buyers as an alternative to going public. The private equity market also provides capital for LBOs and MBOs. We will examine the private equity market from three perspectives: (1) the organization and operation of private equity funds, (2) the due diligence investigation, negotiation of terms and valuation analysis necessary to make private equity investments and (3) exiting private equity investments. Instructor(s): Atherton

MGMT 654 (F) COMMERCIAL BANKING (1)
Role of commercial banks in: Payments and clearing; new money creation, financing enterprise; reacting to monetary policy, credit criteria, services, economic and competitive environment, and global issues. Enrollment limited to 25 for each class. Instructor(s): L. Baker

MGMT 656 (S) ENERGY DERIVATIVES (2)
Examines the physical energy markets, common financial instruments, and their applications, including cross-commodity hedges, dual variable assets, synthetic options, and swaps. Decision criteria for both outright and risk management trading are covered with respect to both fundamental and technical analysis. Eight guest speakers from various companies throughout the industry will participate. Instructor(s): Kaminski

MGMT 657 (F) INTERNATIONAL FINANCE (3)
Exploration of special problems encountered by financial officers in international arenas. Includes the economics of the foreign exchange market, exchange rate risk management, international portfolio management, capital budgeting for international projects, and international financing strategies. Instructor(s): Watanabe

MGMT 658 (S) APPLIED RISK MANAGEMENT (1)
This course focuses on applied risk management projects. The hands-on experience allows in-depth analysis and understanding of practical risk management issues and exposure to different risk management tools including Value at Risk and Monte Carlo simulations. The course emphasizes student development and application of skills rather than lectures. Instructor(s): Ostdiek

MGMT 660 (S) PUBLIC NONPROFIT FINANCIAL MANAGEMENT (3)
Introduction to the key elements of financial management in the public and nonprofit sectors: noncommercial accounting, appropriations process, budgeting procedures, social cost-benefit and cost-effectiveness analysis, financial supervision, and related topics. Suitable for students interested in government, health care, nonprofit management, or consulting practices in those areas. Instructor(s): Windsor

MGMT 661 (F) INTERNATIONAL BUSINESS LAW (3)

MGMT 667 (F) CORPORATE FINANCE FOR NONFINANCIAL MANAGERS (2)
This course focuses on the essentials of corporate finance for students who do not wish to pursue finance-oriented careers. It builds on the basic principles of valuation, financing, and budgeting, and introduces new issues such as personal taxes, agency problems, real options, and mergers and acquisitions. The emphasis of the course is on getting the concepts across through an overview of leading financial theories, empirical evidence, and case studies. The course requires an understanding of the basic principles of finance. Instructor(s): Moeller

MGMT 669 (F) BUSINESS STRATEGY IN THE ENERGY INDUSTRY (1)
This course is designed to examine business in the energy industry from a strategic standpoint, and provide students with a basic understanding of major business issues in the energy industry, including historical and current events. Emphasis will be on oil and gas, but may also touch on other energy subset such as utilities. Instructor(s): Baker

(#) = credit hours per semester
MGMT 670 (S) STRATEGIC PLANNING AND CREATIVITY (1)
Examination of strategic planning approaches and methods for managing 21st-century organizations. Emphasizes design and implementation of planning systems that are highly responsive to the dynamic, competitive, stakeholder-influenced planning contexts facing modern organizations. Examples of excellent planning performed by a variety of actual companies and industries are analyzed. Instructor(s): Taylor

MGMT 671 (F) CORPORATE CRISIS MANAGEMENT COMMUNICATION (1)
Studies current methods of crisis communications with practical application utilizing numerous recent real-world case studies. Class will research and prepare strategies, make recommendations, then dissect and analyze each crisis situation, the processes, policies and results. This process will enhance strategic thinking, allow the consideration of pros and cons of alternative courses of action and provide a better understanding of the management decision making process. Class time will be interactive with individual and small group participation. Instructor(s): Hemeyer

MGMT 672 (F) CHANGE COMMUNICATIONS (1)
This course will explore the challenges of developing and communicating a change vision and imperative across an entire organization as well as in the business unit of a company. It will involve the students in analyzing the characteristics of a good vision with strategic objectives, defining effective managers and leaders of the vision and their role in making the vision real, meaningful, and actionable, and learning to execute a meaningful vision development and communication process. In addition, it will look at the role of vision development and communication in the strategic planning process and how the process itself can and should be linked to the vision and the change paradigm. Designated as an elective for first and second-year students. Not offered 2003–04.

MGMT 673 (S) INTERNATIONAL COMMUNICATIONS (1)
Students taking this course will learn how to assess communication requirements for a broad range of global business situations and develop successful communication strategies appropriate to specific international engagements. Students will also become familiar with a variety of resources available to assist with international and intercultural communication issues. Instructor(s): Henry

MGMT 674 (F) PRODUCTION AND OPERATIONS MANAGEMENT (3)
To introduce students to the key issues facing managers regarding the operations management of their companies. The goal will not be to provide technical skills training for persons desiring manufacturing management careers, but rather to expose students to operations management issues they may face in general management or financial management of companies, either in the manufacturing or service sectors. Topics include: Just In Time (Lean) Production, Total Quality Management, Statistical Process Control (Six Sigma), The Theory of Constraints, Business Process Re-engineering, Supply Chain Cost Management, Leadership Skills in Operations, and Participative Management. Instructor(s): Flatt

MGMT 675 (S) MANAGEMENT OF INNOVATION (2)
This course is a study in the creation and maintenance look of competitive advantage through both incremental and radical innovation. We learn to formulate innovation strategies consistent with a firm’s business strategies. We study processes, management systems, and organizational structures that promote and support innovation. The scope of the course ranges from new product development to business model innovation. We also seek to understand the key drivers of innovation and sources for new ideas. The focus is primarily on large firms. The perspective is that of general management. Readings and case studies are used. Instructor(s): Austgen

MGMT 676 (S) PROJECT MANAGEMENT/PROJECT FINANCE (3)
Examination of the practice of developing, managing and financing projects, and managing the expectations of project stakeholders. Includes introduction to project alignment methodology, decision analysis, risk analysis and mitigation for project application, and the introduction of the innovative ‘project finance’ discipline which is substantially different from organic corporate financing of projects. Instructor(s): Allan

(F) = Fall; (S) = Spring
MGMT 678 (F) U.S. HEALTH CARE MANAGEMENT (3)
Sequence of offerings that provides an introduction to the business of health care in the U.S. Topics include health care systems, health service organizations, and issues relating to the aging problem and the technology explosion in health care. Instructor(s): Shook

MGMT 679 (S) COST AND QUALITY IN HEALTH CARE (3)
Sequence of offerings that provides further analysis of the business of health care in the U.S. Topics include issues of cost and quality, health care financial management, and national and international solutions to the challenge of providing health care to a population. This class is designed to stand-alone, yet build upon MGMT 678. Instructor(s): Shook

MGMT 682 (F) PRICING MODELS IN MARKETING (2)
Study of the paradigm that success of a product lies not only in its acceptance by the end consumer but also in how it priced and how it reaches the intended consumer, with emphasis on understanding and analyzing the issues, problems, and opportunities characteristic of the channel relationship and of the various faces of pricing. Instructor(s): Dholakia

MGMT 683 (F) SERVICE MARKETING AND MANAGEMENT (3)
Exploration of challenges in the marketing of services, with emphasis on service quality, the importance of cross-functional interactions, and the development of breakthrough service organizations. Examines the differences between marketing services and marketing products, service quality, customer satisfaction, the design of services, and service guarantees, by using lectures, discussions, and case analyses. Not offered 2003–04.

MGMT 684 (F) BRAND MANAGEMENT (3)
Application of various dimensions of marketing strategy and management to the role of the product manager responsible for all marketing activities of a given product. Instructor(s): Koch, Perkins

MGMT 686 (S) MARKETING RESEARCH (2)
The objective of the course is to provide a comprehensive look at the marketing research process and the associated data collection techniques that can be used to collect information to better manage the marketing mix. Qualitative, survey-based, and experimental research designs will be discussed. Instructor(s): Singh

MGMT 687 (S) MARKETING STRATEGY (3)
Considers key elements of marketing strategy, namely, segmentation, targeting, positioning, new product introduction, product line policies, competition. Also treats development of strategic marketing plan. The concepts are discussed through cases, lectures, and a simulation game called MARKSTRAT. Instructor(s): Krishnan

MGMT 688 (F) BUYER BEHAVIOR (2)
Drawing on established theoretical frameworks of cognitive and social psychology, this course examines three aspects of consumer behavior: (1) individual, social and cultural influences on consumers, (2) psychological mechanisms of pre- and post-consumption processes such as decision-making and attitude formation and change, and (3) methodological issues in consumer analysis. Implications for strategy as well as marketing program design, measurement and execution are discussed. These topics will be studied through discussion of academic articles, cases and projects. Instructor(s): Dholakia

MGMT 689 (S) MARKETING MODELS (3)
Development and analysis of state-of-the-art marketing models that utilize consumer-level data and statistical software packages (SAS, SPSS, and GAUSS) to uncover the various key marketing measures such as price and advertising elasticities, to study the impact of promotions and advertising on sales, to analyze the diffusion of new products such as answering machines and cellular phones, and to do segmentation and market structure analysis. Instructor(s): Krishnan

(#) = credit hours per semester
MGMT 692 (S)  INTERNET MARKETING (3)
This course examines the opportunities and challenges of marketing on the Internet, focusing on three distinct area: strategy, communications and consumers. First, we consider strategic issues facing internet marketers, and examine emerging and traditional theoretical frameworks and concepts of value. Second, we examine the media characteristics and potential of the digital environment, and compare it to traditional forms of marketing communication. Third, we study demand-side issues, examining consumer behavior in digital environments with implications for marketers. These topics will be studied through cases, discussions of academic and trade articles, and projects. Instructor(s): Dholakia

MGMT 693 (S)  NEW PRODUCT DEVELOPMENT (3)
Exploration of the critical role of new products within the corporation and in small businesses, focusing on consumer products. Discusses the critical steps in new product development from ideal generation to business analysis and cross-functional team management to product launch into the marketplace. Students will work in groups to develop their own new products and to prepare the key elements of a new product introduction. Instructor(s): Singh

MGMT 694 (F)  ADVERTISING CREATIVE MANAGEMENT (1)
Many CEOs and marketing managers are not trained how to evaluate advertising creative or ad content even though advertising plays a key role in a company's/product’s marketplace performance. Advertising Creative Management will provide a basic framework for managing and evaluating advertising creative with a focus on television ads. The course will include lectures, numerous advertising samples for discussion, a guest speaker and two assignments. No final exam. Not offered 2003–04.

MGMT 695 (S)  TRADING ROOM SEMINAR (1)
Independent projects based on data, software, and analysis techniques developed in the Jones School trading room. Not offered 2003–04. Instructor(s): Fleming

MGMT 697 (S)  ADVERTISING MANAGEMENT (3)
This course will take an integrated marketing communications approach to the development, implementation and control for advertising and promotion programs. We will examine the role of integrated marketing communications in marketing, setting objectives and budgets, development, monitoring, evaluating for advertising, direct marketing, public relations, and sales promotion programs. Instructor(s): Yoon

MGMT 699 (F)  ADVANCED MARKETING RESEARCH (2)
In this course we develop a thorough understanding surrounding the design of studies to measure perception and preference in a market. Topics include: Projective Techniques, Multidimensional Scaling, Factor Analysis, Conjoint Analysis, and Choice Models. Design of data collection instruments, collection, analysis, and reporting of results are emphasized in a project context. Not offered 2003–04.

MGMT 700  INDEPENDENT STUDY (1–3)
Independent study or directed reading on an approved project under faculty supervision. Instructor(s): Staff

MGMT 703 (S)  FIELD STUDY IN AMERICAN BUSINESS (0)
The purpose of this course is to expose students to the American business enterprise. This look exposure is accomplished through two primary means: (1) readings about the drivers of success in U.S. firms; and (2) an internship with a firm in the United States. The readings are meant to complement much of your course work in the first year of the MBA Program. Instructor(s): None

MGMT 704 (S)  SPANISH COMMERCE I (3)
This class focuses on business vocabulary, and places high emphasis on listening and speaking skills. Project presentations, performed in teams, are a final component of the course. Cultural issues are addressed throughout and some grammatical points are reviewed. The course is taught entirely in Spanish. The course prepares students to take the exam for the Business Certificate from Madrid. Instructor(s): Llusa

(F) = Fall; (S) = Spring
MGMT 705 (F)  SPANISH COMMERCE II (3)
This course covers business topics, and is taught entirely in Spanish. Guest speakers in the classes include business executives, academics, and government officials who are native speakers of the language. The course exposes students to topics in the current business climate and trends in Latin America and Spain. The students at the end of this course, take the exam (in the Jones School and with approval of Dean Westbrook) for the Business Certificate from Madrid. Instructor(s): Llusa

MGMT 706 (F)  MANAGEMENT OF TECHNOLOGY (1)
This course is a study in the creation and maintenance of competitive advantage through the development and exploitation of technology in both core products and enabling processes. We study the formulation and implementation of technology strategy and seek to understand how new and improved technologies are exploited through innovation. We learn to formulate technology strategy. We explore the appropriate scope and dimensions of technology strategy, forces that shape it, processes for crafting it, and integration of technology strategy into the firm’s corporate- and business-level strategies. We also study processes, management systems, and organizational structures that promote effective technology development. The focus is primarily on large firms. The perspective is that of general management. Instructor(s): Austgen

MGMT 707 (F)  BUYER BEHAVIOR II (1)
The objective of this course is to understand the psychological mechanisms underlying important marketing processes. In particular, we will examine the psychological bases of customer satisfaction, loyalty, relationship marketing, and branding. In each case, drawing on psychological theoretical frameworks, we will understand what these constructs mean from the consumer’s standpoint, and how managers should take these meanings into account during planning, creating and executing marketing strategies. It is expected that this knowledge will benefit not just students interested in a marketing emphasis, but those in general management and finances as well, in evaluating the implications of their functional responsibilities on their firm’s top-line through influencing customer processes and behaviors. Instructor(s): Dholakia

MGMT 708 (S)  STRUCTURAL EQUATIONS MODELS (3)
This course will explore issues related to measurement and hypothesis testing interpretation in management research and the behavioral sciences. Structural equations methodology (also known variously as simultaneous equation systems, path analysis, and causal modeling) will be used as the primary means of analysis, but the course also considers reliability, validity, explanation, prediction, control, and understanding of individual, group, and organizational phenomena. Examples drawn from management, the social sciences, and psychology will be used to illustrate the approaches and concepts examined. An introductory background in probability and statistics, preferable including multiple regression, will be assumed. Prerequisite(s): MGMT 595 and instructor’s permission, or STAT 310 or equivalent, STAT 410 or equivalent recommended, or PSYC 502 and PSYC 503, or POLI 502 and POLI 503, or ECON 510 and ECON 511, and graduate standing. Instructor(s): Bagozzi

MGMT 710 (F)  BUSINESS TO BUSINESS MARKETING (3)
The objective of this course is to provide the student with an understanding of the various concepts and tools relevant to the marketing of products in a business-to-business setting. Instructor(s): Koch, Batsell

MGMT 711 (S)  APPLIED OPTIMIZATION (1)
Airlines don’t schedule without it and refineries don’t produce gasoline without it, and Wall Street is investing in it. It is optimization. The evolution of powerful micro-computers has brought the application of optimization to the desktop and industry after industry is exploring ways to take advantage of this family of techniques to reduce cost and increase profitability. Successful line managers need to understand its potential, and analytically inclined MBAs will appreciate its elegance. This course will focus on the application of linear and integer programming techniques to supply chain optimization. Although the application focus will be on supply chain, the successful student will be able to recognize optimization and profit maximization opportunities across many different business contexts. Instructor(s): Bixby

(#) = credit hours per semester
MGMT 712 (F) DATABASE MARKETING (3)
This course on Database Marketing will provide students with an understanding of 1.) The managerial issues related to database marketing and customer relationship management, 2.) The importance of integrating internal processes with customer relationship management processes, 3.) Technology issues in developing relationship tools such as data architecture, data warehousing, content personalization, etc. 4.) Data models used in understanding and predicting customer behavior for improved customer relationships from large databases, and will provide students with the ability to develop and utilize specific data mining techniques to integrate customer data and business processes. Instructor(s): L. Klein

MGMT 713 (S) GLOBAL STRATEGIC MANAGEMENT (3)
Seeks to provide students with the skills, knowledge and sensitivity required to attain and maintain sustainable competitive advantage within a global environment. Emphasizes a strategic perspective and highlights topics such as global environment analysis, global strategy, global strategic alliances, and the important role of organizational structure and strategic control. Instructor(s): Zhang

MGMT 722 (F) MANAGEMENT CONTROL AND DESIGN (1)
This course builds on and extends the topics introduced in MGMT 503, Management Control. It is situated at the intersection of strategy and control and will focus on the use and design of control systems to facilitate strategic objectives and achieve business goals. It will begin by taking an in-depth look at the levers of control typology introduced in MGMT 503. The course will examine incentive issues that arise when compensation is linked to diagnostic controls, and whether it facilitates or hinders the achievement of strategic objectives. The course then shifts to examine the presence of strategic risks and how strategic pressures impact the accounting environment. Finally, it will examine how a component of the management control system is used to manage those risks. It will also include the current changes in management control and the requirements now imposed on top executives. Instructor(s): Widener

MGMT 723 (F) CHANNELS MANAGEMENT (3)
This course focuses on the design and management of marketing channels which deliver goods, services and concepts available for consumption by enhancing their time, place and possession utility. A relationship management approach will be used to study the relationships between and among organizations that are linked together in a distribution system. The course will focus on gaps that can exist in channel design and how to close them, and will examine ways to manage channels to control conflict and enhance channel coordination. Specific concepts include: franchising, strategic partnering, e-retailers supply chain management, and marketing channels in the global economy. Instructor(s): Klein, L.

MGMT 724 (F) STRATEGIC ALLIANCES AND JOINT VENTURES (1)
In today’s world of global markets, rapid technological advancement, and increasing complexity of new products, few companies can successfully compete alone. As such, for industry giants and ambitious start-ups alike, strategic partnerships have become critical. The Strategic Alliance and Joint Ventures course will examine the theory and logic of alliances in value creation as well as exploring the life cycle of an alliance. Instructor(s): Foote

MGMT 725 (F) STRATEGIC ALLIANCES AND JOINT VENTURES II (1)
This class will be an intensive examination of a single alliance, from planning and inception through alliance maturity and dissolution. Theory, tools and models from MGMT 724 will be actively applied to real life. Instructor(s): Foote

MGMT 726 (S) FIXED INCOME PORTFOLIO (2)
In this course, students will gain hands-on experience in the challenges and excitement of managing a simulated Fixed Income portfolio (U.S. Treasuries, corporate bonds and mortgages). FIP Sim ‘student-managers’ will actively learn and utilize the resources of the El Paso Finance Center to set up, research, and manage / trade their simulated portfolios. Each portfolio will consist of securities selected by the student-manager from an index in conformance with pre-established investment guidelines—alogous to the real investment management world. At the end of each month, portfolio performance will be calculated and benchmarked against the index. Classroom time will be used for a combination of lectures, speakers, interactive Finance Center activities, and professor / student consultation sessions on investment strategy. This course work will leverage off of material learned in MGMT 651 and to receive credit, you must simultaneously take MGMT 651. Instructor(s): Foote

(F) = Fall; (S) = Spring
MGM 730 (S) ADVANCED INVESTMENT MANAGEMENT (3)
Advanced theory and practice in investment management, including security analysis, optimal asset allocation for active fund managers, dynamic portfolio insurance programs, arbitrage-free pricing, bond fundamentals and arbitrage, and interest rate swaps and derivatives. Instructor(s): Wang

MGM 734 (F) TECHNOLOGY ENTREPRENEURSHIP (3)
Through exposure to literature on technology entreperneurship and active involvement with technology entrepreneurs, the student will deepen his/her knowledge of the process of starting, funding, and growing an entrepreneurial company that is based on a science, engineering, software, or e-commerce innovation. Involvement with technology entrepreneurs will be made through the Rice Alliance for Technology and Entrepreneurship (http://www.alliance.rice.edu/). Instructor(s): Currall

MGM 736 (S) FUTURE TECHNOLOGIES (3)
This course examines emerging technologies against the backdrop of historical, cultural and business trends. Students are asked to assume the role of an analyst who must produce a white paper on an emerging technology. Each student studies a specific technology and produces a white paper (and PowerPoint presentation) reporting his or her findings and recommendations. Students learn strategies for evaluating a future technology’s market potential and communicating findings to the investment community in written and face-to-face communications. Instructor(s): Wiley

MGM 737 (S) INVESTOR RELATIONS (3)
Students will learn theory and practice of investor relations, with emphasis on the role of investor relations/financial communications. Subjects covered include the history of the stock market, the formation of the SEC, the evolution of SEC regulations, dynamics of the equity markets, the flow of investor information and how to manage that flow, planning and implementing an investor relations program, and fitting investor relations into a corporation’s communications program. Students will be mentored by local investor relations practitioners who will serve as real world guides for course assignments. Students will learn specifics about filing with the SEC, the creation of annual reports, road shows, stockholder meetings, preparing financials, and more. Students will also learn about streaming audio and video and other Web-based electronic services that provide up-to-the-minute financial reporting and financial news. Investor relations managers, analysts and CEOs will serve as guest lecturers to talk about their challenges in today’s workplace. Students will examine the role of investor relations in the Enron case. Prerequisite(s): Students must be strong communicators and be able to read financial statements. Second year MBA students only. Instructor(s): Wiley

MGM 739 (S) DELIVERING SHAREHOLDER, EMPLOYEE AND CUSTOMER VALUE (2)
The course will deliver the fundamental concepts as to how a company delivers value to its primary stakeholders. A number of successful business models will be examined and an in depth analysis will be done to develop the understanding as to why and how the emphasis on delivering value has shifted from the customer to the employees to, lately, the shareholders. Successful companies will be examined, primarily in the way of delivering value. The course will examine what constitutes a good value chain and why, as well as defining “value” and the formulation of a “value proposition”. A delineation will be made in the formulation of the value proposition for companies with different value disciplines. Real examples and case studies will be discussed. Instructor(s): Merrill, Papadopoulos

MGM 740 (F) HEALTH SERVICES MANAGEMENT (15)
Only open to Joint M.D./M.B.A. degree program students. Instructor(s): Staff

(#) = credit hours per semester
MGMT 741 (S) MANAGING GROWTH (2)
Companies as either thought of as small start-ups or large, mature businesses. The small start-up is considered to be the domain of the entrepreneur, where by force of personality, spark of creativity, or bold opportunism, a business is formed *ex nihilo*. On the other extreme, the large business is considered to be the domain of the manager, where by force of scale and scope, imposition of process, and careful analysis, an empire is sustained and expanded. In summary, the focus of the course will be how to create wealth by buying a small business, putting systems and processes in place to create a foundation for future growth, driving growth both internally and externally, and, finally, selling the business. Students will learn to apply those skills to small businesses with growth potential. *Instructor(s): Linbeck*

MGMT 750 (F) MANAGEMENT FOR SCIENTISTS AND ENGINEERS (3)
This course is designed for science and engineering students who want to understand the management of new and/or small technology-based businesses. The course is taught in modular format to give students insights into how technology-oriented firms manage intellectual property, marketing, organization behavior, strategy, accounting and finance. Concepts covered will be particularly relevant to students interested in careers in technology or entrepreneurial ventures. This course is part of a two-class sequence and provides the foundation for students taking NEW VENTURE CREATION for SCIENCE and ENGINEERING, which is offered in the spring. Also listed as CHEM 750 and MSCI 750. *Instructor(s): Heeley*

MGMT 751 (S) NEW VENTURE CREATION FOR SCIENCE & ENGINEERING (3)
This course deals with the concepts and theories relevant to new venture creation. Our primary focus is the start-up process with particular emphasis being placed on market issues, intellectual property and entrepreneurial finance. As part of the course we will evaluate the commercial potential of a live technology drawn from the Rice engineering/science community. The concepts covered will be particularly relevant to students who are interested in careers in technology or entrepreneurial ventures. Course is offered to senior and non Jones School graduate students only. Cross-referenced numbers are CHEM 751 and MSCI 751. *Instructor(s): Heeley*

MGMT 760 (F) HTC INTERNSHIP (3)
The Houston Technology Center (HTC) is working to enhance Houston’s position as a leading city for technology companies and has established a formal internship program with the Jones Graduate School of Management (JGSM) to give students exposure and experience with high-tech companies within Houston. The program allows students to work directly with high-tech companies and with the HTC itself. The program provides Jones school students the chance to apply the knowledge they gain in the classroom to the real world problems which all start-up companies face. *Instructor(s): Ostdiek*

MGMT 780 (F) EXTENDED LEARNING LAB I (1)
Extended Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world setting such as cases, simulations, and communication exercises. *Instructor(s): Staff*

MGMT 781 (F) EXTENDED LEARNING LAB II (1)
Extended Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world setting such as cases, simulations, and communication exercises. *Instructor(s): Staff*

MGMT 782 (F) EXTENDED LEARNING LAB III (1)
Extended Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world setting such as cases, simulations, and communication exercises. *Instructor(s): Staff*

*(F) = Fall; (S) = Spring*
MGMT 783 (S)  EXTENDED LEARNING LAB IV (1)
Directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester subject areas in practical, real-world setting, such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 784 (S)  EXTENDED LEARNING LAB V (1)
Directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester subject areas in practical, real-world setting, such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 785 (S)  EXTENDED LEARNING LAB VI (1)
Directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester subject areas in practical, real-world setting, such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 786 (S)  INTERNATIONAL BUSINESS BRIEFING (1)
An overseas course trip involving intensive meetings with company and commercial bank executives, directors in consulting and investment banking firms, executives in public sector and health care enterprises, and government officials and academics. The objective is to enhance students’ appreciation of the opportunities and obstacles to doing business in different parts of the world and to heighten their interest in engaging in global ventures. Readings to prepare for the country visits and meetings will be assigned prior to the trip. The course grade will be based on students’ active participation during the meetings and on a substantive paper to be submitted no later than January 31. Attendance at all of the scheduled meetings during the course trip is required. The focus of the paper should be a synthesis of the insights and perspectives acquired from all aspects of the course trip. These may be related to the students’ plans and aspirations, but the core of the paper must deal with the content of the trip, especially the pre-trip readings and the dialogues during the company meetings. In the paper, the management and strategy issues that were treated in at least two or three of the company meetings should be identified and integrated in the paper. Instructor(s): Staff

MGMT 787 (S)  CROSS-CULTURAL ISSUES IN BUSINESS (1)
Introduction to cultural business differences and discussion of problems and obstacles to business caused by nonsynchronous historical and political viewpoints. Emphasizes management challenges to non-American and multicultural environments where values, practices, negotiation styles, concepts of time and methods of communication are dissimilar. Instructor(s): Currall, Lesnick

MGMT 790 (S)  EXTENDED LEARNING LAB VII (1)
Extended Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world setting such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 791 (S)  EXTENDED LEARNING LAB VIII (1)
Extended Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world setting such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 792 (S)  EXTENDED LEARNING LAB IX (1)
Extended Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world settings such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 793 (S)  EXTENDED LEARNING LAB X (1)
Action learning labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world settings such as cases, simulations, and communication exercises. Instructor(s): Staff

(#) = credit hours per semester
MGMT 794 (S) EXTENDED LEARNING LAB XI (1)
Action Learning Labs are directed jointly by the four faculty members responsible for any given mini-semester. Their purpose is to apply information from each of that mini-semester’s subject areas in practical, real-world settings such as cases, simulations, and communication exercises. Instructor(s): Staff

MGMT 800 (F) INDEPENDENT STUDY (1)

MGMT 801 (F) FINANCIAL ACCOUNTING (2)
Preparation of financial statements, financial reporting framework and financial accounting techniques. Instructor(s): Nelson

MGMT 802 (F) COST MANAGEMENT (1)
Provides general managers with an understanding of the design and function of a firm’s management accounting system to enable them to become active consumers of accounting information. The course describes how accounting information can assist managers in making decisions about products, services, and customers; improving existing processes; and aligning organizational activities toward long-term strategic objectives. Instructor(s): Ansari

MGMT 803 (F) FEDERAL TAXATION (1)
Survey of the basic federal tax law concepts of business income and deductions, proceeding to tax aspects of different forms of business organizations, emphasizing corporations. Includes sections of tax planning for mergers and acquisitions, compensation planning, and international tax effects. Introduces tax research. Instructor(s): Viebig

MGMT 807 (F) LEADERSHIP (1)
Covers key elements of sound leadership theory and practice in organizational settings. Instructor(s): Windsor

MGMT 811 (S) CHANGE MANAGEMENT (1)
Examination of practical challenges in planning and in implementing organizational change. Topics include organizational transformation, continuous change, choices in organizational change initiatives, leadership of organizational change and transformation at different organizational levels, and motivation and resistance around change efforts. Instructor(s): Kehoe

MGMT 813 (S) MANAGING FOR CREATIVITY (1)
Experience, practice, and improve your creativity skills both alone and in teams; develop managerial skills to promote creativity in your employees; link creativity with innovation and address issues related to implementing creative ideas. Instructor(s): Zhou

MGMT 817 (S) DECISION ANALYSIS (1)
Logical, consistent techniques to incorporate judgments about risks and uncertainties into a decision analysis, especially under conditions of uncertainty. Instructor(s): Allen

MGMT 830 (F) INFORMATION TECHNOLOGY (1)
The role and impact of information technology (IT) in organizations, strategic uses of IT, the internet and electronic commerce, outsourcing versus insourcing of IT activities, technology directions and management of the IT function. Instructor(s): Napier

MGMT 835 (S) MANAGING KNOWLEDGE IN THE INFORMATION AGE (1)
People processes and technology. Technology for managing knowledge. New organizational models. Instructor(s): Gorry

MGMT 840 (F) MANAGERIAL ECONOMICS (1)
Covers the basics of consumer demand and then focuses on the relevant costs in making production and pricing decisions, with an emphasis on seeking economics rather than accounting profit. Explores incentive problems in decision-making within firms and studies the relation between decision rights, compensation, and performance evaluation in productive organizational design. Instructor(s): Stefanadis
MGMT 841 (F) ECONOMIC ENVIRONMENT OF BUSINESS (1)
Examination of the global economic environment that serves as a backdrop for business decision making, with emphasis on the key macroeconomic policy goals and tools and how they affect exchange rates, interest rates, business cycles, and long-term economic growth. Instructor(s): Ostdiek

MGMT 843 (S) CORPORATE FINANCIAL MANAGEMENT (2)
Capital budgeting, risk and return, cost of capital, EVA concept, time value of money, net present value. Instructor(s): Visizon

MGMT 845 (F) CAPITAL INVESTMENT ANALYSIS (1)
This course examines quantitative techniques for evaluating capital investment opportunities for corporations. In addition, the course will analyze cases to examine the use of those techniques in making capital investment decisions. Instructor(s): Atherton

MGMT 858 (S) ENTERPRISE-WIDE RISK MANAGEMENT (1)
Explore the responsibilities for risk management from corporate directors down to the roles of the internal audit department, risk control, and risk management groups. Examine an organization’s internal risk management structure and the thought process for identifying key risks. Instructor(s): Cory

MGMT 860 (S) BUSINESS ETHICS (1)
Moral obligations of firms and managers. Instructor(s): Windsor

MGMT 861 (S) BUSINESS-GOVERNMENT RELATIONS (1)
The course exposes students to the governmental institutions that surround the business environment. Strategies for influencing and responding to governmental actors are explored as well as other issues related to business-government relations. Instructor(s): Ostdiek

MGMT 865 (F) GLOBALIZATION OF BUSINESS (1)
This course examines the increasing importance of trade and the global economy to U.S. business. It focuses first on the industrial winners and losers of free trade and protectionism, and then examines the major laws and agencies governing trade between the U.S. and her industrial competitors. Finally, the course examines current issues and challenges for foreign investment in some of the most important markets for U.S. firms such as Japan and China. Instructor(s): Schuler

MGMT 869 (S) BUSINESS STRATEGY IN THE ENERGY INDUSTRY (1)
This course is designed to examine business in the energy industry from a strategic standpoint, and provide students with a basic understanding of major business issues in the energy industry, including historical and current events. Emphasis will be on oil and gas, but may also touch on other energy subsets such as utilities. Instructor(s): Papadopolous

MGMT 870 (F) COMPETITIVE STRATEGY (1)
Systematic examination of models and techniques used to analyze a competitive situation within an industry from a strategic perspective. Examines the role of key players in competitive situations and the fundamentals of analytical and fact oriented strategic reasoning. Examples of applied competitive and industry analysis are emphasized. Instructor(s): Cording

MGMT 871 (F) STRATEGY FORMULATION AND IMPLEMENTATION (1)
This course focuses on formulating and implementing effective organizational strategy, including competitive positioning, core competencies and competitive advantage, cooperative arrangements, and tools for implementation. Instructor(s): Matusik

MGMT 874 (F) TECHNOLOGY AND OPERATIONS MANAGEMENT (1)
Introduction to the design and improvement of operations, including manufacturing technologies, quality management and control, and organizational issues in operations. Instructor(s): Lee

(#) = credit hours per semester
MGMT 880 (F)  MARKETING (2)
Introduction to the key concepts underlying the function of marketing in a business enterprise. Includes lectures and an extensive analysis of marketing management cases. Instructor(s): Robinson

MGMT 882 (S)  PRICING AND CHANNELS (1)
Instructor(s): Krishnan

MGMT 884 (F)  BRAND MANAGEMENT (1)
Application of various dimensions of marketing strategy and management to the role of the product manager responsible for all marketing activities of a given product. Instructor(s): Perkins, Koch

MGMT 895 (F)  DATA ANALYSIS (2)
The ever-increasing capacity of computers to analyze data, and the explosion of the amount of data available, has resulted in an increased role for data analysis as an aid to business decision-making. This course exposes the student to the most important ideas and method relevant for data analysis in a business context. Emphasizing practical applications to real problems, the course covers the following topics: Sampling, Descriptive Statistics, Probability Distributions, and Regression Analysis. Instructor(s): Batsell

MGMT 896 (F)  LEADERSHIP COMMUNICATION (1)
This course is an introduction to corporate communication strategy and global communication, with individual and team-based instruction in both written and oral communications and presentation skills. Instructor(s): O'Sullivan, Hampton

MGMT 901 (F)  FINANCIAL STATEMENT ANALYSIS (2)
Study of how investors, financial analysts, creditors, and managers use financial statement information in evaluating firm performance and in valuing firms. Emphasizes industry and firm-level analysis of accounting information using financial accounting concepts and finance theory. Instructor(s): Dharan

MGMT 909 (F)  NEGOTIATION AND CONFLICT RESOLUTION (1)
Development of analytical and behavioral skills for resolving conflict and negotiating successfully in a business context. Topics include analysis of your negotiation counterpart, adversarial versus cooperative bargaining, influence tactics, and ethics. Instructor(s): Currall

MGMT 910 (S)  B2B AND INTERNATIONAL PROMOTION (1)
Objective is to introduce participants to the concepts and strategies in promotion management and Integrated Marketing Communications (IMC). The course has a managerial focus, emphasizing strategic analysis, planning, evaluation, and control issues within a context of B2B/International promotion. Instructor(s): Yoon

MGMT 911 (F)  ORGANIZATIONAL ARCHITECTURE AND COMPETITIVE ADVANTAGE (1)
Study of effective organizational design, with a focus on costs and benefits as well as on increasing performance. Instructor(s): Kehoe, Weigelt

MGMT 912 (S)  COMPETITIVE ADVANTAGE THROUGH PEOPLE (1)
Flexibility in organizations, managing for creativity and innovation. Workforce diversity. Instructor(s): Sowers

MGMT 919 (S)  CORPORATE GOVERNANCE (1)
Critical examination of director selection, board decision-making processes, chief executive officer evaluation in compensation, the board’s role in strategic planning, the impact of external constituencies of governance, and legal aspects of governance. Instructor(s): Currall, Stobaugh

MGMT 925 (F)  STRATEGIC ALLIANCES AND JOINT VENTURES (1)
In today’s world of global markets, rapid technological advancement, and increasing complexity of new products, few companies can successfully compete alone. This course will examine this critical area of strategic partnerships for industry giants and ambitious start-ups alike. Instructor(s): Foote

(F) = Fall; (S) = Spring
MGMT 926 (S) VENTURE CAPITAL (1)
Overview of the venture capital industry, the organization and operation of venture capital funds, investment methodology, monitoring and portfolio liquidation, leveraged investing, and specialized investments. Instructor(s): Murphree

MGMT 927 (S) ENTREPRENEURSHIP: ENTERPRISE EXCHANGE (2)
The needs approach to buying and selling businesses. Enterprise valuation, deal and contract structuring. Leveraged buyouts and consolidating fragmented industries. Instructor(s): Williams

MGMT 937 (S) INVESTOR RELATIONS (1)
History of the stock market, formation of the SEC, evolution of regulations, dynamics of equity markets, flow of investor information, planning and implementing an investor relations program, and fitting investor relations into a corporation’s communications program. Instructor(s): Wiley

MGMT 942 (F) MANAGING GROWTH (1)
How to create wealth by buying a small business, putting systems and processes in place to create a foundation for future growth, driving growth both internally and externally, and finally, selling the business. Instructor(s): Linbeck

MGMT 947 (S) CORPORATE FINANCE (1)
Capital structure, stockholder distributions, agency issues. Instructor(s): Wong

MGMT 948 (F) ECONOMIC INCENTIVES AND ORGANIZATIONS (1)
This course deals with incentive conflicts within organizations and how they affect shareholder value. A framework is presented for constructing a productive organizational architecture that assigns design rights to the appropriate employees, evaluates appropriately their efforts, and rewards them based on performance. Instructor(s): Stefanadis

MGMT 950 (S) FINANCIAL RISK MANAGEMENT (1)
The basics of futures and options, as well as real options and use of derivatives to hedge risk. Instructor(s): Fleming

MGMT 952 (S) MERGERS AND ACQUISITIONS (1)
Motivation, valuation, and strategy in the process of merging established businesses or evaluating/acquiring other enterprises. Instructor(s): Rasmussen

MGMT 954 (F) FINANCIAL RESTRUCTURING (1)
Financial distress from the perspective of management, stockholders, secured creditors, unsecured creditors, and other parties. Study several financially distressed firms and the decisions they made in restructuring their balance sheets. Instructor(s): Atherton

MGMT 956 (S) CORPORATE FINANCIAL STRATEGY (1)
Exploration of value creation, diversification, risk-benefit analysis, tax policy, and percent value, with emphasis on practical problems of the corporation. Instructor(s): Ross

MGMT 957 (F) INTERNATIONAL FINANCE (1)
Exploration of issues encountered in international financial arenas, including foreign exchange rate risk management, capital budgeting for international projects, and international financing strategies. Instructor(s): Watanabe

MGMT 961 (S) BUSINESS LAW (1)
Contracts, employment law, product liability, and foreign corrupt practices act. Instructor(s): Stuart

MGMT 974 (F) OPERATIONS MANAGEMENT—LEAN SIX SIGMA (1)
Hands-on, experiential understanding that the concepts of “Good, Cheap, and Fast” are not mutually exclusive, but feed off each other. Use the framework of the latest consulting terminology—Lean Six Sigma—to try and understand the interactions of Better, Cheaper, and Faster. Instructor(s): Flatt

(#) = credit hours per semester
MGMT 984 (F)  MARKETING RESEARCH (1)
All marketing activities are intended to get, keep, and grow profitable relationships with customers. Marketing research provides information for decisions on marketing strategies, plans, programs, and tactics needed to identify and serve customers. In this course, the focus is on understanding available research tools and how to determine which tools can be most effectively used in making marketing decisions. Instructor(s): Robinson

MGMT 985  GLOBAL LEADERSHIP (1)
Instructor(s): TBA

MILI (Military Science)

The Military Science Department / University of Houston

MILI 106  ADVANCED PHYSICAL FITNESS COURSE (1)
Prerequisite(s): must be ROTC cadet. Physically demanding. Develops skills through team competition. Land navigation, assembly/disassembly of weapon, tactics, assembly of one-man rope bridge. Students are also required to attend fitness training 5 times a week. Participant compete for Ranger Challenge slots. Selected cadets compete against teams from other teams at the annual Ranger Challenge competition.

MILI 109  PHYSICAL FITNESS TRAINING (1)
Open to all students. Utilized Army fitness techniques; develops strength, flexibility and endurance; develops self-confidence through leadership training and physical activities. Instructor(s): SFC Avery

MILI 121  INTRODUCTION TO ROTC (1)
Learn fundamental concepts of leadership in both classroom and outdoor laboratory environments. Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, first aid and basic marksmanship. Develop communication skills to improve individual performance and group interaction. One hour classroom session and a required lab. No military commitment is required for attending this course. Instructor(s): SFC Avery

MILI 122  INTRODUCTION TO LEADERSHIP (1)
Learn and apply principles of effective leadership. Reinforce self-confidence through participation in physically and mentally challenging training with upper division ROTC students. Develop communications skills to improve individual performance and group interaction. Relate ethical values to the effectiveness of a leader. Includes training on survival skills and self-defense. One hour classroom session and a required lab. No military commitment is required for attending this course. Instructor(s): SFC Avery

MILI 123  LEADERSHIP LAB (3)
Provides opportunities for marksmanship training, rappelling, drill and ceremonies, communications training, small unit tactics and other activities.

MILI 201  MILITARY LEADERSHIP DEVELOPMENT (2)
Characteristics of leadership, problem analysis, decision making, oral presentations, first aid, small unit tactics, land navigation, basic radio communication, marksmanship, fitness training, rappelling. Fitness training required two times per week in addition to class and lab. Instructor(s): MSG Braaten

MILI 202  MILITARY LEADERSHIP DEVELOPMENT (2)
Continuation of MILI 201. Instructor(s): MSG Braaten

MILI 203  LEADERSHIP LABORATORY (0)
Provides opportunities for marksmanship training, rappelling, drill and ceremonies, communications training, small unit tactics and other activities. 0
MILI 301  ADVANCED MILITARY SCIENCE (3)
Leadership training, preparing combat operations orders, military instruction principles, small unit tactics, and tactical communications. Course is designed to prepare students for National Advanced Leadership Camp. In addition to class, students must attend lab and physical fitness training. Instructor(s): CPT Caston

MILI 302  ADVANCED MILITARY SCIENCE (3)
Continuation of MILI 301. Instructor(s): CPT Caston

MILI 304  LEADERSHIP LABORATORY (3)
Provides opportunities for marksmanship training, rappelling, drill and ceremonies, communications training, small unit tactics and other activities.

MILI 401  ADVANCED MILITARY SCIENCE (3)
Leadership and command, military law, administrative/staff operations and procedures, dynamics of the military team, training management, ethics and professionalism. In addition to class, students must attend lab and physical fitness training. Instructor(s): LTC Whalen

MILI 402  ADVANCED MILITARY SCIENCE (3)
Continuation of MILI 401. Instructor(s): LTC Whalen

MILI 403  LEADERSHIP LABORATORY (3)
Provides opportunities for marksmanship training, rappelling, drill and ceremonies, communications training, small unit tactics and other activities.

MSCI (Materials Science)

The George R. Brown School of Engineering / Department of Mechanical Engineering and Materials Science

MSCI 301  MATERIALS SCIENCE (3)
Introduction to the science of solid materials. Includes metals, ceramics, plastics, and semiconductors, as well as the properties of solid materials from atomic and macroscopic points of view. Required for mechanical engineering and materials science and engineering majors. Instructor(s): Brotzen

MSCI 303 (S)  MATERIALS SCIENCE JUNIOR LAB (1)
Selected lab experiments in materials science. Open only to junior materials science and engineering majors. Required for materials science and engineering majors. Instructor(s): Staff

MSCI 304 (F)  APPLIED MATERIALS ENGINEERING (1)
Practical application of the basic principles of materials science. Includes case studies of failures under a variety of conditions, as well as topics in the fabrication and heat treatment of metallic materials. Instructor(s): Cunningham

MSCI 311 (F)  INTRODUCTION TO DESIGN (4)
Introduction of fundamental aspects of design through semester-long group projects. Open to nonmajors only with permission of instructor. Required for materials science and engineering majors. Instructor(s): Barrera

MSCI 401 (F) THERMODYNAMICS AND TRANSPORT PHENOMENA IN MATERIALS SCIENCE (4)
Unified presentation of the kinetics and thermodynamics of mass and energy transport. Includes heterogeneous equilibrium, diffusion in solids, and heat transfer, as well as their application to engineering design. Required for materials science and engineering majors. Instructor(s): McLellan

(#) = credit hours per semester
MSCI 402 (F) MECHANICAL PROPERTIES OF MATERIALS (3)
Survey of the mechanical properties of solid materials. Includes basic mechanics, elasticity, plasticity, fracture, fatigue, creep, hardening mechanisms, mechanical testing, and structure-property relationships. Required for materials science and engineering majors. Prerequisite(s): MATH 211. Instructor(s): Barrera

MSCI 404 (S) MATERIALS ENGINEERING AND DESIGN (2-6-4)
Exploration of technological aspects of materials selection, design, failure, and analysis. Lab time spent in an industrial setting. Open to nonmajors only with permission of instructor. Required for materials science and engineering majors. Instructor(s): Cunningham

MSCI 406 (S) PHYSICAL PROPERTIES OF SOLIDS (3)
Survey of the electrical, magnetic, and optical properties of metals, semiconductors, and dielectrics based upon elementary band theory concepts. Required for materials science and engineering majors. Not offered every year. Prerequisite(s): MATH 211. Instructor(s): Yakobson

MSCI 411 (S) METALLOGRAPHY & PHASE RELATIONS (3)
Study of microstructures that may be observed in metals and alloys, optical metallography (in addition to more sophisticated techniques), and the relationships between structural properties and failures. Required for materials science and engineering majors. Prerequisite(s): MSCI 301. Instructor(s): McLellan

MSCI 415 (S) CERAMICS AND GLASSES (3)
Fundamentals of ceramic and glassy materials, including phase relations, theoretical properties, structure, bonding, and design. Instructor(s): Staff

MSCI 500 MATERIALS SCIENCE SEMINAR (0)
A series of seminars on selected topics in materials science. Required for materials science and engineering majors. Course may be repeated for credit. Instructor(s): Staff

MSCI 501 MATERIALS SCIENCE SEMINAR (1)
See MSCI 500. Required for materials science and engineering majors. Instructor(s): Staff

MSCI 523 (S) PROPERTIES, SYNTHESIS, & DESIGN OF COMPOSITE MATERIALS (3)
Study of the science of interfaces and the properties that govern their use in composite materials. Not offered every year. Instructor(s): Staff

MSCI 535 (F) CRYSTALLOGRAPHY AND DIFFRACTION (3)
Study of crystals by x-ray and electron diffraction and electron microscopy. Includes basic diffraction theory and methods for characterization of structure and the constitution of materials. Required for materials science and engineering majors. Instructor(s): Staff

MSCI 537 (F) MATERIALS SCIENCE SENIOR LAB (1)
Selected lab experiments in materials science. Required for materials science and engineering majors. Prerequisite(s): MSCI 303. Instructor(s): Staff

MSCI 541 (S) PHYSICAL METALLURGY (3)
Survey of the fundamentals of solidification, alloying, and heat treatment. Includes the mechanical and nonmechanical properties of metallic systems from atomic and electronic theory. Prerequisite(s): MSCI 301. Not offered every year.

MSCI 550 (S) TIME-DEPENDENT PLASTICITY (3)
Survey of fundamental concepts in creep and creep rupture in solids. Includes a phenomenological overview and presentation of mechanistic theories. Prerequisite(s): MSCI 402 or permission of instructor. Not offered every year.

(F) = Fall; (S) = Spring
MSCI 561 (F) ADV METALLURGICAL LAB I (1)
Students whose interest lies primarily in the field of materials and metallurgy are given the
opportunity for research in these fields. Prerequisite(s): permission of instructor. Instructor(s): Staff

MSCI 562 (S) ADVANCED METALLURGICAL LABORATORY II (0-4-1)
Continuation of MSCI 561. Prerequisite(s): permission of instructor.

MSCI 569 (S) CORROSION SCIENCE & ENGINEERING (3)
Survey of the principles and theories of corrosion, corrosion testing, and the selection of materials
for corrosion prevention. Prerequisite(s): MSCI 301. Not offered every year. Instructor(s): Staff

MSCI 570 (F) SENIOR DESIGN THESIS PROJECT (2)
A design project in the materials science field will be undertaken by the student in close
collaboration with at least one materials science faculty member. Instructor(s): Staff

MSCI 571 (S) SENIOR DESIGN THESIS PROJECT (2)
A design project in the materials science field will be undertaken by the student in close
collaboration with at least one materials science faculty member. Instructor(s): Staff

MSCI 593 (F) POLYMER SCIENCE & ENGINEERING (3)
Basic concepts in macromolecular chemistry and their application in the synthesis and chemical
modification of polymers. Prerequisite(s): CHEM 211, 212, Also listed as CENG 593. Instructor(s): Staff

MSCI 594 (F) PROPERTIES OF POLYMERS (3)
Study of the molecular organization and physical properties of polymeric materials. Includes
elastomeric, semicrystalline, and glassy polymers, as well as the processing and technology of
polymeric systems. Also listed as CENG 594. Instructor(s): Staff

MSCI 596 (F) CHEMISTRY OF ELECTRONIC MATERIALS (3)
A review of the chemical processes involved in the manufacture of microelectronic chips,
including; crystallization, purification, oxidation, thin film methods, lithography and ceramic
processing. Usually alternates with CHEM 595. Open to undergraduates by special permission
only. Not offered 2003–04. Also listed as CHEM 596.

MSCI 603 TECHNOLOGY MANAGEMENT FOR SCIENTISTS AND
ENGINEERS (3)
This course is intended for graduate students in science and engineering who are interested in
gaining an understanding of the business of technology. Particular emphasis is placed on the
financial and human resources management, business strategy, patents, trademarks and licenses,
as well as new business start-up and development. Also listed as CHEM 603

MSCI 609 (S) FRACTURE MECHANICS (3)
Topics on the theory of linear and nonlinear fracture machines. Energetics of fracture, the J-integral,
stress and strain fields near crack tips, R-curve behavior. Also listed as MECH 518. Instructor(s): Landis.

MSCI 610 (F) CRYSTAL THERMODYNAMICS (3)
Discussion of potentials and third-order elastic constants. Includes the lattice dynamics of harmonic
phonons and antiharmonic perturbation expansion, as well as the contribution of electrons to the
thermodynamics quantities. Not offered every year. Instructor(s): Yakobson.

MSCI 611 (F) INDEPENDENT STUDY (VAR)
Instructor(s): Staff

MSCI 612 (S) INDEPENDENT STUDY (VAR)
Instructor(s): Staff

(#) = credit hours per semester
MSCI 614 (S) **SPECIAL TOPICS: PRINCIPLES OF NANOSCALE MECHANICS (2)**

Fundamentals of mechanical properties in nanometer scale. Role of discrete structure, underlying atomic, molecular and interfacial forces, is illustrated with modern examples: Includes overview of computational modeling methods with the emphasis on multi-scale physics. Accessible for senior undergraduates. Instructor(s): Yakobson.

MSCI 615 **SPECIAL TOPICS (VAR)**

MSCI 621 (F) **M.M.S. RESEARCH PROJECT I (3)**

This is the first part of the M.M.E. research project course. The faculty advisor, taking into account the background and research interests of the student as well as the research interests of the faculty advisor, will determine the contents. Course requirements will include a final report. Instructor(s): Staff

MSCI 622 (S) **M.M.S. RESEARCH PROJECT II (3)**

This is the second part of the M.M.E. research project and continuation of MECH 621. Course requirements will include a final report. Instructor(s): Staff

MSCI 623 (F) **ANALYTICAL SPECTROSCopies: TOOLS IN MATERIALS SCIEnCE (3)**

Exploration of concepts in vacuum technology, thin film metallization, x-ray photoelectron spectroscopy, Augen electron spectroscopy, and x-ray absorption fine structure. Includes lab sessions on XPS and EXAFS analysis. Prerequisite(s): MSCI 402, 535 or equivalent. Not offered every year. Instructor(s): Staff

MSCI 634 (F) **THERMODYNAMICS OF ALLOYS (3)**

Examinations of relations between classical thermodynamics and statistical mechanics as applied to an understanding of solid and liquid alloys. Includes solid-solid, liquid-solid, and gas-solid equilibriums in metallurgy. Not offered every year.

MSCI 635 (F) **TRANSFORMATION IN ALLOYS (3)**

Study of diffusion in metals and alloys. Includes the mechanism and phenomenology of diffusion-controlled transformations, precipitation from saturated alloys and liquid solutions, and transformations in heat-treated alloys. Not offered every year. Instructor(s): Staff

MSCI 645 (S) **THIN FILMS (3)**

Exploration of materials issues relevant to thin films. Includes techniques for vapor phase deposition of thin films (e.g., evaporation, sputtering, and chemical vapor deposition), epitaxy, generation of thin film defects, strain, growth anisotropy, and grain structure, as well as electrical, optical, and magnetic properties of thin film materials and structures. Also listed as ELEC 645.

MSCI 666 (S) **CONDUCTION PHENOMENA IN SOLIDS (3)**

Survey of fundamental aspects of electron and energy transport in conductors, semiconductors, and insulators. Prerequisite(s): MSCI 406 (or equivalent). Not offered every year. Instructor(s): Staff

MSCI 750 (F) **MANAGEMENT FOR SCIENTISTS AND ENGINEERS (3)**

This course is designed for science and engineering students who want to understand the management of new and/or small technology based businesses. The course is taught in modular format to give students insights into how technology oriented firms manage intellectual property, marketing, organization behavior, strategy, accounting and finance. Concepts covered will be particularly relevant to students interested in careers in technology or entrepreneurial ventures. This course is part of a two-class sequence and provides the foundation for students taking NEW VENTURE CREATION for SCIENCE and ENGINEERING which is offered in the spring. Also listed as CHEM 750 and MGMT 750.

(F) = Fall; (S) = Spring
MSCI 751 (F) NEW VENTURE CREATION FOR SCIENCE & ENGINEERING (3)
This course deals with the concepts and theories relevant to new venture creation. Our primary focus is the start-up process with particular emphasis being placed on market issues, intellectual property and entrepreneurial finance. As part of the course we will evaluate the commercial potential of a live technology drawn from the Rice engineering/science community. The concepts covered will be particularly relevant to students who are interested in careers in technology or entrepreneurial venture. The course is offered to seniors and graduate students only. Also listed as CHEM 751 and MGMT 751.

MUSI (Music)

The Shepherd School of Music

MUSI 117 FUNDAMENTALS OF MUSIC (3)
For nonmusic majors with minimal music preparation. Rudiments of pitch and duration. Study of scales, chord structure, tonality, and forms. Enrollment limited to 20.

MUSI 141 CLASSICAL GUITAR/NONMAJOR (2)
Private instruction on guitar. Must register with the Shepherd School and the Registrar’s Office by the second week of classes. Enrollment limited to 25. Instructor(s): Gashen

MUSI 151 FLUTE FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 153 OBOE FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 155 CLARINET FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 157 BASSOON FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 161 HORN FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 163 TRUMPET FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 165 TROMBONE FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 167 TUBA FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 171 PERCUSSION FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes.

MUSI 173 VOICE FOR NONMAJORS (2)
Must register with the Shepherd School and the Registrar’s Office by the second week of classes. Enrollment limited to 20.

(#) = credit hours per semester
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>MUSI 181</td>
<td>PIANO FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes. Enrollment limited to 30.</td>
</tr>
<tr>
<td>MUSI 183</td>
<td>ORGAN FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes.</td>
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<tr>
<td>MUSI 187</td>
<td>HARP FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes.</td>
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<tr>
<td>MUSI 191</td>
<td>VIOLIN FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes.</td>
</tr>
<tr>
<td>MUSI 193</td>
<td>VIOLA FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes.</td>
</tr>
<tr>
<td>MUSI 195</td>
<td>VIOLONCELLO FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes.</td>
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<tr>
<td>MUSI 197</td>
<td>DOUBLE BASS FOR NONMAJORS (2)</td>
<td>Must register with the Shepherd School and the Registrar’s Office by the second week of classes.</td>
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<tr>
<td>MUSI 211 (F)</td>
<td>THEORETICAL STUDIES I (2)</td>
<td>For music majors. Intensive study of the fundamentals of pitch, rhythm, and timbre. Instructor(s): Lavenda</td>
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<tr>
<td>MUSI 212 (S)</td>
<td>THEORETICAL STUDIES II (3)</td>
<td>For music majors. Harmony and voice-leading in Baroque and Classical Eras. Instructor(s): Jalbert</td>
</tr>
<tr>
<td>MUSI 222 (S)</td>
<td>MEDIEVAL AND RENAISSANCE ERAS (3)</td>
<td>Introduction to the study of Western music history, with emphasis on music before 1600. Score reading ability required. Prerequisite(s): MUSI 211 or MUSI 317 or permission of instructor. Instructor(s): Meconi</td>
</tr>
<tr>
<td>MUSI 231 (F)</td>
<td>AURAL SKILLS I (2)</td>
<td>Preliminary studies in ear-training, sight-singing, and dictation. Instructor(s): Al-Zand</td>
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<tr>
<td>MUSI 232 (S)</td>
<td>AURAL SKILLS II (2)</td>
<td>Continuation of MUSI 231. Instructor(s): Chen</td>
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<tr>
<td>MUSI 251</td>
<td>SECONDARY FLUTE (2)</td>
<td>Secondary flute.</td>
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<tr>
<td>MUSI 253</td>
<td>SECONDARY OBOE (2)</td>
<td>Secondary oboe</td>
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<tr>
<td>MUSI 255</td>
<td>SECONDARY CLARINET (2)</td>
<td>Secondary clarinet.</td>
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<tr>
<td>MUSI 257</td>
<td>SECONDARY BASSOON (2)</td>
<td>Secondary bassoon</td>
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<tr>
<td>MUSI 261</td>
<td>SECONDARY HORN (2)</td>
<td>Secondary horn.</td>
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<tr>
<td>MUSI 263</td>
<td>SECONDARY TRUMPET (2)</td>
<td>Secondary trumpet.</td>
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<tr>
<td>COURSES OF INSTRUCTION 505</td>
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<tr>
<td>MUSI 265</td>
<td>SECONDARY TROMBONE (2)</td>
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<tr>
<td>Secondary trombone.</td>
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<tr>
<td>MUSI 267</td>
<td>SECONDARY TUBA (2)</td>
<td></td>
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<tr>
<td>Secondary tuba.</td>
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<tr>
<td>MUSI 271</td>
<td>SECONDARY PERCUSSION (2)</td>
<td></td>
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<tr>
<td>Secondary percussion.</td>
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<tr>
<td>MUSI 273</td>
<td>SECONDARY VOICE (2)</td>
<td></td>
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<tr>
<td>Secondary voice.</td>
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<tr>
<td>MUSI 281</td>
<td>SECONDARY PIANO (2)</td>
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<tr>
<td>Secondary piano.</td>
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<tr>
<td>MUSI 283</td>
<td>SECONDARY ORGAN (2)</td>
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<tr>
<td>Secondary organ.</td>
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<tr>
<td>MUSI 285</td>
<td>SECONDARY HARPSICHORD (2)</td>
<td></td>
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<tr>
<td>Secondary harpsichord.</td>
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<tr>
<td>MUSI 287</td>
<td>SECONDARY HARP (2)</td>
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<tr>
<td>Secondary harp.</td>
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<tr>
<td>MUSI 291</td>
<td>SECONDARY VIOLIN (2)</td>
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<tr>
<td>Secondary violin.</td>
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<tr>
<td>MUSI 293</td>
<td>SECONDARY VIOLA (2)</td>
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<tr>
<td>Secondary viola.</td>
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<tr>
<td>MUSI 295</td>
<td>SECONDARY VIOLONCELLO (2)</td>
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<tr>
<td>Secondary violoncello.</td>
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<tr>
<td>MUSI 297</td>
<td>SECONDARY DOUBLE BASS (2)</td>
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<tr>
<td>Secondary double bass.</td>
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<tr>
<td>MUSI 303</td>
<td>UNDERGRAD COMPOSITION SEMINAR (1)</td>
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<tr>
<td>For music majors. Instructor(s): Brandt, Gottschalk</td>
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<tr>
<td>MUSI 305</td>
<td>COMPOSITION ELECTIVE (3)</td>
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<tr>
<td>For music majors.</td>
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<tr>
<td>MUSI 307</td>
<td>COMPOSITION FOR NONMAJORS (3)</td>
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<tr>
<td>Creative composition employing 20th and 21st-century vocabularies. Permission of instructor. Enrollment limited to 10.</td>
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<tr>
<td>MUSI 311 (F)</td>
<td>THEORETICAL STUDIES III (3)</td>
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<tr>
<td>An examination of music from the Classical Era through the late 19th century, with particular focus on phrase structure, form and chromatic harmony. Instructor(s): Chen</td>
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<tr>
<td>MUSI 312 (S)</td>
<td>THEORETICAL STUDIES IV (3)</td>
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<tr>
<td>Study of music since 1900. Instructor(s): Brandt</td>
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<tr>
<td>MUSI 317 (F)</td>
<td>THEORY FOR NONMAJORS I (3)</td>
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<tr>
<td>Study of harmony, melody, rhythm, and form. For nonmusic majors. Enrollment limited to 20. Approval of instructor is required.</td>
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</tbody>
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(#) = credit hours per semester
MUSI 318 (S)  THEORY FOR NONMAJORS II (3)
For nonmusic majors. Continuation of MUSI 317. Enrollment limited to 20. Prerequisite(s): MUSI 317 or equivalent.

MUSI 321 (F)  BAROQUE AND EARLY CLASSICAL ERAS (3)
Advanced historical studies in music of the 17th and 18th centuries. Score reading ability required. Prerequisite(s): MUSI 212 or MUSI 317; and MUSI 222; or permission of instructor. Instructor(s): Barnett

MUSI 322 (S)  CLASSICAL AND ROMANTIC ERAS (3)
Advanced historical studies in the music of the 18th and 19th centuries. Score reading ability required. Prerequisite(s): MUSI 321 or permission of instructor. Instructor(s): Citron

MUSI 323 (F)  ROMANTIC SYMPHONY (3)
Exploration of the genre of the symphony in the 19th century in the wake of Beethoven. Prerequisite(s): MUSI 421 or permission of instructor. Instructor(s): W. Bailey

MUSI 324 (F)  OPERA ON FILM (3)
Study of major treatments of cinematic and televised versions of opera, with a focus on aesthetics, interpretation, and representation. Enrollment limited to 15. Not offered 2003–04.

MUSI 327 (F)  NONMAJOR MUSIC LITERATURE I (3)
Historical survey of music from the Middle Ages to 1750. No prerequisites. Not offered 2003–04.

MUSI 328 (F)  NONMAJOR MUSIC LITERATURE II (3)
Historical survey of music from 1750 to the present. No prerequisites. Not offered 2003–04.

MUSI 329 (F)  SPEC. STUDIES IN MUSIC HISTORY

MUSI 331 (F)  AURAL SKILLS III (2)
Continuation of MUSI 232 plus chromatics. Instructor(s): Brandt

MUSI 332 (S)  AURAL SKILLS IV (2)
Continuation of MUSI 331. Instructor(s): Al-Zand

MUSI 334  CAMPANILE ORCHESTRA (1)
Campanile orchestra.

MUSI 335  UNDERGRADUATE CHORUS (1)
Section 1, Shepherd Singers (by audition only), Section 2, Rice Chorale. Instructor(s): Jaber

MUSI 337  UNDERGRADUATE ORCHESTRA (2)
Undergraduate orchestra. Instructor(s): Rachleff

MUSI 338  CHAMBER MUSIC-UNDERGRADUATE (1)
Chamber music for undergraduates.

MUSI 340  CONCERT BAND (1)
Section 1: Symphonic Band, Section 2: Wind Ensemble. Instructor(s): Throckmorton

MUSI 341  JUNIOR RECITAL (0)
Junior recital.

MUSI 342  JAZZ ENSEMBLE II (1)
Section 1, Jazz Ensemble I, Section 2, Jazz Ensemble II Instructor(s): Slezak

(F) = Fall; (S) = Spring
MUSI 344 ACTING FOR SINGERS (1)

MUSI 345 APPLIED STUDIES IN JAZZ (2)
Private lessons on specific advanced techniques in jazz improvisation. Must register with the Shepherd School and the Registrar’s Office by the second week of classes. Instructor(s): Slezak

MUSI 351 CONCENTRATION FLUTE (2)
Concentration flute.

MUSI 352 CONCENTRATION FLUTE-INTENSIVE (3)
Concentration flute-intensive.

MUSI 353 CONCENTRATION OBOE (2)
Concentration oboe.

MUSI 354 CONCENTRATION OBOE INTENSIVE (3)
Concentration oboe-intensive.

MUSI 355 CONCENTRATION CLARINET (2)
Concentration clarinet.

MUSI 356 CONCENTRATION CLARINET-INTENSIVE (3)
Concentration clarinet-intensive.

MUSI 357 CONCENTRATION BASSOON (2)
Concentration bassoon.

MUSI 358 CONCENTRATION BASSOON-INTENSIVE (3)
Concentration bassoon intensive.

MUSI 361 CONCENTRATION HORN (2)
Concentration horn.

MUSI 362 CONCENTRATION HORN-INTENSIVE (3)
Concentration horn-intensive.

MUSI 363 CONCENTRATION TRUMPET (2)
Concentration trumpet.

MUSI 364 CONCENTRATION TRUMPET-INTENSIVE (3)
Concentration trumpet-intensive.

MUSI 365 CONCENTRATION TROMBONE (2)
Concentration trombone.

MUSI 366 CONCENTRATION TROMBONE-INTENSIVE (3)
Concentration trombone-intensive.

MUSI 367 CONCENTRATION TUBA (2)
Concentration tuba.

MUSI 368 CONCENTRATION TUBA-INTENSIVE (3)
Concentration tuba-intensive.

MUSI 371 CONCENTRATION PERCUSSION (2)
Concentration percussion.

(#) = credit hours per semester
MUSI 372  CONCENTRATION PERCUSSION-INTENSIVE (3)
Concentration percussion-intensive.

MUSI 373  CONCENTRATION VOICE (2)
Concentration voice.

MUSI 374  CONCENTRATION VOICE-INTENSIVE (3)
Concentration voice-intensive.

MUSI 381  CONCENTRATION PIANO (2)
Concentration piano.

MUSI 382  CONCENTRATION PIANO-INTENSIVE (3)
Concentration piano-intensive.

MUSI 383  CONCENTRATION ORGAN (2)
Concentration organ.

MUSI 384  CONCENTRATION ORGAN-INTENSIVE (3)
Concentration organ-intensive.

MUSI 387  CONCENTRATION HARPO (2)
Concentration harp.

MUSI 388  CONCENTRATION HARPO-INTENSIVE (3)
Concentration harp-intensive.

MUSI 389  COLLABORATIVE PIANO SKILLS (3)
A practicum exploring the pianist as an ensemble player. Three sessions weekly. Performance class for pianists in partnership with instrumentalists and singers-particular techniques discovered in balance, pedaling, articulation, style, etc.; private appointment with instructor on individual repertoire-songs, sonatas, concerto reductions, etc.; Supervised sight-reading in the 4-hand and other duo literature. Instructor(s): J.K. Fischer

MUSI 391  CONCENTRATION VIOLIN (2)
Concentration violin.

MUSI 392  CONCENTRATION VIOLIN-INTENSIVE (3)
Concentration violin-intensive.

MUSI 393  CONCENTRATION VIOLA (2)
Concentration viola.

MUSI 394  CONCENTRATION VIOLA-INTENSIVE (3)
Concentration viola-intensive.

MUSI 395  CONCENTRATION VIOLENCY (2)
Concentration violoncello.

MUSI 396  CONCENTRATION VIOLENCY-INTENSIVE (3)
Concentration violoncello-intensive

MUSI 397  CONCENTRATION DOUBLE BASS (2)
Concentration double bass.

MUSI 398  CONCENTRATION DOUBLE BASS-INTENSIVE (3)
Concentration double bass-intensive.

(F) = Fall; (S) = Spring
MUSI 401  COMPOSITION FOR MAJORS (3)
Instructor(s): Al-Zand, Brandt, Chen, Gottschalk, Jalbert, Lavenda, Stallmann

MUSI 403 (F)  INTRO TO ELECTRONIC MUSIC I (3)
A general introduction to fundamental concepts in electronic and computer music. Four hours of lab time per week required. Enrollment limited to 12. Instructor(s): Stallmann

MUSI 404 (S)  INTRO TO ELECTRONIC MUSIC II (3)
Continuation of MUSI 403. Prerequisite(s): MUSI 403 or permission of instructor. Enrollment limited to 12. Instructor(s): Stallmann

MUSI 405 (S)  MUSIC BUSINESS AND LAW (3)
Permission of instructor. Instructor(s): Gottschalk

MUSI 406 (S)  CLASSICAL CONCERTO PERFORMANCE (1)
Study of concerto repertoire for a chosen instrument with emphasis on stylistically informed performance. Enrollment limited to 15. Instructor(s): Luca

MUSI 407 (F)  CHAMBER MUSIC/CLASSICAL PERIOD (3)
Performance styles and rhetoric are examined and directed toward performance approaches to the music of Haydn, Mozart, and early Beethoven. The course involves practical application of dances, textures, and popular topics of the time as well as an understanding of harmonic and formal implications. String quartet majors only—other music majors may audit. Not offered 2003–04. Instructor(s): Goldsmith

MUSI 408 (F)  UNACCOMP BACH PERFORM CLASS (1)
Performance with commentary about stylistic and historic aspects of the works for one unaccompanied instrument of J. S. Bach. Students will perform versions in original form or transcribed for their instrument when applicable. Prerequisite(s): permission of instructor. Instructor(s): Luca

MUSI 409 (S)  SEM IN CLASSICAL PERFORM STYLE (1)
Haydn, Mozart, early Beethoven, CPE Bach and other repertoire of the period. You must belong to a group that has already been coached and is prepared to perform at least one movement. Prerequisite(s): permission of the instructor. Not offered 2003–04. Instructor(s): Luca

MUSI 414 (F)  PIANO CHAMBER MUSIC LITERATURE (2)

MUSI 415 (F)  BAND ARRANGING (1)
Creative band arranging for marching, jazz, and concert bands. Study of contemporary harmony, musical style, and scoring supported by practical performance and analysis of student projects. Instructor(s): Throckmorton

MUSI 416 (F)  ORCHESTRATION (3)
Enrollment limited to 20. Instructor(s): Jalbert

MUSI 417 (F)  MUSIC FOR FILM (3)
Prerequisite(s): permission of instructor. Enrollment limited to 35. Not offered 2003–04.

MUSI 421 (F)  MODERN ERA (3)
Advanced historical studies in music of the 20th and 21st centuries. Score reading ability required. Prerequisite(s): MUSI 322 or permission of instructor. Instructor(s): W. Bailey

MUSI 422 (S)  RENAISSANCE MUSIC (3)
A study of the major musical styles and composers of Western art music between 1400 and 1600 and their historical, cultural, and sociological contexts. Instructor(s): Meconi

MUSI 424 (F)  ORGAN LITERATURE I (3)
Instructor(s): Holloway

(#) = credit hours per semester
MUSI 425 (F) ORGAN LITERATURE II (3)
Instructor(s): Holloway

MUSI 426 (F) PIANO LITERATURE—SURVEY (3)
Instructor(s): J.K. Fischer

MUSI 427 (F) ORGAN LITERATURE III (3)
Instructor(s): Holloway

MUSI 428 (F) ORGAN LITERATURE IV (3)
Instructor(s): Holloway

MUSI 429 (F) MUSIC OF THE MIDDLE AGES (3)
A study of the major musical styles and composers of western art music before 1400 and their historical, cultural, and sociological contexts. Instructor(s): Meconi

MUSI 431 (F) AURAL SKILLS V (2)
Continuation of MUSI 332. Instructor(s): Gottschalk

MUSI 435 (F) CONTEMPORARY MUSIC ENSEMBLE (1)
Permission of instructor is required. Note: Does not count as chamber music. Not offered 2003–04.

MUSI 436 COLLEGIUM (1)
Performance of music up to the early 17th century. Permission of instructor. Note: Does not count as chamber music. Prerequisite(s): permission of instructor.

MUSI 437 (F) GRADUATE AURAL SKILLS REVIEW (2)

MUSI 439 (F) CHORAL CONDUCTING (3)
The fundamental skills of choral conducting, including baton techniques, score reading, and rehearsal procedures. Conducting materials will be selected from representative choral works. Not offered 2003–04.

MUSI 440 (F) CHORAL CONDUCTING II (3)
Advanced techniques of choral conducting with emphasis on expressive gestures and phrasal conducting, interpretation and chironomy of chant, recitative conducting, repertoire selection, score preparation, and conducting of choral-instrumental works. Not offered 2003–04.

MUSI 441 SENIOR RECITAL (0)

MUSI 442 RECITAL ACCOMPANYING (1)
Accompanying a single student recital, including the preview, dress rehearsal, performance, their lessons with the soloist’s teacher, and practice times mutually agreeable to soloist and accompanist. Instructor(s): Connelly

MUSI 443 STUDIO ACCOMPANYING (1)
Accompanying private lessons in studios as assigned for a total of four hours per week. Instructor(s): Connelly

MUSI 444 (S) PRACTICUM IN CONTEMPORARY MUSIC (2)
For music majors. Each student will write a piece for an ensemble formed within the class. The piece will be rehearsed and coached as it is being written, and will be performed on various recitals. May be repeated for credit. Instructor(s): Brandt

MUSI 445 (F) KEYBOARD SKILLS I (2)
Not offered 2003–04.

(F) = Fall; (S) = Spring
MUSI 446 (F)  KEYBOARD SKILLS II (2)
Not offered 2003–04.

MUSI 447 (F)  INTRO TO PIANO TECHNOLOGY (2)
Introduction to the tuning and maintenance of pianos. Includes the theory and acoustics of tuning, a brief history of the piano, and a general exposure to restoration, as well as hands-on experience. Not offered 2003–04.

MUSI 448 (F)  PIANO TECH PRACTICUM/PIANISTS (2)
A practicum exploring the basic maintenance procedures of the modern pianoforte. Students will learn cleaning and unison tuning as well as basic action regulation. Not offered 2003–04.

MUSI 449  UNDERGRAD INDEPENDENT STUDY (1–3)
MUSI 450  QUALIFYING RECITAL (0)
MUSI 451  FLUTE FOR MAJORS (3)
Instructor(s): Buyse
MUSI 453  OBOE FOR MAJORS (3)
Instructor(s): Atherholt
MUSI 455  CLARINET FOR MAJORS (3)
Instructor(s): LeGrand, Webster
MUSI 457  BASSOON FOR MAJORS (3)
Instructor(s): Kamins
MUSI 459  WOODWIND PERFORMANCE TECHNIQUES (1)

MUSI 461  HORN FOR MAJORS (3)
Instructor(s): Ver Meulen
MUSI 463  TRUMPET FOR MAJORS (3)
Instructor(s): Speziale
MUSI 465  TROMBONE FOR MAJORS (3)
Instructor(s): Waters
MUSI 467  TUBA FOR MAJORS (3)
Instructor(s): Kirk
MUSI 469  BRASS PERFORMANCE TECHNIQUES (1)

MUSI 471  PERCUSSION FOR MAJORS (3)
Instructor(s): Brown
MUSI 472  GENERAL PERCUSSION STUDIES (1)
A class that will address other issues of percussion playing to prepare for a job that is not related to regular classical studies, i.e. drumset, jazz kits, rudimental drumming, instrument building, playing shows, sight-reading, etc. The emphasis of the class will vary each semester. Instructor(s): Brown

MUSI 473  VOICE FOR MAJORS (3)
Instructor(s): Dunn, Farwell, Kaun, King

(#) = credit hours per semester
MUSI 474 OPERA THEATER WORKSHOP (1)
Operatic techniques for the singer/actor: the cultivation, through study and performance, of free, expressive and significant movement on stage, and the development of musical, dramatic and muscular sensitivity as the basis of good opera theater. Participation, according to ability, in scenes recitals and major productions. Instructor(s): Dickinson

MUSI 475 VOCAL PERFORMANCE TECHNIQUES (1)

MUSI 479 PERCUSSION PERFORM TECHNIQUES (1)

MUSI 481 PIANO FOR MAJORS (3)
Instructor(s): Connelly, J.K. Fischer, Parker, Roux, Shank

MUSI 483 ORGAN FOR MAJORS (3)
Instructor(s): Holloway

MUSI 487 HARP FOR MAJORS (3)
Instructor(s): Page

MUSI 491 VIOLIN FOR MAJORS (3)
Instructor(s): Goldsmith, Luca, Winkler

MUSI 492 STRING TECHNOLOGY (2)
An introduction and practicum in the maintenance and repair of string instruments. Not offered every year. Permission of Director of Graduate Studies required. Not offered 2003–04. Instructor(s): Shaw

MUSI 493 VIOLA FOR MAJORS (3)
Instructor(s): Dunham, Ritscher

MUSI 495 VIOLONCELLO FOR MAJORS (3)
Instructor(s): N. Fischer, Harrell

MUSI 497 DOUBLE BASS FOR MAJORS (3)
Instructor(s): Ellison, Pitts

MUSI 499 STRING PERFORMANCE TECHNIQUES (1)

MUSI 503 (F) ACOUSTICS (3)
An introduction to the physical acoustics of sound and its psychological perception. Intended for those interested in applying these principles towards the composition of music using computer software systems. Not offered 2003–04.

MUSI 504 (F) COMPUTER ASSISTED COMPOSITION (3)

MUSI 505 (F) INTERACTIVE MEDIA AUTHORING (3)

MUSI 511 (F) GRADUATE THEORY REVIEW (2)
Instructor(s): Brandt

MUSI 512 (F) ANALYTICAL SYSTEMS (3)
Advanced analytical techniques with practical applications to a wide repertory. Enrollment limited to 30. Instructor(s): Lavenda

(F) = Fall; (S) = Spring
MUSI 513 (F) MODAL COUNTERPOINT (3)
Contrapuntal techniques of the 16th century, and analysis of selected works. *Instructor(s): Gottschalk*

MUSI 514 (F) SCORE READING (3)
Enrollment limited to 6. *Instructor(s): Jalbert*

MUSI 516 (S) ADV ORCHESTRATION (3)
Prerequisite(s): MUSI 416 or equivalent. *Instructor(s): Jalbert*

MUSI 517 (F) EARLY MODERN MASTERS (3)
Analysis of music from 1900–1945. Enrollment limited to 20. *Instructor(s): Chen*

MUSI 521 (F) GRAD REVIEW OF MUSIC HIST I (3)
Survey of Medieval, Renaissance, and Baroque music for graduate students. *Instructor(s): Ferris*

MUSI 522 (S) GRAD REVIEW OF MUSIC HIST. II (3)
Survey of Classical, Romantic, and 20th-century music for graduate students. *Instructor(s): Barnett*

MUSI 523 (F) BIBLIOGRAPHY AND RESEARCH (3)
Study of bibliography methods and techniques in research methodology. Enrollment limited to 15. *Instructor(s): Du Mont*

MUSI 524 (F) AMERICAN MUSIC (3)
Exploration of art music in the United States, ca. 1800–ca. 1940, with reference to earlier American and European styles. Prerequisite(s): MUSI 421 or permission of instructor. Enrollment limited to 15. Not offered 2003–04.

MUSI 525 (S) PERFORMANCE PRACTICES SEMINAR (3)
The study of performing practices of music before the Romantic era. Topics will range from pre-performance considerations of pitch and tuning systems to those of performance, such as basso continuo realizations, improvisation, vibrato, and articulation. This course will include hands-on experience in playing selected early instruments, performing from facsimiles, and creating modern editions. Enrollment limited to 15. Not offered 2003–04.

MUSI 526 (S) WOMEN IN MUSIC (3)
Study of gender in music, including aesthetics and representation, and of the major roles women have assumed in music, especially as composers, performers and patrons. While the course emphasizes the western art tradition, other types of music are explored as well. Enrollment limited to 15. *Instructor(s): Citron*

MUSI 527 (F) TOPICS IN EARLY MUSIC (3)
Advanced study in selected topics in music history prior to 1600. Enrollment limited to 15. Not offered 2003–04.

MUSI 528 (F) 17TH- & 18TH-CENTURY TOPICS (3)
Selected topics in the 17th and 18th centuries: Enrollment limited to 15. Not offered 2003–04.

MUSI 529 (S) 19TH- AND 20TH-CENTURY TOPICS (3)
Advanced study in selected topics in music history of the 19th and 20th centuries. Enrollment limited to 15. Topic for Spring 04: French Opera. An exploration of selected works in the various subcategories of 19th-century French opera, and an examination of how the commercial and artistic contexts in which these works were created led to various compromises between opera as art and opera as profit-producing entertainment. *Instructor(s): N. Bailey*

MUSI 531 ORCHESTRAL REPERTOIRE (1)
Section 1: violin; Section 2: viola; Section 3: cello; Section 4: double bass; Section 5: woodwinds; Section 6: brass; Section 7: percussion; Section 8: harp.

(#) = credit hours per semester
MUSI 533 (F) GRADUATE CONDUCTING SEMINAR (1)
Not offered 2003–04.

MUSI 545 (F) SERVICE SKILLS I (2)
Instructor(s): Kloekner

MUSI 546 (F) SERVICE SKILLS II (2)
Instructor(s): Kloekner

MUSI 547 (F) ORGAN PEDAGOGY (2)
Offered irregularly. Instructor(s): Holloway

MUSI 549 (F) VOICE PEDAGOGY (2)
Offered irregularly. Instructor(s): Farwell

MUSI 559 (F) WOODWIND PEDAGOGY (3)

MUSI 569 (F) BRASS PEDAGOGY (2)

MUSI 571 VOCAL COACHING (3)
Instructor(s): de Chambrier, Franciosi, Jaber

MUSI 573 (F) ITALIAN DICTION (1)
Instructor(s): Franciosi

MUSI 574 (S) GERMAN DICTION (1)

MUSI 575 (F) VOICE REPERTOIRE I (2)
Instructor(s): N. Bailey

MUSI 576 (F) VOICE REPERTOIRE II (2)
Instructor(s): N. Bailey

MUSI 577 (F) ENGLISH DICTION (1)

MUSI 578 (S) FRENCH DICTION (1)
Instructor(s): de Chambrier

MUSI 583 (F) INSTRUMENTAL ACCOMP TECHNIQUES (2)
A course for piano majors, emphasizing practical skills of accompanying string and wind instruments in a wide variety of repertoire. Offered irregularly. Not offered 2003–04.

MUSI 584 (F) VOCAL COACHING TECH FOR PIANISTS (2)
A course for piano majors, to develop skills of accompanying and coaching singers. Topics will include basic vocal production and terminology, lieder, opera, and oratorio. Offered irregularly. Not offered 2003–04.

MUSI 588 (F) PIANO PEDAGOGY I (2)
An overview of the group piano area which includes a comprehensive study of standard methods, in-depth discussion of group vs. individual lessons, and a supervised student teaching practicum. Instructor(s): Shank

MUSI 589 (S) PIANO PEDAGOGY II (2)
An intensive study of studio teaching with an overview of different methods as well as guidance in studio organization and management. Each student will participate in a private teaching practicum as well. Instructor(s): Shank

(F) = Fall; (S) = Spring
MUSI 599 (F) STRING PEDAGOGY (2)
Section 1 Violin; Section 2 Viola; Section 3 Cello; Section 4 Double Bass. Not offered every year. Not offered 2003–04.

MUSI 601 COMPOSITION FOR MAJORS-ADV (3)
Instructor(s): Al-Zand, Brandt, Chen, Gottschalk, Jalbert, Lavenda, Stallmann

MUSI 603 GRAD COMPOSITION SEMINAR (1)
For music composition majors. Instructor(s): Brandt, Gottschalk

MUSI 605 (F) ADV ELECTRO-ACOUSTIC COMP I (3)
Advanced topics in computer and electronic music for those who already have extensive experience in the medium. Enrollment limited to 8. Prerequisite(s): permission of instructor. May be repeated for credit. Instructor(s): Stallmann

MUSI 606 (S) ADV ELECTRO-ACOUSTICS COMP II (3)
Continuation of MUSI 605. Use of sound-processing and sound synthesis software. Prerequisite(s): MUSI 605 or permission of instructor. May be repeated for credit. Enrollment limited to 8. Instructor(s): Stallmann

MUSI 610 ADVANCED OPERA WORKSHOP (2)
For Doctoral students only. Provides singers with broad understanding of opera production. Lectures emphasize the exploration of music and text to develop the director’s concept, the development of underlying themes through staging, technical aspects of opera production, and methods for coaching singing actors. Students will direct and perform in opera scenes. Course may be repeated for credit. Instructor(s): Dickinson

MUSI 611 (F) PEDAGOGY OF THEORY (3)
The practical application of various teaching methods, and an in depth study of college-level materials. Enrollment limited to 10. Not offered 2003–04.

MUSI 613 (S) TONAL COUNTERPOINT (3)
18th-century counterpoint and the style of J.S. Bach. Instructor(s): Al-Zand

MUSI 614 (F) SEL STUDIES IN MUSIC THEORY I (3)

MUSI 615 (S) SEL STUDIES IN MUSIC THEORY II (3)
Section 1: Introduction to Jazz. Topics in jazz analysis and performance. Examination of important jazz recordings and a consideration of the music’s historical development and social context. Open to both music and nonmusic majors and to both jazz and classical performers. Prerequisite(s): ability to read music well and some previous study in music theory. Not offered 2003–04.

MUSI 617 (S) MUSIC SINCE 1950 (3)
Study and analysis of composers and music from Post- World War II to the present. Instructor(s): Chen

MUSI 621 (S) SEL STUDIES IN MUSIC HISTORY (3)
Seminar on individual topics in music history. Content varies. Enrollment limited to 15. Topic for Spring 2004: American Vernacular, Traditions 1700–1960. Popular and folk traditions of the United States from the early 18th century to the present. We will cover a broad range of periods and styles, including New England psalmody, Anglo-American balladary, spirituals, minstrelsy, Ragtime, Jazz, Tin Pan Alley, and early Rock ‘n’ Roll. Instructor(s): Barnett

(#) = credit hours per semester
MUSI 622 (F)  EARLY OPERA (3)
A study of early opera history from the beginning of the 17th century through Mozart’s operas of the 1760s and 1770s. We will consider literary sources and their transformation into operatic librettos, musical forms and effective dramaturgy, and the aesthetics of the *dramma per musica* and the periodic “reform” movements of opera history. Enrollment limited to 15. *Instructor(s): Barnett*

MUSI 623 (F)  J.S. BACH (3)
An examination of Bach’s music and the social circumstances in which he created it. A substantial portion of the course will focus on issues and controversies in recent Bach scholarship. Enrollment limited to 15. Not offered 2003–04.

MUSI 624 (F)  SEMINAR ON A SELECTED COMPOSER (3)

MUSI 625 (F)  MOZART OPERAS (3)
Study of three or four of Mozart’s operas in-depth, with a focus on how music shapes drama, interpretation, characterization, and meaning. Enrollment limited to 15. Not offered 2003–04.

MUSI 626 (F)  MUS MEAN AND THE CLASS STYLE (3)
A study of the way in which Haydn, Mozart, and Beethoven create large musical forms that have purely musical meaning which does not derive from a text. We will consider various approaches to understanding musical meaning including rhetoric, structure, and style. Enrollment limited to 15. *Instructor(s): Ferris*

MUSI 627 (F)  ROM SONGS AND PIANO PIECES (3)

MUSI 628 (F)  BRAHMS (3)
Study of Brahms in the context of 19th-century music and culture. Selected works are analyzed in detail and interpreted in light of formative influences (Schumann and older music) and contemporary debates (Wagnerism and Viennese musical politics). Enrollment limited to 15. Not offered 2003–04.

MUSI 629 (F)  OPERA 1875–1925 (3)
In-depth study of Bizet’s Carmen, Verdi’s Otello, Strauss’s Elektra, and Berg’s Wozzeck. The course emphasizes the role of music in shaping drama, characterization, and meaning. Enrollment limited to 15. Not offered 2003–04.

MUSI 630  GRAD CHORAL CONDUCTING SEMINAR (3)
Not offered 2003–04.

MUSI 631  MOCK AUDITION (0)

MUSI 633 (F)  PRACTICUM IN PIANO TECHNOLOGY (3)
The complete restoration of a studio or performance piano under the scrutiny of the instructor. Areas of emphasis include restringing, the installation of new action parts and dampers, and the finish regulation and voicing of these parts. Not offered 2003–04.

MUSI 635  ADVANCED ORCHESTRA (2)
*Instructor(s): Rachleff*

MUSI 636  CHAMBER MUSIC-ADVANCED (1)

MUSI 637 (F)  ADVANCED CONDUCTING FOR MAJORS (3)
Not offered 2003–04.

MUSI 640  ADVANCED CHORUS (1)
Section 1, Shepherd Singers (by audition only); Section 2, Rice Chorale. *Instructor(s): Jaber*
MUSI 641  MASTER’S RECITAL I (0)

MUSI 642  ACCOMPANYING FOR ENSEMBLE (1)
Taken in lieu of MUSI 635 or 640. Student to fulfill requirements of MUSI 442 or 443. Instructor(s): Connelly

MUSI 645 (F)  ORGAN CONSTRUCTION (2)
Not offered 2003–04.

MUSI 647  MASTER’S THESIS (3)

MUSI 649  GRAD INDEPENDENT STUDY (1–3)
Prerequisite(s): Approval of department required.

MUSI 651  FLUTE FOR MAJORS-ADV (3)
Instructor(s): Buyse

MUSI 653  OBOE FOR MAJORS-ADV (3)
Instructor(s): Atherholt

MUSI 655  CLARINET FOR MAJORS-ADV (3)
Instructor(s): LeGrand, Webster

MUSI 656  BASSOON FOR MAJORS-ADV (3)
Instructor(s): Kamins

MUSI 661  HORN FOR MAJORS-ADV (3)
Instructor(s): Ver Meulen

MUSI 663  TRUMPET FOR MAJORS-ADV (3)
Instructor(s): Speziale

MUSI 665  TROMBONE FOR MAJORS-ADV (3)
Instructor(s): Waters

MUSI 667  TUBA FOR MAJORS-ADV (3)
Instructor(s): Kirk

MUSI 671  PERCUSSION FOR MAJORS-ADV (3)
Instructor(s): Brown

MUSI 673  VOICE FOR MAJORS-ADV (3)
Instructor(s): Farwell, Kaun, King

MUSI 681  PIANO FOR MAJORS-ADV (3)
Instructor(s): Connelly, J.K. Fischer, Parker, Roux, Shank

MUSI 683  ORGAN FOR MAJORS-ADV (3)
Instructor(s): Holloway

MUSI 686  APPLIED PIANO TECHNOLOGY (3)
The comprehensive study of tuning all important historical and modern temperaments; supervised work on action voicing, regulation, and restoration. Instructor(s): Shank

MUSI 687  HARP FOR MAJORS-ADV (3)
Instructor(s): Page

(#) = credit hours per semester
MUSI 689  PIANO CHAMBER MUS/ACCOMP-ADV (3)
Instructor(s): Connelly

MUSI 690  INST COACHING/STRING QUARTET (2)
Advanced instrumental coaching for students in the M.Mus. string quartet program. Instructor(s): Dunham.

MUSI 691  VIOLIN FOR MAJORS-ADV (3)
Instructor(s): Goldsmith, Luca, Winkler

MUSI 693  VIOLA FOR MAJORS-ADV (3)
Instructor(s): Dunham, Ritscher

MUSI 695  VIOLONCELLO FOR MAJORS-ADV (3)
Instructor(s): N. Fischer, Harrell

MUSI 697  DOUBLE BASS FOR MAJORS-ADV (3)
Instructor(s): Ellison, Pitts

MUSI 698  ADVANCED STRING QUARTETS (4)
Private lessons for graduate students enrolled in the string quartet program. Instructor(s): Dunham, N. Fischer, Goldsmith

MUSI 700  GRADUATE RESEARCH (1-9)

MUSI 707 (F)  DOCTORAL IND STUDY/COMPOSITION (3)
Independent project at the doctoral level. Not offered 2003–04.

MUSI 711 (F)  ANALYTICAL APPROACHES (3)
In depth exploration of tonal and post-tonal analytical procedures. Required of all doctoral students. Instructor(s): Al-Zand

MUSI 712 (S)  SEMINAR IN ADVANCED ANALYSIS (3)
This class will build on the concepts and materials presented in MUSI 711. Students will do in-depth analyses of significant pieces from several style periods. Enrollment limited to 6. Instructor(s): Lavenda

MUSI 721 (F)  MUSIC OF SCHOENBERG (3)

MUSI 722 (F)  MUSIC OF STRAVINSKY (3)
Study of Igor Stravinsky’s major works to ca.1925 in the context of his early training, commissions from Diaghilev, exile in Switzerland, and post-war prominence in Paris. Enrollment limited to 15. Not offered 2003–04.

MUSI 723 (F)  AESTHETICS OF MUSIC (3)
An introduction to music aesthetics, focusing on contemporary theories and writings. Enrollment limited to 12. Instructor(s): Lavenda

MUSI 724 (F)  HILDEGARD OF BINGEN (3)
The course examines the life and works of 12th-century polymath Hildegard of Bingen, including her achievements in music, poetry, religious thought, medicine, natural science, and linguistics. Enrollment limited to 15. Instructor(s): Meconi

MUSI 725 (F)  JOSQUIN (3)
Examination of the works of Josquin des Prez and his pivotal role in changing musical style in the late 15th and early 16th centuries. Enrollment limited to 15. Not offered 2003–04.

(F) = Fall; (S) = Spring
MUSI 726 (F)  ILLUMINATED MANUSCRIPTS (3)
The study of illuminated music manuscripts from the Middle Ages through the mid-16th century, with discussion of changes in production, design, decoration, and function throughout this period. Nonmusic manuscripts will also be examined in order to place music collections in the context of contemporary manuscript culture. Enrollment limited to 12. Not offered 2003–04.

MUSI 736  SOLO/CHAMBER/CONCERTO REP (3)

MUSI 741  MASTER’S RECITAL II (0)

MUSI 742  STRING QUARTET RECITAL (0)
Each recital will include a format chosen by the quartet and natural to them in which they relate to the general public in a meaningful, nontechnical way (i.e., pre-concert question and answer session, etc.). These are not lecture-recitals in the traditional, academic sense: their aim is to give the quartet guidance and experience in how to impart substantive information that help nonmusicians deepen their concert-going experience.

MUSI 747  SURVEY-ORCHESTRAL REPERTOIRE (2)
A survey of the techniques of orchestral playing with emphasis on preparation of orchestral excerpts for professional auditions.

MUSI 748  DOCTORAL RECITAL RESEARCH (1-3)

MUSI 749  APPRENTICESHIP (1-3)

MUSI 750  DOCTORAL DOCUMENT (3)
Supervised research and writing in areas of performance study. Not limited to areas of original research.

MUSI 751  DOCTORAL RECITAL (3)
Section 1, solo; Section 2, chamber; Section 3, concerto; Section 4, lecture.

MUSI 800  DISSERTATION (3)
Composition of a substantial work. Faculty approval required.

NAVA (Naval Science)

NAVA 101 (F)  NAVAL ORIENTATION (0)
An introduction to naval traditions and customs, seamanship, naval organization and missions, and the fundamental concepts of seapower. Instructor(s): Lieutenant Frederickson

NAVA 102 (S)  NAVAL ENGINEERING (3)
Ship propulsion systems, auxiliary systems, steering systems, electrical power distribution, ship design, ship stability and damage control measures. Instructor(s): Lieutenant Kane

NAVA 201 (F)  NAV WEAPONS-NAVAL SHIP SYS II (3)
The theory and employment of weapons systems. The student explores the processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance, and explosives. The physical aspects of radar and underwater sound are described in detail. Instructor(s): Lieutenant Kane

NAVA 202 (S)  SEA POWER AND MARITIME AFFAIRS (2)
Readings, discussions, and research on selected topics related to the history, importance, and impact of seapower on modern civilization. Instructor(s): Lieutenant Frederickson

(#) = credit hours per semester
NAVA 301 (F)  NAVIGATION (3)
Marine navigators and laws of vessel operations. Includes coastal piloting, navigational aids, nautical astronomy, satellite and inertial systems, and rules of the nautical road. Instructor(s): Lieutenant Kane

NAVA 302 (S)  NAVAL OPERATIONS II (3)
An analysis of ship movements, formations, and fleet operations; includes Rules of the Road, maneuvering board, tactical publications and communications. Instructor(s): Lieutenant Kane.

NAVA 303  EVOLUTION OF WARFARE (2)
Historical survey of the evolution of the conduct of warfare. Strategy, tactics, weapons, organization, and military leaders/thinkers are studied. Offered in the fall of every odd year. Instructor(s): Major Hale.

NAVA 311 (F)  NAVIGATION LAB (3)
Instructor(s): Lieutenant Kane

NAVA 401 (F)  LEADERSHIP MANAGEMENT I (2)
An introduction to the principles and concepts of management, organization, leadership, information systems, and decision making. Instructor(s): Captain York, Lieutenant Colonel Wallace

NAVA 402 (S)  LEADERSHIP AND ETHICS (1)
Leadership principles, with particular emphasis on ethics, human resources management, military law and discipline, and administration. Instructor(s): Captain York, Lieutenant Colonel Wallace

NAVA 410  AMPHIBIOUS WARFARE (2)
Study of the history of amphibious warfare, using case studies to examine doctrine tactics, and the factors necessary for successful operations. Offered in the fall of every even year. Instructor(s): Major Hale

NEUR (Neurosciences)

The School of Social Sciences

Note: Check the Neuroscience at the Rice website at http://www.ruf.rice.edu/~neurosci/ for late breaking news on all NEUR courses

NEUR 415 (F)  MATHEMATICAL NEUROSCIENCE (3)
Modeling of and computation by single neurons. Establish proficiency in the use of NEURON, a widely-used neurosimulation package, and so provide motivation and deliver a practical skill. From there, poke under NEURON’s hood and derive the fundamental equations of neurodynamics and construct simple analytical and numerical procedures for their solution. Also listed as CAAM 415.

NEUR 501 (F)  COGNITIVE NEUROSCIENCE I (3)
Overview of neuropsychological and cognitive neuroscience approaches to higher mental functions including sensation and perception, attention, motor control, and neuroplasticity. Other topics include basic neuroanatomy, experimental and clinical investigative methods and the historical and philosophical context of contemporary neuroscience. Also listed as PSYC 575. Enrollment limited to 15.

NEUR 502 (F)  COGNITIVE NEUROSCIENCE II (3)
Overview of neuropsychological and cognitive service approaches to higher mental functions including language, memory, executive functions, reasoning, and numerical processing.
NEUR 505 (F)  OPTICAL IMAGING (3)
Begins with a theoretical portion introducing the fundamentals of optical imaging of neural activity, presenting devices that are employed, and reviewing applications and their results. In a practical component, students design and perform simple in vitro experiments, gaining hands-on experience with this exciting and powerful technology. Instructor(s): Saggau

NEUR 506 (F)  CONCEPTS OF LEARNING AND MEMORY (3)
Rice University now offers a set of graduate level courses in Neuroscience many of which are taught, in part or in whole, by faculty from the nearby Baylor College of Medicine. Some of these courses are taught at Rice, some at Baylor, and some are split lectures at Rice and laboratories at Baylor. Rice students, including advanced undergraduates are encouraged to take these courses, many (but not all) of which are taught according to Rice’s academic calendar. Because the specifics of these courses change frequently, prospective students are encouraged to visit the Neurosciences at Rice website at http://www.ruf.rice.edu/~neurosci/. At that site you will find information about what students are eligible to enroll, about which courses will be offered each semester and their classroom locations, and about the procedure required for enrolling. Instructor(s): Faculty from Baylor College of Medicine

NEUR 507 (F)  NEUROBIOLOGY OF DISEASE (2)
Rice University now offers a set of graduate level courses in Neuroscience many of which are taught, in part or in whole, by faculty from the nearby Baylor College of Medicine. Some of these courses are taught at Rice, some at Baylor, and some are split lectures at Rice and laboratories at Baylor. Rice students, including advanced undergraduates are encouraged to take these courses, many (but not all) of which are taught according to Rice’s academic calendar. Because the specifics of these courses change frequently, prospective students are encouraged to visit the Neurosciences at Rice website at http://www.ruf.rice.edu/~neurosci/. At that site you will find information about what students are eligible to enroll, about which courses will be offered each semester and their classroom locations, and about the procedure required for enrolling. Instructor(s): Faculty from Baylor College of Medicine

NEUR 511 (F)  INTEGRATIVE NEUROSCIENCE CORE I (5)
A broad introductory survey covering all aspects of neuroscience, team-taught by faculty from Baylor College of Medicine. Includes a lab at Baylor. Enrollment limited to 20. Instructor(s): Faculty from Baylor College of Medicine

NEUR 512 (F)  INTEGRATIVE NEUROSCIENCE CORE II (5)
A broad introductory survey covering all aspects of neuroscience, team-taught by faculty from Baylor College of Medicine. A continuation of NEUR 511. Enrollment limited to 20. Instructor(s): Faculty from Baylor College of Medicine

NEUR 515 (F)  NEURAL DEVELOPMENT (3)
An advanced graduate course focusing on molecular genetic studies. Integrates molecular patterning of sensory system with developmental neuroscience using a cross-species approach, with an emphasis on the visual system. Topics include the biochemical and genetic basis for neural plasticity, neurotrophic factors in neural development, and the molecular mechanism of growth core guidance and synapse formation. Instructor(s): Faculty from Baylor College of Medicine

NEUR 516 (F)  SENSORY SYSTEMS (3)
A two-part course covering sensory transduction in audition, touch, and the chemical senses, and a detailed coverage of the visual system, including retinal structures and central pathways, phototransduction, receptive fields, and functional organization in the cortex. Enrollment limited to 10. Instructor(s): Faculty from Baylor College of Medicine

(#) = credit hours per semester
**NSCI (Natural Sciences)**

The Wiess School of Natural Sciences

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**NSCI 111 (F)**  
**SCIENCE TODAY: CONCEPTS IN PHYSICS AND ASTRONOMY (3)**

This course is intended as a survey of some key concepts in physics and astronomy that form the basis of our modern understanding of our universe. By focusing on scientific methodology and a few universal laws, the course is intended to help students appreciate popular accounts of scientific discoveries and give them the conceptual tools to form intelligent views of contemporary scientific issues. Intended for nonscience/engineering majors.

**NSCI 142 (F)**  
**SCIENCE FOR CHANGING TIMES (3)**

This course is designed for nonscience and nonengineering majors. In it, we will explore topics having a direct impact on our lives right now and in the future. These will include nuclear medicine, global warming, water pollution, the chemical industry, cloning and genetic engineering, health and fitness, and drugs. Learn to be an active and informed citizen.

**NSCI 1XX (F)**  
**TRANSFER CREDIT (3)**

**NSCI 230 (F)**  
**COMPUTATION SCIENCE AND ENGINEERING (3)**

The course introduces basic techniques for problem solving and visualization using computational environments such as Mathematica and Matlab. Class will consist of a mixture of traditional lectures held in classrooms and self-paced modules covering topics in science and engineering that will be completed in Symonds II. No previous experience is required or expected. Also listed as COMP 110.

**NSCI 305 (F)**  
**NEW VENTURE COMMUNICATION, INNOVATION, DISCOVERY FOR SCIENCE AND ENGINEERING (1)**

Teaches students in science or engineering the skills needed to discover, communicate, and promote products and services based on technological innovation or scientific research. Students learn to innovate a product or service with social or commercial application, write an early-stage business plan, and give a 10-minute financing presentation. Also listed as ENGI 305.

**NSCI 307 (F)**  
**PREPARING FOR PROFESSIONAL COMMUNICATION IN FIVE COUNTRIES, MANY CULTURES (1)**

Prepares students to anticipate the roles, situations, and expected communicate practices they would encounter in engineering firms or other businesses in the United Kingdom, Germany, China, Mexico, and the Middle East. Enrollment limited to 20. Also listed as ENGI 307.

**NSCI 500 (F)**  
**INTERNSHIP (12)**

Full-time internship for 3 or 6 months under the guidance of an appointed host company. Required for all students enrolled in Professional Master’s Program in specified tracks in NSCI.

**NSCI 501 (F)**  
**PROFESSIONAL MASTER’S SEMINAR (1)**

Seminar bringing in outside speakers. Exclusively for students in the Professional Master’s Program.

**NSCI 505 (F)**  
**ENVIRONMENTAL LAB (1)**

Laboratory module offered in conjunction with CAAM 353 that illustrates applications of numerical analysis in the solutions of common environmental science and engineering problems. Consent of professor is required.

**NSCI 506 (F)**  
**ENVIRONMENTAL CASE STUDIES (1)**

Seminar bringing in outside speakers from the community to address environmental issues.

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(F) = Fall; (S) = Spring
PFDV (Professional Development)

The School of Humanities / Education/Educational Certification Department

PFDV 580  CONTEMPORARY TOPICS IN ELEMENTARY SCHOOL MATHEMATICS (VAR)
Mathematics topics related to the elementary grades that include number and operations, geometry, probability, statistics, patterns, functions, and measurement. Hands-on experiences in innovative methods using manipulatives and technology, problem-solving techniques, and motivational strategies. Curriculum development using the Rice University School Mathematics Project Learning Plan. Assessment in the elementary school classroom. Offered in summers. Enrollment by consent of instructor.

PFDV 585  CONTEMPORARY TOPICS IN MIDDLE SCHOOL MATHEMATICS (3)
Mathematics topics related to middle school mathematics that include number concepts, ratio proportions, geometry, probability, statistics, variables and functions. A problem-solving approach to teaching mathematics with an emphasis on the use of manipulatives and technology. Curriculum development using the Rice University School Mathematics Project Learning Plan. Assessment techniques. Offered during the academic year and summers. Enrollment by consent of instructor.

PFDV 586  CONTEMPORARY TOPICS IN ELEMENTARY AND MIDDLE SCHOOL SCIENCE (1)
Topics related to science instruction in elementary and middle school. Course field studies, classroom observations, and implementation of instructional strategies in the classroom. Science content will be provided, along with some curriculum development. Offered in summer.

PFDV 587  CONTEMP TOPICS IN ELEMENTARY & MIDDLE SCHOOL SCIENCE (PART II) (3)
Topics related to science instruction in elementary and middle school. Includes field studies, classroom observations and implementation of instructional strategies in the classroom. Science content will be provided, along with some curriculum development.

PFDV 588  TEACHING EARTH AND SPACE SCIENCE (3)
Overview of the earth and the solar system, their structure, evolution and dynamics. Fundamentals of earth and space science topics as taught in 6th grade. Includes mathematics of solar system motion at level of algebra and simple trigonometry (e.g., ellipses, Kepler’s laws). Includes teaching use of earth and solar system software and weather station software. Hands-on classroom activities aligned with TEKS. This course is designed for science and math teachers (grades 6-12), but is also available for a general audience. One hour of lab per week. Also listed as ASTR 402. Instructor(s): Reiff

PFDV 589  ASTRONOMY FOR TEACHERS (3)
Learn how to teach astronomy concepts as specified by the State of Texas. This class provides the most basic concepts and shows what is necessary for students to master them, following the development specified in the TEKS. Lab activities suitable for replication in K-9 classrooms and as local field trip experience. Instructor(s): Reiff

PFDV 590  CONTEMPORARY TOPICS IN SENIOR HIGH SCHOOL MATHEMATICS (4)
Topics related to senior high school mathematics that include geometry, probability, statistics, functions, limits, sequences, series, and number theory. A problem-solving approach to teaching mathematics with an emphasis on the use of manipulatives and technology. Curriculum development using Rice University School Mathematics Project Learning Plan. Assessment techniques. Offered during the academic year and in summers. Enrollment by consent of instructor.

(#) = credit hours per semester
PFDV 592  SEMINAR IN SCIENCE FOUNDATIONS (2)
Seminar with a team of university faculty and community-based scientists (in fields such as medicine, space, energy, and the environment) to increase understanding of scientific principles as they are applied in the scientific community of Houston and as they relate to secondary school science. Instructor(s): Harcombe

PFDV 593  PRACTICUM IN TEACHING SCIENCE (2)
Students will develop and practice interactive teaching strategies to engage students in a process of observation and discovery fundamental to the sciences. Instructor(s): Harcombe

PFDV 594  PRACTICUM IN TEACHING SCIENCE (3)
Continuation of PFDV 593. Instructor(s): Harcombe

PFDV 595  TOPICS IN CONTEMPORARY ALGEBRA FOR IN-SERVICE TEACHERS (3)
Teaching beginning algebra with an emphasis on mathematical models, representations, variables, functions, and symbolic reasoning. Foundation concepts for secondary mathematics, algebraic thinking, symbolic reasoning, functions, relationship between algebra and geometry, and underlying mathematical processes. Use of manipulatives and technology. Curriculum development using Rice University School Mathematics Project Learning Plan. Offered during the academic year and in summers.

PFDV 598  REFLECTIVE PRACTICE (3)
The great American philosopher, John Dewey, was the first to speak of people moved by their own intelligence. This interactive course will trace the philosophical and pedagogical roots of ‘reflective practice’ and will focus on the development of professional knowledge within a reflective inquiry environment. Offered when sufficient interest is shown.

PHIL (Philosophy)

The School of Humanities

PHIL 100 (F)  PROBLEMS OF PHILOSOPHY (3)
An introduction to philosophy through such fundamental problems as the basis of morality, the foundation of state authority, determinism and freedom, and the possibility of knowledge. Instructor(s): Staff

PHIL 101  CONT’ MORAL & LEGAL ISSUES (3)
Examination of moral issues surrounding such topics as abortion, euthanasia, war, capital punishment, justice, and equality. Instructor(s): Norcross, A.; Sher

PHIL 103 (F)  PHILOSOPHICAL ASPECTS OF COGNITIVE SCIENCE (3)
An examination of current research in cognitive science and its philosophical implications. Topics include whether the mind is a computational system, how the mind is organized, whether certain components of the mind are innate. Instructor(s): Margolis

PHIL 104 (S)  PHILOSOPHICAL PERSPECTIVES ON SCIENCE (3)
The nature, origins, and impact of scientific knowledge will be examined from a variety of disciplinary perspectives. In addition to works by some of history’s greatest philosophers, including Descartes and Hume, readings will include selections from 20th-century philosophers, scientists, historians, and feminists. Normally offered every year. Instructor(s): Roush

PHIL 105  HISTORICAL INTRODUCTION TO PHILOSOPHY (3)
Study and discussion of central ideas of Western philosophy as developed by its original thinkers. Instructor(s): Brody, Zuckert

(F) = Fall; (S) = Spring
PHIL 106 (S)  LOGIC (3)
Introduction to the formal theory of reasoning, which will be used to assess the validity of arguments in natural languages. Instructor(s): Staff

PHIL 108 (F)  PHILOSOPHICAL LIFE: A LITERARY/HIST. INTRO. (3)
An introduction to philosophy through historical and contemporary philosophical and literary sources—including Sophocles, Plato, Shakespeare, Descartes, Dostoevsky, Nietzsche, Mann, Sartre, and others. Not offered 2003–04. Instructor(s): Crowell

PHIL 201 (F)  HISTORY OF PHILOSOPHY I (3)
Survey of the major philosophers and philosophical systems of ancient Greece, from Parmenides to the Stoics. Instructor(s): Moran

PHIL 202 (S)  HISTORY OF PHILOSOPHY II (3)
A survey of the history of philosophy from the 17th to the 20th century. Instructor(s): Kulstad

PHIL 301 (S)  ANCIENT & MEDIEVAL PHILOSOPHY (3)
Topics in the history of philosophy from the 4th century B.C. through the 14th century. Course may be repeated for credit. Instructor(s): Morrison

PHIL 302 (F)  MODERN PHILOSOPHY (3)
Examination of themes or authors in 17th- and 18th-century philosophy. Topics vary from year to year. Normally offered every year. Instructor(s): Grandy

PHIL 303 (F)  THEORY OF KNOWLEDGE (3)
Topics: analysis of knowledge, foundations of knowledge, skepticism, and perception. Not offered 2003–04. Instructor(s): Kulstad, Roush

PHIL 304 (F)  METAPHYSICS (3)
Examination of metaphysical theories in the works of historical and contemporary thinkers. Topics may include: free will, the identity of persons over time, causation, possibility and necessity, design and chance, the nature of existence, the nature of time. Not offered 2003–04. Instructor(s): Grandy, Morrison, Roush

PHIL 305 (F)  MATHEMATICAL LOGIC (3)
This course will cover the central concepts and results in mathematical logic, focusing on the Completeness Theorem, which proves the convergence of the syntactic and semantic approaches to reasoning. The content of the course overlaps considerably with COMP 280 and 409, though the emphasis in this course is on applications of logic in areas other than computer science and the exercises primarily concern natural languages rather than formal ones. Among its other goals, the course is intended not only to give students practice in proving theorems but also to push them to be reflective about the theorem proving process. Instructor(s): Grandy

PHIL 306 (F)  ETHICS (3)
This course deals with fundamental questions of value and morality—questions such as: What sort of life is best? What kind of person is it best to be? What does morality require of us? It also deals with important second-order questions about these fundamental questions—for example: Can morality be justified? How can we know what’s right or good? Is there moral truth? What is the relation between morality and self-interest? Readings are drawn from both classical and contemporary sources. Instructor(s): Staff

PHIL 307 (S)  SOCIAL & POLITICAL PHIL (3)
What makes a society just? On what grounds may the liberty of individuals be legitimately limited? What social ends may a state legitimately pursue? Instructor(s): Staff

PHIL 308 (S)  CONTINENTAL PHILOSOPHY (3)
An examination of philosophical movements in 20th-century European philosophy—including phenomenology, existentialism, hermeneutics, critical theory, deconstruction, and postmodernism. Instructor(s): Crowell

(#) = credit hours per semester
PHIL 309 (F) - AESTHETICS (3)
An introduction to the philosophy of art. The course draws upon traditional and contemporary philosophical theories and upon examples drawn from the visual, literary, and performing arts (including architecture) to address questions such as: What is a work of art? What factors enter into the way spectators and performers interpret artwork? What makes a work good? Can art speak the truth? Instructor(s): Crowell

PHIL 311 (S) - PHILOSOPHY OF RELIGION (3)
Examination of God’s existence, the problem of evil, the relation between faith and reason, and the varieties of religious experience. Normally offered every other year. Instructor(s): Brody

PHIL 312 (F) - PHILOSOPHY OF MIND (3)
Inquiry into the nature of mind, with emphasis on the mind/body problem. Instructor(s): Margolis

PHIL 313 (S) - PHILOSOPHY OF SCIENCE (3)
A survey of contemporary issues in the philosophy of science. How do scientific theories provide us with an understanding of the world? How do our observations, in turn, provide support for scientific theories? Scientific theories are often thought to describe laws, or causal relations, but what are these? How are we to understand theories that tell us that certain events are more or less probable? No knowledge of any one science is presupposed. Prerequisite(s): one course in philosophy. Normally offered every year. Instructor(s): Grandy, Roush

PHIL 314 (S) - THE PHILOSOPHY OF MEDICINE (3)
The biomedical sciences, the practice of medicine, and health care policy employ concepts of health, disease, disability, and defect in explanatory accounts, intermixing factual claims with moral and other evaluations. This course explores the interplay of evaluation and explanation in medicine’s models of disease and health. Instructor(s): Engelhardt

PHIL 315 (F) - ETHICS, MEDICINE & PUBLIC POLICY (3)
This course will explore the relationship between theories of justice and accounts of the proper allocation of health care. The first half will examine Rawl’s *A Theory of Justice* and Nozick’s *Anarchy, State, and Utopia*, and particular accounts of justice and health care. The second half will address specific problems in the allocation of health care resources. Not offered 2003–04. Instructor(s): Engelhardt

PHIL 316 (F) - PHILOSOPHY OF LAW (3)
Examination of social control of private property, compensation in the law of torts, the right to privacy and bodily integrity, and justice through compensatory discrimination, etc. Not offered 2003–04. Instructor(s): Brody

PHIL 317 (F) - ETHICS AND EXISTENCE (3)
An examination of the concept of ethical obligation from an existential point of view. Readings from Kierkegaard, Husserl, Heidegger, Sartre, Derrida, Levinas, and Apel. Not offered 2003–04. Instructor(s): Crowell

PHIL 319 (F) - FEMINIST PHILOSOPHY (3)
This course is an introduction to feminist philosophy, including texts by both historical and contemporary thinkers (e.g., Wollstonecraft, Mill, de Beauvoir, MacKinnon, Gilligan, Irigaray). We shall discuss both feminists’ radical critiques of traditional values and beliefs, and feminist alternative views of justice, ethical judgment, and truth. Also listed as WGST 339. Not offered 2003–04. Instructor(s): Zuckert

PHIL 321 (F) - KANT & 19TH CENTURY PHILOSOPHY (3)
An examination of Kant and post-Kantian philosophy in the 19th century, which may include Schiller, Hegel and German Idealism, Schopenhauer, Marx, Kierkegaard, Nietzsche, and Dilthey. Not offered 2003–04. Instructor(s): Crowell, Zuckert

(F) = Fall; (S) = Spring
PHIL 326 (S)  HISTORY OF ETHICS (3)
An introduction to the major issues of ethical theory through the reading and discussion of such classical figures as Plato, Aristotle, the Stoics, the Epicureans, St. Augustine, St. Thomas, Maimonides, Bishop Butler, David Hume, Adam Smith, J.S. Mill, and I. Kant. Not offered 2003–04. Instructor(s): Brody

PHIL 327 (F)  HISTORY OF SOCIAL AND POLITICAL PHILOSOPHY (3)
A survey of classic texts in the history of social and political philosophy, from Plato to Machiavelli to Mill. Not offered 2003–04. Instructor(s): Morrison

PHIL 331 (S)  MORAL PSYCHOLOGY (3)
An examination of the role of intellect, emotion, and character as they contribute to the moral (and immoral) life, and as they pertain to rationality and moral responsibility. Not offered 2003–04.

PHIL 335  ADVANCED TOPICS IN VALUE THEORY (3)
Intensive examination of a topic of contemporary or historical interest in ethics or social and political philosophy. Prerequisite(s): one course in philosophy or permission of instructor. Instructor(s): Brody, Norcross, Sher

PHIL 353 (S)  THE PHILOSOPHY OF LANGUAGE (3)
Philosophical investigation of relations among language, thought, and reality. Prerequisite(s): one course in Philosophy or permission of instructor. Not offered 2003–04.

PHIL 355 (F)  PHIL TOPICS IN ADVANCED LOGIC (3)
Various systems of formalization for modalities, tenses and other intensional concepts are studied syntactically and semantically. Students use and compare these systems and evaluate their strengths and limits. These provide examples for discussion of questions such as: What is a logical constant? What is the scope of logic? Not offered 2003–04.

PHIL 357 (S)  INCOMPLETENESS, UNDECIDABILITY AND COMPUTABILITY (3)
Proof of Godel’s Incompleteness Theorems for number theory in several forms and by various methods, as well as development of several definitions of computability for number-theoretic functions, which are then shown to be equivalent. Includes proof of the unsolvability of the Halting Problem and analysis of Church’s thesis, as well as exploration of the extension of the concept of computability to real-valued functions. Not offered 2003–04.

PHIL 390  CONTEMPORARY TOPICS (3)
Discussion of problems in selected areas of philosophy.

PHIL 401 (F)  INDEPENDENT READING I (3)
Instructor(s): Crowell

PHIL 402 (S)  INDEPENDENT READING II (3)
See PHIL 401. Instructor(s): Crowell

PHIL 501 (S)  SEMINAR IN ANCIENT AND MEDIEVAL PHILOSOPHY (3)
Instructor(s): Morrison

PHIL 502 (S)  SEMINAR IN MODERN PHILOSOPHY (3)
Instructor(s): Kulstad

PHIL 503  SEMINAR IN EPISTEMOLOGY (3)
Not offered 2003–04.

PHIL 504  SEMINAR IN METAPHYSICS (3)
Not offered 2003–04. Instructor(s): Grandy, Roush

(#) = credit hours per semester
PHIL 505 (F) MATHEMATICAL LOGIC (3)
See PHIL 305. Instructor(s): Grandy

PHIL 506 (F) SEMINAR IN ETHICS (3)
Instructor(s): Brody

PHIL 507 SEMINAR IN SOCIAL AND POLITICAL PHILOSOPHY (3)
Not offered 2003–04. Instructor(s): Brody, Sher

PHIL 508 (F) SEMINAR IN CONTINENTAL PHILOSOPHY (3)
The study of selected topics and figures in 20th century European philosophy. Instructor(s): Moran

PHIL 509 SEMINAR IN AESTHETICS (3)
Not offered 2003–04. Instructor(s): Crowell, Zuckert

PHIL 512 SEMINAR PHILOSOPHY OF MIND (3)
Not offered 2003–04. Instructor(s): Margolis

PHIL 513 SEMINAR IN PHILOSOPHY OF SCIENCE (3)
Not offered 2003–04. Instructor(s): Roush

PHIL 522 TOPICS IN MODERN PHILOSOPHY (3)
Topics in early modern philosophy: a focused, move advanced seminar on select problems or figures in the 17th and 18th centuries. Not offered 2003–04. Instructor(s): Kulstad

PHIL 523 (F) SEMINAR IN KANT (3)
Instructor(s): Engelhardt

PHIL 524 SEMINAR IN HEGEL (3)
Not offered 2003–04. Instructor(s): Engelhardt

PHIL 530 (S) SEMINAR IN HISTORY OF ANALYTIC PHILOSOPHY (3)
Instructor(s): Grandy

PHIL 532 (F) SEMINAR IN METAETHICS (3)
Instructor(s): Norcross

PHIL 533 SEMINAR IN VIRTUE ETHICS (3)
The leading question of virtue ethics has been characterized as: What kind of person is it best to be? Topics to be discussed may include moral worth, virtues and vices, happiness, and feminist ethics. Not offered 2003–04.

PHIL 534 (S) LIBERALISM (3)
An examination of the philosophical foundations of liberalism, with emphasis on the thesis that government should be neutral toward competing conceptions of the good life. Alternate year. Instructor(s): Sher

PHIL 536 (F) SEMINAR IN MEDICAL ETHICS (3)
An examination of the theoretical foundations of bioethics emphasizing principalism, utilitarianism, Kantianism, contractarianism, medicalism, post-modernism, and casuistry. Not offered 2003–04. Instructor(s): Brody

PHIL 537 (F) SEMINAR IN RESEARCH ETHICS (3)
An examination of the major issues of research ethics, including informed consent and IRB review, involvement and protection of special groups of subjects, fetal tissue and stem cell research, and genetic research. Not offered 2003–04. Instructor(s): Brody

(F) = Fall; (S) = Spring
PHIL 542 (F)  TOPICS IN PHILOSOPHY OF MIND (3)

PHIL 543 (F)  TOPICS IN PHILOSOPHY OF SCIENCE (3)
Focused consideration of either topics of perennial interest (e.g., explanation, experiment, the problem of induction, the measurement problem of quantum mechanics, interpretation of probability, realism vs. anti-realism, the role of values in science) or topics currently popular in the field, e.g., the Doomsday Argument, the Anthropic Principle. Not offered 2003–04. Instructor(s): Roush

PHIL 553 (F)  SEMINAR IN PHILOSOPHY OF LANGUAGE (3)
Not offered 2003–04. Instructor(s): Grandy

PHIL 590 (F)  TOPICS IN PHILOSOPHY (3)
Not offered 2003–04.

PHIL 598 (F)  ADVANCED INDEPENDENT READING (VAR)
Directed reading and research. Prerequisite(s): Philosophy graduate students only. Instructor(s): Crowell

PHIL 599 (S)  ADVANCED INDEPENDENT READING (VAR)
Directed reading and research. Prerequisite(s): Philosophy graduate students only. Instructor(s): Crowell

PHIL 601 (F)  RESEARCH PAPER (VAR)
Research course normally for second-year graduate students completing research paper requirement. Instructor(s): Crowell

PHIL 602 (S)  RESEARCH PAPER (VAR)
Research course normally for second-year graduate students completing research paper requirement. Prerequisite(s): Philosophy graduate students only. Instructor(s): Crowell

PHIL 651 (F)  MASTERS THESIS RESEARCH (VAR)
Research course for graduate students preparing a masters thesis. Instructor(s): Crowell

PHIL 652 (S)  MASTERS THESIS RESEARCH (VAR)
Research course for graduate students preparing a Masters thesis. Prerequisite(s): Philosophy graduate students only. Course may be repeated for credit. Instructor(s): Crowell

PHIL 701 (F)  READING AND RESEARCH FOR COMPREHENSIVE EXAMINATION AND THESIS PROPOSAL (VAR)
Reading courses in preparation for the comprehensive examination and thesis proposal defense. Instructor(s): Crowell

PHIL 702 (S)  READING AND RESEARCH FOR COMPREHENSIVE EXAMINATION AND THESIS PROPOSAL (VAR)
Reading courses in preparation for the comprehensive examination and thesis proposal defense. Prerequisite(s): Philosophy graduate students only. Course may be repeated for credit. Instructor(s): Crowell

PHIL 757 (F)  TEACHING WORKSHOP (2)
A highly participatory workshop for graduate students to improve their teaching abilities. Not offered 2003–04. Instructor(s): Grandy

PHIL 800 (F)  RESEARCH AND THESIS (VAR)

(#) = credit hours per semester
**PHYS (Physics)**

The Wiess School of Natural Sciences/Department of Physics and Astronomy

**PHSY 534 (S)**  **NANOSTRUCTURE AND NANOTECHNOLOGY II (3)**

Physics of structures and devices at the nanometer scale. Topics include nanomechanics, bionanotechnology, advanced sensors and photonics. Continuation of PHYS 533. Instructor(s): Natelson

**PHYS 101 (F)**  **MECHANICS (WITH LAB) (3)**

Calculus-based survey of physics. Includes classes and lab exercises on topics chosen from mechanics, electricity, and magnetism. Primarily for physical science and engineering students. May receive credit for only one of PHYS 101, 111, 125, AP Physics-B, and AP Physics-C (MECH). Instructor(s): Dunning, Suess, Dodds

**PHYS 102 (S)**  **ELECTRICITY & MAGNETISM (WITH LAB) (4)**

Continuation of PHYS 101. May receive credit for only one of PHYS 102, 112, 126, AP Physics-B, and AP Physics-C (E&M). Prerequisite(s): Phys 101 or equivalent. Instructor(s): Corcoran, Suess, Dodds

**PHYS 111 (F)**  **MECHANICS (WITH LAB) (3)**

Calculus-based survey of physics. Includes classes and lab exercises on topics chosen from mechanics, electricity, and magnetism. Primarily for physical science and engineering students with strong high school backgrounds in physics. May receive credit for only one of PHYS 101, 111, 125, AP Physics-B, and AP Physics-C (MECH). Prerequisite(s): high school physics and calculus. Instructor(s): Hannon, Dodds

**PHYS 112 (S)**  **ELECTRICITY & MAGNETISM (WITH LAB) (4)**

Continuation of PHYS 111. May receive credit for only one of PHYS 102, 112, 126, AP Physics-B, and AP Physics-C (E&M). Prerequisite(s): high school physics and calculus. Instructor(s): Hannon, Dodds

**PHYS 125 (F)**  **GENERAL PHYSICS (WITH LAB) (4)**

Calculus-based survey of physics. Includes classes and lab exercises on topics chosen from mechanics, waves, electricity, magnetism, optics, and modern physics. Primarily for bioscience and premedical students. May receive credit for only one of PHYS 101, 111, 125, AP Physics-B, and AP Physics-C (Mech). Instructor(s): Morris, Mutchler, Dodds

**PHYS 126 (S)**  **GENERAL PHYSICS II (WITH LAB) (4)**

A continuation of PHYS 125. May receive credit for only one of PHYS 102, 112, 126, AP Physics B, and AP Physics-C (E&M). Prerequisite(s): PHYS 125 or equivalent. Instructor(s): Morris, Mutchler, Dodds

**PHYS 141 (F)**  **CONCEPTS IN PHYSICS I (3)**

Study of concepts in physics with emphasis on the nature of physical phenomena, the conceptual development of physics, and related cultural influences. Instructor(s): Bonner

**PHYS 201 (F)**  **WAVES AND OPTICS (3)**

The third semester of the four-semester sequence in physics for science and engineering students. See also PHYS 231. Instructor(s): Padley, Roberts

**PHYS 202 (S)**  **MODERN PHYSICS (3)**

The final semester of the four-semester sequence in physics for science and engineering students. Instructor(s): Miettinen

(F) = Fall; (S) = Spring
PHYS 203 (S)  ATMOSPHERE, WEATHER, & CLIMATE (3)
This course emphasizes the fundamental science of the atmospheric system. Among the subjects
to be covered quantitatively are climate changes, solar radiation and the earth’s energy budget,
atmospheric motions and circulation, clouds and storms, and atmospheric environmental concerns.
Also listed as NSCI 203. Instructor(s): Few

PHYS 231 (F)  ELEMENTARY PHYSICS LAB II (1)
Laboratory on waves and optics. Corequisite: Phys 201. Instructor(s): Dodds

PHYS 301 (F)  INTERMEDIATE MECHANICS (4)
Classical mechanics and appropriate mathematical methods. Emphasis on problem solving.
Instructor(s): Huang

PHYS 302 (S)  INTERMEDIATE ELECTRODYNAMICS (4)
Classical electrodynamics and appropriate mathematical methods. Emphasis on problem solving.
Instructor(s): Chan

PHYS 311 (F)  INTRODUCTION TO QUANTUM PHYSICS I (3)
Fundamentals of quantum mechanics and applications to atomic and molecular structure.
Instructor(s): Hulet

PHYS 312 (S)  INTRODUCTION TO QUANTUM PHYSICS II (3)
Continuation of PHYS 311. Instructor(s): Stevenson

PHYS 331  JUNIOR PHYSICS LAB I (2)
Lab exercises in electronics, noise reduction, statistics and particle counting. Instructor(s): Dodds

PHYS 332  JUNIOR PHYSICS LAB II (2)
Lab exercises illustrating topics in the upper-division physics curriculum. Instructor(s): Dodds

PHYS 411 (F)  INTRODUCTION TO NUCLEAR & PARTICLE PHYSICS (3)
Undergraduate version of PHYS 542. Instructor(s): Corcoran

PHYS 412 (S)  SOLID STATE PHYSICS (3)
Introduction to topics in solid state physics, including crystal structure, lattice vibrations, electronic
band structure and transport. Instructor(s): Nordlander

PHYS 416 (S)  COMPUTATIONAL PHYSICS (3)
Use of computational techniques to solve selected physics problems. Examine benefits and pitfalls
of doing physics by computation. Enrollment limited to 25. Instructor(s): Toffoletto

PHYS 425 (F)  STATISTICAL & THERMAL PHYSICS (3)
Includes classical thermodynamics; classical and quantum statistical mechanics; Fermi, Bose, and
classical gases; magnetic systems; and phase equilibria. Instructor(s): Si

PHYS 443 (F)  ATMOSPHERIC SCIENCE (3)
Subjects studied include radiation, climate dynamics, energy balance models, structure and
stability; water, cloud and precipitation physics; atmospheric dynamics; storms and special
systems; and atmospheric electricity. Prerequisite(s): open to upper-level undergraduates and
graduate students in science and engineering with permission of instructor. Also listed as ENVI 443.
Instructor(s): Few

PHYS 461 (F)  INDEPENDENT RESEARCH (VAR)
A reading course in special topics.

(#) = credit hours per semester
PHYS 462 (S) INDEPENDENT RESEARCH (VAR)
See PHYS 461.

PHYS 480 (S) INTRODUCTION TO PLASMA PHYSICS (3)
Fundamental processes in cosmic and laboratory plasmas: gas dynamics, kinetic theory, magneto-hydrodynamics, waves and shocks, individual particle drifts, collisions and electrical conductivities, geometric and distribution instabilities. Prerequisite PHYS 302 (or equivalent). Instructor(s): Cloutier

PHYS 491 (F) UNDERGRADUATE RESEARCH (2)
Research projects conducted under supervision of departmentally approved faculty. Open to juniors and seniors majoring in physics and astronomy. May be repeated for credit. PHYS 493 and 494 must be taken concurrently with PHYS 491 and 492 when used in partial fulfillment of B.S. degree requirements. Instructor(s): Bonner

PHYS 492 (S) UNDERGRADUATE RESEARCH (2)
See PHYS 491. Instructor(s): Bonner

PHYS 493 (F) UNDERGRADUATE RESEARCH SEMINAR (1)
Weekly seminar for juniors and seniors in which presentations on research topics and/or topics in the scientific literature will be given. Open to juniors and seniors majoring in physics and astronomy department. May be repeated for credit. Instructor(s): Bonner

PHYS 494 (S) UNDERGRADUATE RESEARCH SEMINAR (1)
See PHYS 494. Instructor(s): Bonner

PHYS 510 (F) MAGNETOSPHERIC PHYSICS (3)
Plasma physics of the earth’s magnetosphere, including interactions of the magnetosphere with the solar wind, the ionosphere, and the neutral atmosphere. The emphasis on large-scale physics, but small scale waves and instabilities are discussed in some detail in cases where they affect the large-scale phenomena. Instructor(s): Hill

PHYS 512 IONOSPHERIC PHYSICS (3)
Planetary ionospheres: their aeronomy and structure, the aurora, ionospheric currents and conductivities. Not offered 2003–04.

PHYS 515 (F) CLASSICAL DYNAMICS (3)
Lagrangian and Hamiltonian mechanics. Instructor(s): Duck

PHYS 516 (F) MATHEMATICAL METHODS (3)
Survey of analytical and numerical methods used by research physicists and astronomers. Includes complex variables, the evaluation of integrals, variational calculus, ordinary and partial differential equations, special functions, and transform methods. Instructor(s): Chan

PHYS 519 PLASMA KINETIC THEORY (3)

PHYS 521 (F) QUANTUM MECHANICS I (3)
Graduate level quantum mechanics. Instructor(s): Miettinen

PHYS 522 (S) QUANTUM MECHANICS II (3)
Continuation of Phys 521. Instructor(s): Duck

PHYS 526 (S) STATISTICAL PHYSICS (3)
Selected topics in statistical mechanics, including phase transitions and transport phenomena. Instructor(s): Huang

(F) = Fall; (S) = Spring
PHYS 532 (S)  CLASSICAL ELECTROMAGNETIC (3)
Special relativity, covariant formulation of electrodynamics, wave phenomena and charged-particle radiation. Instructor(s): Hill

PHYS 533 (F)  NANOSTRUCTURE AND NANOTECHNOLOGY I (3)
Physics of structures and devices at the nanometer scale. After a review of solid state physics, topics include nanostructured materials, nanoelectronics, and nanomagnetism. Emphasis on relevance of nanophysics to current and future technologies. Instructor(s): Natelson

PHYS 535  CRYSTALLOGRAPHY & DIFFRACTION (3)
Also listed as MSCI 535. Prerequisite(s): MSCI 301.

PHYS 537 (F)  METHODS OF EXPERIMENTAL PHYSICS I (4)
This two-semester course will familiarize students with basic experimental techniques that are common to all academic and industrial research laboratories. Topics will include lab safety, mechanical design, computer-based data acquisition and experimental control, laboratory electronics, vacuum technology, optics, thermal measurement and control, cryogenics and charged particle optics. Instructor(s): Hafner, Killian

PHYS 538 (S)  METHODS OF EXPERIMENTAL PHYSICS II (4)
Continuation of PHYS 537. Instructor(s): Killian, Hafner

PHYS 539 (F)  CHARACTERIZATION AND FABRICATION AT THE NANOSCALE (3)
Introduction to study and creation of nanoscale structures, emphasizing relevant physical principles. Techniques covered include optical, X-ray, electron-based and scanned-probe characterization, as well as patterning, deposition and removal of material. Instructor(s): Rimberg

PHYS 541  RADIATIVE PROCESSES (3)
Radiation processes and their applications to astrophysical phenomena and space science. The course treats radiative transfer, radiation from moving charges, relativistic covariance and kinematics, bremsstrahlung, synchrotron radiation, Compton scattering, some plasma effects, and radiative transitions in atoms and molecules. Not offered 2003–04.

PHYS 542 (F)  INTRODUCTION TO ELEMENTARY PARTICLE PHYSICS (3)
Graduate version of PHYS 411. Includes an introduction to the theory of elementary particles and the characteristic features of experimental data.

PHYS 543 (S)  PHYSICS OF QUARKS AND LEPTONS (3)
A continuation of PHYS 542. Instructor(s): Padley, Roberts

PHYS 561  GENERAL RELATIVITY (3)
Study of Einstein’s theory of gravitation, including cosmological models. Prerequisite(s): PHYS 532. Not offered 2003–04.

PHYS 563 (F)  INTRODUCTION TO SOLID STATE PHYSICS I (3)
Fundamental concepts of crystalline solids, including crystal structure, band theory of electrons, and lattice vibration theory. Also listed as ELEC 563. Instructor(s): Kono

PHYS 564 (S)  INTRODUCTION TO SOLID STATE PHYSICS II (3)
Continuation of PHYS 563, including scattering of waves by crystals, transport theory, and magnetic phenomena. Instructor(s): Si

(#) = credit hours per semester
PHYS 566 (F)  SURFACE PHYSICS (3)
An introduction to surface- and low-dimensional physics covering experimental surface physics and ultra-high vacuum technology, crystal structure, chemical analysis, epitaxy, nanoscale electronic and magnetic structures and devices, elementary excitations, optical properties and nanoscale sensitive magnetic and nonmagnetic spectroscopies. Instructor(s): Rau

PHYS 569  ULTRAFAST OPTICAL PHENOMENA (3)
Also listed as ELEC 569.

PHYS 571 (S)  MODERN ATOMIC PHYSICS (3)
This is an introductory course at the graduate level. Topics to be discussed include: atomic structure, principles of lasers, fundamental interactions of atoms with electro-magnetic radiation, including coherent effects, laser spectroscopy, quantum optics, and laser cooling and trapping of atoms, and Bose-Einstein condensation. Instructor(s): Hulet

PHYS 574  SPIN-SENSITIVE ELECTRON SPECTROSCOPIES (3)

PHYS 600  ADVANCED TOPICS IN PHYSICS (3)
Lecture/seminars which treat topics of departmental interest. Not offered every year. May be repeated for credit. Instructor(s): Damle, Rau, Kiang

PHYS 621  ADV QUANTUM MECHANICS I (3)

PHYS 622 (F)  ADVANCED QUANTUM MECHANICS II (3)
Study of QED, QCD, and unified theories. Instructor(s): Stevenson

PHYS 663 (F)  CONDENSED MATTER THEORY: APPLICATIONS (3)
Applications of techniques developed in PHYS 664. Instructor(s): Nordlander

PHYS 664  CONDENSED MATTER THEORY: MANY-BODY FORMALISM (3)

PHYS 700  TEACHING PRACTICUM (3)
Supervised teaching for graduate students. May be repeated for credit.

PHYS 800  GRADUATE RESEARCH (VAR)
Thesis research under the supervision of department faculty.

PLSH (Polish)

The School of Humanities/Center for the Study of Languages

PLSH 101 (F)  INTRODUCTION TO POLISH I (4)
Emphasis on speaking and reading. A selection of textbooks and other materials (audio, video, Internet) are used in this beginners’ course in the language of Polanski and the Pope. Instructor(s): Skorczewski

PLSH 102 (S)  INTRODUCTION TO POLISH II (4)
Continuation of PLSH 101. Introductory study of Polish with emphasis on speaking and reading. A selection of textbooks and other materials (audio, video, Internet) are used in this beginners’ course in the language of Polanski and the Pope. Instructor(s): Skorczewski
POLI (Political Science)

The School of Social Sciences/Department of Political Science

POLI 209 (S)  INTRODUCTION TO CONSTITUTIONALISM (3)
Study of constitutionalism and authoritarianism from Machiavelli to Marx. Includes an introduction to contemporary ideologies. With POLI 210 meets state professional requirements for teachers. Enrollment limited to 75. Instructor(s): Cuthbertson

POLI 210 (F)  AMERICAN GOVT AND POLITICS (3)
Major topics in American politics: public opinion, group politics, political parties, elections, congressional-presidential-bureaucratic politics, and judicial politics. Together with POLI 209 meets state professional requirements for teachers. Enrollment limited to 75. Instructor(s): Black

POLI 211  INTRO TO INTERNATIONAL RELATIONS (3)
An introduction to the study of international relations. The course examines topics from the role of individuals to the impact of the international system. Major issues, such as the causes of war and development of the third world are also discussed. Enrollment limited to 75. Instructor(s): Leeds, Stoll

POLI 212  INTRO TO COMPARATIVE POLITICS (3)
An examination of political institutions and behavior in selected democratic, communist, and third world countries. Enrollment limited to 75. Instructor(s): Ambler, TBA

POLI 250  INTERNATIONAL POLITICAL ECONOMY OF GENDER (3)
This course explores how international and domestic policies and economic processes shape women’s lives, and will examine the implications of power relations within the home, within nations, and between nations, for women’s lives in different parts of the world and at different points in history. It looks at similarities and differences in women’s experiences across different contexts with such global processes as the sexual division of labor, colonialism, capitalism, domestic service, and slavery. Throughout the course, particular attention is paid to how women, as individuals and in organized groups, have sought to resist oppressive global processes. Films, literature, and scholarly works will be used to explore the subject. Also listed as WGST 250. Not offered 2003–04.

POLI 300  FEDERALISM AND INTERGOVERNMENTAL POLITICS (3)
An exploration of the politics, demographics, technology, and legal environment of twenty-first century legislative redistricting. In addition to lectures and readings, the course includes an introduction to a computer based geographical information system that the students will use to complete a redistricting simulation. Enrollment limited to 20. Not offered 2003–04.

POLI 301  STATE POLITICS (3)
This course is organized around the themes of the constraints and influences on the adoption and implementation of public policies in the American states. Not offered 2003–04.

POLI 305 (F)  DIRECTED READING I (3)
Independent reading under the supervision of a member of the department. Open to junior majors in the honors program and to others in special cases with the permission of the instructor. Instructor(s): Stoll

POLI 306 (S)  DIRECTED READING II (3)
See POLI 305. Instructor(s): Stoll

(#) = credit hours per semester
POLI 307  POLITICAL SCIENCE INTERNSHIP I
This course is the in-class component of the political science internship program. Students will read both a common set of materials and a set that is oriented to their forthcoming internship. A final paper is required. Instructor(s): Alford

POLI 308  POLITICAL SCIENCE INTERNSHIP II
This course is the work component of the political science internship program. Students will be required to submit weekly progress reports and a final portfolio. Instructor(s): Alford

POLI 315  ELECTIONS AND VOTING BEHAVIOR (3)
Exploration of voting behavior and elections. Includes consideration of both individual level behavior and aggregate level patterns of election results. Not offered 2003–04.

POLI 317 (F)  THE CONGRESS (3)
Examines the role of Congress in the American political system. Attention is given to the historical development of Congress, the current status of the Congress, and the functions of Congress in the American political system. Enrollment limited to 40. Instructor(s): Wilson

POLI 318  THE PRESIDENCY (3)
Analysis of presidential powers and behavior in the context of legal, electoral, personal, and other forces that shape and limit the actions of the President. Enrollment limited to 40. Not offered 2003–04.

POLI 321 (F)  AMER CONSTITUTIONAL LAW (3)
Interpretation of the Constitution by the Supreme Court. (Juniors and Seniors preferred). Enrollment limited to 50. Instructor(s): Cuthbertson

POLI 326  SOCIAL AND CIVIL RIGHTS IN THE EUROPEAN UNION (3)
An examination of the rights enjoyed by persons in the European Union, including human rights, rights as citizen, and social rights. Special emphasis will be placed on nationality, gender, race and other forms of discrimination within the European Union. The course will focus on the series of landmark cases in the European Court of Justice. The course includes a review of the historical and political events that formed the European Communities which became the European Union. Also includes an examination of the political institutions of the European Union. One goal will be to compare the union of European States under the Treaty of Union and the American union under the United States Constitution. Enrollment limited to 20. Also listed as SOCI 326. Not offered 2003–04.

POLI 330 (S)  MINORITY POLITICS (3)
This course examines the political and social position of minority groups (African Americans, Asian Americans, Native Americans, Latinos, and women) in the American political system. The goal of the course is to explore the political power and behavior of these groups within society and politics, involving the exploration of key concepts such as racism, discrimination, resources, political power, culture, leadership, class, and inequality. Instructor(s): Branton

POLI 331  ENVIRONMENTAL POLITICS AND POLICY (3)
This course considers the major issues in the increasingly important public policy area of the environment. It emphasizes the American experience, but also considers certain crucial international aspects of these issues. Not offered 2003–04.

POLI 332 (F)  URBAN POLITICS (3)
Exploration of issues of political behavior and public policy in urban and metropolitan areas. Includes urban decline, regional governance, revitalization, and issues of ethnic and racial conflict. Enrollment limited to 40. Instructor(s): Marschall

POLI 333  COMPARATIVE LEGISLATURES (3)
Examination of similarities and differences of legislatures in different countries. Includes the causes and consequences of these differences. See also POLI 433. Enrollment limited to 30. Not offered 2003–04.

(F) = Fall; (S) = Spring
POLI 334 (S) PARTIES & INTEREST GROUPS (3)
Examination of the organization and behavior of political parties and interest groups within the American political system, with emphasis on the extent to which these organizations operate differently across the national, state, and local levels of government. Enrollment limited to 30. Instructor(s): Hamm

POLI 335 (S) POLITICAL ENVIRONMENT OF BUSINESS (3)
Study of the foundations of government involvement in public policy and the institutional process guiding executive, legislative, and bureaucratic officials. Includes theories of collective action and their application in the political world. Enrollment limited to 35. Instructor(s): Brace

POLI 336 POLITICS OF REGULATION (3)
This course will focus principally on government regulation of business and the political factors that shape its content. Not offered 2003–04.

POLI 337 (F) PUBLIC POLICY AND BUREAUCRACY (3)
Exploration of the role that public bureaucracy plays in national policy making. Includes an examination of sources of agency power, which are linked to different policy outcomes. Instructor(s): Ostdiek

POLI 338 (S) POLICY ANALYSIS (3)
This class familiarizes students with the analytical tools necessary for evaluating and analyzing public policies. Enrollment limited to 40. Instructor(s): Ostdiek

POLI 339 SOUTHERN POLITICS (3)
Examination of selected political patterns and trends in the modern South. Includes political developments within the region and the impact of the South on American politics generally. Enrollment limited to 40. Not offered 2003–04.

POLI 341 GENDER AND POLITICS (3)
Examination of politics through the lens of gender hierarchy. Emphasis on how the constructions of masculinity and femininity shape and are shaped by interacting economic, political, and ideological practices. Enrollment limited to 30. Not offered 2003–04.

POLI 342 POLITICS OF THE JUDICIARY (3)
This course explores the role of courts and judges in American politics. The main objectives during the semester will be to illustrate the major characteristics of judicial institutions in the United States and provide an understanding of the forces influencing judicial decisions. The course will cover the federal and state organization of trial and appellate courts, judicial selection methods, and the politics of judicial decision-making. Enrollment limited to 75. Not offered 2003–04.

POLI 351 POLITICS OF SOUTHEAST ASIA (3)
Political processes, institutions, and attitudes in selected Southeast Asian states. Emphasis on the postwar period, but traditional forces influencing contemporary political behavior also considered. Not offered 2003–04.

POLI 353 REFORM IN POST-MAO CHINA (3)
Study of the origins and development of the gradual but revolutionary political and economic reforms in China, with emphasis on the changing roles of the Communist Party, of the central bureaucracy and local governments, of the military, of the emerging entrepreneurial class, and of the 80 million members of the overseas Chinese community. Enrollment limited to 40. Not offered 2003–04.

POLI 354 LATIN AMERICAN POLITICS (3)
Study of the political process in contemporary Latin America, with emphasis on selected major countries. Enrollment limited to 40. Not offered 2003–04.

(#) = credit hours per semester
POLI 355  GOVERNMENT & POLITICS OF THE MIDDLE EAST (3)
This course provides an introduction to politics in the Middle East. A brief historical overview is combined with detailed description of political systems in the area. The region is then used to examine empirically, critique and revise theories of comparative politics. A central issue is the extent to which the region should be considered unique or exceptional. Not offered 2003–04.

POLI 356  THE POLITICS OF LATIN AMERICAN ECONOMIC DEVELOPMENT (3)
This course examines the evolution of economic development in Latin America, focusing on its political foundations. Special attention will be given to the interaction between economic growth and the construction of democratic political institutions in Latin America. Not offered 2003–04.

POLI 357  DEMOCRACY AND DEMOCRATIZATION (3)
This course will examine the theoretical and practical idea of democracy. It will do so by trying to explore the following questions: What is democracy? How does democracy arise? How may democracy survive and consolidate? Enrollment limited to 40. Not offered 2003–04.

POLI 360( S)  WESTERN EUROPEAN DEMOCRACIES (3)
A survey of government and politics in Western European democracies, with primary emphasis on Great Britain, France, and Germany. Enrollment limited to 40. Instructor(s): Ambler

POLI 362  EUROPEAN INTEGRATION (3)
Examines the process of European integration since World War II. Special attention is given to the European Community (EC), its institutions and policy processes as well as the consequences of European Unity for the political process in European societies. Not offered 2003–04.

POLI 367 (F)  SOVIET AND POST-SOVIET POLITICS (3)
This course will examine the political system of the Soviet Union, why it lasted and why it collapsed. It will focus on the transition from Soviet rule to market democracy and the various problems of transition across the former Soviet republics. Enrollment limited to 30. Instructor(s): Javeline

POLI 372 (F)  AMERICAN FOREIGN POLICY (3)
Examination of internal and external aspects of foreign policy leadership, presidential initiative, congressional control, press, public opinion, and crisis management. Not a Managerial Studies elective. Enrollment limited to 40. Instructor(s): Bapat

POLI 373( S)  INTERNATIONAL CONFLICT (3)
Exploration of the theoretical basis of, and empirical evidence for, a number of explanations for interstate war. Includes contemporary theories dealing with dispute escalation, arms races, deterrence, crisis management, and low-intensity conflict. Instructor(s): Reed

POLI 374 (S)  STRATEGIC INTERACTIONS IN INTERNATIONAL RELATIONS (3)
Introduction to the uses of game theory in the study of international relations. Enrollment limited to 25. Instructor(s): Morgan

POLI 375  INTERNATIONAL ORGANIZATION (3)
Study of the development and role of international organizations in world politics. Topics include the history and evolution of international organizations, the effects of international law on behavior, and the extent to which international cooperation has been effective at resolving global problems. Enrollment limited to 25. Not offered 2003–04.

POLI 378 (F)  POLITICS OF AMER NATL SECURITY (3)
Examination of major issues of national security policy. Includes strategic doctrines, policy-making processes on defense issues, arms control, and the defense of Europe. Not a managerial studies elective. Enrollment limited to 75. Instructor(s): Stoll

(F) = Fall; (S) = Spring
POLI 379  PROBLEMS IN INTERNATIONAL RELATIONS (3)
Explores the relationship between politics and economics. The objective is to understand the historical development of trade and monetary relationships between the countries of the world. Not offered 2003–04.

POLI 380  POLITICAL BEHAVIOR (3)
Examines basic concepts in political behavior including political socialization, models of voting behavior, public opinion, and political participation. Not offered 2003–04.

POLI 382  PUB OPINION, POLLING, & THE MEDIA (3)
Covers survey research methodology as it applies to political opinion polling. Attention is given to theories of attitude formation and change, the impact of the media on public opinion, and measurement issues in the survey research process. Prior coursework in the social sciences is required. Not offered 2003–04.

POLI 395 (S)  INTRO TO STATISTICS (3)
Introduction to research design and quantitative methods used in contemporary political science research. Students will apply the tools of social science inquiry in a series of projects designed to examine political attitudes and behavior. Enrollment limited to 35. Instructor(s): Alford

POLI 401 (F)  STATE POLITICS RESEARCH SEMINAR (3)
A research seminar in state politics and policy, with an emphasis on state institutions. Instructor(s): Brace

POLI 405 (F)  SENIOR THESIS (3)
Open to senior honors majors with the permission of the department. Students must complete both POLI 405 and 406 to obtain credit. Instructor(s): Stoll

POLI 406 (S)  SENIOR THESIS (3)
See POLI 405. Instructor(s): Stoll

POLI 418 (S)  SEMINAR ON THE PRESIDENCY (3)
This seminar provides students with a broad introduction to the presidency. Topics covered include a review of the executive’s constitutional powers and how they have changed over time; the processes and politics of presidential nomination and election; struggles between the president and other political elites in our system; and the dynamics of White House decision-making. Enrollment limited to 15. Instructor(s): Brace

POLI 425  POLITICAL SOCIOLOGY (3)
Can democracy survive its enemies: tyranny of ruling elites and classes, tyranny of the majority, ethnic and religious conflict, individualism, government secrecy, citizen apathy? Enrollment limited to 15. Also listed as SOCI 425. Not offered 2003–04.

POLI 430 (S)  SEMINAR IN TEXAS POLITICS (3)
Research seminar in the history of Texas politics. Enrollment limited to 13. Instructor(s): Cuthbertson

POLI 431  ELECTORAL CAMPAIGNS (3)
Examines the role of campaigns in determining the outcome of political races. Not offered 2003–04.

POLI 432  URBAN POLITICS (3)
Enriched version of POLI 332, conducted as a research seminar. Enrollment limited to 13. Not offered 2003–04.

POLI 433  COMPARATIVE LEGISLATURES (3)
Enriched version of POLI 333, conducted as a research seminar. Not offered 2003–04.

(#) = credit hours per semester
POLI 434  PUBLIC POLICY AND METROPOLITAN AREA GOVERNANCE (3)
This course will examine the market-like relationship among metropolitan area governments. It will address questions of urban/suburban relationships as well as policy topics such as education and local service provision. Enrollment limited to 15. Not offered 2003–04.

POLI 435 (F)  POLITICAL PARTICIPATION (3)
Seminar will consider normative issues, theories, and empirical evidence relating to the value, meaning, and consequences of political participation, with readings taken from American and comparative politics. Enrollment limited to 13. Instructor(s): Alford

POLI 436  POLITICS OF REGULATION (3)

POLI 438 (F)  RACE AND PUBLIC POLICY (3)
Study of minority group politics and how race structures contemporary U.S. politics. Includes the myths and realities of minority groups, symbolic politics and race, pluralism as a model of U.S. democracy, the intersection of class, race, and gender, civil rights movements, group consciousness, public opinion regarding minorities, and the response of national institutions to issues of race. Enrollment limited to 13. Instructor(s): Branton

POLI 439  RESEARCH SEMINAR ON SOUTHERN POLITICS (3)
Examination of political behavior and political institutions in the southern states, with emphasis on contemporary Texas politics. Enrollment limited to 13. Not offered 2003–04.

POLI 441 (S)  COMMON PROPERTY RESOURCES (3)
Common Property Resources (CPRs), such as fisheries, aquifers, and the Internet, appear in many guises and pose a fundamental problem for governing. This course explores the theoretical underpinnings for CPRs, their growing literature, and the political and economic institutions that mediate CPR dilemmas. Students will engage in an original research project in conjunction with the instructor. Enrollment limited to 13. Instructor(s): Wilson

POLI 456  REGIME TRANSFORMATIONS AND TRANSITIONS (3)
This course examines why political systems may change from democratic to authoritarian, or vice versa. It distinguishes between different regime types and explores the conditions promoting social movements, political unrest, and military coups. The course examines factors that help to consolidate the newly formed regimes. Examples are drawn from a variety of postcolonial states. Enrollment limited to 13. Not offered 2003–04.

POLI 457 (S)  CONDITIONS OF DEMOCRACY (3)
This course starts with definitions and theories/preconditions of democracy and then looks at specific cases of democratic consolidation, reaction, and the prospects for the future. Enrollment limited to 13. Instructor(s): Javeline

POLI 460  SEM IN COMPARATIVE GOVERNMENT (3)
This seminar will analyze authoritarian regimes from a comparative perspective. Not offered 2003–04.

POLI 462  COMPARATIVE PUBLIC POLICY (3)
Seminar examining the process and substance of public policy across nations, with emphasis on social policy in industrialized democracies. Enrollment limited to 13. Not offered 2003–04.

POLI 463 (F)  COMPARATIVE POLITICAL ECONOMY (3)
Seminar exploring the interrelationship of economics and politics in advanced industrial societies. Includes economic policy making, political behavior and economic conditions, and the role of institutions in channeling conflicts between democracy and capitalism. Enrollment limited to 13. Instructor(s): Stevenson

(F) = Fall; (S) = Spring
POLI 464 POLITICAL ECONOMY OF DEV (3)
A central priority developing nations face today concerns establishing economic growth. How best to achieve strong economic performance has both an economic and political dimension. This course seeks a rudimentary understanding of economic growth, concentrating on its political determinants. Not offered 2003–04.

POLI 466 WESTERN DEMOCRACIES (3)
This seminar will deal with the determinants of party systems, the structure and functions of parties, and theories of voting behavior in Western democracies. Enrollment limited to 13. Not offered 2003–04.

POLI 470 INTERNATIONAL RELATIONS (3)

POLI 472 AMERICAN FOREIGN POLICY (3)

POLI 476 INTERNAT’L POLITICAL ECONOMY (3)
This course is designed to survey the theoretical and empirical analysis of the politics of international economic relations. In particular, the course is designed to examine the interrelationships of economics and politics by applying economic theory to the study of politics. Enrollment limited to 13. Not offered 2003–04.

POLI 477 DOMESTIC POLITICS AND INTERNATIONAL RELATIONS (3)
Seminar on the influence of domestic politics on international relations. The course will explore when, why, and how the political, economic, and social conditions within countries affect international political and economic relations. Enrollment limited to 13. Not offered 2003–04.

POLI 479 (F) SEMINAR IN QUANTITATIVE INTERNATIONAL RELATIONS (3)
This seminar will explore the uses of the computer simulation GLOBUS. Students will develop their own study of the simulation. Instructor(s): Reed

POLI 480 SEM IN POLITICAL BEHAVIOR (3)
Undergraduate research seminar covering the field of political behavior with special emphasis on the application of social and cognitive psychology to the study of mass political behavior. Topics include political socialization, models of voting behavior, and political participation. Not offered 2003–04.

POLI 490 MODERN POLITICAL THEORY AND INTERDISCIPLINARY FIELDS (3)

POLI 495 INTRODUCTION TO STATISTICS (3)
This course aims at providing students with a working knowledge of statistics in political science. It involves the study of descriptive and inferential statistics, as well as hands-on experience with computer statistical packages. Not offered 2003–04.

POLI 502 (F) INTRODUCTION TO STATISTICS (3)
This course aims at providing students with a working knowledge of statistics in political science. It involves the study of descriptive and inferential statistics, as well as hands-on experience with computer statistical packages. Also listed as STAT 495. Enrollment limited to 13. Instructor(s): Branton

(#) = credit hours per semester
POLI 503 (S)  TOPICS IN METHODS & DATA ANALYSIS (3)
Applications of least squares and general linear model. Enrollment limited to 13. Instructor(s): Reed

POLI 504 (F)  METHODOLOGY AND DATA ANALYSIS (3)
Study of applications of maximum likelihood estimation. Enrollment limited to 13. Instructor(s): Stevenson

POLI 510  SCOPE AND METHODS (3)
Introduction to research in political science, problems of the discipline, and basic political concepts. Includes the history of political science as a discipline. Enrollment limited to 13. Not offered 2003–04.

POLI 511  MEASUREMENT & RESEARCH DESIGN (3)
Study of advanced topics in research design and measurement theory. Enrollment limited to 13. Not offered 2003–04.

POLI 520  APPROACHES TO COMPARATIVE GOV’T (3)
Core graduate course analyzing basic approaches to the study of comparative government. Open to qualified undergraduates with permission of instructor. Enrollment limited to 13. Not offered 2003–04.

POLI 527  INSTITUTIONAL ANALYSIS AND DESIGN (3)
Examination of applications of organization theory to the study of American political institutions. Enrollment limited to 13. Not offered 2003–04.

POLI 530 (S)  APPROACHES TO AMERICAN GOVERNMENT (3)
Core graduate course. Includes an analysis of basic approaches to the study of American politics. Enrollment limited to 13. Instructor(s): Hamm

POLI 531  STATE POLITICS (3)
Examines similarities and differences in the organization of state politics. Major issues include state legislative organization, state elite behavior, and policy implementation. Enrollment limited to 13. Not offered 2003–04.

POLI 532 (F)  COMPARATIVE LEGISLATURES (3)
Provides the student with the basic concepts and theories necessary to understand the functions and organization of legislatures/parliaments/assemblies in democratic societies. This course takes a broad-based perspective, including research that focuses on national parliaments and U. S. state legislatures. Enrollment limited to 13. Instructor(s): Hamm

POLI 533  ADVANCED TOPICS IN POLITICAL BEHAVIOR (3)
Graduate research seminar in the subfield of political behavior. Content varies from year to year. Enrollment limited to 15. Not offered 2003–04.

POLI 534  INTEREST GROUPS AND POLITICAL PARTIES (3)
Graduate research seminar in the subfields of interest groups and political behavior. Enrollment limited to 13. Not offered 2003–04.

POLI 535  RACE, ETHNICITY, AND AMERICAN POLITICS (3)
Graduate seminar that examines the role of race and ethnicity in American politics. This course provides an examination of the behavioral and electoral implications of racial and ethnic diversity. Not offered 2003–04.

POLI 537 (S)  PUBLIC POLICY AND BUREAUCRACY (3)
Study of the administration and implementation of public policies across federal, state, and substate governments. Enrollment limited to 13. Instructor(s): Stein

(F) = Fall; (S) = Spring
POLI 540 (F) INTERNATIONAL RELATIONS (3)
Core graduate course. Includes and analysis of basic approaches to the study of international relations. Open to qualified undergraduates with permission of instructor. Enrollment limited to 13. Instructor(s): Leeds

POLI 541 INTERNATIONAL COOPERATION (3)
Graduate seminar on theories and evidence of international cooperation. Discussion of the difficulties in establishing cooperation under anarchy and the conditions under which international cooperation is most likely to occur. Enrollment limited to 13. Not offered 2003–04.

POLI 546 POLITICAL ECONOMY OF DEVELOPMENT (3)
A central priority developing nations face today concerns establishing economic growth; how best to achieve strong economic performance has both an economic and political dimension. This course seeks a rudimentary understanding of economic growth, concentrating on its political determinants. Enrollment limited to 13. Not offered 2003–04.

POLI 545( S) POLITICAL PROTEST (3)
This course looks at various theories of collective action and social movements. It will examine theoretical debates about why individuals and groups occasionally redress their grievances through protest and more often endure hardships passively. It will evaluate the relative merit of these theories in explaining cases of protest and passivity worldwide. Enrollment limited to 13. Instructor(s): Javeline

POLI 567 (S) COMPARATIVE POLITICAL BEHAVIOR (3)
In this course we will explore the nature and sources of cross-national differences in mass political behavior. Enrollment limited to 13. Instructor(s): Stevenson

POLI 570 (F) SEMINAR IN INTERNATIONAL CONFLICT (3)
Seminar in international conflict. Emphasis on formal theories and quantitative analysis of the causes of war. Enrollment limited to 13. Instructor(s): Morgan

POLI 572 (S) FOREIGN POLICY DECISION MAKING (3)
Study of foreign policy, its sources, and the process of policy formulation. Enrollment limited to 13. Instructor(s): Stoll

POLI 574 COLLECTIVE SOCIAL CHOICE (3)
Introduction to a growing body of literature on how and why individual preferences dominate those of others. Includes the relationship between decision-making structures and the nature of decisional outcomes. Enrollment limited to 13. Not offered 2003–04.

POLI 575 GAME THEORY (3)

POLI 576 INTERNATIONAL POLITICAL ECONOMY (3)
Seminar surveying some of the primary theoretical perspectives and analytical approaches for studying international political economy. Includes a survey of contemporary literature, with special emphasis on theory and research, as well as instructions in how to critically evaluate research and set up a research project. Enrollment limited to 15. Not offered 2003–04.

POLI 579 SEMINAR IN MODELING INTERNATIONAL RELATIONS (3)

POLI 580 SEM IN AMERICAN POLITICS (3)
Not offered 2003–04.

POLI 591 (F) DIRECTED READING-METHODOLOGY (3)
Instructor(s): Stevenson

(#) = credit hours per semester
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<td>DIRECTED READING-AMER POLITICS</td>
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<td>Hamm</td>
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PORT (Portuguese)

The School of Humanities/Center for the Study of Languages

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<td>PORT 102</td>
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(F) = Fall; (S) = Spring
PORT 202 (S) INTERMEDIATE PORTUGESE LANGUAGE AND CULTURE II (4)
Students will continue to develop communicative competence in oral and written Portuguese using texts, music, films, and the web as sources for authentic cultural material in diverse areas. Instructor(s): Bloem

PORT 400 INDEPENDENT STUDY (3)

**PSYC (Psychology)**

The School of Social Sciences/Department of Psychology

**PSYC 101** INTRODUCTION TO PSYCHOLOGY (3)
Survey of topics, problems, and approaches in contemporary psychology. Includes the biological basis of behavior, sensation, perception, attention, learning and memory, thinking, language, abnormal behavior and therapies, personality and individual differences. Instructor(s): Burnett, Schneider

**PSYC 102** READINGS IN INTRO PSYCHOLOGY (1)
Discussion of articles and research reports in psychology. Instructor(s): Staff

**PSYC 202 (F)** INTRO TO SOCIAL PSYCHOLOGY (3)
Overview of topics in social psychology. Includes conformity and social influence, attitude change and the mass media, aggression, altruism, relationships, liking and loving, prejudice and stereotyping, and socialization. Required for psychology majors. Instructor(s): Hebl

**PSYC 203** INTRODUCTION COGNITIVE PSYC (3)
An introduction to topics in cognitive psychology including perception, memory, psycholinguistics, problem solving and decision making. Required for psychology majors. Instructor(s): Byrne, Ro

**PSYC 221 (S)** DEVELOPMENTAL PSYCHOLOGY (3)
Study of behavioral changes with age and general laws in both human and nonhuman species. Instructor(s): Chen

**PSYC 231 (S)** INDUSTRIAL & ORGANIZATIONAL PSYC (3)
An overview of the principles, techniques, and theories of psychology applied in the industrial setting. Instructor(s): Hebl

**PSYC 305** EDUCATIONAL PSYCHOLOGY (3)
The goal of this course is to introduce students to a psychological understanding of teaching and learning through an overview of principles, issues, and related research in educational psychology. The course will examine theories of learning, complex cognitive processes, cognitive and emotional development, motivation, and the application of these constructs of effective instruction, the design of optimum learning environments, assessment of students learning, and teaching in diverse classrooms. It is a general overview of the field and requires no prior preparation. Not offered 2003–04.

**PSYC 308 (F)** MEMORY (3)
Critical review of traditional and contemporary approaches to the study of remembering and forgetting. Enrollment limited to 50. Instructor(s): Watkins

**PSYC 309** PSYCHOLOGY OF LANGUAGE (3)
Study of human and other animal communication. Also listed as LING 309. Not offered 2003–04.

(#) = credit hours per semester
PSYC 315  SEMANTICS: INTRO TO THE STUDY OF MEANING (3)
Basic approaches to the study of meaning in Linguistics and related fields. Topics treated include
the cognitive representation of meaning, lexical categorization, conceptual structures, metaphor/ metonymy, meaning change, pragmatic inference, and the relation of language and mind. Also listed as LING 315. Not offered 2003–04.

PSYC 329  PSYCHOLOGICAL TESTING (3)

PSYC 330 (F)  PERSONALITY THEORY & RESEARCH (3)
Examination of those aspects of personality emphasized by major theorists past and present.
Enrollment limited to 50. Instructor(s): Dipboye

PSYC 331  PSYCHOLOGY OF GENDER (3)
Overview of research and theory on gender in psychology. Also listed as WGST 331. Not offered 2003–04.

PSYC 332 (F)  ABNORMAL BEHAVIOR (3)
Study of the diagnosis and treatment of mental disorders. Enrollment limited to 50. Instructor(s): Potts

PSYC 339  STATISTICAL METHODS-PSYCHOLOGY (4)
Introduction to quantitative and computer methods applicable to the analysis of experimental data. Required for psychology majors. Also listed as STAT 339. Enrollment limited to 30. Instructor(s): Lane, Quinones

PSYC 340  RESEARCH METHODS (4)
A continuation of PSYC 339, with emphasis on individual student experiments and the writing of research reports. Required for psychology majors. Enrollment limited to 24. Absolutely no more than 25 per class. Instructor(s): Burnett, Chen, Watkins

PSYC 342  COMPUTER APPLICATIONS (3)
The use of computers in psychological research and in usability engineering. The emphasis will be on dynamic HTML and JavaScript. Topics will include designing and running psychology experiments to run on the web and the use of web-based video. Enrollment limited to 10. Not offered 2003–04.

PSYC 350  PSYCHOLOGY OF LEARNING (3)
A consideration of historically important and modern perspectives on learning. Both human and animal research will be discussed. Not offered 2003–04.

PSYC 351 (S)  PSYCHOLOGY OF PERCEPTION (3)
Overview of the sensory and cognitive processes involved in human vision and audition. Offered in alternate years. Instructor(s): Pomerantz

PSYC 352  FORMAL FOUNDATIONS OF COGNITIVE PSYCHOLOGY (3)

PSYC 360  THINKING (3)

PSYC 362 (F)  BIOPSYCHOLOGY (3)
Overview of the neurophysiological correlates of behavior. Instructor(s): Potts

(F) = Fall; (S) = Spring
PSYC 370  INTRO TO HUMAN FACTORS AND ERGONOMICS
DESIGN (3)
Application of principles of psychology and human performance to the design of modern systems. Enrollment limited to 50. Not offered 2003–04.

PSYC 409  METHODS IN HUMAN-COMPUTER INTERACTION (3)
Introduction to methods for developing and testing user interfaces to computer systems. The focus is on web-based applications. Enrollment limited to 12. Not offered 2003–04.

PSYC 411  HISTORY OF PSYCHOLOGY (3)

PSYC 430 (S)  COMPUTATIONAL MODELING (3)
A survey of computational approaches to cognitive processes. The emphasis will be on recent production models, but other approaches will be covered as well. The course will involve evaluation of existing models and hands-on experience in modeling. Also listed as CSCI 410. Instructor(s): Byrne

PSYC 431 (F)  ADVANCED INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY SEMINAR (3)
An emphasis on reading original published research. Topics covered include personnel selection, training, motivation, job attitudes, and groups. Enrollment limited to 10. Instructor(s): Dipboye

PSYC 432 (S)  BRAIN AND BEHAVIOR (3)
The neural basis of higher mental functions in humans such as perception, attention, memory, motor skill, and language will be examined. Claims and controversies from neuropsychology will be examined. Also listed as CSCI 420. Instructor(s): Ro

PSYC 440  ADVANCED SEMINAR IN GENERAL PSYCHOLOGY (3)
Extensive reading and through discussion of empirically oriented issues drawn from various areas of psychology. The course focuses on a broad sample of topics typically discussed in Introductory Psychology and is particularly recommended for those students planning graduate work in psychology. Open to senior level majors. Not offered 2003–04.

PSYC 441  HUMAN-COMPUTER INTERACTION (3)

PSYC 442 (F)  COMPUTER APPLICATIONS (3)
Use of small computers in psychological research. Instructor(s): Lane

PSYC 460  THE PSYCHOLOGY OF MOTIVATION (3)
Study of motives and emotions as causes of human behavior. Includes biological motives (e.g., hunger, thirst, and sex), aggression, emotions and emotional expression, individual differences in motivation, motivation in the workplace. Enrollment limited to 50. Not offered 2003–04.

PSYC 465 (F)  OLFACTORY PERCEPTION (3)
This seminar course provides overview of theories of olfaction, methods to assess olfactory performance, and the structure and function of the olfactory system. Specific topics include olfactory memory, sensory integration, the effect of emotion and cognition on olfactory perception, and olfaction as a channel of communication. Instructor(s): Chen

PSYC 470  ENGINEERING PSYCHOLOGY (3)

(#) = credit hours per semester
PSYC 480  ADVANCED TOPICS (3)
Section 1 is titled “Metapsychology: an Examination of the Fundaments of the Science of Mind and Behavior.” Section 2 is titled “Family Systems Theory and Intervention.” Section 3 is titled “Developmental Cognitive Neuroscience.” Instructor(s): Burgund, Burnett, Diddel, Watkins

PSYC 485  SUPERVISED RESEARCH (3)
Supervised empirical research. Open only to psychology majors. Research paper required. Instructor(s): Staff

PSYC 488  SUPERVISED READING (3)
Supervised reading of books and empirical papers on a topic of mutual interest to students and faculty. Open only to psychology majors. Term paper required. Instructor(s): Staff

PSYC 499  HONORS THESIS (3)
Instructor(s): Staff

PSYC 502 (F)  ADV PSYCHOLOGICAL STATISTICS I (3)
Introduction to inferential statistics with emphasis on analysis of variance and multiple regression. Also listed as STAT 509. Instructor(s): Byrne

PSYC 503 (S)  ADV PSYCHOLOGICAL STATISTICS II (3)
A continuation of PSYCH 502, focusing on multiple regression. Other multivariate techniques and distribution-free statistics are also covered. Instructor(s): Lane

PSYC 504  COMPUTER APPLICATIONS IN PSYCHOLOGY (3)
The use of computers in psychological research and in usability engineering. The emphasis will be on dynamic HTML and JavaScript. Topics will include designing and running psychology experiments to run on the web and the use of web-based video. Also listed as PSYC 342. Enrollment limited to 10. Not offered 2003–04.

PSYC 507  RESEARCH METHODS (3)
Graduate-level treatment of a wide range of laboratory and field research methodologies. Not offered 2003–04.

PSYC 510  TOPICS IN GENERAL PSYCHOLOGY: CREATIVITY AND INTELLIGENCE (3)
Lectures or seminar discussions on topics of broad interest. An example would be discussions of Great Books in Psychology. Not offered 2003–04.

PSYC 511  HISTORY AND SYSTEMS OF PSYCHOLOGY (3)
Study of the philosophical foundations of psychology, the development of scientific models in the 19th century, 20th-century schools of psychology, and the growth of fields of modern psychology. Offered in alternate years. Not offered 2003–04.

PSYC 520 (F)  FOUNDATIONS OF COGNITIVE PSYCHOLOGY (3)
An introduction to the basic topics in cognitive psychology, including perception, memory, psycholinguistics, concept formation, problem solving, and decision making. Instructor(s): Martin

PSYC 521  PSYCHOLOGY OF PERCEPTION (3)

PSYC 522 (S)  INFORMATION PROCESSING AND ATTENTION (3)
The study of such problems as information overload, selective attention, response conflict, and automatic and controlled processing. Instructor(s): Ro

PSYC 524  MEMORY (3)
Overview issues and research in remembering and forgetting. Offered in alternate years. Not offered 2003–04.

(F) = Fall; (S) = Spring
PSYC 525  PSYCHOLINGUISTICS (3)
Study of the psychology of language. Includes the study of speech perception, reading, syntax, meaning, bilingualism, language and thought, and language errors and disorders. Not offered 2003–04.

PSYC 526  ARTIFICIAL INTELLIGENCE (3)
The study of cognitive processes from the vantage point of the human as a computer, with an emphasis on expert systems and their development, parallel distributed processing models, and connectionism. Not offered 2003–04.

PSYC 527  THINKING (3)
The study of such higher mental processes such as forming concepts, solving problems, making decisions and reasoning. Not offered 2003–04.

PSYC 528  COGNITIVE NEUROPSYCHOLOGY (3)

PSYC 529  COGNITIVE RESEARCH SEMINAR (3)
A weekly student-staff seminar on current and recent research about mental phenomena. Course may be repeated for credit. Not offered 2003–04.

PSYC 530 (F)  FOUNDATIONS OF I/O PSYCHOLOGY (3)
Graduate-level introduction to the study of human behavior in the work setting. Instructor(s): Dipboye

PSYC 533  I/O PSYCHOLOGY RESEARCH SEM (3)
Instructor(s): Staff

PSYC 540  FOUNDATIONS OF HUMAN FACTORS (3)
An introduction to the basic topics in engineering psychology including basic methods of systems analysis, display-control design, mental and physical workload analysis, and environmental factors in human performance. Not offered 2003–04.

PSYC 541  HUMAN COMPUTER INTERACTION (3)

PSYC 542  HUMAN RELIABILITY AND SAFETY (3)
Topics covered include human reliability in systems, accident analysis techniques, hazard and risk perception, and safety communications. Not offered 2003–04.

PSYC 543 (S)  COMPUTATIONAL MODELING COGNITIVE PROCESSES (3)
A survey of computational approaches to modeling cognitive processes. Recent production system models will be emphasized, but other approaches(e.g., connectionism) will also be covered. The course will involve general model evaluation and hands-on modeling experience. Instructor(s): Byrne

PSYC 550  FOUNDATIONS OF SOCIAL PSYCHOLOGY (3)

PSYC 555  SECOND YEAR GRADUATE RESEARCH (3)
Instructor(s): Staff

PSYC 560  PSYCHOLOGY PRESENTATIONS (3)
Practicum on oral psychology presentation. May be repeated for credit. Instructor(s): Staff

(#) = credit hours per semester
PSYC 561  TEACHING IN PSYCHOLOGY (3)
Assistance in the teaching of undergraduate and occasionally graduate courses in psychology. 
*Instructor(s): Staff*

PSYC 563  INTERNSHIP (3)
*Instructor(s): Staff*

PSYC 571  FIRST YEAR PROJECT (3)
Individual research project undertaken in the first year of the graduate program. *Instructor(s): Staff*

PSYC 572  SECOND YEAR PROJECT (3)
Individual research project undertaken during the second year of the graduate program. *Instructor(s): Staff*

PSYC 573  NONTHESES GRADUATE RESEARCH (3)
Individual research not for first-or second-year project or thesis. *Instructor(s): Staff*

PSYC 575  COGNITIVE NEUROSCIENCE I (3)
Overview of neuropsychological and cognitive neuroscience approaches to higher mental functions including sensation and perception, attention, motor control, and neuroplasticity. Other topics include basic neuroanatomy, experimental and clinical investigative methods and the historical and philosophical context of contemporary neuroscience. Also listed as NEUR 501. Enrollment limited to 15. Not offered 2003–04.

PSYC 576  COGNITIVE NEUROSCIENCE II (3)
Overview of neuropsychological and cognitive service approaches to higher mental functions including language, memory, executive functions, reasoning, and numerical processing. Also listed as NEUR 502. Not offered 2003–04.

PSYC 577  INTRODUCTION TO FUNCTIONAL NEUROANATOMY (2)

PSYC 580  DEVELOPMENTAL COGNITIVE NEUROSCIENCE (3)
Seminar focusing on the neural/biological bases of both normal and abnormal human development through a survey of recent research in developmental cognitive neuroscience. Topics include perceptual, motive, cognitive, and language development as well as experimental research methods for studying the developing brain. Not offered 2003–04.

PSYC 581  VISION SCIENCE (3)
Advanced graduate seminar in the psychology of vision covering the neural, psychophysical, and phenomenological approaches to visual perception. Not offered 2003–04.

PSYC 602  PSYCHOMETRICS (3)
Test theory including reliability, validity, norms, sampling, and factor analysis. Offered in alternate years. Not offered 2003–04.

PSYC 610  ADVANCED RESEARCH SEMINAR (1)
Weekly lunchtime talk by department graduate students and faculty. May be repeated for credit. *Instructor(s): Staff*

PSYC 620 (S)  ADVANCED TOPICS IN COGNITIVE PSYCHOLOGY:
METHODS IN COGNITIVE NEUROSCIENCE (3)
*Instructor(s): Potts*

PSYC 628  MEMORY RESEARCH SEMINAR (1)
Weekly seminar to discuss recent research in human memory. *Instructor(s): Watkins*

(F) = Fall; (S) = Spring
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<td>Weekly seminar to discuss recent research in psycholinguistics.</td>
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<td>ADVANCED TOPICS IN I/O: SELECTION (3)</td>
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<td>PSYC 632</td>
<td>LEADERSHIP (3)</td>
<td>Examination of the major psychological approaches to the study of leadership. Emphasis is on theory and practice in formal organizations. Offered every three years. Not offered 2003–04.</td>
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<td>PSYC 639</td>
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<td>Supervised internship in organizational and/or personnel psychology. Instructor(s): Staff</td>
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<td>PSYC 660 (F)</td>
<td>PROFESSIONAL ISSUES (3)</td>
<td>Instructor(s): Hebl</td>
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<tr>
<td>PSYC 671</td>
<td>COGNITIVE NEUROSCIENCE (3)</td>
<td>Explores issues in functional neuroimaging and provides hands-on experience with experimental design, data acquisition, and analysis. Examines hemodynamic (PET, FMR), electrophysiologic (EEG, MEG), and other (e.g., neural stimulation, event-related optical) methods of measuring functional activation in the human brain related to cognitive operations. Also listed as NEUR 501. Not offered 2003–04.</td>
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<tr>
<td>PSYC 700</td>
<td>THESIS RESEARCH (3)</td>
<td>Research for the master’s thesis. Instructor(s): Staff</td>
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<tr>
<td>PSYC 800</td>
<td>DISSERTATION RESEARCH (3)</td>
<td>Research for the doctoral dissertation. Instructor(s): Staff</td>
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</table>

**RELI (Religious Studies)**

The School of Humanities/Department of Religious Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>RELI 101 (S)</td>
<td>INTRO TO THE STUDY OF RELIGION (3)</td>
<td>Comparative and interdisciplinary analysis of key elements (including scripture, religious experience, ideas of the divine, religious art and practices) of two Western and two non-Western religions, of the scholarly study of religion, and of the role of religion in the contemporary world. Instructor(s): Carroll, Parsons</td>
<td></td>
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</tbody>
</table>

(#) = credit hours per semester
COURSES OF INSTRUCTION

RELI 111 (F)  INTRODUCTION TO AFRICAN RELIGIONS (3)
Introduction to the structures of African religions through readings. Topics include community, cosmology, ritual, ethical values, magic, witchcraft, spirit possession, contribution to nationalism, social change, religion and art, and transplantation of African religions in the Americas. Not offered 2003–04. Instructor(s): Bongmba

RELI 113 (F)  INTRO TO CHRISTIANITY IN AFRICA (3)
An introductory reading course examining the dynamics of African Christianity from the early church to the present. Course will include studying the African church during the Patristic era, the Colonial period, Prophetic Movements, nationalism, racial tensions, the role of women, and the emergence of a distinct theological voice. Not offered 2003–04. Instructor(s): Bongmba

RELI 122 (F)  THE BIBLE AND ITS INTERPRETERS (3)

RELI 123 (S)  GOD, TIME AND HISTORY (3)
How is the passage of time given meaning, and what role—if any—is assigned to divinity in shaping the direction of events? Course explores various forms of recording and interpreting events, drawing from ancient Mesopotamia, Israel, and the Greco-Roman world—the cultures in which modern ideas of history began. Also listed as HIST 113 and HUMA 113. Instructor(s): Henze, Maas

RELI 125 (F)  INTRO TO BIBLICAL HEBREW I (3)
An introduction to Biblical Hebrew (two semesters) with emphasis on grammar and vocabulary. Also listed as HEBR 125. Instructor(s): Henze

RELI 126 (S)  INTRODUCTION TO BIBLICAL HEBREW II (3)
Continuation of RELI 125. We will finish the grammar in the second half of this semester and then read selections from the Hebrew Bible. Also listed as HEBR 126. Instructor(s): Henze

RELI 127 (F)  INTERMEDIATE BIBLICAL HEBREW III (3)
Readings in the Hebrew Bible as well as in some unvocalized texts from the Dead Sea Scrolls. Review of grammar and vocabulary. Completion of RELI 125 and 126 or some knowledge of Hebrew but lack a through philological training. Instructor(s): Not offered 2003–04. Instructor(s): Henze

RELI 128 (S)  INTERMEDIATE BIBLICAL HEBREW (HEBREW IV) (3)
Continuation of RELI 127 (RELI 127 is not a prerequisite). Also listed as HEBR 128. Not offered 2003–04. Instructor(s): Henze

RELI 132 (F)  TIBETAN LANGUAGE AND CULTURE I (4)
Readings in Tibetan Bon and Buddhist religious texts. Offered with additional work as RELI 532. Instructor(s): Gray, Klein

RELI 133 (S)  TIBETAN LANGUAGE & CULTURE II (5)
Continuation of first semester. Knowledge of Tibetan alphabet and pronunciation. Permission of instructor required. Offered with additional work as RELI 533. Instructor(s): Gray, Klein

RELI 140 (S)  INTRODUCTION TO CHINESE RELIGIONS (3)
Surveys the major Chinese religious traditions of Confucianism, Daoism and Buddhism. Readings will include both philosophical texts, historical and anthropological studies, as well as popular literature. Also listed as ASIA 140. Not offered 2003–04. Instructor(s): Gray

RELI 141 (F)  INTRODUCTION TO ISLAM (3)
A historical survey of the Muslim religious tradition, from the time of the Prophet Muhammad until the present day. Focus on development of Sunni and Shiite Islam, Sufism, and modern Islam. Not offered 2003–04. Instructor(s): Cook

(F) = Fall; (S) = Spring
RELI 200 (S)  THE BIBLE IN WESTERN TRADITION (3)
Explores multiple roles the Bible has played in Western culture. Emphasis will be on the Bible in media history, as generator of the artistic imagination and as catalyst of ideas and as shaper of religious and political history. Also listed as HUMA 107. Not offered 2003–04. Instructor(s): Kelber

RELI 207 (F)  WHO IS (NOT) A JEW? (3)

RELI 209 (F)  INTRODUCTION TO JUDAISM (3)
Post-biblical Judaism reflected in ancient rabbinical (legal space and nonlegal) literature, feminism, medieval Jewish philosophy with special emphasis on Maimonides, and modern developments such as Hasidism, Musar, liberal Judaism, and Zionism. Instructor(s): Kaplan

RELI 210 (S)  ETHICS IN JUDAISM (3)
What-if anything—is right, good, and just about our intentions and actions? The course surveys urgent questions raised in Jewish philosophy concerning law, morality, and politics. Topics include freedom and frailty, gender and government, emotions and reasons, suffering and hope. Readings in translation ancient, medieval, modern, and contemporary writings. Not offered 2003–04. Instructor(s): Kaplan

RELI 221 (S)  THE LIFE OF THE PROPHET MUHAMMAD (3)
This course will examine the life of the Prophet Muhammad, focusing on its significance for Muslims and for non-Muslims. Readings in The Qur’an, Ibn Hisham, and Haykal. Also listed as ASIA 221. Not offered 2003–04. Instructor(s): Cook

RELI 223 (F)  QUR’AN AND COMMENTARY (3)
Survey of the major themes of the Qur’an and selected types of commentary on it from the early Islamic period until the present day. Not offered 2003–04. Instructor(s): Cook

RELI 225 (F)  REVOLUTIONARY ISLAM: SHI’ISM (3)
This course will cover Shi’ism at an introductory level, focusing upon the Imami (Twelve) and Isma’ili branches of Shi’ism but also including the so-called Ghulat sects. Instructor(s): Cook

RELI 231 (F)  ENLIGHTENMENT OF THE BODY (3)
Beginning with a historical survey of the American metaphysical tradition, this course turns to a close study of the Esalen Institute in Big Sur, California, as a unique window into some of the different ways the tradition has appropriated Asian religions, psychological models of the unconscious, and contemporary scientific paradigms. Also listed as ASIA 231. Instructor(s): Kripal

RELI 232 (S)  RELIGIONS OF INDIA (3)
This course will survey the religions of India, namely Hinduism, Buddhism, Jainism, Christianity, Islam, and Sikhism. Emphasis will be placed on the study of scriptures of these traditions and their continuing global relevance, particularly in American history and culture. Also listed as ASIA 232 and RELI 500. Instructor(s): Kripal

RELI 250 (F)  MEDITATION, MYSTICISM, AND MAGIC (3)
The course moves between Buddhist religious and Western psychological literature, analyzing these as models of human development, as guides to a meditative life or critiques of it, and above all as expressions of deeply rooted cultural proclivities. Reading Freud, Kakar, Milarepa, Norbu, Obeyesekere, Sutric and Tantric literature, Taylor and Wangyal. Also listed as ASIA 250. Not offered 2003–04. Instructor(s): Klein, Parsons

(#) = credit hours per semester
RELI 260 (F)  RELIGION & THE SOCIAL SCIENCES (3)
Designed to introduce the student to classic and contemporary texts in the social scientific study of religion. Topics include: mysticism, the social construction of gender, the guru-disciple relationship, secularization, healing traditions East and West, cross-cultural debates. Enrollment limited to 25. Not offered 2003–04. Instructor(s): Parsons

RELI 262 (S)  MYSTICISM: TEXTS AND METHODS (3)
Familiarize the student with diverse texts (secular and religious, East and West) found in mystical literature. Emphasis will be placed on psychological, philosophical and comparative methods. Offered with additional work as RELI 582. Not offered 2003–04. Instructor(s): Parsons

RELI 270 (S)  THE BLACK CHURCH IN THE U.S.A. (3)
Much of what has historically taken place within Black communities has been shaped by and initiated through Black Christian churches. As the first institutions in the U.S. developed and controlled by Black Americans, these churches are major resources for those interested in understanding religious expression and socio-political activism within the Black community. This course provides an introduction into the history, thought, and worship of the major Black denominations. Offered with additional work as RELI 542. Not offered 2003–04. Instructor(s): Pinn

RELI 280 (F)  GOD IN THE POSTMODERN WORLD (3)
Explore forms of theistic religious experience, concentrating on the Western Christian tradition; past and present cultural and philosophical challenges to traditional religious belief; the possibility of Christian faith and the struggle for justice and meaning. Not offered 2003–04. Instructor(s): Stroup

RELI 282 (F)  INTRO TO CHRISTIANITY (3)
Multidisciplinary exploration of Christian religious experience, belief, and social reality with examples from Africa, the Americas, Asia, and Europe during the last two thousand years. Themes include search for lasting marks of identity amid change and diversity as well as the issue of Christianity’s relation to processes of modernization and secularization. No prior background in religious studies required. Not offered 2003–04. Instructor(s): Bongmba, Stroup

RELI 286 (F)  THE REFORMATION & ITS RESULTS (3)
Theology and church-state issues from 16th-century Reformation to 17th century; medieval background; Luther and Calvin, the Catholic Reformation; religious wars; Protestant orthodoxy; Pietist spirituality; Puritanism; and calls for toleration. Also listed as HIST 286. Instructor(s): Stroup

RELI 293 (S)  PHILOSOPHERS LOOK AT RELIGION (3)
Inquiry into the ways which selected Western and Asian philosophers have interpreted God, reality, the moral life and religious experience. Plato, Augustine, Hume and Kant will be compared with thinkers of the Vedic, Jain, Samkhya and Buddhist traditions. Also listed as HUMA 115. Not offered 2003–04. Instructor(s): Wsychogrod

RELI 294 (S)  RELIGION IN FICTION AND FILM (3)
The sacred in interreligious, international, and interdisciplinary encounter, approached via social sciences, theology, theories of literature and mythology. Authors and directors can include Waugh, Mishima, Mann, Proust, Hesse, Percy, Gardner, Updike, Gibson, Sterling, Coupland, Ray, Resnais, Fellini, Bergman, Anderson, Bunuel, and Nutley. Offered with additional work as RELI 514. Not offered 2003–04. Instructor(s): Stroup

RELI 301 (F)  NIETZSCHE AND RELIGIOUS THOUGHT (3)
Nietzsche’s thought and background: his impact on religious thinkers and cultural critics; his influence on understanding of God, faith, values, society; his connection with Schopenhauer, Wagner, Tillich, Mann, Barth, Buber, Freud, Jung, D.H. Lawrence, Heidegger, antibourgeois cultural criticism, environmentalism, feminism, and postmodernism. Also listed as RELI 515 with additional work. Instructor(s): Stroup

(F) = Fall; (S) = Spring
REL 308 (F) GOSPEL AND TRADITION (3)
An examination of the Synoptic Problem—one of the major unresolved issues in the study of ancient, Western textual traditions! Exploration of orality, narrativity and memorial arbitration exposes the inadequacies of the present historical model, and suggests a reconceptualization of the issue of the genesis of the Christian foundation stories. Also listed as RELI 506 with additional work. Instructor(s): Kelber

REL 312 (S) MARTIN L. KING, JR. AND MALCOLM X (3)
Although many figures played a prominent role during the Civil Rights Movement, Martin L. King, Jr. and Malcolm X made unique contributions. Their work sparked important conversation concerning the methods, goals, and consequences of struggle toward liberation. This course examines their religiosity, theological sensibilities, and the major themes which surface in their writings and public work. Offered with additional work as RELI 546. Not offered 2003–04. Instructor(s): Pinn

REL 316 (S) THE INVENTION OF PAGANISM IN THE ROMAN EMPIRE (3)
This interdisciplinary course examines the development of the concept of paganism during the Roman empire, during the first through seventh centuries AD. We will examine the mutually tolerant character of the many religions of the Roman world and see how the category of paganism was invented and applied by Christians to all the polytheists of the empire and beyond. Also listed as CLAS 318 and HIST 316. Not offered 2003–04. Instructor(s): Maas, McGill

REL 322 (S) INTRODUCTION TO BUDDHISM (3)
Exploration of the Buddhist traditions of India, Tibet, China, and Japan, emphasizing the relationship between styles of meditation, their philosophical perspectives, cultural context, and classic Buddhist texts. Offered with additional work as RELI 572.

REL 323 (F) THE KNOWING BODY (3)
Western thought tends to regard mind and body dualistically, a view with significant impact on religious cultural, gendered and social processes. This course juxtaposes received Western assumptions with Buddhist perspectives (especially Tibetan Buddhist), mapping Western and Buddhist categories onto each other to better understand the implications of each. Also listed as SOCI 323, WGST 323, and ASIA 323. Offered with additional work as RELI 577. Not offered 2003–04.

REL 331 (F) ADV TIBETAN LANG AND CULTURE I (3-4)
Building upon the foundation of RELI 132 and 133, this course further develops language skills through reading and engagement with a wider range of Tibetan religious and historical literature. This course also explores the history and special features of Tibetan cultures and encourages conversational ability in modern Tibetan. Also listed as TIBT 331. Instructor(s): Klein, Gray

REL 332 (S) ADV TIBETAN LANG AND CULTURE II (3-4)
Continuation of RELI 331. Also listed as TIBT 332. Instructor(s): Gray

REL 334 (F) PSYCHOLOGY OF RELIGION (3)
An overview of the basic approaches in the psychological understanding of religious belief and practice. Topics to be addressed in religious systems East and West include: sex, religious experience, ritual, myth, saintliness, guilt, God, and meditation. Instructor(s): Parsons

REL 338 (S) THE CHURCH OF AFRICA (3)
A reading course designed to examine Christianity in Africa. Course materials and readings will address the development of the church from the Patristic era to the present, paying attention to theological developments, missionization, colonialism, nationalism, prophetic movements, race relations, the role of women, and social issues. Enrollment limited to 65. Offered with additional work as RELI 540. Not offered 2003–04. Instructor(s): Bongmba

(#) = credit hours per semester
RELI 340 (F)  THEOLOGY IN AFRICA (3)
Introductory readings to theological thinking in Africa from the Patristic period to the present. Course will address methodological issues as well as constructive theological work on in culturation and liberation. Not offered 2003–04. Instructor(s): Bongmba

RELI 342 (S)  RELIGIOUS MOVEMENTS IN AFRICA (3)
Discusses new religious movements and the religious, sociological, and political factors leading to their rise, also missionary and colonial reactions to them. Examines their relationship to indigenous religions, political praxis, their focus on this-worldly salvation in the wake of political and economic marginality. Also listed as ANTH 343. Not offered 2003–04. Instructor(s): Bongmba

RELI 348 (F)  CHRISTIANITY AND ISLAM IN AFRICA (3)
This course will focus upon the history and conflict of Christianity and Islam in Africa, with emphasis placed upon indigenous African developments, cultural and artistic themes, and conversion narratives as well as exploring the co-existence and conflict of the two major faiths of the continent. Not offered 2003–04. Instructor(s): Bongmba, Cook

RELI 350 (S)  SCRIPTURES IN MONOTHEISTIC FAITHS (3)
This course will examine the approaches to Sacred Scriptures (the Hebrew Bible, the New Testament and the Qur'an) in Judaism, Christianity, and Islam. We will discuss themes of holy language and translation, authority, written and oral traditions, prophecy and scriptural commentary. Not offered 2003–04. Instructor(s): Bongmba, Cook

RELI 352 (S)  JIHAD AND THE END OF THE WORLD (3)
The course will explore the connections between Jihad (both aggressive and nonaggressive) and apocalyptic beliefs in the Muslim tradition from the time of the Prophet Muhammad until the present day. Readings from the Qur'an, Bukhari, Ayatullah al-Khumayni, and Sayyid Qutb. Not offered 2003–04. Instructor(s): Cook

RELI 354 (S)  ASIAN APOCALYPTIC MOVEMENTS (3)
This course will focus upon the rich and neglected apocalyptic and millenarian tradition of Asia, discussing Hinduism, Buddhism, Zoroasterianism, Manichaeism and Eastern Christianity as each of these faiths interact with and react to each other. Readings will be from scriptures and translations covering approximately the period between the 1st and 19th centuries. Also listed as ASIA 354. Not offered 2003–04. Instructor(s): Cook

RELI 356 (S)  MAJOR ISSUES IN CONTEMPORARY ISLAM (3)
This course will focus on the major issues confronting contemporary Islam including Islamic unity, the place of the Qu’uan and traditions, human rights, Islamic feminism, da’wa, education, science and Islam, globalization and medical ethics. Instructor(s): Cook

RELI 361 (F)  THE ORIENTAL RENAISSANCE (3)
This course will explore the European and American encounters with India from 17th-century France to 20th-century America. Particular attention will be given to the translation of Sanskrit texts, the English and German Romantic traditions, the depth psychology of C.G. Jung, and the American New Age. Also listed as ASIA 361. Instructor(s): Kripal

RELI 363 (F)  THE MARRIAGE OF HEAVEN & HELL (3)
The history of mysticism is marked by symbolic systems and ritual practices suffused with erotic and ethical paradoxes. This course examines such themes in a wide variety of historical contexts, from Plato’s dialogues and Blake’s poetry to Christian mysticism, Hindu, and Buddhist Tantric traditions, and the modern study of religion. Also listed as ASIA 363. Not offered 2003–04. Instructor(s): Kripal

RELI 365 (F)  CHINESE MEDITATION & MYSTICISM (3)
The course will investigate the major mystical and meditative traditions in Taoism, Buddhism, and Neo-Confucianism. Focus will be placed upon the inner and outer traditions of Taoist alchemy, Buddhist meditation traditions (primarily Chan/Zen and Pure Land techniques), and the influence of these traditions upon Chinese intellectual discourse and the creative arts. Also listed as ASIA 365. Not offered 2003–04. Instructor(s): Gray

(F) = Fall; (S) = Spring
RELI 371 (F) MODERN JEWISH THOUGHT (3)
What is the role of God and spirituality in the modern world? How do modern Jewish thinkers reinterpret traditional religious concepts? Explore debates on textual criticism, historical representation, existentialism, and political theology in writings by Spinoza, Buber, Rosenzweig, Kook, Levinas, and Adler. Offered with additional work as RELI 561. Instructor(s): Kaplan

RELI 382 (F) BIBLICAL THEOLOGY (3)

RELI 383 (F) THE DEAD SEA SCROLLS (3)
A survey of the Dead Sea Scrolls as a window into the Second Temple period. A close reading of the scrolls will lead to a discussion of the theological and historical issues of the time, a period pivotal for the formation of Rabbinic Judaism and Early Christianity. Not offered 2003–04. Instructor(s): Henze

RELI 391 (F) DEATH & DYING (3)
Death, immortality, resurrection, grief and mourning in selected texts and films of Western and Asian religious traditions, and modern and postmodern literature. Readings from the Bible, Plato, Augustine, Pascal, St. Theresa of Avila, the Upanishads, selected Buddhist texts and the works of Tolstoy, Rilke, Kafka, and Celan, and selected science fiction. Offered with additional work as RELI 591. Not offered 2003–04. Instructor(s): Wyschogrod

RELI 395 (F) ASCETICISM AND THE BODY (3)
Explores interpretations of the body in selected religious traditions in the context of contemporary analyses of corporeality. Includes the theological meanings of pain, suffering, self-denial and renunciation of the world. Offered with additional work as RELI 596. Not offered 2003–04. Instructor(s): Wyschogrod

RELI 397 (S) EGOISM, ALTRUISM, & RELIGION (3)
Consider origins and contemporary manifestations of self-love and other-regarding love from biological, philosophical, psychological and social perspectives. Relation of religious beliefs and practices to empathy, sympathy and formation of the self. Offered with additional work as RELI 599. Instructor(s): Wyschogrod

RELI 401 (F) INDEPENDENT STUDY (VAR)
RELI 402 (S) INDEPENDENT STUDY (VAR)

RELI 410 (F) APOCALYPSE THEN AND NOW (3)
A close reading and discussion of three apocalypses from the biblical period: 1 Enoch, 2 Baruch, and Revelation. Concludes with a discussion of contemporary forms of apocalypticism. Offered with additional work as RELI 510. Instructor(s): Henze

RELI 423 (S) AFRICAN MYTHS & RITUALS (3)
Explore and analyze specific myths and rituals which provide legitimization for community ceremonies and which serve as basis for the negotiation of power and ideology for members within that community. Readings from classic theorist: Gennap and Turner; and contemporary theorists: Webner, Heusch, Comaroff and Ray. Also listed as ANTH 423. Not offered 2003–04. Instructor(s): Bongmba

RELI 424 (S) RELIGION AND POLITICS IN AFRICA (3)
Explores religion and politics in Africa focusing on indigenous religions, Christianity, Islam, etc. Readings highlight historical developments, key documents in religion and politics, contemporary issues such as: religious freedom, separation of religion and politics, human rights, violence, race, gender, class, and the role of religion in reconstruction of public praxis. Enrollment limited to 30. Offered with additional work as RELI 534. Not offered 2003–04. Instructor(s): Bongmba

(#) = credit hours per semester
RELI 426 (F) RELIGION AND LITERATURE IN AFRICA (3)
Analysis of the religious imagination in selected African literary works that address Islam, Christianity, indigenous religions. Issues addressed include identity crises, religious themes such as cosmology, community, power, beliefs, and gender in a postcolonial/postmodern world. Not offered 2003–04. Instructor(s): Bongmba

RELI 429 (S) DEPARTMENT SEMINAR (3)
The team-taught Department Seminar critically examines the methodological questions and interpretive paradigms that have been central to the academic study of religion. Philosophical, ethical, textual, psychological, comparative and gender issues, among others, will be considered. Instructors and topics vary. Mandatory for graduate students; majors by invitation. Offered with additional work as RELI 529. Instructor(s): Kaplan, Kripal

RELI 430 (S) RELIGION & MODERN THERAPIES (3)
A survey of the historical development of the psychology of religion and its conversation with theology, comparative studies, gender studies, sociology, and anthropology. Topics include: mysticism, eroticism, conversion, feminism, psychobiography. Examples drawn from a variety of religious traditions. Readings include: Freud, Jung, Tillich, Erikson, Kristeva, Kakar. Offered with additional work as RELI 584. Not offered 2003–04.

Instructor(s): Parsons

RELI 440 (S) SUFISM (3)
Explores the ascetic and Sufi aspects of Islam from the middle Islamic period until the present day. Readings from al-Ghazali, Ibn al-Arabi, Sa’di, Hafiz and Rumi. Not offered 2003–04.

Instructor(s): Cook

RELI 441 (F) POPULAR RELIGION IN MID EAST (3)
This course will examine the popular religion in the Middle East from Late Antiquity until the 19th century, focusing on healing practices, astrology, protection, amulets, seasoned/life-cycle rituals, and other popular beliefs common to Islam, Judaism and Christianity. Also listed as ASIA 441. Offered with additional work as RELI 525. Not offered 2003–04.

Instructor(s): Cook

RELI 443 (F) MAIMONIDES GUIDE FOR THE PERPLEXED (3)
This course will closely read the classic text of Judeo-Muslim thought, Maimonides Guide for the Perplexed, in its historical philosophical and literary context. It will draw upon additional Jewish and Muslim sources as well.

Instructor(s): Cook

RELI 451 (S) PHILO & THEOLO OF HISTORY (3)
Modern thought on meaning, direction of history; roots in eschatology, Augustine; flowering in progress, historicism: Hegel, Ranke,Burckhardt, Nietzsche, Troeltsch, Spengler, Heidegger, Toynbee; cultural echo (de Chirico, Proust, Mann, Robbe-Grillet, Bunuel, Bergman, Fellini). Also listed as HIST 451. Offered with additional work as RELI 517.

Instructor(s): Stroup

RELI 456 (F) REFORMATION TO THE PRESENT (3)
Spirituality, sociopolitical movements, and intellectual life in the West. Includes Luther, Calvin, Kierkegaard, Bonhoeffer, Barth, C.S. Lewis, Tillich, Marx, Nietzsche, and Jung. Offered with additional work as RELI 520.

Instructor(s): Stroup

RELI 457 (F) MODERNITY, ANTI- & POSTMODERNITY (3)
Modernity, Antimodernity, and Postmodernity as Styles of Religiosity. Exploration of the problem of defining “modernity” and concepts. Includes contemporary sociological, political, and cultural theory (e.g., Baudrillard) in connection with typologies of religious experience and grouping from mainline through New Age. Offered with additional work as RELI 519.

Instructor(s): Stroup

RELI 462 (F) MEDICAL ETHICS & AMER VALUES I (3)
Readings and discussion of the principles and priorities of medical ethics, with attention to historical development. Offered with additional work as RELI 543. Taught in conjunction with University of Texas-Houston Health Science Center. Classes meet at UT School of Public Health. Intended only for highly qualified undergraduates. Enrollment limited to 15.

Instructor(s): Reiser

(F) = Fall; (S) = Spring
RELI 463 (S)  MEDICAL ETHICS-AMER. VALUES II (4)
Continuation of RELI 462, with attention to clinical experience. Offered with additional work as RELI 544. Prerequisite(s): RELI 462. Not offered 2003–04. Instructor(s): Reiser

RELI 468 (F)  GERMAN-JEWISH IDEALISM & CRITICS (3)
From the 18th century until 1933, writers imagined a symbiosis of Judaic and German philosophical and cultural ideas. In hindsight, were they tragically deluded or guardedly optimistic? Discuss skepticism, romanticism, historicism, ethical monotheism, critical theory, and neo-conservatism. Readings selected from Mendelsohn, ‘Science of Judaism,’ Cohen, Buber, Rosenzweig, Scholem, Benjamin, Arendt, and Strauss. Also offered with additional work as RELI 568. Not offered 2003–04. Instructor(s): Kaplan

RELI 470 (F)  BUDDHIST WISDOM TEXTS (3)
Indo-Tibetan analyses of the mind and its functions, especially differing views on the role of reasoning and the nature of the “ultimate” in major philosophical schools of Tibet and India. Offered with additional credit as RELI 570. Instructor(s): Klein

RELI 492 (S)  MODERNITY AND RELIGION (3)
The role of religion and faith in the modern world has often been problematic. Considered antithetical to such hallmarks of European and American modernity as science, capitalism, and separation of church and state, religious beliefs and practices have nevertheless occupied a vibrant place in modern intellectual, social, and political history. In this seminar, we will analyze the role of religion in the 20th-century through case studies from around the world. Topics vary. Also listed as HIŠT 492. Enrollment limited. Not offered 2003–04. Instructor(s): Thal

RELI 500 (F)  RELIGIONS OF INDIA (3)
Graduate version of RELI 232 and ASIA 232. Not offered 2003–04. Instructor(s): Kripal

RELI 501 (F)  THE ORIENTAL RENAISSANCE (3)
This course will explore the European and American encounters with India from 17th-century France to 20th-century America. Particular attention will be given to the translation of Sanskrit texts, the English and German Romantic traditions, the depth psychology of C.G. Jung, and the American New Age. Graduate version of RELI 361 and Asia 361. Instructor(s): Kripal

RELI 506 (F)  GOSPEL AND TRADITION (3)
Graduate version of RELI 308. Instructor(s): Kelber

RELI 509 (F)  NEW TESTAMENT & HERMENEUTICS (3)

RELI 510 (F)  APOCALYPSE THEN AND NOW (3)
Graduate version of RELI 410. Instructor(s): Henze

RELI 514 (S)  RELIGION IN FICTION AND FILM (3)
Graduate version of RELI 294. Not offered 2003–04. Instructor(s): Stroup

RELI 515 (F)  NIETZSCHE & RELIGIOUS THOUGHT (3)
Graduate version of RELI 301. Instructor(s): Stroup

RELI 517 (S)  PHILOSOPHIES & THEOLOGIES OF HISTORY (3)
Graduate version of RELI 451 and HIŠT 451. Instructor(s): Stroup

RELI 519 (F)  MODERNITY, ANTI- & POSTMODERNITY (3)
Graduate version of RELI 457. Instructor(s): Stroup

RELI 520 (F)  REFORMATION TO THE PRESENT (3)
Graduate version of RELI 456. Not offered 2003–04. Instructor(s): Stroup

(#) = credit hours per semester
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<tr>
<th>Course Code</th>
<th>Title</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>RELI 522</td>
<td>SUFISM (3)</td>
<td>Cook</td>
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<tr>
<td>RELI 523</td>
<td>INDEPENDENT STUDY (3)</td>
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<td>RELI 524</td>
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<td>RELI 525</td>
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<td>RELI 529</td>
<td>DEPARTMENT SEMINAR (3)</td>
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<td>Gray, Klein</td>
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<td>TIBETAN LANGUAGE &amp; CULTURE II (5)</td>
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<td>RELIGION AND POLITICS IN AFRICA (3)</td>
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<td>RELI 537</td>
<td>AFRICAN MYTHS AND RITUALS (3)</td>
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<td>RELI 543</td>
<td>MEDICAL ETHICS &amp; AMER VALUES I (3)</td>
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<td>MEDICAL ETHICS &amp; AMER VALUES II (4)</td>
<td>Reiser</td>
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<td>RELI 546</td>
<td>MARTIN L. KING, JR. AND MALCOLM X (3)</td>
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(F) = Fall; (S) = Spring
RELI 565 (F)  MAIMONIDES GUIDE FOR THE PERPLEXED (3)
Graduate version of RELI 443. Instructor(s): Kaplan

RELI 568 (F)  GERMAN-JEWISH IDEALISM & CRITICS (3)
Graduate version of RELI 468. Not offered 2003–04. Instructor(s): Kaplan

RELI 570 (F)  BUDDHIST WISDOM TEXTS (3)
Graduate version of RELI 470. Instructor(s): Klein

RELI 572 (F)  INTRODUCTION TO BUDDHISM (3)
Graduate version of RELI 322. Instructor(s): Klein

RELI 577 (F)  THE KNOWING BODY (3)
Graduate Version of RELI 323. Not offered 2003–04. Instructor(s): Klein, Long

RELI 582 (S)  MYSTICISM: TEXTS AND METHODS (3)
Graduate version of RELI 262. Not offered 2003–04. Instructor(s): Parsons

RELI 584 (S)  RELIGION & MODERN THERAPIES (3)
Graduate version of RELI 430. Not offered 2003–04. Instructor(s): Parsons

RELI 585 (S)  GOD, TIME AND HISTORY (3)
Graduate version of RELI 123. Not offered 2003–04. Instructor(s): Henze, Maas

RELI 591 (F)  DEATH AND DYING IN RELIGION & LITERATURE (3)
Graduate version of RELI 391. Not offered 2003–04. Instructor(s): Pinn

RELI 595 (F)  GOD AND POSTMODERNISM (3)
Examination of the meanings of postmodernism and their implications for concepts of God, faith, and religious experience. Includes Nietzsche, Bataille, Derrida, Kristeva, Jean-Luc Marion, and selected radical orthodox thinkers. Not offered 2003–04. Instructor(s): Wyschogrod

RELI 596 (F)  ASCETICISM & THE BODY (3)
Graduate version of RELI 395. Instructor(s): Wyschogrod

RELI 599 (S)  EGOISM, ALTRUISM & RELIGION (3)
Graduate version of RELI 397. Instructor(s): Wyschogrod

RELI 800  RESEARCH AND THESIS (9)

RUSS (Russian)

The School of Humanities/Department of German and Slavic Studies/Center for the Study of Languages

RUSS 101 (F)  INTRODUCTION TO RUSSIAN I (4)
Overview of the fundamentals of Russian grammar. Includes pronunciation, reading, oral practice, and translation. Instructor(s): Ludwig

RUSS 102 (S)  INTRODUCTION TO RUSSIAN II (4)
Continuation of Russ 101. Enrollment limited to 20. Instructor(s): Ludwig

RUSS 201 (F)  INTERMEDIATE RUSSIAN LANGUAGE AND CULTURE I (3)
Grammar review, reading of selected texts, conversation, and composition. Instructor(s): Ludwig

(#) = credit hours per semester
RUSS 202 (S)  INTERMEDIATE RUSSIAN II (3)
Continuation of Russ 201. Instructor(s): Ludwig

RUSS 301  CONVERSATION & COMPOSITION I (3)

RUSS 302  CONVERSATION & COMPOSITION II (3)
Continuation of RUSS 301. Not offered 2003–04.

RUSS 311  INTRODUCTION TO RUSSIAN CULTURE (3)
Contents vary from year to year. May be repeated for credit. Not offered 2003–04.

RUSS 312  SURVEY OF RUSSIAN LITERATURE (3)
The course acquaints the student with writers who have been important to the development of Russian culture. Emphasis on the modern period. Taught in English. Not offered 2003–04.

RUSS 331 (F)  RUSSIAN LITERATURE AND COLONIALISM (3)
This course includes a broad survey of postcolonial theories starting with Edward Said and including Homi Bhabha, Leela Gandhi, Gayatri Spivak, Michael Hechter, Helen Tiffin and others. The course is based on Ewa M. Thompsons Imperial Knowledge: Russian Literature, Colonialism published by Greenwood in 2000. Literary readings include Leo Tolstoy’s War, Peace; Alexander Pushkin’s Bronze Horseman and Journey to Arzrum; Valentine Rasputin’s Live, Remember and other stories; Anatoly Rybakov’s Children of the Arbat; Alexander Solzhenitsyn’s Cancer Ward; Ludmila Petrushevskaia’s Night, Tatiana Tolstaia’s Sleepwalker in a Fog; and Valeiya Novodvorskaya’s essays. Also listed as SLAV 331. Instructor(s): Thompson

RUSS 351 (F)  TOLSTOY (3)
Study of major works of Tolstoy. Novels and stories discussed include War, Peace; Anna Karenina; The Kreutzer Sonata; Family Happiness; The Cossacks; The Devil; The Death of Ivan Ilych; Father Sergius; The Confessions and Hadji Murad. Taught in English. Also listed as HUMA 382. Instructor(s): Thompson

RUSS 352  DOSTOEVSKY (3)
Study of the major works of Dostoevsky. No knowledge of Russian required. Novels discussed include The Brothers Karamazov; Crime, Punishment; The Idiot; The Possessed; Notes from the Dead House; Notes from the Underground. Also listed as HUMA 381. Taught in English. Not offered 2003–04.

RUSS 420  WOMEN IN RUSSIAN LITERATURE I (3)
The portrayal of women in major works of Russian literature, with particular attention paid to the women writers’ presentation of women. No knowledge of Russian required. Also listed as WGST 442. Not offered 2003–04

RUSS 450 (F)  INDEPENDENT STUDY (3)
Content varies depending on student interests and the availability of instructors. Instructor(s): Staff

SANS (Sanskrit)
The School of Humanities/Department of Linguistics

SANS 301 (F)  INTRO TO SANSKRIT (3)
Also listed as LING 351. Instructor(s): Mitchell

SANS 302 (S)  INTRODUCTION TO SANSKRIT II (3)
Also offered as LING 352. Instructor(s): Mitchell

(F) = Fall; (S) = Spring
SANS 401 (F) ADVANCED SANSKRIT I (3)
Review of the nominal declensions and the classes of verbs to be followed by a series of readings from Lanman. Special attention will be given to the study of compounds and to Sanskrit verse forms. Also listed as LING 451. Not offered 2003–04. Instructor(s): Mitchell

SANS 402 (F) ADVANCED SANSKRIT II (3)
Continuation of SANS 401. Also offered as LING 452. Not offered 2003–04. Instructor(s): Mitchell

SLAV (Slavic Studies)

The School of Humanities / Department of German and Slavic Studies

SLAV 242 (F) POLISH DRAMA I (3)
The reading of Polish 19th-and 20th-century plays with a view to improving student’s comprehension of Polish. Equivalent to Second Year Polish. Taught in Polish. Prerequisite(s): PLSH 102 or equivalent. Instructor(s): Skorczewski

SLAV 243 (S) POLISH DRAMA II (3)
The reading of Polish 19th-and 20th-century plays with a view to improving student’s comprehension of Polish. Equivalent to Second Year Polish. Taught in Polish. Instructor(s): Skorczewski

SLAV 309 (F) SLAVIC CULTURES (3)
Interdisciplinary introduction to the main currents of Russian, Czech, and Polish cultures. Key moments in history, social trends, music and the arts, the construction of national mythologies through literature. Instructor(s): Skorczewski

SLAV 320 CONTEMPORARY POLISH AND CENTRAL EUROPEAN POLITICS AND CULTURE (3)

SLAV 332 (S) SOVIET AND POST-SOVIET LITERATURE (3)
The course will give students a greater understanding of 20th-century Russian and Soviet literature, and a greater understanding of 20th-century Russian and world literary movements and -isms. The course will also give students an introduction into the relationship between science/technology and nature/religion/spirituality as portrayed in the works we read this semester. Finally, the course will give students a greater understanding of the role literature plays in comprehending the politics of the nation state in which it is written. Instructor(s): Ludwig, Jonathan

SLAV 411 (S) MODERN POLISH POETRY IN TRANSLATION (3)
This course presents the living poets of Poland, from Nobel Prize winners Czeslaw Milosz (1980) and Wislawa Szymborska (1996) to their youngest competitors, Krzysztof Koehler and Maciej Swietlicki. The course explores how resistance and collaboration, Catholicism and Communism, have shaped and continued a major literary tradition of Europe basing on a selection of poetry in English translations. Instructor(s): Skorczewski

SLAV 412 (F) CENTRAL AND EASTERN EUROPEAN FILM (3)
Based on a selection of the best films by the best directors of the region (Forman, Holland, Kieslowski, Polanski, Szabo, Wajda), this course presents Central-Eastern European filmmaking against a background of a totalitarian political system. Instructor(s): Skorczewski

SLAV 450 INDEPENDENT STUDY (3)
Content varies depending on student interests and availability of instructors. Instructor(s): Staff

(#) = credit hours per semester
SOCI 203  (F)  INTRODUCTION TO SOCIOLOGY  (3)
Introduction to the principal concepts, theories, and methods of sociology. Required (normally) for sociology majors. Limited to freshmen and sophomores. Enrollment limited to 60. Instructor(s): W.C. Martin

SOCI 301  SOCIAL INEQUALITY  (3)
A survey of US inequalities of wealth, status, and power. The situation of various minority groups and social classes. What kinds of inequality are unjustifiable? Can they be abolished? If so, how? The trade-off between equality and such valued goods as freedom and efficiency. Enrollment limited to 30.

SOCI 306  (F)  SOCILOGY OF GENDER  (3)
Relationship between gender and social role. Development of the contemporary sexual division of labor and process of socialization with reference to family, education, media, and occupations. Enrollment limited to 55. Also listed as WGST 324. Instructor(s): Long

SOCI 308  (F)  HOUSTON: THE SOCIOLOGY OF A CITY  (3)
An approach to urban sociology and an exploration of contemporary social change, using the Houston metropolitan area as a case study. The rise of the “golden buckle of the sunbelt”; economic and demographic transformations since the end of the oil boom; the new immigration and its impact on interethnic relations; the changing politics of education, inequality, environmental concerns, inner-city development and regional issues; perspectives on the urban future in the new knowledge-based global economy. Guest lectures, field trips. Enrollment limited to 30. Instructor(s): Klineberg

SOCI 309  (F)  RACE & ETHNIC RELATIONS  (3)
Historical and contemporary issues and theories of race and ethnic relations in the United States. The key groups covered will be European Americans, African Americans, Native Americans, Asian Americans, and Mexican Americans. Group patterns of assimilation and conflict inform a basic tenet that race and ethnicity are organizing features of society. Enrollment limited to 30. Instructor(s): Emerson

SOCI 310  URBAN SOCIOLOGY  (3)
Study of urban development, form, and heterogeneity; and the conditions of life associated with living in cities. Examines the rise of cities, their growth and purposes in the U.S. and internationally. Examines behavioral adaptations required by city life, and considers urban subcultures. Not offered 2003–04.

SOCI 313  (F)  DEMOGRAPHY  (3)
Introduction to the study of the dynamics of population change. Includes demographic data sources, components of population change, mortality patterns, family planning, the measurement of migration flows, and population-economic models. Enrollment limited to 30. Instructor(s): Donato

SOCI 317  CONTEMPORARY SOCIOLOGICAL THEORY  (3)
Discussion course on major recent trends in sociological theory, especially in the writings of Goffman, Habermas, Bourdieu, Foucault, and Smith. Includes symbolic interactionism, critical theory, cultural studies, text/discourse/semiotic analyses, feminist theory, and postmodern sociology. Not offered 2003–04. Instructor(s): Long

SOCI 319  THE SOCIOLOGY OF WORK AND OCCUPATIONS  (3)
The influence that occupation has upon lifestyle, values, social and economic status, and views of the world. Field work by the student will be encouraged.

(F) = Fall; (S) = Spring
COURSES OF INSTRUCTION 565

SOCI 321 (F)  CRIMINOLOGY (3)
Study of criminal behavior. Includes social construction of crime, elementary forms of crime, empirical patterns of crime, and theories of crime. Field work required. Limit enrollment to 40. Prerequisite: SOCI 203 or departmental exam. Instructor(s): Phillips

SOCI 323    THE KNOWING BODY (3)
Western thought tends to regard mind and body dualistically, a view with significant impact on religious cultural, gendered and social processes. This course juxtaposes Western assumptions with Buddhist perspectives (especially Tibetan Buddhist), mapping Western and Buddhist categories onto each other to better understand the implications of each. Also listed as RELI 323, WGST 323, and ASIA 323. Not offered 2003–04. Instructor(s): Long

SOCI 325 (S)  SOCIOLOGY OF LAW (3)
Introduction to sociological theories of law. Examines central question in the field: Do the social characteristics of legal actors influence legal outcomes? Focuses on the role of race, sex, and social status. Field work required. Enrollment limited to 30. Instructor(s): Phillips

SOCI 330  SOC MOVEMENTS: POLITICS PROTEST (3)
Strategies by which citizens effect social change through noninstitutionalized political activity. The emergence, maturation, and decay of protest movements. Political impact of social movements on both institutions and individuals. Primary focus is on 20th-century United States.

SOCI 334 (F)  SOCIOLOGY OF THE FAMILY (3)
This course is intended to educate students about the important structures, issues, and dimensions of American family life. As a sociologist and demographer, my goal is to teach you to use sociological perspective when studying families. We will consider many family behaviors, such as lover and sex, marriage and cohabitation, divorce, parenting, family structure, gay and lesbian families, domestic violence and sexual abuse, parent-child relationships, household labor and division of family tasks, and family decision-making. In addition to thinking about individuals in families, we will examine the role of society in shaping family norms, the relationships between family and economy, and government family policy. Enrollment limited to 30. Also listed as WGST 325. Instructor(s): Heard

SOCI 336  MASS COMMUNICATIONS (3)
Structure, social context, and efforts of large-scale impersonal communication to dispersed and heterogeneous audiences, through such media as television, radio, print, motion pictures, and recordings. Not offered 2003–04.

SOCI 340 (F)  CONTEMPORARY MEXICAN SOCIETY (3)
In this course, we seek a sociological understanding of contemporary Mexican society. After reviewing the historical roots of the modern Mexican state, we will examine how economic, political, and social institutions operate in Mexico, their formal and informal structures, and then consider their consequences. Enrollment limited to 30. Instructor(s): Donato

SOCI 345 (F)  INTRODUCTION TO MEDICAL SOCIOLOGY (3)
This course will explore the relationship between social factors and health, illness, and mortality. Topics include the stratification of health by race/ethnicity, gender, and social class; the role of stress and social support; environmental context and illness; lifestyle and behavioral risks (smoking, drinking, drugs, and sexual behavior); STD’s and HIV/AIDS; and cross-national comparisons of health and patterns of disease. Enrollment limited to 45. Instructor(s): Gorman

SOCI 352 (S)  MAPPING GERMAN CULTURE: MOBILE LIVELIHOODS OF SKILLED TRANSIENTS (3)
In a global economy increasing social and spatial mobility leads to mobile livelihoods of skilled transients. How do dual career couples, families, and singles profit from and cope with the options, necessities, and effects of international mobility? We will analyze and compare the conduct of everyday life of skilled transients from different countries living and working in Houston from a biographical point of view. Taught in English. Also listed as GERM 353. Instructor(s): Kreutzer

(#) = credit hours per semester
SOCI 353  CONCEPTIONS OF HUMAN NATURE (3)
The contrasting perspectives on human nature that dominate the behavioral sciences; the paradigm shift toward a recognition of the irreducible degrees of freedom and responsibility on the part of human beings as active participants in the construction of social reality itself. Not offered 2003–04.

SOCI 357 (S)  MAPPING GERMAN CULTURE: WORLDS OF WORK IN THE AGE OF GLOBALIZATION (3)
Are the worlds of work diverging or converging in the age of globalization? Do some converge, while others diverge? What effects does the emergence of transnational labor markets have on national labor markets? Who are the losers, and who are the winners? How do these processes change our life and our society? And can we do anything about it? Taught in English. Also listed as GERM 357. Instructor(s): Kreutzer

SOCI 359 (F)  MAPPING GERMAN CULTURE: INDIVIDUAL AND SOCIETY (3)
This course offers an introduction to the interrelationship between individual and society. Core topics will be the processes of individualization and socialization, the interrelationship of culture, language, and thought in the social construction of reality, the sociology of emotions and the body, the self in social context and the biographical construction of the self. Taught in English. Also listed as GERM 359. Instructor(s): Kreutzer, Long

SOCI 367  ENVIRONMENTAL SOCIOLOGY (3)
Applications of research and theory in the social sciences to an understanding of the attitudes and behaviors that contribute both to environmental problems and to their remediation; examination of the interactions between population pressures and appetites, technological developments and ecological constraints as they combine to shape the human prospect. Enrollment limited to 30. Instructor(s): Klineberg

SOCI 370  SOCIOLOGY OF EDUCATION (3)
Analyses of schools as social institutions which reflect, maintain, and perpetrate inequality in society. In a seminar format, contemporary sociological perspectives are brought to bear on the intended and unintended functions and purposes of schooling. Status attainment and social reproduction models provide frameworks for understanding the relation between social class origin, school achievement, and socioeconomic mobility.

SOCI 386 (S)  AFRICAN AMERICANS IN SOCIETY (3)
Contemporary life of blacks (African Americans) in society. The meaning and significance of race, prejudice and discrimination; social institutions such as the economy, education, and family; and potential strategies such as affirmative action and reparations. Enrollment limited to 30. Instructor(s): Heard

SOCI 390 (S)  RESEARCH METHODS (3)
An introduction to the methods sociologists use to study human societies and their members. Hypothesis formulation and research design; qualitative studies through observation and interviews; historical and comparative approaches; sample surveys and the statistical analysis of quantitative data; political and ethical issues in social research. Enrollment limited to 25. Instructor(s): Staff

SOCI 395  FEMINIST SOCIAL THOUGHT (3)
Study of feminist theory as critique and reconstruction. Includes Wollstonecraft and de Beauvoir, as well as contemporary debates about equity, difference, knowledge, sexuality, and power. Also listed as WGST 460. Not offered 2003–04. Instructor(s): Long
SOCI 397 (F)  GERMAN SOCIETY AND POLITICS FROM 1945 TO THE PRESENT (3)
This course offers an introduction to German society and politics from 1945 to the present. Topics of this course include the political and economic institutions, the separation of East and West Germany, the revolution of 1989 and the transformation of East Germany, the European integration, the Berliner Republic, as well as biographical experiences of different generations literary and cinematic narratives of German society. Taught in German. Also listed as GERM 422. Instructor(s): Kreutzer

SOCI 398 (F)  SOCIAL STATISTICS (3)
Emphasizes the practical uses of statistics to answer the types of questions sociologists ask. We learn sample description, sampling and probability, sampling theory, and how to make inferences from samples to populations. We study and apply common univariate, bivariate, and multivariate statistics. Because most statistical analysis is done with the aid of computers, we also learn how to use a common statistical package. Enrollment limited to 20. Instructor(s): Emerson

SOCI 399  IMMIGRATION AND PUBLIC HEALTH (3)
The purpose of this course is to understand the relationship between international migration and public health. We will examine how immigration has been linked to disease in the past, and how it affects the public health of current populations. Throughout the course, we will identify the substantive and methodological complexities embedded in the health-migration relationship and discuss their role in shaping public policy debates worldwide. Enrollment limited to 30. This course is taught at the UT School of Public Health and cross-listed as PH 3998. Instructor(s): Donato

SOCI 403 (F)  INDEPENDENT STUDY (VAR)
Directed reading and written papers on subjects not regularly offered; advanced study of subjects on which courses are offered. Course is repeatable for credit. Prerequisite(s): permission of the department. Instructor(s): Staff

SOCI 404 (S)  INDEPENDENT STUDY (VAR)
Directed readings and essay writing on special subjects. Includes advanced study in subjects from other courses, if desired. May be repeated for credit. Prerequisite(s): permission of the department. Instructor(s): Staff

SOCI 408  SOCIOLOGY OF THE INTERNET (3)
A seminar devoted to considering the history and sociology of the internet. We will discuss the technical and social infrastructure of the internet, problems of education and access, the nature of e-business and other online organizations, and social issues such as censorship. Much of the course will concentrate on people’s uses of the internet, from social movements and political advocacy on the web, to various kinds of virtual communities. Enrollment limited to 15. Not offered 2003–04. Instructor(s): Long

SOCI 411  SOCIAL CHANGE (3)
An analysis of the accelerating trends that have transformed human societies during the past thirty years, with particular reference to ongoing transformations in the economic foundations and ethnic composition of the United States, and in threats to the global environment and the capitalist world system; individual and collective responses to the challenges of our time. Not offered 2003–04. Instructor(s): Klineberg

SOCI 421  THE CRAFT OF SOCIOLOGY (3)
Exploration of work of sociology. Includes its historical and social origins and development, and its shifting philosophical foundations, methodological refinements, and ethical and political implications, as well as discussion of classic and controversial sociological studies. Sociology majors must take this course or SOCI 390. Not offered 2003–04. Instructor(s): Long

(#) = credit hours per semester
SOCI 425 POLITICAL SOCIOLOGY (3)
Can democracy survive its enemies: tyranny of ruling elites and classes, tyranny of the majority, ethnic and religious conflict, individualism, government secrecy, citizen apathy? Also listed as POLI 425. Enrollment limited to 8 in SOCI 425 and 8 in POLI 425. Not offered 2003–04.

SOCI 430 (S) SOCIOLOGY OF RELIGION (3)
Study of religious beliefs, symbols, actions, organizations, roles, and various interrelationships between religion and society. Includes new religious movements, secularization, and fundamentalism. Field work required. Enrollment limited to 40. Instructor(s): W.C. Martin

SOCI 431 THE CRIMINAL JUSTICE SYSTEM (3)
This course will focus on the three major components of the criminal justice system: the police, the courts, and corrections. It will give attention to the development of the police role, the contemporary nature of policing (including community policing), and the system of legal limitations within which the police must operate, and police culture. It will examine the roles of judges, prosecutors, defense attorneys, plea bargaining, juries, appeals, pre-sentence investigation, and sentencing. Finally, it will pay special attention to issues of responsibility and punishment (including the death penalty), and to various correctional options such as prisons, probation, parole, and alternatives. Each segment of the course will include attention to issues of viable public policy. Enrollment limited to 30. Not offered 2003–04.

SOCI 436 (S) ADVANCED RESEARCH SEMINAR: THE 2004 HOUSTON AREA SURVEY (3)
Continuation of the series of annual surveys on how Houston residents are reacting to changes in American society. Includes sampling procedures, questionnaire construction, interviewing, data analysis, and the logic and skills of survey research. Culminates in a research report that develops empirical hypotheses and tests their validity with survey findings. Enrollment limited to 10. Instructor(s): Klineberg

SOCI 440 (S) FAMILY INEQUALITY (3)
This is an intensive, upper-level seminar focused on aspects of inequality concerning American families. We will discuss how well known modes of inequality, such as race/ethnicity, gender, and social class, affect individual families, as well as how families serve as agents of inequality along these lines. Primarily intended for sociology majors. Prerequisite(s): SOCI 334. Enrollment limited to 15. Instructor(s): Heard

SOCI 445 (S) SOCIOLOGY OF CULTURE (3)
This course surveys the different sociological approaches to studying culture. Part I focuses on the relationship between culture and social structure, including various theoretical approaches. Part II examines different perspectives on modern culture. Instructor(s): Long

SOCI 450 TOPICS IN STUDY OF RELIGION: FUNDAMENTALISM (3)
Examination of fundamentalist religious institutions, behavior, and thought. Includes fundamentalist attitudes toward, participation in, and impact on politics, economics, education, mass communication, and family life, using Christian, Islamic, and Jewish examples. Fieldwork required. Enrollment limited to 20.

SOCI 460 (S) INEQUALITY AND HEALTH ACROSS THE LIFE COURSE (3)
This course focuses on the relationship between health and social inequality at multiple points across the life course—in utero, early childhood, adolescence, adulthood, and old age. Three forms of inequality, and their importance for health, are examined in depth; socioeconomic, racial/ethnic, and gender. Students will read and critique scholarly works, and will spend the semester developing a research paper that examines a topic in relation to social inequality and health. This will be taught at UT SPH and cross-listed as PH 1498L. Enrollment limited to 7. Prerequisite(s): SOCI 345 and permission of the instructor. Instructor(s): Gorman

(F) = Fall; (S) = Spring
SOCI 492 (S)  DIRECTED HONORS RESEARCH (3)
Sociological research under faculty supervision. Includes first-semester review of relevant literature and the preparation of an outline for planned research, followed by second-semester research and the writing of an honors thesis. Open only to students in sociology honors program.  
Instructor(s): Staff

SOCI 493 (F)  DIRECTED HONORS RESEARCH (3)
Sociological research under faculty supervision. Includes first-semester review of relevant literature and preparation of outline for planned research, followed by second-semester research and the writing of an honors thesis. Open only to students in sociology honors program.  
Instructor(s): Staff

SOSC (Social Sciences)

The School of Social Sciences

SOSC 300 (S)  SOCIAL SCIENCE AND PUBLIC POLICY (3)
Survey of how different disciplines in the social sciences treat public policy. Includes specific policy questions as a means of highlighting each discipline’s approach to the study of public policy.  
Instructor(s): Stein

SOSC 301 (F)  POLICY ANALYSIS (3)
Familiarizes students with the analytical tools necessary for evaluating and analyzing public policies. Also listed as POLI 338.  
Instructor(s): Ostdiek

SOSC 330 (S)  HEALTHCARE REFORM IN THE 50 STATES (3)
Examination of those states that have undertaken comprehensive health system reform, have carried out more limited revisions, or have failed to even begin the process, assessing successes and failures. Includes general theories of state-federal relationships and the role of the federal government in state health reform.  
Instructor(s): Roseneau

SOSC 400  POLICY STUDIES RESEARCH SEMINAR (VAR)
Advanced research in public policy. Students will complete a policy study or policy analysis in a substantive policy area. Prerequisite(s): permission of instructor.  
Instructor(s): Ostdiek

SOSC 420 (S)  HEALTHCARE: COMPETITION AND MANAGED CARE (3)
Introduction to managed care and its distinguishing characteristics. Includes managed care and market competition and impact on science in general and medical science in particular, as well as evaluation of how competition and regulation influence the development, assessment, and diffusion of new health technologies within the managed care framework.  
Instructor(s): Roseneau

SOSC 430 (S)  THE SHAPING OF HEALTH POLICY (3)
Study of how healthcare policy decisions are made and implemented, using an interdisciplinary approach involving government, law, ethics, economics, and history. Includes case discussions of major policy problems by faculty experts in these disciplines and guest speakers who are leading national figures in the shaping of public policy. Class meets at an off-campus location; for information, call 713-500-9491.  
Instructor(s): Roseneau

(#) = credit hours per semester
SPAN (Spanish)

The School of Humanities / Department of Hispanic and Classical Studies / Center for the Study of Languages

SPAN 101 INTRODUCTION TO THE SPANISH LANGUAGE AND CULTURE I (5)
Spanish 101 is a course designed for people who have little or no knowledge of Spanish. Based on a task-oriented approach to language and culture learning, Spanish 101 allows the beginning student to develop the necessary abilities to communicate satisfactorily in Spanish in everyday situations. Students are expected to be active participants in the learning process. Class meetings are not based on lectures but rely heavily on student interaction.

SPAN 102 INTRODUCTION TO THE SPANISH LANGUAGE AND CULTURE II (5)
Continuation of SPAN 101.

SPAN 150 FRESHMAN SEMINAR: LATIN AMERICAN SHORT FICTION (EMPHASIS ON BORGES & CORTAZAR) (3)
Readings of classic works of short fiction by modern Latin American masters, with special emphasis on the stories of Jorge Luis Borges and Julio Cortázar. Close reading, interpretation and appreciation of stories (in English translation) will be the focus of class discussion, presentations and short interpretive essays. Taught in English. Open to first-year students only, except by permission of the instructor. Enrollment limited to 15. Also listed as FSEM 150. Not offered 2003–04.

SPAN 152 FRESHMAN SEMINAR: HISPANIC ESSAY (3)
Readings (in English translation) from major modern Spanish and Spanish-American essayists, including Miguel de Unamuno, José Ortega y Gasset, María Zambrano, José Martí, José Enrique Rodó, Alfonso Reyes, Victoria Ocampo, Gabriela Mistral, Jorge Luis Borges, and Octavio Paz. Close reading and appreciation of essays will be the focus of discussion, presentations, and short interpretive papers. Taught in English. Open to first-year students only, except by permission of the instructor. Also listed as FSEM 152. Not offered 2003–04.

SPAN 154 (F) FRESHMAN SEMINAR: WE THE PEOPLE: REPRESENTATIONS OF THE POPULAR IN THE AMERICAS (3)
This course considers representations of “the people” from the inceptions of U.S. and Latin American independence to the present. We will look at how theorists, writers, and artists have defined the basis of democracy or other popular-based forms of government. Readings from the U.S. constitution to contemporary representations of communal power and/or collective alienation. Taught in English. Open to first-year students only, except by permission of instructor. Enrollment limited to 15. Also listed as FSEM 154. Instructor(s): Jenckes

SPAN 201 INTERMEDIATE SPANISH LANGUAGE & CULTURE I (4)
Spanish 201 is a course designed for intermediate level Spanish speakers who have achieved the equivalent of first-year Spanish (i.e. Span 101-102). Based on a task-oriented approach to language and culture learning, Spanish 201 allows the intermediate students to improve and expand his communicative skills. Students are expected to be active participants in the learning process. Class meetings are not based on lectures but rely heavily on student interaction.

SPAN 202 INTERMEDIATE SPANISH LANGUAGE AND CULTURE II (4)
Continuation of SPAN 201. Instructor(s): Verm, Brogden-Gomez, Patterson

(F) = Fall; (S) = Spring
SPAN 203 (F) SPANISH I FOR BI-CULTURAL STUDENTS (4)
Spanish 203 is intended for students who have been exposed to Spanish in homes or communities and want to improve their fluency and formal knowledge of the language. The class will explore the structural elements necessary to begin to speak and write with confidence. Enrollment limited to 20 per section. Prerequisite(s): significant exposure to Spanish (family, community, travel). No previous formal instruction in Spanish is required. Rice Language Placement test is required. Instructor(s): Brogden-Gomez

SPAN 204 INTERMEDIATE SPANISH FOR BI-CULTURAL STUDENTS (3)
Consolidates and builds on students’ existing knowledge of Spanish in order to enable them to speak and write greater proficiency. Authentic cultural materials—short stories, newspaper articles, internet, films, etc.—will be used to enhance ability to read, write and speak Spanish. Not offered 2003–04.

SPAN 214 (S) INTERMEDIATE SPANISH FOR ENGINEERING AND SCIENCES II (4)
Three week intensive course open to students enrolled in the College of Engineering. Taught in May in Seville, Spain. Proficiency-based instruction focused on further developing the four communicative skills (reading, writing, speaking, listening) using original content relevant to the engineering fields. Particular emphasis on development of technical vocabulary and cultural competence in the engineering workplace. Additional Study Abroad program fee. Requires separate registration with office of international programs. See http://www.ruf.rice.edu/~abroad/.

SPAN 301 ADVANCED SPANISH I (3)
This course aims to bring students from an intermediate to an advanced level of proficiency in Spanish. Students will develop fluency and communicative competence through exposure to literary texts, newspaper and web articles, films and videos, in their cultural context. Emphasis will be on conversation strategies, vocabulary expansion and the writing of essays. Enrollment limited to 20 person per section. Instructor(s): Salas, Patterson, Zambosco-Thomas

SPAN 302 ADVANCED SPANISH II (3)
Continuation of SPAN 301. Instructor(s): Salas, Patterson, Zambosco-Thomas

SPAN 303 (F) ADVANCED SPANISH FOR BI-CULTURAL STUDENTS (3)
Spanish 303 aims to bring students to advanced proficiency in Spanish, enabling them to interact confidently in a wide variety of contexts, while providing them with cultural insights about the Hispanic world. It is designed for students who come with bicultural exposure and at least intermediate proficiency in Spanish, and who want to refine their written and oral command of the language. Informal and formal discussion in class, presentations, and readings from the Spanish-speaking world, including the United States, will constitute the core of the class. Instructor(s): Salas

SPAN 305 (F) COMMERCIAL SPANISH I (3)
This course will familiarize students with the world of business in Spanish through authentic tasks dealing with current socio-economic events, cross-cultural awareness issues, as well as the present-day political and economic situation of Spain and the different Latin American countries. Activities will include commercial correspondence and reports, professional presentations, debates, and other techniques conducive to success in the Spanish-speaking business world. Supranational organizations in the area (Mercosur, NAFTA and the European Union) will be the major topic of a final project for the class. The course will be of special interest to students planning to take the Madrid Chamber of Commerce Examination in Commercial Spanish in the Spring semester, and to those interested in applying for internships in Spanish-speaking countries. Instructor(s): Narbona

(#) = credit hours per semester
SPAN 306 (S)  COMMERCIAL SPANISH II (3)
Further development of Spanish 305 goals: vocabulary, concepts, language and cultural skills necessary to communicate successfully in the socio-economic and cultural milieu of contemporary Hispanic countries. The course emphasizes practical business techniques and specific areas of commerce such as insurance, investment, and advertising, focusing on several specific Latin American countries. A practical case of marketing will be the final project for the class. The course will prepare students who plan to take the Madrid Chamber of Commerce Examination in Commercial Spanish, which is offered each Spring semester at Rice. The course will also be useful to those interested in applying for internships in Spanish-speaking countries. Instructor(s): Narbona

SPAN 307 (F)  THE LANGUAGE & CULTURE OF MEDICINE AND HEALTH CARE (3)
An exploration of the differences between Anglo-American and Latin-American languages and cultures of medicine. This course will navigate the treacherous socioeconomic and cultural rift between high-tech Anglo-American medical institutions and rural Latin-American conceptions of the role of doctors, medicine, and health care. Through live and taped interviews and presentations made by health care providers, students will gain first-hand knowledge of the varieties of Spanish and of the problems posed by norms and protocols, customs and courtesy, to the medical translator, interpreter or health care provider. Of special interest to students interested in Latin American culture and those wishing to pursue careers in the health professions, medical translation or interpretation. Instructor(s): Albin

SPAN 308 (S)  THE LANGUAGE OF MEDICINE AND HEALTH CARE (4)
Students will continue to study the body’s major organ systems and apply their knowledge to the translation of patient education materials, patient instructions, case reports, and other clinical documents. Students enrolled in SPAN 307 in the fall Term will be required to work as clinical English-Spanish interpreters in one or more of the following institutions: M.D. Anderson Cancer Center and Tumor Institute, Ben Taub Hospital (Harris County Hospital District), Baptist Student Ministries (Medical Missions in Mexico), LifeGift of Houston (Organ Donation Center) and/or other approved volunteer clinical programs. Instructor(s): Albin

SPAN 310 (S)  THE LANGUAGE OF MEDICINE AND HEALTHCARE PRACTICUM (3)
The number of credits is based on the number of internship hours. This class is taken in conjunction with SPAN 308. However, special permission to take separately may be granted by instructor. Instructor(s): Albin

SPAN 313 (F)  SCIENTIFIC SPANISH (3)
Content-based course in Spanish in which the student will be familiarized with vocabulary and uses of the language necessary to deal with scientific issues in the Spanish-speaking world. Activities in class will include reading current scientific texts, presentations, authentic tasks and problems and special issues concerning the fields in which the student is interested. We will also focus on everyday Spanish and cross-cultural topics in order to prepare the student for a possible internship in a Spanish-speaking country. Prerequisite(s): intermediate level of Spanish or permission of instructor. Instructor(s): Narbona

SPAN 314 (S)  SCIENTIFIC SPANISH (3)
Continuation of SPAN 313. Content-based course in Spanish in which the student will be familiarized with vocabulary and uses of the language necessary to deal with scientific issues in the Spanish-speaking world. Activities in class will include reading current scientific texts, presentations, authentic tasks and problems and special issues concerning the fields in which the student is interested. We will also focus on everyday Spanish and cross-cultural topics in order to prepare the student for a possible internship in a Spanish-speaking country. Instructor(s): Narbona

(F) = Fall; (S) = Spring
SPAN 315 (F) ARTS AND MECHANICS OF TRANSLATION (3)
An introduction to the craft of translation. Working with various types of texts in English and Spanish, students will begin to acquire the theoretical, linguistic, and research tools to solve common translation problems, exploring the cultural and linguistic patterns and contrasts that most affect Spanish-English translation. This course will increase vocabularies, improve Spanish proficiency, broaden cross-cultural understanding, and strengthen students’ communicative abilities, both in Spanish and English. Instructor(s): Albin

SPAN 340 (F) SPANISH CULTURE AND CIVILIZATION (3)
Topics relating to the development of social, political and economic institutions of Spain form the basis for extensive conversation, discussion, and composition. Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): Castañeda

SPAN 341 (S) MASTER-WORKS OF SPANISH ART & LITERATURE (3)
Selected masterpieces of Spanish art and literature; emphasis on specific aesthetic achievement of each work in its European and Spanish contexts, and on how the work reflects important cultural, social, and ideological issues of its times. Exemplary pairs (an author and an artist) from key historical moments will be studied. Prerequisite(s): third-year Spanish or permission of instructor; no prerequisite when course offered in English. Instructor: Kauffmann

SPAN 342 (F) WRITING WORKSHOP (3)
Course designed to develop students’ competence in written expression through close readings of poems, short stories, plays and newspaper articles. Students will learn the functions and strategies of different writing styles. Prerequisite(s): Third-year Spanish or permission of instructor. Instructor(s): Pérez

SPAN 345 (S) MAPPING LATIN AMERICAN CULTURE (3)
Explores key issues in Latin American culture. Includes an examination of the continent’s indigenous civilizations, the impact of the Conquest, and the rise of national states. Important aspects of the contemporary situation in Latin America are also studied, including phenomena such as globalization, the rise of mega-cites, migration, and authoritarianism. Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): González-Stephan

SPAN 346 (F) CONTEMPORARY MEXICO (3)
Topics discussed include: the Mexican political system, the debate on national identity, border culture, urbanization, regionalism, and indigenous cultures. Uses a wide range of texts to introduce students to the richness and complexity of contemporary Mexican culture. Prerequisite Third-year Spanish or permission of the instructor. Instructor(s): van Delden, Gaytan

SPAN 350 (F) SOCIOlinguistics of Spanish (3)
Analysis of the modern varieties of Spanish covering phonetics, vocabulary, morphosyntax, and pragmatics. The course requires the completion of a research project with an empirical database. Prerequisite(s): Third-year Spanish or permission of the instructor. Also listed as LING 421. Instructor(s): Salaberry

SPAN 365 (S) SPAIN’S GOLDEN AGE (3)
This course will deal with the history, politics, culture, art and literature which justify the use of the term Golden Age for the period of the Hapsburg Dynasty (1517–1700). Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): Castañeda

SPAN 366 (F) GOLDEN AGE DRAMA (3)
Emphasis on the birth of the modern Spanish theater and the primary role played by Lope de Vega. Other dramatists to be studied are Guillén de Castro, Tirso de Molina, Mira de Amescua, and Ruiz de Alarcón. Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): Castañeda

(#) = credit hours per semester
SPAN 370  SURVEY OF SPANISH LITERATURE (3)
A genre-based (poetry, narrative fiction, drama, essay) survey of the main movements in Spanish literature from medieval times to the present. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 372  THE MODERN SPANISH ESSAY (3)
Readings from representative essayists who attempt to define Spain’s situation in response to the challenges of European modernity. Spanish “Europeizers” vs. defenders of Spain’s “differences” from Europe, scientific vs. anti-scientific rhetorical models, hierarchies of gender and genre, interpretations of Spanish landscape. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 374  THE INVENTION OF SPAIN (1868–1936) (3)
Diverse constructions of national identity in Spanish painting, literature, and philosophy from the Revolution of 1868 to the Spanish Civil War. Emphasis on cultural and social conditions during this formative period, and the competing visions of Spain offered by leading artist and intellectuals. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 375  THE SPANISH CIVIL WAR (3)
Prelude to World War II and culmination of perennial struggles between the so-called “two Spains,” the Spanish Civil War (1936-39) is a watershed moment in modern Spanish and European history. This course studies examples of Spanish and foreign novels, poetry, drama, eyewitness testimonial, film, painting, journalism, and posters. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 376  POETRY AND CULTURE (3)
Study of contemporary poetry and its cultural functions. Students engage in poetry through analysis and interpretation of selected Spanish poets. Students also practice writing and translating poems. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 378  CURRENT ISSUES IN SPAIN (3)
Exploration of diverse cultural aspects of today’s Spain through films and newspaper articles. The topics discussed will serve as a springboard for further development of writing skills. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 379  LITERARY TRANSLATION (3)
Overview of modern theories of literary translation, and practice in Spanish-English (and limited English-Spanish) literary translation, using examples from diverse genres and authors of Spanish and Latin American literature. Prerequisite(s): Third-year Spanish or equivalent. Instructor(s): Kauffmann

SPAN 380  THE EVOLUTION OF SPANISH (3)
This course provides an introduction to (1) major historical changes that led to the evolution of Proto-Romance (Vulgar Latin) to the Castillian dialect of Spanish (español or castellano), and (2) current developments and expected changes in the future of the various representatives of former Castillian dialect. Prerequisite(s): Third-year Spanish or permission of instructor. Also listed as LING 424. Not offered 2003–04.

SPAN 381  THEORIES OF L2 DEVELOPMENT (3)
Overview of modern theories of second language acquisition, and practice in Spanish-English (and limited English-Spanish) literary translation, using examples from diverse genres and authors of Spanish and Latin American literature. Prerequisite(s): Third-year Spanish or equivalent. Instructor(s): Kauffmann

SPAN 382  THE ACQUISITION OF L2 SPANISH (3)
This course surveys and critiques various theories of second language acquisition. Major topics are: analysis of linguistic, cognitive and social processes in the development of second languages, formal hypotheses of nonacademic and classroom L2 learning, analysis of various SLA research methodologies and interpretation of findings from SLA research. Prerequisite(s): Third-year Spanish or permission of instructor. Not offered 2003–04.
SPAN 385  FOUNDATIONS OF SPANISH AMERICAN LITERATURE (3)
How did Spanish American literature acquire an identity of its own? This course attempts to answer this question by analyzing a number of foundational works of Spanish American literature in conjunction with later works that revise and rewrite key themes in the continent’s literary tradition. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 386  CULTURE AND POWER IN LATIN AMERICA (3)
This course uses a variety of materials and sources to examine the epistemologies of coloniality in Latin America, with a focus on their European and Western origins. Explores various aspects of the discourses of coloniality and subalternity in a range of cultural productions (cinema, poetry, narrative, salsa, Latin rock music) Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 388 (F)  THE LATIN AMERICAN SHORT STORY (3)
Latin American writers have achieved great distinction in the genre of the short story. This course studies texts by some of the continent’s best-known short-story writers, such as Cortézar, Borges, Monterroso, Rulfo, Fuentes, García Márquez, Elena Garro, Ana Lydia Vega, Clarice Lispector, Benedetti, Uslar Pietri, Massiani, Lemebel, Asis, and Carpentier. Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): González-Stephan

SPAN 390 (F)  HISPANIC CINEMA (3)
This course examines the ways in which films in both Spain and Latin America have represented the political contexts of their countries. Focus is on the theme of power, and on the social and individual consequences of repressive regimes. Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): González-Stephan

SPAN 392 (S)  DECLARING THE NEW: THE POLITICS OF AVANT-GARDE IN LATIN AMERICA (3)
This course considers the literary, historical, and political implications of an artistic practice based on novelty. Can novelty jolt a complacent society into action? Is novelty even possible in the 20th century? What does it mean to be new in Latin America? Readings ranging from Borges to Huidobro to the Chilean neo-avant-garde of the 1970s and 1980s. Prerequisite(s): third-year Spanish or permission of the instructor. Instructor(s): Jenckes

SPAN 395  DIALOGUE OF THE AMERICAS (3)
The history of Latin America since the 19th century has been profoundly shaped by its relationship to the “North” (the United States of America), as a model either to be imitated or rejected. This course examines both positions (emulation and detraction) as reflected in literature, painting, film, and political texts. Prerequisite(s): Third-year Spanish or permission of the instructor. Not offered 2003–04.

SPAN 401  LITERARY THEORY/HISPANIC TEXTS (3)
Overview of major schools in contemporary literary theory (e.g., Formalist, Structuralist, Post-structuralist, Marxist, Feminist, Neo-historicist), including Hispanic contributions to and adaptations of such theory where relevant, using texts from Spain and Latin America as study examples. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04

SPAN 410  THE PICARESQUE NOVEL (3)
This course will deal with the relationships connecting the picaresque genre with the Libros de caballerías, the Novela pastoril, and Don Quijote. Among the principal texts: Lazarillo de Tormes, Guzmán de Alfarache, El buscón, Gil Blas de Santillana, and Nuevas andanzas de Lazarillo. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04

SPAN 412  DON QUIJOTE (3)
Cervantes’s masterpiece is studied in its relationship to the books of knight errantry, and to the picaresque and pastoral novels, with emphasis on the innovative techniques which contribute to the birth of the modern novel. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

(#) = credit hours per semester
### SPAN 414 (S) CALDERÓN’S THEATER (3)
This course will cover the principal dramatic works which have earned for Calderón the distinction of being the most important philosophical and religious dramatist of the Golden Age. Among the works to be studied: La vida es sueño, El mágico prodigioso, El gran teatro del mundo, La cena del rey Baltasar, and El pintor de su deshonra (auto). Prerequisite(s): advanced Spanish or permission of the instructor. *Instructor(s): Castañeda*

### SPAN 420 (F) THE DISPUTED GENERATION OF 1898 (3)
The origins and fortunes of the Generation of 1898 as a historiographic concept. What have been the conceptual and historiographic gains and losses, and the main ideological functions of the concept of the Generacion del 98 since it was invented (separately, by Ortega y Gasset and Azorin, and with differing referents!) in 1913? Prerequisite(s): advanced Spanish or permission of the instructor. *Instructor(s): Kauffmann*

### SPAN 422 UNAMUNO AND ORTEGA (3)
Intellectual relations and mutual influences of these exemplary figures, whose confrontation played a crucial role in defining the situation of Spain prior to the Spanish Civil War. Reception of their thought by major writers of their time and ours (A. Machado, M. Zambrano, F. Ayala, J.L. Borges, O. Paz) Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

### SPAN 426 THE SPANISH AVANT-GARDE (3)
This cross-genre, multimedia course examines the contributions of major figures (Picasso, Gris, Dalí, Diego, Alberti, Lorca, Bunuel, Gomez de la Serna) to the Spanish avant-garde in the 20th century. Not offered 2003–04.

### SPAN 428 (F) CONTEMPORARY SPANISH LITERATURE (3)
This course considers in detail specific problems, figures, movements, works, or literary genres. Examples: Torrente’s trilogies; Poets of 1927; Social Conscience in Literature. Topic for fall 2003: Torrente Ballester. Prerequisite(s): advanced Spanish or permission of the instructor. *Instructor(s): Pérez*

### SPAN 430 20TH-CENTURY SPANISH NOVEL (3)
This course examines the evolution of the Spanish novel as a work of art while exploring how cultural issues are incorporated into fictional worlds. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

### SPAN 440 BILINGUALISM (3)
This course analyzes bilingualism from a variety of perspectives including cognitive, linguistic, and sociocultural viewpoints. Topics to be covered include conceptual representations of the lexicon, sentence parsing, levels of activation of bilingual modes, lexical, phonological, syntactic and pragmatic interference, code-switching, cultural identity, bilingual education, language and thought, etc. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

### SPAN 442 COGNITION AND L2 ACQUISITION (3)
This course provides an in-depth analysis of general cognitive processes in second language development and cognitive-based theories of second language acquisition. Some of the issues to be discussed in detail are perception, attention, memory, automaticity, restructuring, sentence processing, learnability theories, language and intelligence, critical periods for language acquisition, etc. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

### SPAN 444 TENSE AND ASPECT IN L2 ACQUISITION (3)
This course provides an introduction to (1) the morphosyntactic analysis of tense-aspect systems, (2) the development of inflectional morphology among first and second language learners, (3) the sequence and rate of aspectual contrasts, (4) the differences between natural and academic learning settings, and (5) the impact of pedagogical manipulations. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.
SPAN 450 (S)  CIVILIZATION AND BARBARISM (3)
Since the Conquest, Latin America has been viewed by the European imagination as an “empty” continent, lacking in culture and history. This image of a “savage” continent has been interiorized by Latin America’s own intellectuals. This course examines and deconstructs various manifestations of these ideological representation of Latin America. Prerequisite(s): advanced Spanish or permission of the instructor. Instructor(s): González-Stephan

SPAN 452  (UN) DISCIPLINED BODIES (3)
This course studies 19th-century and 20th-century texts that contributed to nation-building in Latin America by developing images of the model citizen, in his/her manners, physical appearance, behavior, health, and ethnic identity. These texts also offer representations of those citizens regarded as undesirable. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

SPAN 454  MACHO CULTURE IN LATIN AMERICA (3)
This course examines the works of patriarchal ideology in a variety of cultural forms (literature, film, painting, photography). Studies the ways in which this ideology, which manifests itself in works by both men and women, defines male and female roles in Latin American culture. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

SPAN 456  LATIN AMERICAN WOMEN’S CULTURE (3)
Studies the cultural production (literary, artistic, cinematic) of intellectual women in Latin America. Examines the struggles for interpretive power in works by women from the colonial period to the present. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

SPAN 458 (F)  POETRY AND TESTIMONY (3)
This course looks at what it means to try to represent unrepresentable experiences such as horror, death, and war. We begin with Rigoberta Menchú’s testimony of violence suffered in Guatemala during the 1970s and 80s, and then move on to a selection of theoretical texts and poetic works that explore the nature and limits of testimonial discourse. Prerequisite(s): advanced Spanish or permission of the instructor. Instructor(s): Jenckes

SPAN 460  EUROPE AND LATIN AMERICA (3)
Definitions of Latin American literature and culture often take as their point of departure a consideration of the continent’s relationship to Europe. This course examines works-essays, stories, and novels—analyze and exemplify diverse aspects of this relationship. Prerequisite(s): advanced Spanish or permission of the instructor. Not offered 2003–04.

SPAN 462 (S)  MODERN SPANISH AMERICAN NOVEL (3)
Works by Asturias, Carpenter, Rulfo, Onetti, Vargas Llosa, Cortázar, Fuentes, and others. Examines how Spanish American novelists from the 1940’s onward appropriated the techniques of European modernist literature and infused them with new cultural content. Prerequisite(s): advanced Spanish or permission of the instructor. Instructor(s): van Delden

SPAN 468  OCTAVIO PAZ (3)
Studies the literary and intellectual career of Nobel prize-winning Mexican poet and essayist Octavio Paz. Topics to be covered include: poetry and modernity; literature and national identity; art and the avant-garde; Paz’s role in political debates in Mexico; the reception of his work at home and abroad. Not offered 2003–04.

SPAN 490  INDEPENDENT STUDY (3)
Research in Hispanic literature, Hispanic linguistics, Hispanic culture and civilization. Open to qualified juniors and seniors interested in a topic not covered in other courses. Prerequisite(s): advanced Spanish or permission of the instructor. Instructor(s): Staff

(#) = credit hours per semester
SPAN 495  **HONORS THESIS (3)**
Independent research projects by outstanding Spanish majors leading to a substantial honors essay, undertaken in close cooperation with a departmental faculty member, who must first approve the thesis proposal. Prerequisite(s): advanced Spanish or permission of the instructor. *Instructor(s): Staff*

SPAN 501  **LITERARY THEORY/HISPANIC TEXTS (3)**

SPAN 507  **TEACHING COLLEGE SPANISH (PRACTICUM) (1)**
Study of pedagogical principles applicable to the teaching of Spanish. Includes practice teaching and performance reviews, design of pedagogical activities and peer observation. *Instructor(s): Salaberry*

SPAN 510  **THE PICAESQUE NOVEL (3)**

SPAN 514  **CALDERON’S THEATRE (3)**
Graduate version of SPAN 414. *Instructor(s): Castañeda*

SPAN 520  **THE DISPUTED GENERATION OF 1898 (3)**
Graduate version of SPAN 420. *Instructor(s): Kauffmann*

SPAN 522  **CALDERON’S THEATRE (3)**

SPAN 526  **SPANISH AVANT-GARDE (3)**

SPAN 528  **CONTEMPORARY SPANISH LITERATURE (3)**
Graduate version of SPAN 428. *Instructor(s): Pérez*

SPAN 530  **20TH-CENTURY SPANISH NOVEL (3)**
Graduate version of SPAN 430. Not offered 2003–04.

SPAN 540  **BILINGUALISM (3)**

SPAN 542  **COGNITION AND L2 ACQUISITION (3)**
Graduate version of SPAN 442. Not offered 2003–04.

SPAN 544  **TENSE AND ASPECT IN L2 ACQUISITION (3)**
Graduate version of SPAN 444. Not offered 2003–04.

SPAN 550  **CIVILIZATION AND BARBARISM (3)**
Graduate version of SPAN 450. *Instructor(s): González-Stephan*

SPAN 552  **(UN) DISCIPLINED BODIES (3)**
Graduate version of SPAN 452. Not offered 2003–04.

SPAN 554  **MACHO CULTURE IN LATIN AMERICA (3)**

SPAN 556  **LATIN AMERICAN WOMEN’S CULTURE (3)**

(F) = Fall; (S) = Spring
SPAN 558 (F)  POETRY AND TESTIMONY (3)
Graduate version of SPAN 458. Instructor(s): Jenckes

SPAN 560  EUROPE AND LATIN AMERICA (3)

SPAN 562 (S)  MODERN SPANISH AMERICAN NOVEL (3)
Graduate version of SPAN 462. Instructor(s): van Delden

SPAN 568  OCTAVIO PAZ (3)

SPAN 591 (F)  INDEPENDENT STUDY (3)
Research in Hispanic literature, Hispanic linguistics, and Hispanic culture and civilization. Open to graduate students interested in a topic not covered in other courses. Prerequisite(s): permission of department. Instructor(s): Staff

SPAN 592 (S)  INDEPENDENT STUDY (3)
Research in Hispanic literature, Hispanic linguistics and Hispanic culture and civilization. Open to graduate students interested in a topic not covered in other courses. Prerequisite(s): permission of department. Instructor(s): Staff

SPAN 610  SEMINAR: TOPICS IN LANGUAGE METHODOLOGY (3)
Exploration and analysis of a range of theories, issues and problems in foreign language instruction. Areas of inquiry include: the nature of language acquisition, pedagogical methods, instructional technologies, development of teaching materials, and testing/assessment. Also listed as FREN 610. Not offered 2003–04.

SPAN 611  LANGUAGE METHODOLOGY PRACTICUM (1)
The course, a continuation of SPAN 610, allows students to gain further knowledge and expertise in aspects of Language Methodology by attending a series of workshops on topics such as Technology and Language Learning, Writing and content-based instruction. Students will also complete assignments that supplement or expand on the material presented in the workshops. Also listed as FREN 611 and Ling 611. Not offered 2003–04.

SPAN 700  SUMMER GRADUATE RESEARCH (0)
Research leading to candidacy. Instructor(s): Staff

SPAN 701 (F)  RESEARCH LEADING TO CANDIDACY (VAR: 3–9)
Topics in Spanish and Latin American Literary theory and Spanish Linguistics. To be taken after a student has completed departmental course requirements for the Masters, and before being admitted to candidacy. Instructor(s): Staff

SPAN 702 (S)  RESEARCH LEADING TO CANDIDACY (VAR: 3–9)
To be taken after a student has completed departmental course requirements for the Master’s degree, but before being admitted to candidacy. Instructor(s): Staff

SPAN 800 (F)  SUMMER THESIS RESEARCH (1)
Research and thesis. Taken after a student has been approved for candidacy. Can be repeated for credit. Instructor(s): Staff

SPAN 801 (F)  RESEARCH AND THESIS (3)
Research for the M.A. thesis. Taken after approval for candidacy. Can be repeated for credit. Instructor(s): Staff

SPAN 802 (S)  RESEARCH FOR M.A. (3)
Research for the M.A. thesis. Taken after approval for candidacy. Can be repeated for credit. Instructor(s): Staff

(#) = credit hours per semester
STAT (Statistics)

The George R. Brown School of Engineering

STAT 100 (S)  DATA, MODELS, AND REALITY: AN INTRO TO THE SCIENTIFIC METHOD (3)
The formation of models of reality and the ways models are tested by their analysis in the light of data are considered. We cover a variety of examples from antiquity to the present time. The class will be held in Symonds I Computing Lab on the second floor of the library. Instructor(s): J.R. Thompson

STAT 280  ELEMENTARY APPLIED STATISTICS (4)
A noncalculus introduction to statistical methods with emphasis on techniques. Includes computer laboratory. Instructor(s): Ott (F), TBA (S)

STAT 300 (F)  MODEL BUILDING (3)
Examples to illustrate mathematical and statistical formulation (modeling) of scientific problems, their solution and interpretation. Instructor(s): TBA

STAT 305 (F)  INTRODUCTION TO STATISTICS FOR BIOSCIENCES (4)
An introduction to statistics for Biosciences with emphasis on statistical models and data analysis techniques. Computer-assisted data analysis, including biological examples, is explored in laboratory sessions. Instructor(s): Guerra

STAT 310  PROBABILITY & STATISTICS (3)
Probability theory and the central concepts and methods of statistics. Also listed as ECON 382. Instructor(s): Rojo (F), Scott (S)

STAT 331 (F)  APPLIED PROBABILITY (3)
Elementary probability theory, conditional probability, independence, discrete and continuous random variables, expectation, standard discrete and continuous distributions, transform techniques, central limit theorems, estimation, and correlation. Selected topics such as the Poisson process, Markov chains, and statistical techniques. Illustrations from engineering. Also listed as ELEC 331. Instructor(s): Olofsson

STAT 339 (S)  STATISTICAL METHODS-PSYCHOLOGY (4)
Also listed as PSYCH 339.

STAT 385 (S)  METHODS FOR DATA ANALYSIS AND SYSTEM OPTIMIZATION (4)
The three general topic areas covered in this methodology oriented course are statistical methods including regression, sampling, and experimental design; simulation based methods in statistics, queuing and inventory problems; and an introduction to optimization methods. Excel will serve as the basic computing software. Prerequisite(s): STAT 280 or 305 or equivalent. Instructor(s): Wojciechowski

STAT 400 (F)  ECONOMETRICS (3)
Also listed as ECON 400.

STAT 410 (F)  INTRO TO REGRESSION AND STATISTICAL COMPUTING (3)
A survey of statistical methods with emphasis on computing and computing environments, focusing on applied regression and experimental design. Instructor(s): Wojciechowski

(F) = Fall; (S) = Spring
STAT 421 (S)  COMPUTATIONAL FINANCE II: TIME SERIES ANALYSIS (3)
Applied time series modeling and forecasting, with applications to financial markets. Prerequisite(s): STAT 310. Instructor(s): Ensor

STAT 422 (S)  BAYESIAN DATA ANALYSIS (3)
This course will cover Bayesian methods for analyzing data. The emphasis will be on applied data analysis rather than theoretical development. We will consider a variety of models, including linear regression, hierarchical models, and models for categorical data. Prerequisite(s): STAT 410. Not offered 2003–04. Instructor(s): Rosner

STAT 431 (F)  OVERVIEW OF MATHEMATICAL STATISTICS (3)
Topics include random variables, distributions, transformations, moment generating functions, common families of distributions, independence, sampling distributions, the basics of estimation theory, hypothesis testing and Bayesian inference. Prerequisite(s): STAT 310. Instructor(s): Ensor

STAT 450 (S)  PRACTICUM IN STATISTICAL MODELING (2)
This course introduces current theoretical and applied problems encountered in statistical practice. The content changes each semester in response to contemporary topics. Instructor(s): Baggett

STAT 453 (S)  BIOSTATISTICS, STATISTICAL GENETICS, AND BIOINFORMATICS (3)
An overview of methodologies used in Biostatistics, Statistica Geneticsl, and Bioinformatics. Instructor(s): Hess, Kimmel

STAT 486 (F)  COMPUTATIONAL FINANCE I: MARKET MODELS (3)
This course takes the classical efficient market models and superimposes upon it models for other stochastic phenomena not generally accounted for in efficient market theory. Showing how risk can be lessened by portfolios and other mechanisms. It discusses reasons why the Black-Scholes option pricing model is fragile to departures from efficient market theory. The course is oriented toward using computer simulations as an alternative to closed form solutions. Prerequisite(s): STAT 305, 310 or near equivalent. Instructor(s): J. R. Thompson

STAT 490 (F)  INDEPENDENT STUDY (3)

STAT 491 (S)  INDEPENDENT STUDY (3)

STAT 495 (F)  INTRODUCTION TO STATISTICS (3)
Also listed as POLI 495

STAT 503 (F)  TOPICS IN METH & DATA ANALYSIS (3)
See POLI 503 schedule.

STAT 509 (F)  ADV PSYCHOLOGICAL STATISTICS I (3)
Also listed as PSYCH 502

STAT 510 (F)  ADV PSYCHOLOGICAL STATISTICS II (3)
See PSYCH 503 for schedule.

STAT 532 (S)  MATHEMATICAL STATISTICS I (3)
The first semester in a two-semester course in mathematical statistics: random variables and their distributions, small and large sample theorems of hypothesis testing, point estimation, and confidence intervals; topics such as exponential families, univariate and multivariate linear models, and nonparametric inference will also be discussed. Required for graduate students in statistics. Prerequisite(s): STAT 581 and STAT 431 or permission of instructor. Instructor(s): Cox

STAT 533 (F)  MATHEMATICAL STATISTICS II (3)
A continuation of STAT 532. Required for Ph.D. students in statistics. Prerequisite(s): STAT 582 and STAT 532. Instructor(s): Rojo

(#) = credit hours per semester
STAT 540 (S) PRACTICUM IN STATISTICAL MODELING (3)
This course introduces current theoretical and applied problems encountered in statistical practice. The content changes each semester in response to contemporary topics. Designed for graduate students in statistics. Instructor(s): Baggett

STAT 541 MULTIVARIATE ANALYSIS (3)

STAT 542 (S) SIMULATION (3)
Topics in stochastic simulation including: random number generators; Monte Carlo methods, resampling methods, Markov Chain Monte Carlo, importance sampling and simulation based estimation for stochastic processes. Instructor(s): J. Thompson, Mueller

STAT 545 (F) GENERALIZED LINEAR MODELS & CATEGORICAL DATA ANALYSIS (3)
Instructor(s): TBA

STAT 546 DESIGN & ANALYSIS OF EXPERIMENTS AND SAMPLING THEORY (3)
Not offered 2003–04.

STAT 547 SURVIVAL ANALYSIS (3)
Not offered 2003–04.

STAT 550 (F) NONPARAMETRIC FUNCTION ESTIMATION (3)
Survey of topics in data analysis including data visualization, multivariate density estimation, and nonparametric regression. Advanced applications will include clustering, discrimination, dimension reduction, and bump-hunting using nonparametric density procedures. Instructor(s): D. Scott

STAT 551 ADVANCED TOPICS IN TIME SERIES (3)
The course will cover current topics in both modeling and forecasting discrete and continuous time series. A brief coverage will also be given to spatial and spatial-temporal processes. Emphasis will be placed on applications in the area of computational finance. Not offered 2003–04.

STAT 552 (F) APPLIED STOCHASTIC PROCESSES (3)
Instructor(s): Reidi

STAT 553 (S) BIOSTATISTICS (3)
Same as STAT 453 with advanced problem sets. Instructor(s): Hess, Kimmel

STAT 555 STOCHASTIC MODELS IN GENETICS (3)
Not offered 2003–04.

STAT 557 BAYESIAN FOUNDATIONS OF STATISTICAL INFERENCE (3)
The basic theory and philosophy of the Bayesian approach to Statistics will be presented along with some comparison with other approaches. Much of the course will be spent on specific applications with an emphasis on recent developments in computational methods. Not offered 2003–04.

STAT 581 (F) MATHEMATICAL PROBABILITY I (3)
Measure-theoretic foundations of probability. Open to qualified undergraduates. Also listed as CAAM 581. Instructor(s): Olofsson

STAT 582 (S) MATHEMATICAL PROBABILITY II (3)
Continuation of STAT 581. Instructor(s): Olofsson

(F) = Fall; (S) = Spring
STAT 583 (F)  INTRO RANDOM PROCESSES & APPL (3)
Also listed as ELEC 533

STAT 586 (F)  WAVELET AND SPECTRAL ANALYSIS (3)
See ELEC 532.

STAT 590 (F)  INDEPENDENT STUDY (3)

STAT 591 (S)  INDEPENDENT STUDY (3)

STAT 600  GRADUATE SEMINAR IN STATISTICS (3)
_Instructor(s): Olofsson (F), Kimmel (F), Riedi (S), D. Scott (S)_

STAT 604 (F)  ADVANCED ECONOMIC STATISTICS (5)
Also listed as ECON 504.

STAT 610 (F)  ECONOMETRICS I (5)
See ECON 510 for schedule.

STAT 611 (F)  ECONOMETRICS II (5)
Also listed as ECON 511. STAT 620 through Stat 689 are seminars on advanced topics in Statistics. Recent topics include: cluster analysis and pattern recognition, spatial processes, stochastic models in genetics, market models, branching processes, population dynamics, topics in probability, Bayesian Statistics, robust methods, topics in clinical trials, data mining and statistical learning, statistical methods in bioinformatics, statistical genetics, topics in biometry, nonparametric bayesian data analysis, group representation in probability and statistics. Intro to theory of semigroups of linear operators.

STAT 630  TOPICS IN CLINICAL TRIALS (3)

STAT 670  STATISTICAL GENETICS (3)
_Instructor(s): Guerra_

STAT 685  QUANTITATIVE ENVIRONMENTAL DECISION MAKING (2)
A project based course in environmental decision making designed to compliment the quantitative techniques learned in STAT 385. Prerequisite(s): STAT 385 or permission of instructor. Enrollment limited. _Instructor(s): TBA_

STAT 688  DECISION THEORY WITH MEDICAL APPLICATIONS (VAR)
Statistical inference, decision theory, and simulation as applied to assist in making individual clinical decisions, policy recommendations, and as a guide to study design and research; topics include statistical decision theory, decision analysis, decision trees, markov models and simulation, cost-effectiveness analysis, meta-analysis, and sensitivity analysis. Grading will be based on regularly assigned homework exercises and term projects. Prereq: STAT 422 and STAT 410, or permission of instructor. _Instructor(s): Cox, Muller_

STAT 800  THESIS (3)
THE (Theatre)

The School of Humanities / Department of English

THEA 100 (F) STAGECRAFT (3)
Introduction to materials, tools, and standard theatre production techniques. Theory and practice of lighting equipment and controls, scenic building and painting techniques, creation of props, sound equipment, and the technical operation of the stage during production. Enrollment limited. Instructor(s): Foreman.

THEA 101 (S) STAGECRAFT II—EMPHASIS ON COSTUME (3)
Introduction to the materials, tools, and standard techniques of costume/clothing construction. Enrollment limited to 8. Instructor(s): Rigdon.

THEA 202 (S) STAGECRAFT III (3)

THEA 300 (F) INTRODUCTION TO THEATRE DESIGN (3)
Examination of the basic principles of scenic, lighting, and costume design, with emphasis on the principals and elements of design as they apply to theatre productions. Students will individually and in collaboration read and analyze a variety of plays in different styles, and then, based on text analysis, research, and concept statements, complete and present individual design projects in each of the three areas. Instructor(s): Rigdon.

THEA 301 ACTING I (3)
Introduction to the fundamentals of acting based on the techniques of Ute Hagen and Sanford Meisner. Instructor(s): Ramont, Rigdon.

THEA 302 (F) ACTING II (3)
Text analysis and scene study for the actor with a particular emphasis on a thorough investigation of given circumstances and dramatic action. Enrollment limited to 12. Prerequisite(s): THEA 301 or permission. Instructor(s): Ramont.

THEA 303 INTRODUCTION TO THEATRE (3)
A survey course of the art and theory of the theatre through an examination of dramatic literature from the Greeks through the modern era. The course will also explore the craft of the theatre as it is practiced today. Also listed as ENGL 390. Instructor(s): Ramont.

THEA 304 (S) COSTUME DESIGN (3)
Advanced examination of the principles of costume design through the analysis of character and relationships. Students will read and analyze a variety of plays in different periods and styles and then, based on text analysis and research, complete and present design projects using different rendering techniques. The role of the costume designer in collaboration with directors, actors, and other designers will also be explored. Prerequisite(s): THEA 300. Not offered 2003–04. Instructor(s): Rigdon.

THEA 305 (S) LIGHTING DESIGN (3)
Study of the role that lighting plays in a production and the lighting designer’s place as an artist in the collaboration process with emphasis on the practical application of the controllable properties of light as they apply to theatre. Students will be required to complete a variety of projects including unrealized designs based on reading and analyzing plays, light labs based on responding to music, and collaboration with Rice Dance Theatre on the Spring production. Prerequisite(s): THEA 300. Instructor(s): Rigdon.

(F) = Fall; (S) = Spring
THEA 306 (S)  SCENIC DESIGN (3)
Advanced examination of the principles of scenic design including research, rendering, technical
drawing, model construction, text analysis and the role of the scenic designer in collaboration with
directors, actors, and other designers. Students will read and analyze a variety of plays in different
periods and styles, and then, based on text analysis and research, complete and present design
projects. Prerequisite(s): THEA 300. Instructor(s): Rigdon

THEA 307 (F)  HISTORY OF ARCHITECTURE, INTERIORS, AND
CLOTHING FOR THEATRE DESIGNERS (3)
Survey of the major period styles of buildings, furnishings, and clothing from ancient Egypt through
the 20th century including a critical analysis of the interdependent nature of the evolution of design
and the relationship to the cultures in which they were created. Not offered 2003–04. Instructor(s):
Rigdon

THEA 310 (F)  ACTING III: THE SPOKEN TEXT (3)
An exploration of language as one of the actor’s primary means of communication and expression.
The student will analyze, rehearse and perform sonnets, soliloquies and scenes from the work of
William Shakespeare. Enrollment limited to 12. Prerequisite(s): THEA 301 or permission.
Instructor(s): Ramont.

THEA 311 (S)  ACTING IV (3)
A scene study course designed to expose the advanced acting student to the challenges of tackling
the master playwrights. Students will rehearse and perform scenes from the works of the Greeks,
Ibsen, O’Neill, and others. Prerequisite(s): THEA 301, 302, and 310 or permission. Instructor(s):
Ramont.

THEA 312 (F)  DIRECTING I (3)
An introductory course exploring the tools and craft of the stage director. Students will learn how
to analyze dramatic text and will gain a fundamental knowledge of the director’s basic skills,
including composition, picturization, movement, rhythm, and pantomimic dramatization. Enroll-
ment limited to 10. Prerequisite(s): THEA 303 or permission. Instructor(s): Ramont.

THEA 321 (F)  HISTORY OF THEATRE (3)
Chronological survey and comprehensive exploration of theatre as a socio-cultural institution from
a historical perspective. Students will research the characteristic practices of theatre and the
philosophical, cultural, political, and societal forces that changed those practices from its origin as
ancient tribal ritual to the 21st century multimedia production. Not offered 2003–04. Instructor(s):
Rigdon

THEA 329  SPECIAL PROBLEMS: TECHNICAL, PRODUCTION (3)
Independent study. Instructor(s): Rigdon

THEA 330 (F)  CONTEMPORARY DRAMATIC LITERATURE (3)
In this course we will examine contemporary American plays that have had a significant impact on
theatrical form or that are highly reflective of contemporary society. Playwrights whose work will
be studied will include Mamet, Guare, Lucas, Wilson and many others. Also listed as ENGL 392.
Not offered in 2003–04. Instructor(s): Ramont, Huston

THEA 431  SPECIAL PROBLEMS: HISTORY, LITERATURE (3)
Independent study. Instructor(s): Ramont, Rigdon

THEA 432  SPECIAL PROBLEMS: DESIGN, DIRECTING (3)
Independent study. Instructor(s): Ramont, Rigdon

THEA 435  SPECIAL PROBLEMS: ADVANCED TOPICS (3)
Independent study. Instructor(s): Ramont, Rigdon

(##) = credit hours per semester
TIBT (Tibetan)

The School of Humanities / Center for the Study of Languages

TIBT 132 (F)  TIBETAN LANGUAGE & CULTURE I (5)
Readings in Tibetan Bon and Buddhist religious texts. Also listed as RELI 132. Instructor(s): Gray, Klein

TIBT 133 (F)  INTRODUCTION TO TIBETAN LANGUAGE & CULTURE II (5)
Continuation of first seminar. We begin by learning the Tibetan alphabet, pronunciation, and then start reading Buddhist texts. Permission of instructor required. Also listed as RELI 133. Instructor(s): Gray, Klein

TIBT 331 (F)  ADV TIBETAN LANG & CULTURE (5)
Building upon the foundation of RELI 132 and 133, this course further develops language skills through reading and engagement with a wider range of Tibetan religious and historical literature. This course also explores the history and special features of Tibetan cultures, and encourages conversational ability in modern Tibetan. Also listed as RELI 331. Instructor(s): Klein, Gray

UNIV (University Courses)

Office of the Provost / Center for the Study of Languages

UNIV 111 (F)  THE SUSTAINABLE ENVIRONMENT (3)
Open only to freshman. Enrollment limited to 15. Also offered as ENST 101. Instructor(s): Isle, Sass

UNIV 116 (S)  ISSUES IN ENERGY (3)
Energy lies at the heart of this century’s humanitarian problems: energy is central to improved quality of life, economic, social, geopolitical, and environmental development. Prospects of forward looking and long-term solutions to abundance, cheap, efficient, safe, and clean energy will require major scientific and technological leaps. Using critical analysis and creative thinking, students will be asked to address real world energy problems using chemistry, physics, and engineering concepts as basis of their reflection. Moreover, it will examine the social and economical nature of the energy problems in the context of sustainable environment. The course will emphasize active participation of students to address ill-structured problems which mirrors real-world problems in energy. Enrollment limited to 15. Instructor(s): Smalley

UNIV 201 (S)  CENTURY SCHOLARS PROGRAM (1)
Instructor(s): Staff

UNIV 303 (S)  ENVIRONMENTAL ISSUES: RICE INTO THE FUTURE (3)
This course addresses science, technology, and policy elements of environmental issues. Students use the campus and local community as a laboratory in which to do projects to reduce environmental impacts, enhance sustainability, or resolve environmental problems. Also offered as ENST 302. Instructor(s): Harcombe, Ostdiek

(F) = Fall; (S) = Spring
UNIV 309 (F)  CREATING & MANAGING CHANGE: PRINCIPLES (3)
This course is the first in the current Leadership Rice sequence and is a prerequisite for applying to the Summer Mentorship Experience. It is currently only offered in the fall semester. Taught by Dr. Susan Lieberman and leaders across the disciplines, it introduces students to leadership issues. George Martinez, a Rice graduate who is Chairman of Sterling Bank and President of Chrysalis Partners, leads a series of seminars on how to create and sustain a powerful team, lessons which are put to work as students apply the concepts from the class to the major class assignment: a team project. Tuesdays are lecture/discussion format and Thursday class time is for team meetings. Instructor(s): Lieberman

UNIV 310 (F)  CREATING & MANAGING CHANGE: ENTREPRENEUR (1)
Prerequisite(s): permission of instructor. Instructor(s): Staff

UNIV 311 (S)  CREATIVITY SEMINAR (1)
The purpose of this seminar is to deepen our understanding of the creative process and to explore ways in which individuals can mine their own creative capacity. Through reading, class exercises, discussions and individual assignments, the goal is that each participant will discover some ways that help him or her be more creative in whatever is of importance to that person. Students from all years and all disciplines are welcome. In addition to weekly assignments, which are designed to take no more than one hour, you will be asked to design a creative project that grows from your own interests and to develop it during the semester. You will present the project and reflect on the process in the context of what was discussed in the class during the final sessions. Instructor(s): Lieberman

UNIV 313 (S)  ENTREPRENEURIAL LEADERSHIP (1)
This course is a continuation of the Leadership Rice’s UNIV 310, section 2, and is only open to students in Leadership Rice. It involves a few practical challenges. Students will develop the program rules for Leadership Rice’s KEIP Start-up Grant; work with Leadership Rice staff to identify new start-up mentorships; and develop a business plan, not for their own business but for a Leadership Rice business that can help support continuation of KEIP and develop entrepreneurial skills in other Rice students. Instructor(s): TBA

UNIV 321 (F)  CROSS-CULTURAL AWARENESS: CULTURES OF THE UNITED STATES (1)
A one-credit, satisfactory/unsatisfactory course open to all students. The course explores the diversity of American cultures, analyzes intercultural interactions, and investigates cultures’ influence on behavior. Students will identify their own cultural constructedness and apply what they learn to real-world situations. Instructor(s): Gaug

UNIV 323 (S)  CROSS-CULTURAL AWARENESS: RICE INTERNATIONAL (1)
A one-credit, satisfactory/unsatisfactory course that meets for five weeks. The course is open to all students who have spent a significant time in at least two cultures and will address the experiences and challenges that living abroad inevitably generates. It is especially intended for students who have spent substantive time outside their home culture, including international students. Instructor(s): Gaug

(#) = credit hours per semester
WGST 101 (F)  INTRO STUDY WOMEN & GENDER (3)
Introduction to the Study of Women and Gender. An introductory survey of issues in the study of women, including women’s social, political, and legal status in the United States and around the world; feminist perspectives on sexuality, gender, family, and reproduction; and the implications of these perspectives for social and critical theory. Instructor(s): Shehabuddin

WGST 201 (S)  INTRO TO LGBT STUDIES (3)
Introduction to Lesbian, Gay, Bisexual, and Transgender Studies. This course is an introduction to the interdisciplinary examination of sexual desires, sexual orientations, and the concept of sexuality generally, with a particular focus on the construction of lesbian, gay, bisexual, and transgender identities. The course will look specifically at how these identities interact with other human phenomena such as government, family, popular culture, scientific inquiry, and especially gender. In exploring sexual diversity, we will highlight the complexity and variability of sexualities both across different historical periods, and in relation to identities of race, class, ethnicity, and nation. Not offered 2003–04. Instructor(s): Huffer

WGST 205 (S)  LANGUAGE & SOCIETY (3)
This course treats language as a social phenomenon to show how language, personal identity and institutions of social control inter-relate. The course focuses on linguistic interaction in daily life and how gender, ethnic, class, activity and geographic variation affect language use. Also offered as LING 205. Instructor(s): Niedzielski.

WGST 210  ISLAM & POLITICS (3)
This course examines the multiple ways in which a common language, Islam, is used by individuals and social movements in varied settings to achieve their political goals. Thus we explore not only the phenomenon commonly referred to as “political Islam,” “Islamic fundamentalism,” “radical Islamism,” “Islamic militancy,” or “Islamic revivalism,” but also the interaction between Islam and the political behavior of ordinary Muslim men and women who are not involved in organized movements. We examine Islam and politics in a variety of contexts: in Asia, the Middle East, Africa, Europe, and North America; in democracies and monarchies; in homogeneous and multi-ethnic societies; in wealthy as well as poor nations; and in Islamic, Muslim, and secular states. Not offered 2003–04. Instructor(s): Shehabuddin

WGST 225 (F)  WOMEN IN GREECE & ROME (3)
Survey of the depiction of women in Greek and Roman mythology, literature, and art. Includes a study of the lives of Greek and Roman women as evidenced by archaeological as well as literary materials. Also offered as CLAS 225. Instructor(s): Wallace

WGST 234 (F)  U.S. WOMEN’S HISTORY I (3)
U.S. Women’s History: Colonial Beginnings to the Civil War. This survey of American women’s history examines the lives of elite, working, black, Indian, and white women, and traces changes in women’s legal, political, and economic status from the mid-17th century through the Civil War. Readings emphasize women’s engagement with Revolutionary politics, slavery, divorce law, temperance agitation, and the origins of American feminism. Offered with additional work as HIST 391. Also offered as HIST 241. Not offered 2003–04. Instructor(s): Sneider
COURSES OF INSTRUCTION

WGST 235 (S)  U.S. WOMEN’S HISTORY II (3)
U.S. Women’s History: Civil War to the Present. Continuation of HIST 241. This survey of American women’s history examines the ways that diverse groups of women—including black, Asian American, Chicana, native American and white women of the elite, middle, and working classes—have experienced, forged, and clashed in the related projects of defining American culture, democracy, and freedom. Readings emphasize women’s engagement in organized struggles for economic, political, and social justice including suffrage, anti-lynching, welfare, birth control, and the modern civil rights and feminist movements. Offered with additional work as HIST 392. Also offered as HIST 242. Not offered 2003–04. Instructor(s): Sneider

WGST 240 (S)  GENDER & POLITICIZED RELIGION (3)
This course examines the emergence of religion-based politics in various Asian countries—particularly Hindu and Muslim—focusing on the women participants in these movements as well as the movements’ concern with gender roles in society. We will investigate, for instance, the extent to which women participants have been willing or able to reshape the central ideas of such movements. Also offered as ASIA 240. Instructor(s): Shehabuddin

WGST 250  INTERNATL POLIT ECON OF GENDER (3)
International Political Economy of Gender. This course explores how international and domestic policies and economic processes shape women’s lives, and will examine the implications of power relations within the home, within nations, and between nations, for women’s lives in different parts of the world and at different points in history. It looks at similarities and differences in women’s experiences across different contexts with such global processes as the sexual division of labor, colonialism, capitalism, domestic service, and slavery. Throughout the course, particular attention is paid to how women, as individuals and in organized groups, have sought to resist oppressive global processes. Films, literature, and scholarly works will be used to explore the subject. Also offered as POLI 250. Not offered 2003–04. Instructor(s): Shehabuddin

WGST 283  WOMEN IN MODERN ISLAMIC WORLD (3)
This course introduces students to the history of women in the Islamic world. Topics include women and law, family relations, work, women as political actors in Islamic history, the harem as a social and political institution, women as property owners, veiling, and modern feminist movements throughout the Islamic world. Also offered as HIST 283. Not offered 2003–04. Instructor(s): Sanders

WGST 300  MEDIEVAL WOMEN WRITERS (3)
This course will examine the most significant medieval European women authors from the 10th through the 17th centuries, from Italy and Germany to France, England, Austria, and Spain. Using a variety of techniques and media—feminist and gender theory, reader-response theory, staging and performance, films, recordings, slides, journal entries and personal criticism, etc.—to access their work, we will combine close reading with a focus on intertextuality. All works will be read in translation. Also offered as ENGL 311 and MDST 300. Not offered 2003–04. Instructor(s): Chance

WGST 301  ARTHURIAN LITERATURE (3)
A survey of the origins and development of the Arthurian legend from the earliest chronicles in the sixth century and later medieval French, Welsh, Irish, and English Arthurian poems to modern adaptations of Arthurian material including films. Also offered as ENGL 317 and MDST 317. Not offered in 2003–04. Instructor(s): Chance

WGST 303 (S)  WOMEN’S STORIES & LEGAL CHANGE (3)
This course will consider how narratives move us toward individual responsibility and social action. We will examine this question with reference to feminist legal theory, as well as some philosophical works on the powers of storytelling. Narratives we will read include published literary fiction by woman authors but also selected legal cases. Instructor(s): Westphal

WGST 305  CHAUCER (3)
Focus will be primarily on The Canterbury Tales, this philosophical and material culture, and their dramatic and literary potential. Also offered as ENGL 316 and MDST 316. Not offered 2003–04. Instructor(s): Chance

(#) = credit hours per semester
WGST 312  SURVEY OF OLD ENGLISH LIT (3)
Survey of Old English Literature: Gender and Power in Old English. Readings of poems and prose about Old English women, in translation, including The Wife’s Lament, Wulf and Eadwacer, Beowulf, Juliana, Elena, Judith, Genesis B, the Advent Lyrics on the Virgin, and materials from chronicle, myth, and legend (for example, on the Amazons, Circe, and Eurydice). Also offered as ENGL 312 and MDST 312. Not offered 2003–04. Instructor(s): Chance

WGST 317 (F)  MAP GERM CUL: WOMEN & NATL SOCIALISM (3)
Mapping German Culture: Women and National Socialism. Through a variety of readings (fiction and nonfiction), film viewings (documentaries and feature films), and classroom discussions, this course will introduce participants to the Nazi idea of “womanhood” and the actual roles women played during National Socialism. The spectrum ranges from various kinds of female perpetrators (e.g., convinced party members, brutal concentration camp Kapos) to Mitlaufer (fellow-travelers of the Nazi ideology), to a multiplicity of victims (due to their race, their sexual orientation, or their political or religious views), and to resistance fighters. Taught in English. For students of German (at the minimal proficiency level intermediate-mid), an additional German reading/discussion hour for credit can be arranged. Enrollment limited to 25. Also offered as GERM 327. Instructor(s): Kecht

WGST 323 (F)  THE KNOWING BODY (3)
The Knowing Body: Buddhism, Gender, and the Social World. Western thought tends to regard mind and body dualistically, a view with significant impact on religious, cultural, gender, and social processes. This course juxtaposes received Western assumptions with Buddhist perspectives (especially Tibetan Buddhist), mapping Western and Buddhist categories onto each other to better understand the implications of each. Also offered as ASIA 323, RELI 323, and SOCI 323. Not offered 2003–04. Instructors: Klein, Long

WGST 324 (F)  SOCIOLOGY OF GENDER (3)
Relationship between gender and social role. Development of the contemporary sexual division of labor and process of socialization with reference to family, education, media, and occupations. Enrollment limited to 55. Also offered as SOCI 306. Instructor(s): Long

WGST 325F)  SOCIOLOGY OF THE FAMILY (3)
This course is intended to educate students about the important structures, issues, and dimensions of American family life. As a sociologist and demographer, my goal is to teach you to use sociological perspective when studying families. We will consider many family behaviors, such as love and sex, marriage and cohabitation, divorce, parenting, family structure, gay and lesbian families, domestic violence and sexual abuse, parent-child relationships, household labor and division of family tasks, and family decision-making. In addition to thinking about individuals in families, we will examine the role of society in shaping family norms, the relationships between family and economy, and government family policy. Enrollment limited to 30. Also offered as SOCI 334. Instructor(s): Heard

WGST 327  20TH-CENTURY WOMEN WRITERS (3)
Topics vary from year to year. Past topics include “Sex, Gender, and Modernism.” For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 380. Instructor(s): Lamos

WGST 328  LATIN AMERICAN GENDERS (3)
Although Latin America is a collection of extraordinarily diverse cultures, ranging from modern urban societies to Indian peasant villages, many people assume the region shares a simple and easily identifiable set of gender relations. Male dominance is supposedly demonstrated by the wide embrace of “machismo.” A close historical examination of Latin America however, reveals a far more complicated and nuanced set of relations between the sexes. Also offered as HIST 328. Not offered 2003–04. Instructor(s): Wolfe

WGST 329  LIT & CULTURE OF AMER WEST (3)
Also offered as ENGL 369. Not offered 2003–04. Instructor(s): Comer

(F) = Fall; (S) = Spring
WGST 331  PSYCHOLOGY OF GENDER (3)
Overview of research and theory on gender in psychology. Also offered as PSYC 331. Not offered 2003–04. Instructor(s): Hebl

WGST 332 (F)  SEX, SELF, & SOC ANCIENT GREECE (3)
Sex. Self, and Society in Ancient Greece. An introductory venture into conducting fieldwork in the past. The course treats a wide range of artifacts, from philosophical essays to vase paintings. It derives its focus from a rich corpus of recent research into the ancient problemization of desire and self-control. Also offered as ANTH 325. Not offered 2003–04. Instructor(s): Faubion

WGST 333 (S)  MASCULINITIES (3)
This course deals with masculinities in the West, concentrating on concepts of masculine protagonism and personhood. Readings explore identities constructed in realms such as law, politics, finances, art, the home, and war. Also offered as ANTH 311. Not offered 2003–04. Instructor(s): Taylor

WGST 335 (S)  THE LIFE CYCLE: A BIOCULTURAL VIEW (3)
The human life cycle from conception to death. Focus is on the interaction between biological processes and culture. Also offered as ANTH 388. Not offered 2003–04. Instructor(s): Georges

WGST 336 (S)  HISTORY AS A CULTURAL MYTH (3)
Explores ideas of history and attitudes toward the past as culturally conditioned phenomena. Emphasizes history as a statement of cultural values as well as conceptualizations of cause, change, time, and reality. Also offered as ANTH 308. Not offered 2003–04. Instructor(s): Taylor

WGST 337  FEMINIST ISSUES (3)
Also offered as ENGL 383. Not offered 2003–04. Instructor(s): Comer, Skura

WGST 338  SEXUALITY IN EARLY MODERN EUROPE (3)
Exploration of the relationship between ideas about gender and the social, political, and legal institutions in Europe from c. 1350 to 1800. Includes the structure and role of the family, gender roles in religious institutions, and the regulation of sexuality. Also offered as HIST 363. Not offered 2003–04. Instructor(s): Quillen

WGST 339 (F)  FEMINIST PHILOSOPHY (3)
This course is an introduction to feminist philosophy, including texts by both historical and contemporary thinkers (e.g., Wollstonecraft, Mill, de Beauvoir, MacKinnon, Gilligan, Irigaray). We shall discuss both feminists’ radical critiques of traditional values and beliefs, and feminist alternative views of justice, ethical judgment, and truth. Also offered as PHIL 319. Not offered 2003–04. Instructor(s): Zuckert

WGST 340 (F)  GENDER & POLITICIZED RELIGION (3)
Enriched version of WGST 240. This course examines the emergence of religion-based politics in various Asian countries—particularly Hindu and Muslim—focusing on the women participants in these movements as well as the movements’ concern with gender roles in society. We will investigate, for instance, the extent to which women participants have been willing or able to reshape the central ideas of such movements. Also offered as ASIA 340. Instructor(s): Shehabuddin

WGST 341  GENDER & POLITICS (3)
Examination of politics through the lens of gender hierarchy. Emphasis on how the constructions of masculinity and femininity shape and are shaped by interacting economic, political, and ideological practices. Enrollment limited to 30. Also offered as POLI 341. Not offered 2003–04. Instructor(s): Branton

WGST 349  SURVEY OF BRIT WOMEN WRITERS (3)

(#) = credit hours per semester
**WGST 350** (S) **GENDER & SYMBOLISM (3)**
Examinations of beliefs concerning men, women, and gender in different cultures, including the West, relating to issues of symbolism, power, and the distribution of cultural models. Also offered as ANTH 327. **Instructor(s): Taylor**

**WGST 358** **MAP GERM CUL: EURO WOMEN FILM (3)**
Mapping German Culture: European Women Filmmakers. Filmmaking has celebrated its first hundred years. Women’s contributions were significant and deserve to widen the film canon for all filmgoers. The course will concentrate on films by European women directors, taking into account historical pioneering, cultural identities, aesthetic particularities, gender commitment, subject orientations and post-feminist attempts. Importance will also be given to the contexts and conditions of women’s film production. All films are subtitled in English. Taught in English with possible FLAC section. Also offered as GERM 321. Not offered 2003–04. **Instructor(s): Eifler**

**WGST 365** (F) **GENDER, SUBJ, & HIST OF PHOTO (3)**
Gender, Subjectivity, and the History of Photography. This course will examine a range of subjects within the history, theory, and criticism of photography, including the relationship between commodification, eroticism, and the objectification of the body; and the intersecting issues of mechanical reproduction, authorship, and authenticity in modern and postmodern discourses. Also offered as HART 365. **Instructor(s): Brennan**

**WGST 367** **AMERICAN ECOFEMINISM (3)**
Also offered as ENGL 367. Not offered 2003–04. **Instructor(s): Comer**

**WGST 368** **MYTHOLOGIES (3)**
This interdisciplinary course will introduce students to a variety of world mythologies and mythmakers, from the beginnings to the modern period. Designed to explore the relationship between a culture and its myths as expressed in specific literary and religious works, Offers a means of understanding cultural differences as well as the fundamental topics of human desire and aspiration (creation and birth, the purpose of life, heroic struggle against nature and death, the hope for rebirth, etc.) Included mythologies: Babylonian, Sumerian, Hindu, Egyptian, Greek, Roman, Irish, Welsh, Old Norse, Anglo-Saxon, Finnish, Mayan, Hopi, modern (Borges, Philip Glass). Also offered as ENGL 309 and MDST 368. **Instructor(s): Chance**

**WGST 369** (F) **SEM ON BEAUTY & FRAG IN MOD ART (3)**
Seminar on Beauty and Fragmentation in Modern Art. This course will examine literal and symbolic representations of the body in modern American and European art. Topics addressed will include conceptions on beauty versus subjective fragmentation; the performance nature of social identity; and art history’s long-standing preoccupation with the sensuous equivalency of flesh and paint. Also offered as HART 369. **Instructor(s): Brennan**

**WGST 370** **SURVEY OF AFRICAN AMER LIT (3)**
This course traces, through various genres and themes, African American literary history from the late 18th century to the present. The course provides an overview of representations of African American identities. We will ask how the construction of identity shapes ideas about what it means to be African American. Texts include slave narratives, fiction, poetry, drama, and film. Attention is given to theories and critiques of African American literature and culture. Also offered as ENGL 370. **Instructor(s): Fultz**

**WGST 372** **SURVEY OF VICTORIAN FICTION (3)**
Survey of Victorian Fiction: The 19th-Century Novel. A survey of the many genres of the 19th-century novel, this course will try to come to terms with some of the insistent questions posed by and through the fiction of the period. We will read examples of gothic, industrial, realist, romance, and sensation novels focusing in many cases on their constructions of space, history, the body, domesticity, and public life. This year, we will be especially alert to tensions between privacy and publicity, to the ability of language to represent those tensions in the public forum of the novel, and to the workings of competing marriage, work, and detective plots. Also offered as ENGL 342. **Instructor(s): Michie**

(F) = Fall; (S) = Spring
WGST 381  U.S. WOMEN’S HISTORY I (3)
Enriched version of WGST 234. Students may not receive credit for both WGST 234 and WGST 381. Also offered as HIST 391. Not offered 2003–04. Instructor(s): Sneider

WGST 382  U.S. WOMEN’S HISTORY II (3)
Enriched version of WGST 235. Students may not receive credit for both WGST 235 and WGST 382. Also offered as HIST 392. Not offered 2003–04. Instructor(s): Sneider

WGST 387  CULTURAL STUDIES (3)
Topics vary from year to year. Past topics include “Mexican and Mexican-American Literature, 1848-1950” and “Race, Gender, and the Politics of Representation.” For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 387. Instructors: Aranda, Levander, Ostherr

WGST 388  GENERATION X IN LIT & CULTURE (3)
An interdisciplinary survey of Generation X in literature, music, film, and politics. Also offered as ENGL 389. Instructor(s): Comer

WGST 390 (F)  HISPANIC CINEMA (3)
This course examines the ways in which films in both Spain and Latin America have represented the political contexts of their countries. Focus is on the theme of power, and on the social and individual consequences of repressive regimes. Also offered as SPAN 390. Taught in Spanish. Prerequisite(s): Third-year Spanish or permission of the instructor. Instructor(s): González-Stephan

WGST 391 (S)  PRODUCING FEMINIST KNOWLEDGE (3)
Producing Feminist Knowledge: Methodology and Visual Culture. In this course we will examine various methodologies used by feminist scholars in the Social Sciences and the Humanities. Particular attention will be devoted to the practical application of feminist methodologies in visual culture and the history of art, as well as to the interdisciplinary feminist inquiries in science, ethnography, and epistemology. Also offered as HART 391. Enrollment limited to 10. Instructors: Brennan, Shehabuddin

WGST 399 (F)  WOMEN IN CHINESE LITERATURE (3)
This course examines women’s roles in Chinese literature as writers, readers, and characters, focusing particularly on the tension between women’s lived bodily experiences and the cultural experiences inscribed on the female body and how, in the process, women have contrarily gendered patriarchal culture into their own. It will also touch on Chinese women’s incorporation of the Western Tradition. Also offered as ASIA 399. Instructor(s): Qian

WGST 400  CONSTR IDENTITIES IN MOD FICT (3)
Constructing Identities in Modern Fiction. This course will explore the construction of racial, sexual, gendered, and ethnic identities in modern fiction, with a particular concern for the connections among identity, literary form, and social categories of meaning. Readings include Woolf, Colette, Duras, Carter, Djebar, Morrison, Winterson, Baraoui, and others. Not offered 2003–04. Instructor(s): Huffer

WGST 405  VICTORIAN STUDIES (3)
Topics vary from year to year. Past topics include “Austen Only.” For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 441. Instructors: Logan, Michie, Patten

(#) = credit hours per semester
WGST 406  CHRISTINE DE PIZAN (3)
Christine De Pizan in 15th-Century England. The Franco-Italian woman poet Christine de Pizan was translated into English during the 15th century along with other poems dealing with the subject of female experience and the female hero, such as Jean d’Arras’s “Melusene” and Boccaccio’s “Concerning Famous Women.” This seminar will examine these and other English poems about women as early as Chaucer’s Legend of Good Women and as late as the “Assembly of Ladies,” “Floure and the Leafe,” “The Assembly of Gods,” and Thomas Hoccleve’s “Letter of Cupid.” Also offered as ENGL 415 and MDST 406. Refer to course website at http://www.ruf.rice.edu/~jchance/christin.html. Not offered 2003–04. Instructor(s): Chance

WGST 407  FEMINIST LIT THEORY & CRITICISM (3)
Also offered as ENGL 481. Not offered 2003–04. Instructor(s): Staff

WGST 408  TOPICS IN LITERATURE (3)
Topics vary from year to year. Past topics include “Sex and Class in the British 18th Century.” For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 397. Instructor(s): Dietz, Ellenzweig

WGST 410  LIT & HIST IMAGE OF MED WOMAN (3)
The Literary and Historical Image of the Medieval Woman. Comparison and contrast of the presentation of the medieval woman in literature with extant evidence of historical women from contemporary documents and records. Also offered as FREN 410 and MDST 410. Not offered 2003–04. Instructor(s): Nelson-Campbell

WGST 412  WOMEN & WOMEN’S VOICES IN FRENCH LIT (3)
Women and Women’s Voices in French Literature. Examination of the ways in which women have been represented in fiction, by themselves and by others, since the early modern period. Includes Mme de Lafayette, Graffigny, Baudelaire, Sand, Villiers de l’Isle-Adam, Beauvoir, Duras, and Wittig, with emphasis on the constitution of the feminine in literary texts as a cultural, historical, and social artifact. Also offered as FREN 460. Not offered 2003–04. Instructor(s): Harter

WGST 415 (S)  SOCIOLINGUISTICS (3)
Topic: Issues of language and gender, race and class. The course will begin with an overview of contemporary sociolinguistic theory and methodologies. We will then examine the linguistic consequences to speakers of their membership in groups defined in terms of gender, race and class. Also offered as LING 415. Instructor(s): Niedzielski

WGST 420 (F)  WOMEN & GENDER 19TH CENT EUROPE (3)
Examination of the political and cultural discussions concerning the so-called “Woman Question” in 19th century Europe. Includes the role of public and private legal rights in republicanism and the early feminist movement, the reformulation of notions of gender equality in the context of 19th century socialist movements, and the challenges to gender identity posed by cultural modernism at the end of the century. Also offered as HIST 349. Instructor(s): Wildenthal

WGST 430  STUDIES IN LITERARY THEORY (3)
Topics vary from year to year. Past topics include “Queer Theory.” For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 499. Instructor(s): Lamos

WGST 432 (S)  ISLAM IN SOUTH ASIA (3)
Seminar on Islamic history, politics, and culture in the South Asian subcontinent. Topics will include emergence of Indian Muslim society; Muslim responses to colonialism and the movement for Pakistan; and the role of Islam in politics in contemporary India, Pakistan, and Bangladesh. Requires no prior knowledge of Islam or South Asia. Also offered as ASIA 432 and HIST 432. Not offered 2003–04. Instructor(s): Shehabuddin

(F) = Fall; (S) = Spring
WGST 434  FRENCH FEMINIST THEORY (3)
The purpose of this course is to gain a broad understanding of the important problems of contemporary feminist theories in French. We will focus on the interrelated issues of gender, sexuality, race, ethics, language, and power by exploring in depth primary texts in feminist theory. Readings (in English) will include Beauvoir, Irigaray, Djebar, and Brossard. This course specifically intends to expose the fundamentals of French feminist theory as they apply to the broader spectrum of contemporary feminist thought and philosophy. Course will be offered in translation. Also offered as FREN 434. Not offered 2003–04. Instructor(s): Huffer

WGST 440 (S)  WOMEN IN MUSIC (3)
Study of gender in music, including aesthetics and representation, and of the major roles women have assumed in music, especially as composers, performers and patrons. While the course emphasizes the western art tradition, other types of music are explored as well. Enrollment limited to 15. Also offered as MUSI 526. Instructor(s): Citron

WGST 441 (F)  HILDEGARD OF BINGEN (3)
The course examines the life and works of 12th-century polymath Hildegard of Bingen, including her achievements in music, poetry, religious thought, medicine, natural science, and linguistics. Enrollment limited to 15. Also offered as MUSI 724. Instructor(s): Meconi

WGST 442  WOMEN IN RUSSIAN LITERATURE I (3)
The portrayal of women in major works of Russian literature, with particular attention paid to the women writers’ presentation of women. No knowledge of Russian required. Also offered as RUSS 420. Not offered 2003–04. Instructor(s): Thompson

WGST 448 (S)  THE BODY IN VISUAL CULTURE (3)
Disease and Difference: The Body in Visual Culture. This course examines the history of visual representations of disease in photography, cinema, and digital media. We will consider how nationally, racially, and sexually marked bodies constitute an iconography of social and organic contamination. Topics include early cinema, colonialism, photography, eugenics, immigration, science fiction, and Internet viruses. Also offered as ENGL 458 and HART 486. Instructor(s): Ostherr

WGST 453  TOPICS IN AFRICAN AMERICAN LIT (3)
Topics vary from year to year. For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 470. Instructor(s): Fultz

WGST 455 (F)  MEDIEVAL ISLAM WOMEN & GENDER (3)
Women and Gender in the Medieval Islamic Societies. Examination of some features of the legal position and social realities of men and women in the Islamic world, with emphasis on how boundaries of gender have traditionally been drawn. Includes the family and sexual ethics, the harem, polygyny, divorce, and eunuchs (who played an important role in both the military and in certain religious institutions). Also offered as HIST 438 and MDST 438. Enrollment limited. Instructor(s): Sanders

WGST 460  FEMINIST SOCIAL THOUGHT (3)
Study of feminist theory as critique and reconstruction. Includes Wollstonecraft and de Beauvoir, as well as contemporary debates about equity, difference, knowledge, sexuality, and power. Also offered as SOCI 395. Not offered 2003–04. Instructor(s): Long

WGST 462  20TH–21ST-CENTURY AMER LIT STUDIES (3)
Topics vary from year to year. Past topics include “19th-Century American Literature: Sentiment and Slavery – U.S. Antebellum Fiction.” For current semester course listings, refer to the Registrar’s Office website at http://www.ruf.rice.edu/~reg/course/index.html. Different topics may be repeated for credit. Also offered as ENGL 462. Instructor(s): Lurie

(#) = credit hours per semester
WGST 468 SEX, POLITICS & POVERTY (3)
Women and the U.S. Welfare State: Sexual Politics and American Poverty. This seminar in the history of women and welfare focuses our attention on women’s contributions to the growth of the welfare state and investigates how welfare has been shaped by understandings of gender, race, and class. Comparing American programs for social provision to similar programs developed in other countries, and tracking the growth of the American welfare state through women’s efforts to address the problems of poverty and need in a variety of different contexts, the course will link women’s history to the history of the state. Also offered as HIST 468. Enrollment limited. Not offered 2003–04. Instructor(s): Sneider

WGST 477 (S) RACE, CLASS, & GNDR IN MEX ART (3)
Race, Class, and Gender in Mexican Art. The seminar will study representations of race, class, and gender in Mexican art from the 16th century to the present. The course will begin with the traumatic encounter of the Spanish and Mesoamerican cultures. Primary emphasis will be on 20th century art, especially on images created after the Mexican Revolution of 1910–20. Also offered as HART 477. Enrollment limited to 15. Instructor(s): Deffebach.

WGST 480 FEMINIST LITERARY THEORY (3)
Also offered as ENGL 382. Not offered 2003–04. Instructor(s): Lurie

WGST 482 PROBLEMS IN CONTEMP FEM THEORY (3)
Problems in Contemporary Feminist Theory. The purpose of this course is to gain a broad understanding of the important problems of contemporary feminist theory. We will focus on the interrelated issues of gender, sexuality, race, ethics, language, and power by exploring in depth primary texts in feminist theory. Prerequisite(s): WGST 101, 201, or permission of instructor. Not offered 2003–04. Instructor(s): Huffer

WGST 485 (F) GENDER & HOLLYWOOD IN 1950S (3)
Gender and Hollywood Cinema in the 1950s. This course examines representations of gendered subjectivity in Hollywood cinema during the 1950s. Some of the topics to be addressed include the uneasy relationship between normative domesticity and heterosexual masculinity, and issues of voyeurism, eroticism, the ongoing conflict between liberated individualism and social conformity in corporate culture and bourgeois society. Enrollment limited to 15. Also offered as HART 485. Instructor(s): Brennan

WGST 496 APPLIED WOMEN’S & GENDER STUDIES (VAR: 1–3)
Internships will be arranged individually at the request of students; details must be approved by the director. Students will also be required to submit a paper of between 8–15 pages (depending on the amount of credit) that demonstrates their ability to apply critically their knowledge of women’s and gender studies. Prerequisite(s): permission of SWG director. Instructor(s): Huffer

WGST 497 DIRECTED READING (VAR: 1–3)
Directed reading under the supervision of a SWG faculty member with permission of instructor. May count only once toward major requirements. Instructor(s): Staff

WGST 498 INDEPENDENT STUDY
Open to SWG majors only. Prerequisite(s): permission of instructor. Instructor(s): Staff

WGST 499 (F) RESEARCH STUDY WOMEN & GENDER
Research seminar for SWG seniors to fulfill capstone requirement. Open to SWG majors only. Instructor(s): Huffer

WGST 500 (S) RESEARCH STUDY WOMEN & GENDER
Research seminar for SWG seniors to fulfill capstone requirement. Open to SWG majors only. Instructor(s): Huffer

(F) = Fall; (S) = Spring
ADMINISTRATION AND STAFF

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1816 - 1900
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Dean of the George R. Brown School of Engineering .................. C. Sidney Burrus
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Dean of the School of Architecture ......................................... Lars Lerup
Dean of the Wiess School of Natural Sciences ......................... Kathleen S. Matthews
Dean of the School of Continuing Studies .............................. Mary B. McIntire
Dean of the School of Social Sciences .................................... Robert Stein
Dean of the Jesse H. Jones Graduate School of Management ........ Gilbert R. Whitaker, Jr.

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Enterprise Systems and Applications ............................................. Andrea Martin
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Housing and Dining ................................................................. Mark Ditman
Human Resources ........................................................................... Mary A. Cronin
Information Technology ................................................................... TBN
Institutional Research ................................................................. Leona Urbish
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International Students and Scholars ............................................. Adria Baker
Intramural and Club Sports ............................................................. Tina Villard
KTRU General Manager ............................................................... Will Robedee
Language Resource Center .......................................................... Claire Bartlett
Leadership Rice ............................................................................ Susan A. Lieberman
Media Relations and Information ................................................. Margot Dimond
Multicultural Affairs ........................................................................ Catherine E. Clack
Networking .................................................................................... William Deigaard
Payroll Office .................................................................................. Darlene Banning
Police Department (RUPD) ............................................................ Bill Taylor
President’s Office ............................................................................. Mark Scheid
Provost’s Office ............................................................................. Colleen Morimoto
Public Affairs .................................................................................... Roberta Kelley Henderson
Registrar’s Office ........................................................................... Jerry Montag
Research and Graduate Studies ..................................................... Debra Purtee
Scholarships and Fellowships ....................................................... Patricia Bass
Sponsored Research ......................................................................... Jean E. Vorhaben
Student Activities ............................................................................ Heather Masden
Student Affairs ................................................................................ John Hutchinson
Student and Recreation Center ....................................................... Boyd Beckwith
Student Financial Services ........................................................... Julia Benz
Student Health Services ............................................................... Mark Jenkins, M.D.
Student Judicial Programs ............................................................. Donald Ostdiek
Transportation Office ....................................................................... Eugen Radulescu
University Relations ......................................................................... Greg Marshall

College Masters

Baker College .............................................................. Mickey Quinones and Karin Dudziak
Brown College ................................................................. John and Paula Hutchinson
Hanszen College ............................................................... Klaus and Eugenia Weissenberger
Jones College ........................................................................... Robin Forman and Ann Owens
Lovett College ................................................................. John Casbarian and Natalye Appel
Martel College ........................................................................... Arthur and Joan Few
Richardson College ............................................................. Steve and Laura Cox
Wiess College ........................................................................... Katharine Donato and Daniel Kalb
Will Rice College ........................................................................ Joel and Traci Wolfe
Emeritus Faculty

B.S. (1943) Texas Technological College; M.S. (1944) University of Texas at Austin; Ph.D. (1950) University of Michigan


B.S.C.E. (1951), M.S. (1954) University of Arkansas; Ph.D. (1964) University of California at Berkeley


Awapara, Jorge, 1957–84. Professor Emeritus of Biochemistry
B.S. (1941), M.S. (1942) Michigan State University; Ph.D. (1947) University of Southern California

B.A. (1955) University of Colorado; M.B.A. (1959) Harvard Graduate School of Business Administration

Baker, Donald Roy, 1966. Professor Emeritus of Geology and Honorary Associate of Brown College

Bale, Allen M., 1947–78. Athletic Director Emeritus
B.S. (1930) Rice Institute; M.A. (1939) Columbia University

Bally, Albert W., 1981–96. Harry Carothers Wiess Professor Emeritus of Geology
Ph.D. (1953) University of Zurich, Switzerland

Barker, J. R., 1949–86. Professor Emeritus of Health and Physical Education
B.S. (1949) Rice Institute; M.Ed. (1954) University of Texas at Austin

Beckmann, Herbert W. K., 1957–85. Professor Emeritus of Mechanical Engineering
Cand. Ing. (1939), Dipl. Ing. (1944), Dr. Ing. (1957) Hanover University, Germany


B.A. (1960), M.A. (1961) Texas Christian University; Ph.D. (1965) University of Texas at Austin

Brotzen, Franz Richard, 1954–86. Stanley C. Moore Professor Emeritus of Materials Science
B.S. (1950), M.S. (1953), Ph.D. (1954) Case Institute of Technology

Brown, Katherine Tsanoff, 1963–89. Professor Emerita of Art History and Honorary Associate of Will Rice College
B.A. (1938) Rice Institute; M.F.A. (1940) Cornell University

Burt, George, 1984–97. Professor Emeritus of Theory and Composition

B.S. (1953) Southwest Missouri State University; M.S. (1955) University of Illinois;
Ph.D. (1958) University of Oklahoma

Cason, Carolyn, 1956–74. Lecturer Emerita in Dietetics
B.S. (1934) University of Texas at Austin; M.A. (1939) Columbia University

Chamberlain, Joseph W., 1971–90. Professor Emeritus of Space Physics and Astronomy
A.B. (1948), A.M. (1949) University of Missouri; M.S. (1951), Ph.D. (1952) University of Michigan

Chapman, Alan Jesse, 1946–95. Harry S. Cameron Professor Emeritus of Mechanical Engineering
B.S.M.E. (1945) Rice Institute; M.S. (1949) University of Colorado; Ph.D. (1953) University of Illinois

Clark, Howard Charles, 1966–88. Professor Emeritus of Earth Science

Class, Calvin M., 1952–85. Professor Emeritus of Physics
A.B. (1943), Ph.D. (1951) John Hopkins University


Daichman, Graciela S., 1973–99. Lecturer Emerita of Hispanic Studies
B.S. (1959) Instituto Nacional del Profesorado en Lenguas Vivas, Argentina;

and Sociology and Research Professor

Davis, Philip W., 1969–2003. Agnes Cullen Arnold Professor Emeritus of Linguistics
B.A. (1961) University of Texas at Austin; Ph.D. (1965) Cornell University

Davis, Jr., Sam H., 1957–2000. Professor Emeritus in Chemical Engineering and
Computational and Applied Mathematics

De Bremaecker, Jean-Claude, 1959–94. Professor Emeritus of Earth Science
Ingenieur Civil des Mines (1948) University of Louvain, Belgium; M.S. (1950) Louisiana State
University; Ph.D. (1952) University of California at Berkeley

Dennis, John E., 1979–2002. Noah Harding Professor Emeritus of Computational and
Applied Mathematics and Research Professor
B.S. (1962); M.S. (1964),University of Miami; Ph.D. (1966) University of Utah

B.S. (1952) California Institute of Technology; Ph.D. (1956) Duke University


Drew, Katherine Fischer, 1950–96. Lynette S. Autrey Professor Emerita of History

Dyson, Derek C., 1966–2000. Professor Emeritus of Chemical Engineering

Evans, Elinor Lucile, 1964–85. Albert K. and Harry K. Smith Professor Emerita of
Architecture
B.A. (1938) Oklahoma State University; M.F.A. (1954) Yale University

Fliegel, Raphael, 1975–89. Professor Emeritus of Violin

Freeman, John W., 1964–2000. Professor Emeritus of Space Physics and Astronomy
and Associate of Lovett College
B.S. (1957) Beloit College; M.S. (1961); Ph.D. (1963) University of Iowa

Ph.D. (1953) Princeton University

Gordon, Chad, 1970–99. Professor Emeritus of Sociology


Hackerman, Norman, 1970–85. President Emeritus and Distinguished Professor Emeritus of Chemistry
A.B. (1932), Ph.D. (1935) Johns Hopkins University

Hake, Evelyn, 1932–74. Lecturer Emerita in Biology
B.A. (1930), M.A. (1932) Rice Institute

Hale, Elton B., 1963–79. Professor Emeritus of Accounting
B.S. (1937), M.A. (1940) Southwest Texas State Teachers College; Ph.D. (1948) University of Texas at Austin


Haymes, Robert C., 1968–98. Professor Emeritus of Space Physics and Astronomy

Heymann, Dieter, 1966–98. Professor Emeritus of Earth Science
M.S. (1954), Ph.D. (1958) University of Amsterdam, The Netherlands

Hightower, Joe W., 1967–01. Professor Emeritus of Chemical Engineering

Hodges, Lee, 1930–71. Professor Emeritus of French
B.S. (1930) Harvard University; M.A. (1934) Rice Institute


Huddle, Donald L., 1964–92. Professor Emeritus of Economics


Jitcoff, Andrew N., 1950–72. Professor Emeritus of Russian
Bachelor (1928), Master (1931) Prague Institute of Technology, Czechoslovakia


Kiperman, Anita, 1976–98. Lecturer Emerita of Spanish

Kobayashi, Riki, 1951–97. Louis Calder Professor Emeritus in Chemical Engineering
B.S. (1944) Rice Institute; M.S.E. (1947), Ph.D. (1951) University of Michigan

B.A. (1951) Yale University; Ph.D. (1958) University of California at Berkeley

Laughery, Kenneth R., 1982–2002. Herbert S. Autrey Professor Emeritus of Psychology and Research Professor

Leal, Maria Teresa, 1965–96. Professor Emerita of Spanish and Portuguese
B.A. (1946) Pontificia Universidade Católica, Brazil; Ph.D. (1963) Universidade Federal de Rio de Janeiro, Brazil
Lecuyer, Maurice Antoine, 1962–79. Professor Emeritus of French
   Baccalauréat es lettres (1937), Licence es lettres (1943), Diplôme d’études supérieures
   (1944) Université de Paris, France; Ph.D. (1954) Yale University

   B.S. (1962) North Texas State University; M.Ed. (1967) Sam Houston State University;

Leeds, Jr., J. Venn, 1964–89. Professor Emeritus of Electrical and Computer Engineering
   J.D. (1972) University of Houston

Lewis, Edward S., 1948–90. Professor Emeritus of Chemistry
   B.S. (1940) University of California at Berkeley; Ph.D. (1947) Harvard University

Meixner, John, 1968–95. Professor Emeritus of English

Merwin, John E., 1955–98. Professor Emeritus of Civil and Environmental Engineering


Miele, Angelo, 1964–93. Foyt Family Professor Emeritus in Mechanical Engineering and
   Materials Science and Computational and Applied Mathematics
   Dr. C.E. (1944), Dr. A.E. (1946) University of Rome

Milburn, Ellsworth, 1975–99. Professor Emeritus of Composition and Theory
   B.A. (1962) University of California at Los Angeles; M.A. (1968) Mills College; D.M.A. College-
   Conservatory of Music, University of Cincinnati

   English

   B.A. (1956) Adelphi University; Certificate (1958) Universita de Perugia; Certificate (1958); Yale
   University School of Languages; Certificate (1960) Goethe Institute, Blaubeuren, Germany

Nielsen, Jr., Niels C., 1951–91. Professor Emeritus of Philosophy and Religious Thought and
   Honorary Associate of Will Rice College
   B.A. (1942) George Pepperdine University; B.D. (1946), Ph.D. (1951) Yale University

   and Environmental Engineering
   B.S. (1957), M.S. (1958) University of Michigan; Ph.D. (1962) University of California at Berkeley

O'Dell, Charles Robert, 1982–2000. Andrew Hays Buchanan Professor Emeritus of
   Astrophysics
   B.S.Ed. (1959) Illinois State University; Ph.D. (1962) University of Wisconsin at Madison

Oliver, Covey, 1979–81. Radoslav A. Tsanoff Professor Emeritus of Public Affairs
   B.A. (1933), J.D. (1936) University of Texas at Austin; LL.M. (1953), S.J.D. (1954) Columbia
   University; LL.D. (1976) Southern Methodist University

Oliver-Smith, Philip, 1969–82. Professor Emeritus of Art History


   and Associate of Sid Richardson College
   B.S. (1957), Ph.D. (1962) University of Sheffield

Parsons, David G., 1953–81. Professor Emeritus of Art and Honorary Associate of
   Will Rice College
   B.S. (1934), M.S. (1937) University of Wisconsin

   and Computer Engineering
   B.S.E.E. (1958), M.S.E.E. (1959) University of Arkansas; Ph.D. (1962) Purdue University
Pfeiffer, Paul E., 1947–97. Professor Emeritus of Computational and Applied Mathematics
B.S.E.E. (1938) Rice Institute; B.D. (1943) Southern Methodist University; M.S.E.E. (1948), Ph.D. (1952) Rice Institute

Philpott, Charles William, 1964–96. Professor Emeritus of Ecology and Evolutionary Biology
B.A. (1957), M.S. (1958) Texas Technological College; Ph.D. (1962) Tulane University

B.A. (1951) Harvard University; M.A. (1952) Columbia University; Ph.D. (1958) University of Wisconsin at Madison

Poindexter, Hally Beth W., 1965–98. Professor Emeritus of Kinesiology

Raaphorst, Madeleine Rousseau, 1963–89. Professor Emerita of French
Baccalauréat es lettres (1939) Université de Poitiers, France; Licence en droit (1943) Université de Paris, France; Ph.D. (1959) Rice Institute


Rachford, Jr., Henry H., 1964–82. Professor Emeritus of Mathematical Sciences

B.Arch. (1947) Carnegie Institute of Technology; M.Arch. (1967) Texas A&M University

Rea, Joan, 1968–2000. Professor Emerita of Hispanic Studies

Sims, James R., 1942–87. Herman and George R. Brown Professor Emeritus of Civil and Environmental Engineering
B.S. (1941) Rice Institute; M.S. (1950), Ph.D. (1956) University of Illinois


Spence, Dale W., 1963. Professor Emeritus of Kinesiology

Stebbings, Ronald F., 1968–95. Professor Emeritus of Space Physics and Astronomy
B.Sc. (1952), Ph.D. (1956) University College, London

Stormer, Jr., John C., 1983–95. Craneis Professor Emeritus of Geology


Thrall, Robert, 1969–84. Noah Harding Professor Emeritus of Mathematical Sciences and Professor Emeritus of Administrative Science


Trammell, George T., 1961–93. Professor Emeritus of Physics
B.A. (1944) Rice Institute; Ph.D. (1950) Cornell University

Trepel, Shirley, 1975–94. Professor Emerita of Violoncello
B.Mus. (1945) Curtis Institute of Music

Profesorado (1956) La Plata National University, Argentina; Ph.D. (1968) Stanford University

A.B. (1952) Dartmouth College; M.S. (1953), Ph.D. (1959) Northwestern University


B.A. (1948) University of the Pacific; M.A. (1950) Claremont Graduate School; Ph.D. (1957) University of California at Berkeley
Wadsworth, Philip A., 1964–73. Professor Emeritus of French
   A.B. (1935), Ph.D. (1939) Yale University
   B.S. (1943) Rice Institute; M.A. (1949), Ph.D. (1952) University of Texas at Austin
Wall, Frederick T., 1972–79. Professor Emeritus of Chemistry
   B.C. (1933), Ph.D. (1937) University of Minnesota
Walters, G. King, 1963–99. Sam and Helen Worden Professor Emeritus of Physics
   B.S. (1959) National Taiwan University; Ph.D. (1965) Johns Hopkins University
Wilson, Joseph B., 1954–98. Professor Emeritus of German
Winkler, Michael, 1967–2000. Professor Emeritus of German

Faculty

Aazhang, Behnaam, 1985. J.S. Abercrombie Professor in Electrical and Computer Engineering
Abib, Roberto, 2000. Adjunct Professor of Executive Education
Abreu, Vitor dos Santos, 2000. Adjunct Assistant Professor of Earth Science
Achard, Michel, 1997. Associate Professor of French Studies and Linguistics
Adam, Gwendolyn, 2000. Lecturer of Kinesiology
Adnan, Sarmad, 2001. Adjunct Assistant Professor of Mechanical Engineering and Materials Science
Adve, Vikram S., 1993. Adjunct Assistant Professor of Computer Science
Ainsworth, Anne-Marie, 2001. Adjunct Professor of Executive Education
Akin, John Edward, 1983. Professor of Mechanical Engineering and Computational and Applied Mathematics
   B.S. (1964) Tennessee Polytechnic Institute; M.S. (1966) Tennessee Technological University; Ph.D. (1968) Virginia Polytechnic Institute
Albin, Verónica S., 1998. Lecturer of Spanish  

Alcover, Madeleine, 1975. Professor of French  
Licence de lettres modernes (1962), Diplôme d’études supérieures (1963), Doctorat de 3e cycle (1965) France

Alemany, Lawrence B., 1994. NMR Manager, Senior Research Scientist, and Lecturer on Chemistry  

Alexander, David, 2003. Andrew Hays Buchanan Associate Professor of Astrophysics and Associate Professor of Physics and Astronomy  

Alford, John R., 1985. Associate Professor of Political Science  

Al-Zand, Karim, 2002. Assistant Professor, Lynette S. Autrey Chair  

Amos, Christopher I., 2001. Adjunct Professor of Statistics  
B.A. Reed College; M.S., Ph.D. Louisiana State University Medical Center

Anderson, John B., 1975. W. Maurice Ewing Chair in Oceanography and Professor of Earth Science  
B.S. (1968) University of South Alabama; M.S. (1970) University of New Mexico; Ph.D. (1972) Florida State University

Anderson, Shannon, 2001. Associate Professor of Management  

Anding, Roberta H., 1997. Lecturer of Kinesiology  

Ansari, Shahid L., 2003. Lecturer on Management  

Antoulas, Athanasios C., 1985. Professor in Electrical and Computer Engineering  
Dip. in Electrical Engineering (1975), Dip. in Mathematics (1975), Ph.D. (1980) Eidgenössische Technische Hochschule, Switzerland

Anvari, Bahman, 1998. Assistant Professor in Bioengineering  

Aranda, Jr., José F., 1994. Associate Professor of English  

Aresu, Bernard, 1977. Professor of French Studies  
Licence es lettres (1967) Université de Montpellier, France; Ph.D. (1975) University of Washington

Armeniades, Constantine D., 1969. Professor in Chemical Engineering  

Armstrong, James D., 2002. Adjunct Assistant Professor of Biochemistry and Cell Biology  

Ashmore, Jean, 2002. Lecturer in Education Certification  
B.A. (1973) University of California at Los Angeles; M.S. (1976) California State University

Athanasiou, Kyriacos, 2000. Professor of Bioengineering  

Atherholdt, Robert, 1984. Professor of Oboe  
B.Mus. (1976), M.Mus. (1977) Juilliard School of Music

Atherton, Jr., W. Clifford, 1988. Lecturer on Management  

Atkinson, E. Neely, 1985. Adjunct Professor of Statistics  

Attieh, Aman, 2001. Senior Lecturer of Arabic  
Audet, Charles, 2001. Adjunct Assistant Professor of Computational and Applied Mathematics

Austgen, David M., 1997. Lecturer on Management

Avé Lallemant, Hans G., 1970. Professor of Earth Science

Bachevalier, Jocelyne, 1994. Adjunct Associate Professor of Psychology

Badgwell, Thomas A., 2000. Adjunct Associate Professor in Chemical Engineering

Baggett, L. Scott, 1999. Lecturer on Statistics

Bagozzi, Richard P., 1999. J. Hugh Liedtke Professor of Management and Professor of Psychology

Bailey, Nancy Gisbrecht, 1997. Lecturer on Vocal Literature

Bailey, Walter B., 1982. Associate Professor of Musicology and Chair of Musicology


Baker, Laura, 2002. Lecturer in History

Baker, Lovett, 1986. Lecturer on Management
A.B. (1952) Princeton University

Baker, Stephen D., 1963. Professor of Physics and Honorary Associate of Hanszen College

Banks, Stephen J., 1991. Adjunct Professor in the Practice of Management

Baraniuk, Richard G., 1992. Professor in Electrical and Computer Engineering and Associate of Hanszen College

Baring, Matthew G., 2000. Assistant Professor of Physics and Astronomy

Barland, Ian, 1996. Lecturer on Computer Science

Barlow, Michael, 1993. Assistant Professor of Linguistics and Associate of Sid Richardson College

Barnett, Gregory, 2002. Assistant Professor of Musicology

BarOn, Tiqva, 2003. Lecturer in Hebrew
B.A. (1968) Hebrew University, Jerusalem; M.A. (1997) Tel Aviv University

Barrera, Enrique V., 1990. Associate Professor of Mechanical Engineering and Materials Science

Barrett, Deborah, 1998. Director and Instructor of Management Communications
Barron, Andrew R., 1995. Charles W. Duncan, Jr.–Welch Professor of Chemistry and Professor of Materials Science
B.S. (1983), Ph.D. (1986) Imperial College of Science and Technology, University of London

Barry, Michael A., 1998. Assistant Professor in Bioengineering

Bartel, Bonnie, 1995. Associate Professor of Biochemistry and Cell Biology

Barton, Richard, 2001. Adjunct Assistant Professor of Electrical and Computer Engineering

Bartusiak, R. Donald, 2000. Adjunct Assistant Professor in Chemical Engineering

Batsell, Richard R., 1980. Jesse H. Jones Distinguished Associate Professor of Management and Associate Professor of Psychology

Bayazitoglu, Yildiz, 1977. Harry S. Cameron Professor in Mechanical Engineering

Beason-Armendarez, Beth, 2001. Lecturer of Biochemistry and Cell Biology

Beckingham, Kathleen M., 1980. Professor of Biochemistry and Cell Biology
B.A. (1967), Ph.D. (1972) University of Cambridge

Bedient, Philip B., 1975. Herman Brown Professor of Engineering

Bedner, J. Bee, 1997. Adjunct Professor in Computational and Applied Mathematics
B.S. (1962) Southwest Texas State University; M.A. (1964), Ph.D. (1968) University of Texas at Austin

Bedrossian, Nazareth S., 2002. Adjunct Assistant Professor in Mechanical Engineering and Materials Science

Begley, Charles E., 1989. Adjunct Associate Professor of Economics

Behar, Victor, 1998. Assistant Professor of Chemistry

Bennett, George N., 1978. Professor of Biochemistry and Cell Biology
B.S. (1968) University of Nebraska; Ph.D. (1974) Purdue University

Berry, Donald, 2000. Adjunct Professor of Statistics

Bidani, Akhil, 1994. Adjunct Professor in Electrical and Computer Engineering
B.S. (1969) Punjab University, India; Ph.D. (1975) University of Houston; M.D. (1981) University of Texas Medical Branch at Galveston

Billups, W. Edward, 1970. Professor of Chemistry

Biln, Karma Singh (John), 1999. Associate Professor of Architecture

Bissada, K. K., 1996. Adjunct Professor of Earth Science


Black, David C., 1970. Adjunct Professor of Physics and Astronomy

Black, Earl, 1993. Herbert S. Autrey Professor of Political Science
B.A. (1964) University of Texas at Austin; Ph.D. (1968) Harvard University

Blackburn, James B., 1975. Lecturer on Environmental Science
Bloem, Suzana Maria Campos Pinto, 1999. Lecturer of Portuguese
B.A. (1970) Pontificia Universidade Católica de Campinas, Brazil

Bogomolnaia, Anna, 2000. Assistant Professor of Economics

Boles, John B., 1981. William Pettus Hobby Professor of History and Associate of Will Rice College
B.A. (1965) Rice University; Ph.D. (1969) University of Virginia

Bongmba, Elias K., 1995. Associate Professor of Religious Studies

Bonner, Billy E., 1985. Professor of Physics and Astronomy and Director of
T.W. Bonner Nuclear Lab

Boom, Marc L., 2000. Adjunct Professor in the Practice of Management
B.S. (1988) University of Texas at Austin; M.D. (1992) Baylor College of Medicine;

Borcea, Liliana, 1996. Associate Professor of Computational and Applied Mathematics

Bordeaux, Janice, 1994. Adjunct Assistant Professor of Psychology

Bordelon, Jr., Cassius B., 1972. Lecturer in Kinesiology
B.S. (1964) Louisiana State University; Ph.D. (1972) Baylor College of Medicine

Boriek, Aladin M., 1997. Adjunct Assistant Professor in Computational and Applied Mathematics and Mechanical Engineering and Materials Science

Borle, Sharad, 2003. Assistant Professor of Management

Boshernitzan, Michael, 1982. Professor of Mathematics

Bottero, Jean-Yves, 1996. Adjunct Professor of Civil and Environmental Engineering
Docteur d’Etat es Sciences Physiques (1979) Université de Nancy, France

Braam, Janet, 1990. Associate Professor of Biochemistry and Cell Biology
B.S. (1980) Southern Illinois University; Ph.D. (1985) Sloan-Kettering Division of Cornell Graduate School of Medical Sciences

Brace, Paul, 1996. Clarence L. Carter Professor of Political Science

Brandon, Alan D., 2002. Adjunct Assistant Professor of Earth Science

Brandt, Anthony K., 1998. Assistant Professor of Composition

Branton, Regina, 2000. Assistant Professor of Political Science
Ph.D. (2000) University of Arizona

Brennan, Marcia, 2001. Assistant Professor of Art History

Brito, Dagobert L., 1984. George A. Peterkin Professor of Political Economy

Brody, Baruch, 1975. Andrew W. Mellon Professor in Humanities

Brogdon-Gómez, N. Patricia, 2000. Lecturer of Spanish
Broker, Karin L., 1980. Professor of Visual Arts

Brooks, Philip R., 1964. Professor of Chemistry
B.S. (1960) California Institute of Technology; Ph.D. (1964) University of California at Berkeley

Brown, Barry W., 1970. Adjunct Professor of Statistics


Brown, David, 1996. Assistant Professor of Architecture

Brown, James N., 1992. Professor of Economics

Brown, Richard, 1984. Professor of Percussion and Chair of Percussion and Harp

Brownell, William, 2000. Adjunct Professor in Bioengineering
S.B. (1968), Ph.D. (1973) University of Chicago

Browning, Logan D., 1990. Lecturer in Humanities

Bryan, William J., 1982. Adjunct Professor in Kinesiology
B.A. (1971) Johns Hopkins University; M.D. (1975) Baylor College of Medicine

Bryant, John B., 1981. Henry S. Fox, Sr., Professor of Economics and Professor of Management

Burch, James L., 1990. Adjunct Professor of Physics and Astronomy
B.S. (1964) St. Mary’s University; Ph.D. (1968) Rice University; M.S.A. (1973) George Washington University

Burgund, E. Darcy, 2003. Assistant Professor of Psychology

Burnett, Sarah A., 1972. Associate Professor of Psychology

Burrus, C. Sidney, 1965. Dean of the George R. Brown School of Engineering, Maxfield and Oshman Professor of Engineering, and Honorary Associate of Will Rice College

Buyse, Leone, 1997. Professor of Flute and Chamber Music and Chair of Woodwinds

Byrd, Alexander X., 2001. Assistant Professor of History and Associate of Baker College

Byrne, John H., 1994. Adjunct Professor of Psychology and Electrical and Computer Engineering

Byrne, Michael, 1999. Assistant Professor of Psychology

Caldwell, Peter C., 1994. Professor of History and German and Slavic Studies

Camacho, Zenaido, 1994. Vice President for Student Affairs and Professor of Biochemistry and Cell Biology

Cannady, William Tillman, 1964. Professor of Architecture
B.Arch. (1961) University of California at Berkeley; M.Arch. (1962) Harvard University

Caprette, David R., 1992. Lecturer in Biochemistry and Cell Biology

Carle, Alan, 1998. Faculty Fellow in Computational and Applied Mathematics
Carroll, Beverlee Jill, 1995. Lecturer in Religious Studies and Humanities


Carter, Richard, 1997. Adjunct Associate Professor of Computational and Applied Mathematics
B.S. (1979) Mississippi State University; Ph.D. (1986) Rice University

Cartwright, Jr., Robert S., 1980. Professor of Computer Science

Casas, Fernando, 1994. Lecturer in Humanities

Casbarian, John Joseph, 1973. Associate Dean of the School of Architecture and Professor of Architecture and Lovett College Master

Castañeda, James Agustín, 1961. Professor of Spanish, and Honorary Master of Will Rice College

Cavallaro, Joseph R., 1988. Professor in Electrical and Computer Engineering and Computer Science

Chae, Suchan, 1985. Associate Professor of Economics

Chan, Anthony A., 1993. Associate Professor of Physics and Astronomy

Chance, Jane, 1973. Professor of English

Chang, David W., 2002. Adjunct Associate Professor in Bioengineering

Chang, Yoosoon, 1995. Associate Professor of Economics

Chang-Diaz, Franklin R., 1998. Adjunct Professor of Physics and Astronomy
B.S. (1973) University of Connecticut; Ph.D. (1977) Massachusetts Institute of Technology

Chapman, Walter G., 1990. Professor in Chemical Engineering


Chen, Lilly C., 1980. Senior Lecturer of Chinese

Chen, Shih-Hui, 2000. Assistant Professor of Composition and Theory

Chen, Xiaohong Denise, 2001. Assistant Professor of Psychology

Choi, Hyeokho, 2000. Faculty Fellow in Electrical and Computer Engineering

Cibor, Joseph, 2001. Lecturer on Civil and Environmental Engineering
B.S. (1976), M.S. (1978) Purdue University

Citron, Marcia J., 1976. Martha and Henry Malcolm Lovett Distinguished Service Professor of Musicology
Ciufolini, Marco A., 2000. Adjunct Professor in Chemistry

Clark, Jr., John W., 1968. Professor in Electrical and Computer Engineering
  and Bioengineering

Clementi, Cecilia, 2001. Norman Hackerman-Welch Young Investigator Assistant Professor of Chemistry

Cloutier, Paul A., 1967. Professor of Physics and Astronomy
  B.S. (1964) University of Southwestern Louisiana; Ph.D. (1967) Rice University

Cochran, Tim D., 1990. Professor of Mathematics

Cohen, G. Daniel, 2003. Assistant Professor of History

Colvin, Vicki L., 1996. Associate Professor of Chemistry and in Chemical Engineering

Comer, Krista, 1998. Assistant Professor of English

Connelly, Brian, 1984. Artist Teacher of Piano and Piano Chamber Music and Accompanying

Cook, David, 2001. Assistant Professor of Religious Studies

Cooper, Keith D., 1990. Professor of Computer Science and in Electrical and Computer Engineering

Coppola, Eileen, 2000. Lecturer on Education Certification

Corcoran, Marjorie D., 1980. Professor of Physics and Astronomy
  B.S. (1972) University of Dayton; Ph.D. (1977) Indiana University

Cording, Margaret, 2003. Assistant Professor of Management

Cordoba, Juan Carlos, 2001. Assistant Professor of Economics

Cox, Alan L., 1991. Associate Professor of Computer Science and in Electrical and Computer Engineering

Cox, Dennis, 1992. Professor of Statistics

Cox, Edward L., 1989. Associate Professor of History and Associate of Martel College

Cox, Kenneth R., 2000. Lecturer on Chemical Engineering

Cox, Steven J., 1988. Professor of Computational and Applied Mathematics and Master of Sid Richardson College

Cramer, Evin Joyce, 1997. Adjunct Professor in Computational and Applied Mathematics
Cramez, Carlos A., 1988. Adjunct Professor of Earth Science  
B.S. (1960) Universite de Porto; Ph.D. (1966) Universite de Neuchatel

Crist, E. Scott, 2000. Lecturer of Management  

Cronin, Justin C., 2003. Associate Professor of English  

Crowell, Steven G., 1983. Joseph and Joanna Nazro Mullen Professor in Humanities  
Ph.D. (1981) Yale University

Crull, Brigitte, 1999. Lecturer of French  
M.A. (1991) University of Houston

Cunningham, Robert A., 1986. Lecturer on Mechanical Engineering and Materials Science  

Curl, Jr., Robert F., 1958. University Professor and Kenneth S. Pitzer-Schlumberger  
Professor of Chemistry  
B.A. (1954) Rice Institute; Ph.D. (1957) University of California at Berkeley

Currell, Cheyenne, 2002. Adjunct Professor of Management  

Currell, Steven C., 1993. William and Stephanie Sick Chair in Entrepreneurship and  
Associate Professor of Management, Psychology, and Statistics  
Ph.D. (1990) Cornell University

Cuthbertson, Gilbert Morris, 1963. Professor of Political Science  
B.A. (1959) University of Kansas; Ph.D. (1963) Harvard University

Cutler, Scott E., 2001. Adjunct Professor of Electrical and Computer Engineering  

Dabak, Anand, 2003. Adjunct Associate Professor in Electrical and Computer Engineering  

Dabney, James B., 2000. Adjunct Assistant Professor in Mechanical Engineering  
and Materials Science  

Daley, Michele J. 1994. Associate Director of Academic Advising  

Damle, Kedar S., 2002. Assistant Professor of Physics and Astronomy  

Danbom, Stephen, 2001. Adjunct Professor of Earth Science  

Datta, Evelyne D., 1987. Senior Lecturer of French  
M.A. (1979) University of Houston; Ph.D. (1987) Rice University; Maîtrise de Philologie romane (1966) University of Ghent (Belgium)

deChambrier, Janet, 1997. Artist Teacher of Opera Studies  

Deem, Michael, 2002. John W. Cox Professor in Biochemical and Genetic Engineering and  
Professor of Physics and Astronomy  

Deffebach, Nancy, 2002. Andrew W. Mellon Postdoctoral Fellow, Center for the Study of  
Cultures and Department of Art History


DerHovsepian, Joan, 2001. Instructor of Viola Orchestral Repertoire

Derrick, Scott S., 1990. Associate Professor of English  
DeWalt, Saara, 2003. Huxley Instructor in Ecology and Evolutionary Biology  

Dharan, Bala G., 1982. J. Howard Creekmore Professor of Management  

Dholakia, Utpal, 2001. Assistant Professor of Management  

Diaz-Saiz, Joaquin, 2000. Adjunct Associate Professor of Statistics  

Dickens, Gerald R., 2001. Associate Professor of Earth Science  

Dickinson, Debra, 1993. Artist Teacher of Opera Studies  

Diddel, Roberta M., 1993. Adjunct Instructor of Psychology  

Dietz, Elizabeth A., 2002. Assistant Professor of English  

DiPalma, Vittoria, 2003. Assistant Professor of Art History  

Dipboye, Robert, 1978. Herbert S. Autrey Professor of Psychology and Management  
B.A. (1968) Baylor University; M.S. (1969), Ph.D. (1973) Purdue University

Disch, James G., 1973. Associate Professor of Kinesiology  

Dixon, Marlene A., 2001. Lecturer in Kinesiology  
B.A., Magna Cum Laude (1993) Trinity University; M.Ed (1998) University of Texas at Austin


Djerejian, Edward P., 1994. The Edward A. and Hermana Hancock Kelly University Chair for Senior Scholars and the Janice and Robert McNair Director of the James A. Baker III Institute for Public Policy of Rice University  
B.S. (1960), Doctor of Humanities (Hon.) (1992) Georgetown University

Do, Kim-Anh, 1999. Adjunct Associate Professor of Statistics  

Dodds, Stanley A., 1977. Associate Professor of Physics and Astronomy and Associate of Wiess College  
B.S. (1968) Harvey Mudd College; Ph.D. (1975) Cornell University

Dominey, Wallace, 1998. Adjunct Lecturer in Education Certification  

Donato, Katharine M., 2000. Associate Professor of Sociology and Master of Wiess College  

Dongarra, Jack, 1988. Adjunct Professor in Computer Science and Computational and Applied Mathematics  
B.S. (1972) Chicago State University; M.S. (1973) Illinois Institute of Technology; Ph.D. (1980) University of New Mexico

Doody, Terrence Arthur, 1970. Professor of English  

Doran, Lindley E., 1991. Adjunct Associate Professor of Psychology  
Ph.D. (1976) University of Illinois

Dove, Charles, 2001. Adjunct Lecturer of Art History  
Downs, Thomas D., 1971. Adjunct Professor of Statistics

Dravis, Jeffrey J., 1987. Adjunct Professor of Earth Science
B.S. (1971) St. Mary’s University; M.S. (1977) University of Miami; Ph.D. (1980) Rice University

Drezek, Rebekah Anna, 2002. Assistant Professor in Bioengineering and in Electrical and Computer Engineering

Dravis, Jeffrey P., 1970. Professor of English and Management Communications

Drozd, André W., 1987. Associate Professor of Earth Science

Druschel, Peter, 1994. Professor of Computer Science and in Electrical and Computer Engineering
Dipl.-Ing (1986) Fachhochschule Munich, Germany; M.S. (1990), Ph.D. (1994) University of Arizona

Duck, Ian M., 1963. Professor of Physics and Astronomy
B.S. (1955) Queen’s University, Canada; Ph.D. (1961) California Institute of Technology

Dudey, Marc Peter, 1990. Associate Professor of Economics

Dufour, Reginald J., 1975. Professor of Physics and Astronomy

Dunbar, Robert B., 1981. Adjunct Professor of Earth Science
B.S. (1975) University of Texas at Austin; Ph.D. (1981) University of California at San Diego

Dunham, James F., 2001. Professor of Viola and Chamber Music

Dunn, Susan, 2002. Lecturer in Voice

Dunning, F. Barry, 1972. Sam and Helen Worden Professor of Physics and Astronomy

Durrani, Ahmad J., 1982. Professor of Civil and Environmental Engineering

Eads, Rodney, 2001. Adjunct Professor of Executive Education

Eggert, Allen W., 1978. Lecturer in Kinesiology
B.S. (1963) Rice University; M.A. (1967) California Western University

Eifler, Margret, 1973. Professor of German and Slavic Studies

Eisner, Elmer, 1988. Adjunct Professor of Computational and Applied Mathematics
B.S. (1939) Brooklyn College; Ph.D. (1943) Johns Hopkins University

El-Bakry, Amr, 1998. Adjunct Associate Professor of Computational and Applied Mathematics

el-Dahdah, Farès, 1996. Associate Professor of Architecture

Elden, J. Maxwell, 1988. Adjunct Professor of Psychology

El-Gamal, Mahmoud A., 1998. Professor of Islamic Economics, Finance, and Management and Professor of Economics and Professor of Statistics
Eliot, John F., 2000. Lecturer of Kinesiology

Ellenzweig, Sarah, 2000. Assistant Professor of English

Ellison, Paul V. H., 1975. Lynette S. Autrey Professor of Double Bass and Chair of Strings

Embree, Mark P., 2001. Assistant Professor of Computational and Applied Mathematics

Emden, Christian, 2003. Assistant Professor of German

Emerson, Michael O., 1999. Radoslav A. Tsanoff Professor of Public Affairs and Professor of Sociology and Associate of Wiess College

Engel, Paul S., 1970. Professor of Chemistry
B.S. (1964) University of California at Los Angeles; Ph.D. (1968) Harvard University

Engelhardt, Jr., Hugo Tristram, 1982. Professor of Philosophy
B.A. (1963), Ph.D. (1969) University of Texas at Austin; M.D. (1972) Tulane University School of Medicine

Englebretson, Robert, 2000. Assistant Professor of Linguistics

Ensor, Katherine Bennett, 1987. Professor of Statistics

Epner, Daniel, 1996. Adjunct Assistant Professor in Bioengineering

Epstein, Marc J., 1998. Research Professor of Management

Etnyre, Bruce, 1984. Professor of Kinesiology
B.S. (1973) Valparaiso University; M.S. (1977) Purdue University; Ph.D. (1984) University of Texas at Austin

Evans, Gregory, 1998. Adjunct Assistant Professor in Bioengineering
B.S. (1980) University of Southern California; M.D. (1985) University of Southern California School of Medicine

Fabian, Marian, 1998. Faculty Fellow in Biochemistry and Cell Biology

Fagan, Michael W., 2000. Faculty Fellow in Computational and Applied Mathematics

Farwell, Joyce, 1994. Professor of Voice

Faibion, James D., 1993. Professor of Anthropology and Associate of Jones College

Feeback, Daniel L., 1997. Adjunct Professor of Biosciences and Bioengineering
B.S. (1978) Missouri Western State College; Ph.D. (1982) University of Oklahoma Health Sciences Center

Ferrill, June O., 1998. Lecturer of Managerial Studies
B.A. (1964) University of Texas; M.Ed. (1971) University of Houston; Ph.D. (1977) University of Michigan

Ferris, David, 1998. Assistant Professor of Musicology

Few, Jr., Arthur A., 1970. Professor of Physics and Astronomy and Environmental Science and Master of Martel College
Finger, Jerry E., 1996. Adjunct Professor in the Practice of Management
B.S. (1954) University of Pennsylvania

Finley, Dawn, 2001. Assistant Professor of Architecture

Fischer, Jeanne K., 1992. Artist Teacher of Piano and Collaborative Skills

Fischer, Norman, 1992. Professor of Cello
B.Mus. (1971) Oberlin College

Fisher, Jr., Frank M., 1963. Professor of Biology
B.A. (1953) Hanover College; M.S. (1958), Ph.D. (1961) Purdue University

Fisher, Ronald E., 2003. Adjunct Assistant Professor in Psychology

Flatt, Robert N., 1987. Adjunct Professor in the Practice of Management

Fleming, Jeffrey, 1993. Associate Professor of Management

Foote, Jill, 2003. Assistant Professor of Management

Forman, Robin, 1987. Professor of Mathematics and Master of Jones College

Fossati, Giovanni, 2001. Faculty Fellow in Physics and Astronomy

Foster, Kevin, 2001. Huxley Instructor in Ecology and Evolutionary Biology

Fox, David Stephen, 1990. Adjunct Lecturer of Architecture
B.A. (1973), B.Arch. (1975) Rice University

Fox, Geoffrey, 1988. Adjunct Professor in Computer Science

Fox, Robert O., 2003. Adjunct Professor of Biochemistry and Cell Biology

Franciosi, Michael, 2000. Artist Teacher of Opera Studies

Frankowski, Ralph F., 1970. Adjunct Professor of Statistics

Frantz, J. Patrick, 2000. Lecturer on Electrical and Computer Engineering

Fraser, Matthew P., 1998. Assistant Professor in Civil and Environmental Engineering

Frederickson, Kelley A., 2001. Assistant Professor of Naval Science

French, Christopher, 1999. Artist Teacher of Cello Orchestral Repertoire

Fukuyama, Tohru, 1995. Adjunct Professor in Chemistry

Fultz, Lucille P., 1990. Associate Professor of English

Furr, James, 2003. Caudill Visiting Lecturer of Architecture
B.Arch. (1969) Louisiana State University

Gagliardi, Joseph, 2001. Adjunct Professor in Executive Education

Gao, Zhiyong, 1986. Associate Professor of Mathematics
B.A. (1979) Fudan University; Ph.D. (1984) State University of New York at Stony Brook
Gaug, Christa, 1998. Lecturer of German

Gaytán, Raquel, 1996. Senior Lecturer of Spanish

George, Jennifer M., 1999. Mary Gibbs Jones Professor of Management and Professor of Psychology

Georges, Eugenia, 1986. Associate Professor of Anthropology

Ghorbel, Fathi, 1994. Associate Professor of Mechanical Engineering and Materials Science and Bioengineering

Gibson, Brian T., 1996. Assistant Professor of Kinesiology, and Resident Associate of Sid Richardson College

Gibson, Quentin H., 1996. Distinguished Faculty Fellow in Biochemistry and Cell Biology
M.B. (1941), M.D. (1944), Ph.D. (1947) Queen’s University, Belfast

Gibson, Susan I., 1994. Adjunct Associate Professor of Biochemistry and Cell Biology

Gildea, Spike, 2001. Adjunct Associate Professor of Linguistics

Giles, Wayne Rodney, 1988. Adjunct Professor of Electrical and Computer Engineering

Gill, Jack M., 1998. Adjunct Professor in the Practice of Management
B.S. (1958) Lamar University; Ph.D. (1962) Indiana University

Gillis, Malcolm, 1993. President and Ervin Kenneth Zingler Professor of Economics

Glantz, Raymon M., 1969. Professor of Biochemistry and Cell Biology

Glass, Graham P., 1967. Professor of Chemistry

Glowinski, Roland, 1986. Adjunct Professor of Computational and Applied Mathematics

Goldman, Ronald N., 1990. Professor of Computer Science
B.S. (1968) Massachusetts Institute of Technology; M.A., Ph.D. (1973) Johns Hopkins University

Goldsmith, Kenneth, 1991. Professor of Violin

Gomer, Richard H., 1988. Professor of Biochemistry and Cell Biology


Gorman, Becky, 2002. Adjunct Lecturer in Kinesiology
B.S. (1976), M.S. (1979) University of New Mexico

Gorman, Bridget K., 2002. Assistant Professor of Sociology
Gorry, G. Anthony, 1976. Friedkin Professor of Management and Professor of Computer Science  
B.E. (1962) Yale University; M.S. (1963) University of California at Berkeley; Ph.D. (1967) Massachusetts Institute of Technology

Gottschalk, Arthur W., 1977. Professor of Composition and Theory and Chair of Composition and Theory  

Goux, Jean-Joseph, 1990. Laurence H. Favrot Professor of French  

Goveas, Jacqueline, 1999. Adjunct Assistant Professor in Chemical Engineering  

Grace, Jeremy M., 2001. Lecturer of Humanitites  

Graf, Hans, 2002. Artist in Residence, Shepherd School of Music

Grande-Allen, Kathryn Jane, 2003. Assistant Professor in Bioengineering  

Grandy, Richard E., 1980. Carolyn and Fred McManis Professor of Philosophy  

Grant, Simon, 2002. Allyn R. and Gladys M. Cline Professor of Economics  

Greig, Nancy, 1991. Adjunct Assistant Professor in Ecology and Evolutionary Biology  
B.A. (1980), Ph.D. (1991) University of Texas at Austin

Greiner, John, 1997. Lecturer on Computer Science  

Grenader, Nonya S., 1995. Lecturer of Architecture  
B. Arch. (1976) University of Texas; M. Arch. (1994) Rice University

Groskreutz, Gema Lopez-Perez, 1998. Lecturer of Spanish  

Grounds, John, 2002. Lecturer on Civil and Environmental Engineering  

Gruber, Ira Dempsey, 1966. Harris Masterson, Jr., Professor of History  

Grullon, Gustavo, 1998. Assistant Professor of Management  

Guerra, Rudy, 2001. Associate Professor of Statistics  


Gustin, Michael C., 1988. Associate Professor of Biochemistry and Cell Biology  

Hacker, Carl S., 1973. Adjunct Associate Professor of Statistics  
B.S. (1963) College of William and Mary; Ph.D. (1968) Rice University

Hafner, Jason H., 2001. Assistant Professor of Physics and Astronomy and of Chemistry  

Halas, Naomi J., 1989. Stanley C. Moore Professor in Electrical and Computer Engineering and Professor of Chemistry  

Hale, M. Doyle, 2000. Assistant Professor of Naval Science  

Hall, Rosine B. W., 1996. Adjunct Associate Professor of Ecology and Evolutionary Biology  
Hamm, Keith Edward, 1988. Professor of Political Science  
Ph.D. (1977) University of Wisconsin at Milwaukee

Hamadeh, Shirine T., 2003. Assistant Professor of Art History  
Massachusetts Institute of Technology.

Hampton, Lawrence P., 1999. Lecturer on Management  
A.B. (1979) University of Chicago; J.D. (1985) Case Western Reserve University

Hannon, James P., 1967. Professor of Physics and Astronomy  

Haque, Moyeen, 1988. Lecturer on Civil and Environmental Engineering  
Ph.D. (1988) University of Texas

Haptonstall, Clark D., 2003. Assistant Professor of Kinesiology and Director of Sports Management  

Harcombe, Elnora, 1989. Associate Director of the Center for Education, Director of the  
Model Science Laboratory Project, Adjunct Lecturer in Education Certification  

Harcombe, Paul A., 1972. Professor of Ecology and Evolutionary Biology  
B.S. (1967) Michigan State University; Ph.D. (1973) Yale University

Hardt, Robert M., 1988. W. L. Moody Professor of Mathematics  

Harland, Peter W., 1989. Adjunct Professor of Chemistry  
B.Sc. (1968) University of Wales, Aberystwyth; Ph.D. (1971) Edinburg University

Harman, Thomas, 1988. Adjunct Professor in Electrical and Computer Engineering  
B.S.E.E. (1965) University of Maryland; Ph.D. (1972) Rice University

Harrell, Lynn, 2002. Professor of Cello  
L.H.D. (Hon.) (1994) Cleveland Institute of Music

Harris, Paul M. (Mitch), 2000. Adjunct Professor of Earth Science  
B.S. (1971), M.S. (1973) West Virginia University; Ph.D. (1977) University of Miami

Harter, Deborah A., 1990. Associate Professor of French  

Hartgerink, Jeffrey D., 2002. Assistant Professor of Chemistry  

Hartigan, Patrick M., 1994. Associate Professor of Physics and Astronomy  

Hartley, Craig, 1998. Adjunct Professor in Bioengineering  

Hartley, Peter Reginald, 1986. Professor of Economics  

Haskell, Thomas L., 1970. Samuel G. McCann Professor of History  

Hassett, Brendan E., 2000. Associate Professor of Mathematics  

Hauge, Robert H., 1967. Distinguished Faculty Fellow in Chemistry  
B.A. (1960) Loras College; Ph.D. (1965) University of California at Berkeley

Haverkamp, Eva A., 1999. Anna Smith Fine Assistant Professor of History and Associate of  
Brown College  

Hawks, Gary, 2001. Lecturer of English  

Heard, Holly E., 2003. Assistant Professor of Sociology  
(2002) University of North Carolina at Chapel Hill
Hebl, Michelle R., 1998. Assistant Professor of Psychology and Management

Heckelman, Elizabeth W., 1990. Lecturer on Education Certification

Heeley, Michael B., 1999. Assistant Professor of Management

Heinkenschloss, Matthias, 1996. Associate Professor of Computational and Applied Mathematics

Heiss, Brian, 2000. Visiting Lecturer of Architecture

Heitman, Elizabeth, 1987. Adjunct Associate Professor of Religious Studies

Hellums, Jesse David, 1960. E.D. Butcher Professor of Bioengineering
  B.S. (1950), M.S. (1958) University of Texas at Austin; Ph.D. (1961) University of Michigan

Hemeyer, Terry, 1998. Adjunct Professor in the Practice of Management
  B.A. (1960) Ohio State University; M.A. (1968) University of Denver

Hempel, John, 1964. Professor of Mathematics
  B.S. (1957) University of Utah; M.S. (1959), Ph.D. (1962) University of Wisconsin at Madison

Henze, Matthias, 1997. Watt J. and Lilly G. Jackson Assistant Professor in Biblical Studies

Herrick, Robert, 2002. Adjunct Assistant Professor of Earth Science

Hess, Kenneth, 2000. Adjunct Associate Professor of Statistics

  B.A. (1971) Rice University; M.F.A (1976) Rhode Island School of Design

Hewitt, Janice, 1999. Instructor for the Cain Project

Heydorn, Richard P., 1998. Adjunct Professor of Statistics

Hight, Christopher, 2003. Assistant Professor of Architecture

Hill, Thomas W., 1979. Professor of Physics and Astronomy

Hing, Jacqueline, 2003. Adjunct Lecturer in Humanities
  B.A. (1969); M.S. (1973) California State University

Hintermueller, Michael, 2003. Visiting Assistant Professor in Computational and Applied Mathematics
  Ph.D. (1997) Johannes-Kepler University of Linz

Hirasaki, George J., 1989. A. J. Hartsook Professor in Chemical Engineering
  B.S. (1963) Lamar University; Ph.D. (1967) Rice University

Hirsch, Karen, 2001. Adjunct Assistant Professor of Bioengineering

Hirsch, Kendal, 2003. Adjunct Associate Professor

Hobby, William P., 1989. Radoslav A. Tsanoff Professor of Public Affairs
  B.A. (1953) Rice Institute

Hokanson, David A., 2000. Adjunct Assistant Professor in Chemical Engineering
  B.S. (1977), MChE (1979) Rice University

Holland, J. Nathaniel, 2004. Assistant Professor of Ecology and Evolutionary Biology
Holloway, Clyde., 1977. Herbert S. Autrey Professor of Organ  

House, Waylon V., 1986. Adjunct Associate Professor of Chemical Engineering  

Howell, William C., 1992. Adjunct Professor of Psychology  

Huang, Huey W., 1973. Professor of Physics and Astronomy  
B.S. (1962) National Taiwan University; Ph.D. (1967) Cornell University

Huberman, Brian Michael, 1975. Associate Professor of Visual Arts  
M.F.A. Equivalent (1974) National Film School of Great Britain

Hudspeth, C. M., 1947. Lecturer on Political Science  
B.A. (1940) Rice Institute; J.D. (1946) University of Texas at Austin

Huffer, Lynne, 1998. Professor of French Studies  

Hughes, Thomas J.R., 2002. Adjunct Professor in Mechanical Engineering and Materials Science  

Hulet, Randall G., 1987. Fayez Sarofim Professor of Physics and Astronomy  

Huston, J. Dennis, 1969. Professor of English  

Hutchinson, John S., 1983. Professor of Chemistry and Assistant Vice President for Student Affairs  
B.S. (1977), Ph.D. (1980) University of Texas at Austin

B.S. (1996) Korea Advanced Institute of Science and Technology; Ph.D. (2001) University of Illinois at Urbana-Champaign

Iammarino, Nicholas K., 1978. Professor of Kinesiology and Premed Adviser  
B.S. (1973) University of Dayton; M.Ed. (1975) University of Toledo; Ph.D. (1978) Ohio State University

Isle, Walter Whitfield, 1962. Vice Provost for Academic Affairs and Clarence L. Carter Distinguished Service Professor of English  

Jaber, Thomas I., 1988. Associate Professor of Music and Director of Choral Ensembles  

Jalbert, Pierre D., 1996. Associate Professor of Composition and Theory  

Javeline, Debra, 2000. Assistant Professor of Political Science  

Jeanneret, Dick, 2003. Adjunct Professor of Psychology  

Jenckes, Kate, 2003. Assistant Professor of Spanish  

Jenkins, Mark A., 2001. Adjunct Lecturer of Kinesiology  

Jimenez, Carlos, 1997. Associate Professor of Architecture  
M.Arch. (1981) University of Houston

Jo, Seongbong, 2001. Adjunct Assistant Professor of Bioengineering  

Johns-Krull, Christopher M., 2001. Assistant Professor of Physics and Astronomy  
Johnson, Bruce R., 1994. Senior Faculty Fellow in Chemistry and Executive Director of the Rice Quantum Institute

Johnson, David B., 2000. Associate Professor of Computer Science and in Electrical and Computer Engineering


Johnson, S. Lennart, 1995. Adjunct Professor in Computer Science

Jones, Jr., B. Frank, 1962. Noah Harding Professor of Mathematics

Jones, Garry D., 2000. Adjunct Professor of Earth Science

Joseph, Betty, 1995. Associate Professor of English

Kamins, Benjamin C., 1987. Professor of Bassoon, Shepherd School of Music

Kaminski, Vincent, 2001. Adjunct Associate Professor of Management
Ph.D. (1975) Main School of Planning and Statistics; M.B.A. (1978) Fordham University

Kanatas, George, 1994. Jesse H. Jones Professor of Management

Kane, Paul J., 2001. Assistant Professor of Naval Science

Kaplan, Gregory, 2001. Anna Smith Fine Assistant Professor of Judaic Studies

Kauffmann, Robert Lane, 1976. Associate Professor of Spanish

Kaun, Kathleen, 1998. Professor of Voice and Chair of Voice and Opera

Kavraki, Lydia, 1996. Associate Professor of Computer Science

Kecht, Maria-Regina, 1997. Associate Professor of German
Teacher’s Diploma (1978) Pushkin Institute, Moscow State University; M.A. (1979) University of Illinois at Urbana-Champaign; Ph.D. (1982) Innsbruck University

Keeton, Darra, 1994. Associate Professor of Visual Arts

Kehoe, John, 2002. Lecturer of Management

Kelber, Werner H., 1973. Isla Carroll Turner and Percy E. Turner Professor of Religious Studies and Director of the Center for the Study of Cultures

Kelly, Kevin, 2002. Assistant Professor in Electrical and Computer Engineering

Kelty, Christopher M., 2001. Assistant Professor of Anthropology

Kemmer, Suzanne E., 1993. Associate Professor of Linguistics and Associate of Sid Richardson College
Kennedy, Jr., Kenneth W., 1971. University Professor, Ann and John Doerr Professor in Computational Engineering in Computer Science, and Professor in Electrical and Computer Engineering

Kennedy, Pamela, 2002. Lecturer of Management

Khabashesku, Valery, 2002. Faculty Fellow in Chemistry

Khouri, Dirar, 1998. Adjunct Assistant Professor in Electrical and Computer Engineering

Kiang, Ching-Hwa, 2002. Assistant Professor of Physics and Astronomy

Killian, Thomas C., 2000. Assistant Professor of Physics and Astronomy

Kim, Tahee, 2003. G.C. Evans Instructor in Mathematics

Kimmel, Marek, 1990. Professor of Statistics

King, Stephen, 2003. Professor of Voice

Kinsey, Berma, 2002. Lecturer in the Weiss School of Natural Sciences

Kinsey, James L., 1987. D. R. Bullard-Welch Foundation Professor of Science in the Department of Chemistry
B.A. (1956), Ph.D. (1959) Rice Institute

Kirk, David E., 1982. Associate Professor of Tuba
B.M. (1982) Juilliard School of Music

Klein, Anne C., 1989. Professor of Religious Studies

Klein, Lisa R., 1999. Assistant Professor of Management

Klineberg, Stephen L., 1972. Professor of Sociology and associate of Lovett College

Kloockner, Phillip, 2003. Lecturer in Music

Kloucek, Petr, 1996. Assistant Professor of Computational and Applied Mathematics
M.S. (1984), Ph.D. (1990) Charles University, Prague

Knightly, Edward W., 1996. Professor in Electrical and Computer Engineering and Computer Science

Koch, Steven F., 2002. Lecturer in the Practice of Management

Kolomeisky, Anatoly B., 2000. Assistant Professor of Chemistry

Konisky, Jordan, 1996. Vice Provost for Research and Graduate Studies and Professor of Biochemistry and Cell Biology
B.S. (1963) Providence College; Ph.D. (1968) University of Wisconsin

Kono, Junichiro, 2000. Assistant Professor in Electrical and Computer Engineering
Krause, Gary, 2001. Adjunct Professor of Executive Education
B.S. (1976) University of Maryland

Kreutzer, Florian, 2001. Visiting Assistant Professor of Sociology and German

Krippal, Jeffrey J., 2002. Lynette S. Autry Associate Professor of Religious Studies

Krishnan, Trichy V., 1997. Associate Professor of Management

Kroll, Michael H., 1989. Adjunct Associate Professor in Bioengineering

Krumwiede, Keith, 1999. Wortham Assistant Professor of Architecture

Kulinski, Kristen, 2002. Faculty Fellow in Chemistry and CBEN Executive Director of Education and Policy

Kulstad, Mark, 1975. Professor of Philosophy

Kwinter, Sanford, 1995. Associate Professor of Architecture

Laibinis, Paul E., 2002. Associate Professor in Chemical Engineering

Lairson, David R., 1977. Adjunct Associate Professor of Economics

Lally, Sean, 2002. Wortham Fellow in Architecture

Lamos, Colleen R., 1989. Associate Professor of English

Landecker, Hannah, 2001. Assistant Professor of Anthropology

Landis, Chad M., 2000. Assistant Professor in Mechanical Engineering and Materials Science

Lane, David M., 1976. Associate Professor of Psychology and Management

Lane, Mary Ellen, 2000. Assistant Professor of Biochemistry and Cell Biology

Lane, Neal F., 1996. University Professor, Edward A. and Hermena Hancock Kelly Senior Scholar in the James A. Baker III Institute for Public Policy, and Professor of Physics and Astronomy
B.S. (1960), M.S. (1962), Ph.D. (1964) University of Oklahoma

Lanier, Cynthia A., 2002. Lecturer in Kinesiology
B.S. (1985) University of Texas-Austin; M.P.H. (1987), Dr.Ph.H. (1995) University of Texas Health Science Center

Last, Nana, 1999. Assistant Professor of Architecture

Laughery, Kenneth R., 1982. Research Professor

Lavenda, Richard A., 1987. Professor of Composition and Theory
Lee, Benjamin, 1995. Professor of Anthropology

Lee, Cin-Ty, 2002. Assistant Professor of Earth Science


Lee, T. Randall, 1998. Adjunct Assistant Professor in Electrical and Computer Engineering

Leeds, Brett Ashley, 2001. Associate Professor of Political Science

Leeman, William P., 1977. Professor of Earth Science

LeGrand, Thomas, 2003. Associate Professor of Clarinet. Shepherd School of Music

Lenardic, Adrian, 1999. Assistant Professor of Earth Science

Lerup, Lars, 1993. Dean of the School of Architecture and William Ward Watkin Professor of Architecture
B. Arch. (1968) University of California at Berkeley; M. Arch. (1970) Harvard University

Lesnick, Robert M., 2001. Adjunct Professor in Executive Education

Levander, Alan R., 1984. Carey Croneis Professor of Earth Science

Levander, Caroline F., 2000. Associate Professor of English

Levy, Eugene H., 2000. Howard Hughes Provost and Professor of Physics and Astronomy

Li, Hui, 2002. Adjunct Associate Professor of Physics and Astronomy

Lian, Andrew, 2003. Professor of Humanities and Director of the Center for the Study of Languages
B.A. (1967) University of Sydney; Doctorat d’Université (1971) Paris IV - Sorbonne

Liang, Edison P., 1991. Andrew Hays Buchanan Professor of Astrophysics

Liapis, Stergios, 1998. Lecturer on Civil and Environmental Engineering

Lichtenstein, Alex, 2002. Associate Professor of History and Associate of Wiess College

Liebschner, Michael A., 2000. Assistant Professor in Bioengineering

Lilleberg, Jorma, 2002. Adjunct Professor of Electrical and Computer Engineering

Linbeck, Leo, III, 2002. Adjunct Professor in the Practice of Management

Lindsay, Bernard G., 1991. Faculty Fellow in Physics and Astronomy
B.S. (1984), Ph.D. (1987) Queen’s University of Belfast

Llope, William J., 1994. Senior Faculty Fellow in Physics and Astronomy
Llusa, Pilar, 2000. Lecturer on Management
M.A. (1995) Georgetown School of Law; The American University


Logan, Jill (Thad), 1982. Lecturer in English
B.A. (1973) University of California at Santa Barbara; Ph.D. (1981) Rice University

Long, Elizabeth, 1978. Associate Professor of Sociology and Associate of Baker College

Lopez, Jose A., 1999. Adjunct Associate Professor in Bioengineering
B.S. (1977) New Mexico Institute of Mining and Technology; M.D. (1981) University of New Mexico

Loughridge, Dennis, 2001. Adjunct Professor of Management

Loveland, Katherine A., 1991. Adjunct Professor of Psychology
B.A. (1975) University of Virginia; Ph.D. (1979) Cornell University

Luca, Sergiu, 1983. Dorothy Richard Starling Professor of Violin
Arts Diploma (1966) Curtis Institute of Music

Ludwig, Jonathan, 2003. Senior Lecturer of Russian

Lurie, Susan, 1987. Associate Professor of English and Associate Dean for Graduate
Student Affairs
at Berkeley

Luttge, Andreas, 1999. Associate Professor of Earth Science
Universitat

Ma, Jianpeng, 2000. Assistant Professor in Bioengineering

Maas, Michael R., 1984. Professor of History and Director of Ancient Mediterranean
Civilizations Program

MacKenzie, Kevin R., 2000. Assistant Professor of Biochemistry and Cell Biology

Mackie, Hilary S., 1993. Associate Professor of Classics

Makdisi, Ussama S., 1997. Arab American Educational Foundation Associate Professor of
History

Malik, Shahid, 2001. Adjunct Professor of Executive Education

Manca, Joseph, 1989. Professor of Art History
Columbia University

Mandel, James P., 1986. Lecturer on Management and Economics

Mantzaris, Nikolaos, 2001. Assistant Professor in Chemical Engineering and in
Bioengineering
Diploma (1994), National Technical University of Athens, Greece; Ph.D. (2000) University of
Minnesota

Marathi, Upendra, 2002. Adjunct Professor of Management

Marco, Rex, 2002. Adjunct Assistant Professor in Bioengineering
B.S. (1987) University of California-Irvine; M.D. (1992) UCLA School of Medicine
Marcus, George E., 1975. Joseph D. Jamail Professor of Latin American Studies and Professor of Anthropology
B.A. (1968) Yale University; Ph.D. (1976) Harvard University

Margolis, Eric, 1995. Associate Professor of Philosophy

Margrave, John L., 1963. E. D. Butcher Professor of Chemistry
B.S. (1948), Ph.D. (1950) University of Kansas

Marschall, Melissa J., 2003. Assistant Professor of Political Science.

Martin, Randi C., 1982. Elma Schneider Professor of Psychology

Martin, William C., 1968. Harry and Hazel Chavanne Professor of Religion and Public Policy

Martinez, Robin F., 2001. Lecturer of Spanish

Massey, Richard P., 1989. Lecturer on Electrical and Computer Engineering

Massoud, Yehia, 2003. Assistant Professor in Electrical and Computer Engineering

Matsuda, Seiichi P. T., 1995. Associate Professor of Chemistry and of Biochemistry and Cell Biology

Matthews, Kathleen Shive, 1972. Dean of the Wiess School of Natural Sciences and Stewart Memorial Professor of Biochemistry
B.S. (1966) University of Texas at Austin; Ph.D. (1970) University of California at Berkeley

Matusik, Sharon F., 1998. Assistant Professor of Management

Matusow, Allen Joseph, 1963. William Gaines Twyman Professor of History, Associate of Baker College, and Associate Director for Academic Programs, James A. Baker III Institute for Public Policy

Mauk, Claude, 2003. Lecturer in Linguistics

Mawlawi, Osama R., 2002. Lecturer on Electrical and Computer Engineering


McCullough, Laurence, 2001. Adjunct Professor of Philosophy.
A.B. (1969) Williams College; Ph.D. (1975) The University of Texas at Austin

McEvilley, Thomas, 1969. Distinguished Lecturer of Art History

McGill, Scott, 2001. Assistant Professor of Classics

McHale, Mary E.R., 1997. Laboratory Coordinator, Lecturer in Chemistry

McIntosh, Roderick J., 1980. Professor of Anthropology
B.A. (1973) Yale University; M.Litt. (1975), Ph.D. (1979) Trinity College, University of Cambridge

McIntosh, Susan Keech, 1980. Professor of Anthropology
McKee, Herbert C., 1994. Lecturer on Chemical Engineering
B.S. (1942) Muskingum College; M.Sc., (1947), Ph.D. (1949) Ohio State University

McLellan, Rex B., 1964. Professor of Materials Science
B.S. (1957) Sheffield University; Ph.D. (1962) Leeds University

McManis, Mark H., 2001. Adjunct Instructor of Psychology

McNeil, Linda M., 1984. Professor of Education

McNew, James A., 2000. Assistant Professor of Biochemistry and Cell Biology
B.S. (1989) Texas A&M University; Ph.D. (1994) University of Texas Southwestern Medical Center–Dallas

McPhail, Mort, 2003. Adjunct Associate Professor of Psychology

McStravick, David, 1999. Lecturer on Mechanical Engineering and Materials Science

McZearl, Cassandra Moore, 2002. Adjunct Assistant Professor of Computational and Applied Mathematics

Meade, Andrew J., 1989. Associate Professor of Mechanical Engineering

Meconi, Honey, 1987. Associate Professor of Musicology and Music History

Meffert, Lisa M., 2000. Assistant Professor of Ecology and Evolutionary Biology

Mellor-Crummey, John M., 1989. Senior Faculty Fellow in Computer Science and Electrical and Computer Engineering

Merényi, Erzsébet, 2000. Research Professor in Electrical and Computer Engineering
M.Sc. (1975) Attila Jozsef University, Hungary; Ph.D. (1980) Attila Jozsef University and Central Research Institute for Physics, Hungarian Academy of Sciences

Merwin, John E., 1955. Research Professor of Civil and Environmental Engineering

Metzker, Michael L., 2001. Adjunct Assistant Professor of Chemistry
B.S. (1984) University of California at Davis; Ph.D. (1996) Baylor College of Medicine

Michie, Helena, 1990. Agnes Cullen Arnold Professor in Humanities

Mieszkowski, Peter, 1981. Allyn R. and Gladys M. Cline Professor of Economics and Finance

Miettinen, Hannu E., 1977. Professor of Physics and Astronomy

Mikos, Antonios G., 1991. John W. Cox Professor in Bioengineering and Chemical Engineering

Miller, Clarence A., 1981. Louis Calder Professor in Chemical Engineering

Miller, Michael, 1995. Adjunct Associate Professor in Bioengineering
B.S. (1978) University of Massachusetts, M.D. (1982) University of Massachusetts Medical School

B.A. (1952) Baylor University; Ph.D. (1966) University of Texas at Austin

Mittleman, Daniel, 1995. Assistant Professor in Electrical and Computer Engineering
Moeller, Thomas, 2003. Visiting Assistant Professor of Management

Mohanram, Kartik, 2003. Assistant Professor in Electrical and Computer Engineering

Montague, P. Read, 1993. Adjunct Assistant Professor in Computer Science

Moore, Pat, 1996. Adjunct Professor of Civil and Environmental Engineering
B.A. (1952), B.S. (1953) Rice University

Morgan, Julia K., 1999. Assistant Professor of Earth Science

Morgan, T. Clifton, 1987. Albert Thomas Professor of Political Science

Morris, Gary A., 2000. Instructor and Clinical Assistant Professor of Physics and Astronomy

Morris, George Stephen, 2001. Adjunct Associate Professor of Kinesiology

Morris, Wesley Abram, 1968. Professor of English

Morrison, Donald Ray, 1988. Professor of Philosophy

Moulin, Hervé, 1999. George A. Peterkin Professor of Economics
Agregation de Mathematiques (1971) Paris, France; Ph.D. (1975) University of Paris, France

Muller, Peter, 2001. Adjunct Professor in Statistics
M.S. (1988) University of Vienna; Ph.D. (1991) Purdue University

Murphree, Dennis E., 1992. Lecturer on Management

Mutchler, Gordon S., 1968. Professor of Physics and Astronomy
B.S. (1960), Ph.D. (1966) Massachusetts Institute of Technology

Naficy, Hamid, 1993. Nina J. Cullinan Professor of Art History

Nagarajaiah, Satish, 1999. Associate Professor in Civil and Environmental Engineering

Nakatani, Hajime, 2002. Assistant Professor of Art History

Napier, H. Albert, 1983. Professor of Management and Psychology

Narbona, Jose A., 1999. Lecturer of Spanish

Nash, Timothy, 2001. Adjunct Professor in Executive Education

Natelson, Douglas, 2000. Assistant Professor of Physics and Astronomy and in Electrical and Computer Engineering

Negley, Linda E., 1993. Associate Professor of Art History

Nelson, Karen K., 2003. Associate Professor of Management

Nelson-Campbell, Deborah, 1974. Professor of French
Newell, Charles J., 1993. Adjunct Associate Professor in Environmental Science

Newman, James H., 1985. Adjunct Professor of Physics and Astronomy

Newsome, Mary, 2002. Visiting Scholar of Psychology

Ng, T.S. Eugene, 2003. Assistant Professor of Computer Science

Nguyen, Dung “Zung”, 1999. Lecturer on Computer Science

Niedzielski, Nancy A., 1999. Assistant Professor of Linguistics and Associate of Lovett College

Nikonowicz, Edward P., 1993. Associate Professor of Biochemistry and Cell Biology
B.S. (1985) St. Louis University; Ph.D. (1990) Purdue University

Niu, Fenglin, 2002. Assistant Professor in Earth Science

Norcross, Alastair, 2002. Associate Professor of Philosophy

Norcross, Diana, 2003. Lecturer in Education Certification

Nordlander, Peter, 1989. Professor of Physics and Astronomy and in Electrical and Computer Engineering

Novotny, Alma M., 2000. Lecturer of Biochemistry and Cell Biology
B.S. (1968) Duke University; Ph.D. (1972) Purdue University

Nowak, Robert, 1999. Adjunct Associate Professor in Electrical and Computer Engineering

Nuñez, Emilio, 1991. Adjunct Professor in Computational and Applied Mathematics
B.S. (1964) Villanova University; M.S. (1966) Case Institute of Technology

Oberholzer, Mark A., 1999. Lecturer in Architecture
B.S. (1989) Villanova University; M. Arch. (1994) Rice University

Oberlack, Uwe, 2001. William V. Vietti Assistant Professor of Space Physics
Diploma (1993), Ph.D. (1997) Technical University of Munich

O’Connor, Daniel P., 2001. Adjunct Lecturer of Kinesiology
B.A. (1991) Rice University; M.S. (1993) Texas Woman’s University

Odhambo, Atieno E. S., 1989. Professor of History
B.A. (1970) Makerere University College; Ph.D. (1973) University of Nairobi

Oliver, Douglas E., 1997. Visiting Critic and Brochstein Visiting Assistant Professor in Architecture

Olofsson, Peter, 1996. Lecturer on Statistics
B.S. (1989), Ph.D. (1994) Gothenburg University, Sweden

Olson, John Steven, 1973. Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology
B.S. (1968) University of Illinois; Ph.D. (1972) Cornell University

O’Malley, Marcia E., 2001. Assistant Professor in Mechanical Engineering and Materials Science

Orchard, Michael T., 2001. Professor in Electrical and Computer Engineering
Ostdiek, Barbara, 1994. Associate Professor of Management

Ostdiek, Donald, 1995. Lecturer in the School of Social Sciences, Director
of Policy Studies, and Associate Director of Academic Advising

Osterr, Kirsten, 2002. Assistant Professor of English

O'Sullivan, Elizabeth, 2001. Lecturer of Management

Oubre, Carroll, 1999. Adjunct Professor of Civil & Environmental Engineering
B.S. (1955) University of Southwestern Louisiana; M.S. (1956) Ohio State University; Ph.D. (1966) Rice University

Overall, John E., 1983. Adjunct Professor of Psychology
B.S. (1954) Trinity University; M.A. (1956), Ph.D. (1958) University of Texas at Austin

Padley, B. Paul, 1996. Assistant Professor of Physics and Astronomy

Page, Paula, 1985. Associate Professor of Harp
B.Mus. (1969) Cleveland Institute of Music

Pai, Vijay S., 2000. Assistant Professor in Electrical and Computer Engineering
and Computer Science

Papadopoulos, Phaedon P., 2001. Lecturer of Management

Papakonstantinou, Anne, 1993. Adjunct Lecturer in Education Certification

Park, Joon, 2002. Professor of Economics

Parke, Jr., Robert B., 1998. Adjunct Professor in the Practice of Management

Parker, Jon Kimura, 2000. Professor of Piano

Parry, Ronald J., 1978. Professor of Chemistry and Biochemistry and Cell Biology
B.A. (1964) Occidental College; Ph.D. (1968) Brandeis University

Parsons, Spencer W., 1969. Associate Professor of Architecture
B.A. (1953) University of Michigan; M.Arch. (1963) Harvard University

Parsons, William B., 1993. Associate Professor of Religious Studies

Pasquali, Matteo, 1999. Assistant Professor in Chemical Engineering

Patrick, Charles, 1998. Adjunct Associate Professor in Bioengineering
B.S.Ch.E. (1990) Louisiana State University; Ph.D. (1994) Rice University

Patten, Robert L., 1969. Lynette S. Autrey Professor in Humanities

Patterson, Peggy, 2003. Lecturer in Spanish

Peaceman, Donald W., 1983. Adjunct Professor of Computational and Applied Mathematics
B.Ch.E. (1947) College of the City of New York; Sc.D. (1952) Massachusetts Institute of Technology

Pearson, Deborah A., 1991. Adjunct Associate Professor of Psychology

Pellis, Neil R., 1997. Adjunct Professor in the Mabee Laboratory

Pennings, Steven, 2003. Adjunct Assistant Professor of Ecology and Evolutionary Biology
Pérez, J. Bernardo, 1979. Associate Professor of Spanish

Perkins, Andrew, 2003. Assistant Professor of Management

Phillips, George N., 2001. Adjunct Professor of Biochemistry and Cell Biology

Phillips, Scott, 2003. Assistant Professor of Sociology

Pitts, Timothy, 1992. Associate Professor of Double Bass

Polking, John C., 1968. Professor of Mathematics

Pomerantz, James R., 1988. Professor of Psychology and Director of the Neurosciences Program

Pope, Albert H., 1986. Gus Sessions Wortham Professor of Architecture and Master of Brown College

Potts, Geoffrey, 1998. Assistant Professor of Psychology

Poulos, Basilios N., 1975. Professor of Visual Arts

Pu, Han, 2003. Assistant Professor in Physics and Astronomy

Purugganan, Mary M., 2000. Cain Project Instructor and Promotions Coordinator

Qian, Nanxiu, 1993. Associate Professor of Chinese Literature

Queller, David C., 1989. Professor of Ecology and Evolutionary Biology

Quenemoen, Caroline K., 2002. Assistant Professor of Art History

Quillen, Carol E., 1989. Associate Professor of History

Quiñones, Miguel A., 1993. Associate Professor of Psychology and Management

Quiocho, Florante A., 1972. Adjunct Professor of Biochemistry and Cell Biology

Rachleff, Larry, 1991. Professor of Conducting

Radigan, Judy, 2002. Lecturer in Education Certification

Ramont, Mark, 2000. Theatre Director and Lecturer on Theatre

Raphael, Robert M., 2001. N.T. Law Assistant Professor in Bioengineering

Rarick, Janet, 1992. Artist Teacher of Wind Ensembles
B.M. (1973) University of Southern California
Rasmussen, Nicholas, 2003. Adjunct Professor of Management  

Rau, Carl, 1983. Professor of Physics and Astronomy  

Ray, Michael B., 2000. Adjunct Professor of Computational and Applied Mathematics  

Recknagel, Marsha, 1988. Writer in Residence  

Reed, William, 2002. Assistant Professor of Political Science  

Reiff, Patricia H., 1992. Professor of Physics and Astronomy  

Reiser, Stanley J., 1983. Adjunct Professor of Religious Studies  

Reuben, Jeffrey D., 1988. Adjunct Associate Professor in Mechanical Engineering and Materials Science  

Riedi, Rudolf H., 1999. Assistant Professor of Statistics  

Riese, W. C. Rusty, 1985. Adjunct Associate Professor of Earth Science  
B.S. (1973) New Mexico Institute of Mining and Technology; M.S. (1977), Ph.D. (1980) University of New Mexico

Riga, LaNelle, 1999. Lecturer of Italian  
B.A. (1997) University of Houston

Rigdon, Trish, 2000. Associate Director of Theatre and Lecturer of Theatre  

Rimberg, Alexander J., 1997. Assistant Professor of Physics and Astronomy and in Electrical and Computer Engineering  

Ritscher, Karen, 1999. Associate Professor of Viola  

Rixner, Scott, 2000. Assistant Professor of Computer Science and in Electrical and Computer Engineering  

Ro, Tony, 1999. Associate Professor of Psychology  

Robert, Marc A., 1984. Professor in Chemical Engineering  

Roberts, Jr., Jabus B., 1975. Professor of Physics and Astronomy  

Robin, Jean-Luc, 2002. Visiting Assistant Professor in French Studies  

Robinson, Larry, 2002. Assistant Professor of Management  

Roddy, Jr., Harry Louis, 2001. Lecturer of German  

Rogers, William E., 1999. Faculty Fellow in Ecology and Evolutionary Biology  

Rojo, Javier, 2001. Professor of Statistics  
Roman, Francisco J., 2003. Assistant Professor of Management  

Rose, Jerome, 2002. Adjunct Assistant Professor of Civil and Environmental Engineering  

Rosner, Gary L., 2001. Adjunct Professor of Statistics  

Ross, III, David, 1979. Adjunct Professor in the Practice of Management  

Rountree, Brian R., 2003. Assistant Professor of Management  

Roush, Sherrilyn, 1999. Assistant Professor of Philosophy  

Roux, Robert, 1990. Professor of Piano and Chair of Keyboard  

Rudolph, Frederick B., 1972. Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology  
B.S. (1966) University of Missouri; Ph.D. (1971) Iowa State University

Rumbaut, Rolando E., 2001. Adjunct Assistant Professor of Bioengineering  

Sabharwal, Ashutosh, 2001. Faculty Fellow in Electrical and Computer Engineering  

Saggau, Peter, 2000. Adjunct Associate Professor in Bioengineering and in Electrical and Computer Engineering  
B.S. (1973) Technical College Ulm, Germany; M.S. (1977) Technical University, Munich, Germany;  
Ph.D. (1988) University of Munich

Salaberry, M. Rafael, 2000. Associate Professor of Spanish  

Salas, Marcela, 1995. Senior Lecturer of Spanish.  

Samuels, Danny M., 1981. Harry K. Smith Visiting Professor of Architecture  
B.Arch. (1971) Rice University

Sams, Clarence F., 1997. Adjunct Assistant Professor of Biochemistry and Cell Biology  

San, Ka-Yiu, 1984. Professor in Bioengineering and Chemical Engineering  

Sanders, Betty S., 1988. Adjunct Assistant Professor of Psychology  

Sanders, Paula A., 1987. Associate Professor of History  

Sass, Ronald L., 1958. Harry C. and Olga Keith Wiess Professor of Natural Sciences in Ecology and Evolutionary Biology, and Professor of Chemistry, and Honorary Associate of Hanszen College  
A.B. (1954) Augustana College; Ph.D. (1957) University of Southern California

Saterbak, Ann E., 2002. Lecturer on Bioengineering and Director of Laboratory Instruction  

Sato, Hiroko, 1989. Senior Lecturer of Japanese  

Sawyer, Dale S., 1988. Professor of Earth Science  
B.S. (1976) Purdue University; Ph.D. (1982) Massachusetts Institute of Technology
Schneider, David J., 1989. Professor of Psychology

Schoeberlen, Anne, 1974. Joseph and Ida Kirkland Mullen Professor of Music

Schuler, Douglas A., 1992. Associate Professor of Management

Scott, David W., 1979. Noah Harding Professor of Statistics

Scott, Graham B. I., 2001. Adjunct Professor of Chemistry

Scuseria, Gustavo E., 1989. Welch Professor of Chemistry

Sears, David A., 1983. Adjunct Professor in the Biomedical Engineering Laboratory
B.S. (1953) Yale University; M.S. (1958), M.D. (1959) University of Portland Medical School

Sedlak, John M., 1990. Lecturer on Civil and Environmental Engineering

Seed, Patricia, 1982. Professor of History
B.A. (1971) Fordham University; M.A. (1975) University of Texas at Austin;
Ph.D. (1980) University of Wisconsin at Madison

Segner, III, Edmund, 1996. Lecturer on Civil and Environmental Engineering
B.A. Rice University; M.A. University of Houston


Sereno, Anne Bibiana, 2002. Adjunct Assistant Professor of Psychology

Shah, Guatami, 2001. Senior Lecturer of Hindi
B.A. (1985) University of Bombay; M.S. (1988) Purdue University

Shamoo, Yousif, 1998. Assistant Professor of Biochemistry and Cell Biology

Shank, Jr., C. Dean, 1984. Artist Teacher of Piano and Piano Technology

Shanks, Jacqueline, 2002, Adjunct Professor in Bioengineering

Shapiro, Armand, 2000. Adjunct Professor in the Practice of Management
B.A. (1963) Rensselaer Polytechnic Institute

Shea, Louisa, 2003. Assistant Professor of French Studies

Sheafor, Stephen J., 2002. Adjunct Professor in Electrical and Computer Engineering

Shehabuddin, Elora, 2001. Assistant Professor of Humanities and Political Science

Sheikh, Tauqir, 2001. Lecturer on Civil and Environmental Engineering
B.S. (1975) University of Engineering and Technology Pakistan; M.S. (1980), Ph.D. (1987) University of Texas at Austin

Shen, Chao-mei, 2000. Lecturer of Chinese
Ph.D. University of Texas at Austin; M.A. National Taiwan University;
B.A. National Tsing-hua University

Shen, Yu, 2002. Adjunct Associate Professor of Statistics
Ph.D. (1994) University of Washington

Sher, George, 1991. Herbert S. Autrey Professor of Philosophy
B.A. (1964) Brandeis University; Ph.D. (1972) Columbia University
Shibatani, Masayoshi, 2002. Deedee McMurtry Professor of Humanities
B.A. (1970), Ph.D. (1973) University of California at Berkeley

Shook, Joan E., 1998. Adjunct Professor in Practice of Management
M.B.A. (1986) University of Houston

Si, Qimiao, 1994. Associate Professor of Physics and Astronomy
B.S. (1986) University of Science and Technology of China; Ph.D. (1991) University of Chicago

Sickles, Robin, 1985. Professor of Economics
B.S. (1972) Georgia Institute of Technology; Ph.D. (1976) University of North Carolina

Siefert, Janet, 2002. Faculty Fellow in Statistics
B.S. (1975) University of Central Arkansas; Ph.D. (1997) University of Houston

Siemann, Evan, 1998. Assistant Professor of Ecology and Evolutionary Biology

Sigrist, Markus W., 1994. Adjunct Professor in Electrical and Computer Engineering
Diplom. (1972), Ph.D. (1977) ETH University, Zurich, Switzerland

Simpson, Robert, 2002. Adjunct Lecturer of Church Music

Sinclair, James B., 1978. Lecturer on Electrical and Computer Engineering and Associate
Dean of Engineering

Singh, Siddhartha S., 2003. Assistant Professor of Management

Singleton, Scott F., 1996. Assistant Professor of Chemistry and of Biochemistry and Cell Biology

Skaggs, Ray H., 1972. Adjunct Professor of Human Performance and Health Sciences

Skórcewski, Dariusz, 2001. Lecturer in Slavic Studies

Skura, Meredith, 1978. Libby Shearn Moody Professor of English
B.A. (1965) Swarthmore College; Ph.D. (1971) Yale University

Slappey, Lisa, 2002. Lecturer in English

Smalley, Richard E., 1976. University Professor, Gene and Norman Hackerman Professor of Chemistry,
and Professor of Physics

Smayling, Michael C., 1989. Adjunct Lecturer on Electrical and Computer Engineering

Smith, Clifton Wayne, 1993. Adjunct Professor in the Biomedical Engineering Laboratory
B.S. (1963) Texas A&M University; M.S. (1966), M.D. (1968) University of Texas Medical Branch
at Galveston

Smith, D. Brent, 2000. Associate Professor of Management and Associate Professor of Psychology

Smith, George, 1981. Professor of Visual Arts

Smith, Ian, 2000. Faculty Fellow in Physics and Astronomy

Smith, Ken A., 1975. Distinguished Faculty Fellow in Chemistry

Smith, Richard J., 1973. George and Nancy Rupp Professor of Humanities and Professor of History
B.A. (1966), M.A. (1968), Ph.D. (1972) University of California at Davis
Smith, Jr., Roland B., 1996. Adjunct Professor on Education and Associate Provost

Sneider, Allison L., 2000. Assistant Professor of History and Associate of Will Rice College

Snow, Edward A., 1981. Professor of English
B.A. (1964) Rice University; M.A. (1966) University of California at Riverside;
Ph.D. (1969) State University of New York at Buffalo

Soligo, Ronald, 1967. Professor of Economics
B.A. (1958) University of British Columbia; Ph.D. (1964) Yale University


Sorensen, Danny C., 1989. Noah Harding Professor of Computational and
Applied Mathematics
B.S. (1972) University of California at Davis; M.A. (1975), Ph.D. (1977) University of California at San Diego


Spanos, Pol D., 1984. Lewis B. Ryon Professor of Mechanical Engineering and Civil and
Environmental Engineering

Sparagana, John, 1989. Associate Professor of Visual Arts

Speziale, Marie, 2002. Professor of Trumpet and Chair of Brass
B.M. (1964) College Conservatory of Music, University of Cincinnati

Spieler, Christof, 2001. Lecturer on Civil and Environmental Engineering

Spudis, Paul D., 1994. Adjunct Assistant Professor of Earth Science

Spuler, Richard, 1992. Senior Lecturer of German and Resident Associate of Lovett College

Stallmann, Kurt, 2002. Assistant Professor of Composition and Theory

Stasney, C. Richard, 1999. Adjunct Professor of Music
B.A. (1965) Yale University; M.D. (1969) Baylor College of Medicine

Stefanadis, Christadoulos G., 2003. Visiting Assistant Professor of Management

Stein, Keith, 2001. Adjunct Associate Professor of Mechancial Engineering and Materials Science

Stein, Robert M., 1979. Dean of Social Sciences and Lena Gohlman Fox Professor of Political Science

Steiner, Uwe, 2001. Associate Professor of German

Stepinski, Tomasz F., 1994. Adjunct Associate Professor of Physics and Astronomy
M.S. (1979) Warsaw University; Ph.D. (1986) University of Arizona

Stern, Michael, 1991. Associate Professor of Biochemistry and Cell Biology
B.S. (1978) Stanford University; Ph.D. (1985) University of California at San Francisco
Stevenson, Paul M., 1984. Professor of Physics and Astronomy and Associate of Brown College
B.A. (1976) Cambridge University; Ph.D. (1979) Imperial College

Stevenson, Randolph T., 1997. Associate Professor of Political Science

Stewart, Charles R., 1969. Professor of Biochemistry and Cell Biology
B.S. (1962) University of Wisconsin at Madison; Ph.D. (1967) Stanford University

Stobaugh, Robert B., 2003. Adjunct Professor of Management
B.S. Louisiana State University; D.B.A. Harvard University

Stokes, Gale, 1968. Mary Gibbs Jones Professor of History

Stoll, Richard J., 1979. Professor of Political Science


Strassmann, Joan E., 1980. Professor of Ecology and Evolutionary Biology
B.A. (1974) University of Michigan; Ph.D. (1979) University of Texas at Austin

Stroup, John M., 1988. Harry and Hazel Chavanne Professor of Religious Studies

Stuart, Laurence E., 2002. Adjunct Professor of Executive Education

Subramanian, Devika, 1995. Professor of Computer Science and in Electrical and Computer Engineering

Surliga, Victoria, 2003. Lecturer in Italian

Summers, Carolyn, 1999. Adjunct Professor of Physics and Astronomy

Swint, John Michael, 1977. Adjunct Associate Professor of Economics
B.A. (1968) California State University at Humboldt; M.A., Ph.D. (1972) Rice University

Symes, William W., 1984. Noah Harding Professor of Computational and Applied Mathematics

Tabanou, Jacques R., 1999. Adjunct Professor of Computational and Applied Mathematics

Taha, Walid, 2002. Assistant Professor of Computer Science and in Electrical and Computer Engineering

Taiwani, Manik, 1985. Schlumberger Professor of Advanced Studies and Research in Earth Science

Taner, M. Turhan, 1988. Adjunct Professor of Earth Science
M.S. (1950) University of Istanbul

Tao, Yizhi Jane, 2002. Assistant Professor in Biochemistry and Cell Biology


Tari, Gabor, 1997. Adjunct Assistant Professor of Earth Science

Taylor, Glenn A., 1999. Adjunct Associate Professor in Chemical Engineering
Taylor, Julie M., 1981. Professor of Anthropology  

Taylor, Ronald N., 1983. George R. Brown Professor of Business Policy and Professor of Psychology  

Terk, Michael, 1996. Assistant Professor in Civil and Environmental Engineering  

Tezduyar, Tayfun E., 1998. James F. Barbour Professor in Mechanical Engineering and Materials Science  

Thal, Sarah E., 1999. Assistant Professor of History and Associate of Jones College  

Thames, Jr., Howard D., 1975. Adjunct Professor of Statistics  


Thompson, Ewa M., 1970. Professor of Slavic Studies  

Thompson, James R., 1970. Noah Harding Professor of Statistics  


Tittel, Frank K., 1967. J. S. Abercrombie Professor in Electrical and Computer Engineering  

Tobin, Mary L., 1979. Lecturer on English  

Toffoletto, Frank R., 1996. Assistant Professor of Physics and Astronomy  

Tomson, Mason B., 1977. Professor in Civil and Environmental Engineering  
B.S. (1967) Southwestern State College; Ph.D. (1972) Oklahoma State University

Tour, James M., 1999. Chao Professor of Chemistry, Professor of Mechanical Engineering and Materials Science and Professor of Computer Science  
B.S. (1981) Syracuse University; Ph.D. (1986) Purdue University

Trosset, Michael, 1992. Adjunct Associate Professor in Computational and Applied Mathematics  


Tyler, Stephen A., 1970. Herbert S. Autrey Professor of Anthropology and Linguistics  

Udden, Mark M., 1983. Adjunct Associate Professor in the Biomedical Engineering Laboratory  
S.B., M.A. (1973) Massachusetts Institute of Technology; M.D. (1977) Southwestern Medical School, University of Texas at Dallas

Uecker, Wilfred C., 1984. Harmon Whittington Professor of Management and Associate Dean of Executive Education for the Jesse H. Jones Graduate School of Management  

Vaillancourt Roseneau, Pauline, 1995. Adjunct Associate Professor in Social Sciences  
Ph.D. (1972) University of California at Berkeley
Van Delden, Maarten, 1997. Associate Professor of Spanish

Vandenberg, Kristy, 1987. Lecturer of Kinesiology
B.S. University of Michigan

Van Wagoner, John, 1997. Adjunct Professor of Earth Science

Vardi, Moshe, 1993. Karen Ostrum George Professor in Computational Engineering
and Professor of Computer Science
B.S. (1975) Bar-Ilan University; M.S. (1980) Feinberg Graduate School of the Weizmann Institute
of Science; Ph.D. (1982) Hebrew University

Varma, Peter J., 1983. Associate Professor in Electrical and Computer Engineering
and Computer Science
of Texas at Austin


Veletsos, Anestis S., 1964. Brown & Root Professor in Civil and Environmental Engineering
B.S. (1948) Robert College, Turkey; M.S. (1950), Ph.D. (1953) University of Illinois

Vern, Jane L., 1989. Senior Lecturer of Spanish

Ver Meulen, William, 1990. Professor of Horn

Viebig, Jr., V. Richard, 1969. Lecturer on Accounting

Vieux, Baxter, 2003. Adjunct Professor of Civil and Environmental Engineering
University

Visser, Pieter A., 1979. Adjunct Lecturer on Music

Volz, Tracy, 1999. Instructor for the Cain Project

Vu, Phuong A., 1989. Adjunct Professor in Computational and Applied Mathematics

Wagner, Stuart W., 1998. Lecturer on Management

Wallace, James R., 2001. Executive Officer and Associate Professor of Naval Science
A.B. (1975) University of Northern Colorado; M.S. (1983) University of Southern California

Wallace, Kristine Gilmartin, 1966. Lecturer in Classics

Wallach, Dan Seth, 1998. Assistant Professor of Computer Science and in Electrical
and Computer Engineering

Walters, G. King, 1963. Professor Emeritus, Research Professor of Physics and Astronomy,
and Associate Vice Provost for Research

Wamble, Mark S., 1991. Visiting Cullinan Professor of Architecture

Wang, Fu-Kuo Albert, 1998. Assistant Professor of Management

Ward, Calvin H., 1966. Foyt Family Professor in Civil and Environmental Engineering
and Professor of Ecology and Evolutionary Biology
B.S. (1955) New Mexico State University; M.S. (1958), Ph.D. (1960) Cornell University;
M.P.H. (1978) University of Texas School of Public Health

Ward, Kerry R., 2001. Assistant Professor of History and Associate of Lovett College
Warren, Joe D., 1986. Professor of Computer Science  

Warren, Scott K., 1979. Adjunct Assistant Professor of Computer Science  

Watanabe, Masahiro, 2003. Assistant Professor of Management  

Waters, David L., 1976. Associate Professor of Trombone  
B.M.E. (1962) University of Houston; M.Mus. (1964) University of Texas at Austin

Watkins, Michael J., 1980. Professor of Psychology  

Watson, Larry J., 2003. Professor of Naval Science  

Webster, Michael, 1997. Associate Professor of Clarinet and Ensembles  

Weigelt, Carmen B., 2003. Assistant Professor of Management  

Weinberg, Armin D., 1980. Adjunct Professor in Kinesiology  
B.Sc. (1966), Ph.D. (1971) Ohio State University

Weisman, R. Bruce, 1979. Professor of Chemistry  
B.A. (1971) Johns Hopkins University; Ph.D. (1977) University of Chicago

Weissenberger, Klaus H. M., 1971. Professor of German, Master of Hanszen College, and Director of the Goethe Center for Central European Studies  
M.A. (1965) University of Hamburg, Germany; Ph.D. (1967) University of Southern California

Wellington, Gerard M, 2002. Adjunct Professor of Earth Science  
B.A. (1971) San Jose State University; Ph.D. (1981) University of California at Santa Barbara

Wellner, Julia Smith, 2001. Lecturer and Postdoctoral Research Associate of Earth Science  

Wellner, Robert W., 2002. Adjunct Assistant Professor in Earth Science  

West, Jennifer L., 1996. Associate Professor in Bioengineering and Chemical Engineering  

Westbrook, Robert A., 1989. William Alexander Kirkland Professor of Management and Associate Dean for Faculty Affairs and the MBA Program  

Westheimer, Alan D., 1983. Lecturer on Management  
B.S.E. (1965) University of Pennsylvania; M.B.A. (1966) University of California at Berkeley

Weston, James P., 2000. Assistant Professor of Management  

Westphal, Sarah, 2003. Associate Professor of German  

Weyand, Peter, 2002. Assistant Professor in Kinesiology  

Whitaker, Jr., Gilbert R., 1997. Dean of the Jesse H. Jones Graduate School of Management and H. Joe Nelson, III, Professor of Business Economics  
B.A. (1953) Rice University; M.S. (1958), Ph.D. (1961) University of Wisconsin at Madison

White, Carolynne, 1988. Lecturer on Education Certification  
B.S. (1964) Springfield College; M.Ed. (1998) University of Houston

White, Frank S., 1982. Lecturer on Architecture  
B.S. (1977) Rochester Institute of Technology
White, Robert A., 1981. Adjunct Professor of Statistics

Whitmire, Kenton H., 1982. Professor of Chemistry

Whitmore, Mihriban, 1999. Adjunct Assistant Professor of Psychology

Whitney, Stephen E., 2003. Adjunct Professor of Management

Whitson, Peggy, 1997. Adjunct Assistant Professor of Biochemistry and Cell Biology


Widener, Sally K., 2001. Assistant Professor of Management

Wiener, Martin J., 1967. Mary Gibbs Jones Professor of History

Wiesner, Mark R., 1988. Professor of Civil and Environmental Engineering and Chemical Engineering, Director of Environmental and Energy Systems Institute

Wihl, Gary S., 2003. Dean of the School of Humanities, Moody Foundation Professor in Humanities and Professor of English

Wildenthal, Lora, 2003. Associate Professor of History

Wiley, Gale F., 2002. Lecturer of Management Communications

Wilkinson, Anne Victoria, 2002. Adjunct Instructor of Psychology

Willcott, M. Robert, 1995. Adjunct Professor of Chemistry
B.A. (1955) Rice University; M.S. (1959), Ph.D. (1963) Yale University

Williams, Edward E., 1978. Henry Gardiner Symonds Professor of Management and Professor of Statistics
B.S. (1966) University of Pennsylvania; Ph.D. (1968) University of Texas at Austin

Williams, William, 1998. Visiting Assistant Professor of Architecture
B.Arch. (1989) University of Houston; M.Arch. (1991) Harvard University

Wilson, James L., 1966. Adjunct Professor of Earth Science
B.A. (1942), M.S. (1944) University of Texas at Austin; Ph.D. (1949) Yale University

Wilson, Lon J., 1973. Professor of Chemistry
B.A. (1966) Iowa State University; Ph.D. (1971) University of Washington at Seattle

Wilson, Rick K., 1983. Herbert S. Autrey Professor of Political Science and Professor of Statistics and of Psychology

Wilson, Jr., William L., 1972. Professor in Electrical and Computer Engineering and Associate of Wiess College

Windsor, Duane, 1977. Lynette S. Autrey Professor of Management

Winkler, Kathleen, 1992. Professor of Violin
B.Mus. (1972) Indiana University; M.Mus. (1974) University of Michigan

Winningham, Geoffrey L., 1969. Professor of Visual Arts and Honorary Associate of Wiess College
B.A. (1965) Rice University; M.S. (1968) Illinois Institute of Technology
Winningham, J. David, 1970. Adjunct Professor of Physics and Astronomy

Wise, J. D., 1995. Lecturer on Electrical and Computer Engineering

Wittenberg, Jr., Gordon G., 1979. Professor of Architecture

Wolf, Michael, 1988. Professor of Mathematics

Wolfe, Cary, 2003. Bruce and Elizabeth Dunlevie Professor of English

Wolfe, Joel W., 1997. Associate Professor of History and Master of Will Rice College

Wong, Mark E. K., 2001. Adjunct Associate Professor of Bioengineering and Chemistry

Wong, Michael, 2001. Assistant Professor in Chemical Engineering and in Chemistry

Wong, Stephen B., 2001. Lecturer on Computer Science

Wood, Philip R., 1990. Associate Professor of French

Wood, Susan, 1981. Gladys Louise Fox Professor in English

Wooten, Kevin C., 1994. Adjunct Associate Professor of Psychology

Worth, David S., 2002. Lecturer of Humanities

Wright, Anthony A., 1989. Adjunct Associate Professor of Psychology

Wu, Kenneth K., 1984. Adjunct Professor in the Biomedical Engineering Laboratory
M.D. (1966) National Taiwan University; M.S. (1968) Yale University

Xiao, Yitian, 2000. Adjunct Assistant Professor of Earth Science

Xing, Yuhang, 2003. Assistant Professor of Management

Yakobson, Boris I., 1999. Associate Professor in Mechanical Engineering and Materials Science and of Chemistry

Yasko, Alan, 1996. Adjunct Associate Professor in Bioengineering

Yaszemski, Michael, 1995. Adjunct Associate Professor in Bioengineering

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University Standing Committees for 2003–2004

The president chairs the University Council and is an ex officio member of all other committees except the Faculty Council.

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Committee on Teaching
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Rice University Athletics Committee
Rice University Marshals Committee
R.O.T.C. Committee
Faculty Council
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